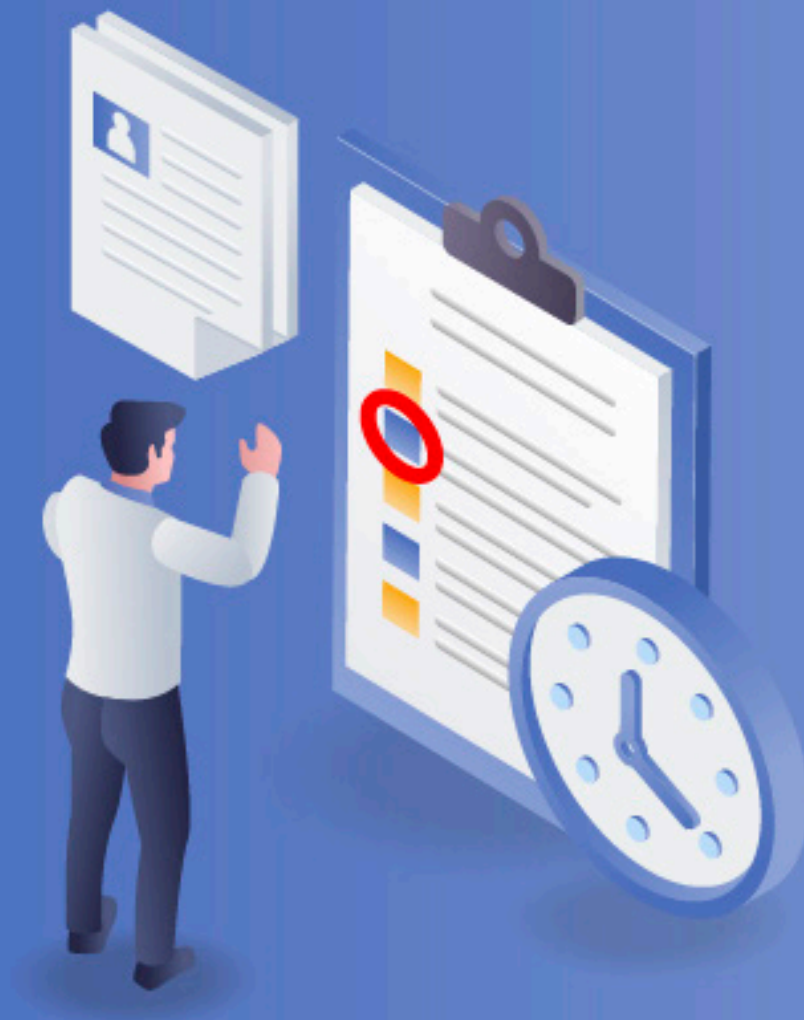




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## Exploring the Impact of Artificial Intelligence on the Transformational Leadership Practices of Selected Private Secondary School Leaders: Basis for Crafting School Leadership Training Program

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*Artificial Intelligence, Educational Leadership, Leadership Practices, School Leadership, Transformational Leadership*

### ABSTRACT

This research paper aims to elucidate the impact of Artificial Intelligence or AI on transformational leadership practices within private high schools, exploring how technological advancements can reshape leadership dynamics and educational practices. Through a comprehensive analysis of existing literature, case studies, and empirical data, this study assesses the effectiveness of transformational leadership in guiding schools through the complexities of AI integration. Ultimately, it seeks to provide insights into how school leaders can cultivate an adaptive and responsive educational environment that leverages AI to enhance student learning outcomes and foster community engagement. This study used descriptive–correlation and mixed methods. The data were described, evaluated, and compared. Descriptive research provided a summary using descriptive statistics. It is descriptive because it provides a snapshot of the current thoughts, feelings, or behavior of individuals. Correlational research is a type of non-experimental research method in which a researcher measures two variables, understands and assesses the statistical relationship between them, with no influence from any extraneous variable. In addition, a qualitative research design was also employed for the focus group discussion to elicit the challenges and solutions needed for the research questions. The summary of the assessment of the two groups of respondents on the impact of artificial intelligence on the transformational leadership styles of school leaders has a grand overall mean of very high impact. Findings show that there is a significant difference in the assessment when grouped according to their profile. Also, there is a significant relationship between the impact of artificial intelligence on the transformational leadership styles of the two groups of respondents. It was found out that the number one challenge encountered by the respondents is a lack of policy. Development of a school policy is the solution to address the number one challenge. The conclusions revealed that both the first and second groups have rendered 21-25 years of service. For the first group, the majority of them has PhD units, and for the second group, the majority have an MA degree. The majority of the respondents in the first group are coordinators, and the second group for regular teachers. The majority of the respondents attended a schoolwide seminar in Artificial Intelligence and Transformational Leadership Style. Moreover, the assessment of two groups of respondents on the impact of artificial intelligence on the transformational leadership style of school leaders in the area of inspirational motivation has a very high impact. Likewise, the assessment of two groups of respondents on the Impact of AI on the transformational leadership style of school leaders with regard to idealized influence revealed has also a very high impact. On the other hand, the assessment of the two groups of respondents on the impact of Artificial Intelligence on the Transformative Leadership Styles of School Leaders in Intellectual stimulation has a high impact. Moreover, the assessment of two groups of respondents on the impact of transformational leadership styles of school leaders in individualized consideration has a very high impact.

### INTRODUCTION

The rapid advancement of artificial intelligence (AI) has revolutionized various sectors, including education. As AI technologies become increasingly embedded in school environments, they have the potential to significantly influence leadership practices and styles. Transformational leadership, characterized by inspiring and motivating educators to achieve a shared vision, has long been recognized as a vital approach in educational settings. However, the integration of AI into school administration and decision-making processes poses new challenges and opportunities for school leaders. This research aims to explore the effects of artificial

intelligence on the transformational leadership style of school leaders, examining how AI tools and applications impact their ability to inspire, innovate, and foster a positive school culture. Understanding these dynamics is crucial for developing effective leadership strategies in the evolving landscape of education driven by technological innovation.

The impact of Artificial Intelligence (AI) technology has permeated various sectors, bringing forth transformative changes in operational processes, decision-making strategies, and leadership paradigms. In the field of education, particularly within private secondary schools, AI presents unprecedented opportunities and challenges

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for leadership styles, especially transformational leadership. This leadership approach, characterized by its emphasis on motivating and inspiring followers to exceed their own self-interests for the sake of the organization or community, is increasingly relevant in a digital age where educational leaders must adapt to the integration of technology.

Transformational leadership is pivotal in fostering an environment conducive to innovation and change, which is essential in today's dynamic educational landscape. By harnessing AI tools, leaders can facilitate personalized learning experiences, streamline administrative tasks, and enhance communication among stakeholders. However, the integration of such technology also necessitates a re-examination of leadership strategies, as successful implementation hinges on a leader's ability to inspire their staff, engage students, and address the ethical implications of AI use.

This research paper aims to elucidate the impact of AI on transformational leadership within private high schools, exploring how technological advancements can reshape leadership dynamics and educational practices. Through a comprehensive analysis of existing literature, case studies, and empirical data, this study will assess the effectiveness of transformational leadership in guiding schools through the complexities of AI integration. Ultimately, it seeks to provide insights into how school leaders can cultivate an adaptive and responsive educational environment that leverages AI to enhance student learning outcomes and foster community engagement.

Moreover, transformative leadership is a leadership style that focuses on inspiring and motivating individuals to reach their full potential while fostering positive change within an organization. It emphasizes vision, innovation, and a commitment to creating a better future. Transformational leaders lead by example, engage their teams, and cultivate a culture of continuous improvement and learning.

AI is reshaping industries and business processes across the globe and educational institutions can't be underestimated. It can analyze vast amounts of data, automate routine tasks, and even make predictions and decisions. AI-driven technologies like machine learning and natural language processing are enhancing efficiency, accuracy, and productivity in various sectors. The integration of AI into leadership extends beyond operational enhancements. AI enables leaders to access real-time insights into employee performance, fostering a culture of continuous improvement. It also empowers leaders to respond rapidly to market shifts, adapt strategies based on predictive analytics, and address emerging challenges with agility. Moreover, AI-driven automation liberates leaders from administrative burdens, allowing them to focus on strategic vision, creativity, and fostering innovation within their teams. This transformation extends the boundaries of leadership, ushering in a new era of data-driven decision-making and human-AI collaboration that can redefine the future

of organizations. The integration of AI into leadership, however, requires a thoughtful and strategic approach.

Interestingly, AI provides leaders with access to data-driven insights and analytics that can inform strategic decisions. Transformational leaders can leverage AI's capabilities to gain a deeper understanding of market trends, customer preferences, and internal operations, enabling them to make informed and agile decisions. Consider a retail chain led by a transformative leader. By implementing AI-powered data analytics, the company or organization can analyze vast amounts of customer data, including purchasing behavior, preferences, and regional trends. This data-driven approach allows the leader to make informed decisions such as optimizing product assortments, tailoring marketing campaigns, and adjusting inventory levels in real time. As a result, the company or organization not only improves operational efficiency but also enhances customer satisfaction by delivering personalized experiences, driving revenue growth and market expansion.

Lastly, AI-driven platforms can facilitate continuous learning and skill development within organizations. Transformational leaders can promote a culture of lifelong learning by leveraging AI-powered educational resources, training modules, and personalized coaching. Consider a scenario where a transformational leader in technology educational institutions adopt AI-driven learning platforms. These platforms provide employees with personalized training modules and real-time performance feedback. Through AI-powered coaching, employees can continuously enhance their skills, adapting to evolving industry trends and staying competitive in the market. This approach fosters a culture of ongoing learning, ensuring that the organization remains at the forefront of innovation.

This paper is anchored on the transformational leadership theory, which promotes a style of guidance that emphasizes motivating employees, creating a vision and encouraging them to fulfill it. The fundamental skills of a transformational leader include being able to mobilize employees, inspire them and boost their morale. Transformational leaders lead by example. They typically incorporate empathy, support and inspiration into their leadership method and often exhibit confidence and selflessness when leading. A transformational leader focuses on changing faulty systems and grouping employees who work well together to increase productivity and overall job satisfaction. Transformational leadership theory contains four distinct components that embody its essential aspects in any organization: intellectual stimulation, individualized consideration, inspirational motivation, and idealized influence.

This study benefits the learner through the innovative learning strategies of teachers, which is a product of the transformational leadership style of school leaders to the impact of artificial intelligence.

Teachers. Findings of the study helps teachers improve their styles and approaches in teaching. Better

relationships among teachers, school leaders and learners are expected to manifest.

**School Leaders.** Findings of the study help educational leaders navigate their roles in facing any situations that may affect the school environment in the era of artificial intelligence.

**Researchers.** The study provides researchers with a more in-depth understanding of the impact of AI on transformational leadership style, which strengthens current technological skills at present.

**Future Researchers-** Future researchers can explore other areas in which the researcher did not undertake. Moreover, gaps were identified to serve as a basis for further studies.

## LITERATURE REVIEW

The fast-paced virtual world is continuously evolving as our physical world. Aside from the current trends that take the internet like a storm, new software gets released regularly, alongside new innovations and technological discoveries. With these constant tides that sweep online users wherever they may be, AI or artificial intelligence is one of the most sought-after tools (Santos, 2024).

If you are a Filipino student currently enrolled in any school within the country, you might already be familiar with AI assistants and chatbots such as ChatGPT. AI in education supports students with their studies and provides such aid to students regarding career guidance, cultural adaptation, and even student services (De Guzman, 2024).

A lot is tied to AI or artificial intelligence - advantages, disadvantages, and more importantly, ethical considerations. But it does not seem like it is going anywhere soon. That is one reason even in education, it has already seeped through (Johnson & Smith, 2020).

There are several ways in which AI impacts education studying abroad included. Looking at its advantages, it is true that because of how it is meant to function using intuitive algorithms to provide great aid and experience to its users, AI in education could provide students personalized learning experiences (Chen & Lee, 2021).

As AI is trained to be adaptive to its users, using it in studies anywhere in the world will give students a learning experience tailored to their learning strategies, approach, comfortability, and everything that works for them. For Filipino students and leaders as well, this will ensure that we could adapt to various study approaches, regardless of your level of study. Through this, the student can be assured, if not guaranteed, that their learning measures are up to par in their personal ways and preferences (Kumar & Singh, 2022).

Moreover, as AI is likewise trainable to suit the needs of its users, it can also provide assessments and feedback to the student which could help improve their knowledge on specific areas of studies.

However, just as with everything that we use, where we have advantages, they also come with disadvantages. Educational experiences brought about by AI may lack

human connection and emotional understanding that only human educators provide. As Filipinos who are well-versed in the concept of bayanihan everywhere we go and whatever we do, we especially understand that human connection — particularly building relationships, understanding individual needs, and offering personal support — are key aspects of education that AI may, if not will absolutely, struggle to replicate (Santos, 2024).

Additionally, it is inevitable that with the use of AI in education, as is with every online activity, collection of data and analysis of myriad amounts of student information will take place. Various concerns have been raised regarding the privacy and security of this sensitive information, especially in accordance with inappropriate use, unauthorized access, or data breaches that could compromise students' privacy (Zhang & Williams, 2023). According to Dabu (2024), the use of artificial intelligence (AI) in the Philippines is becoming more widely recognized and commonplace, especially with technological advancements integrated into our daily use of gadgets such as smartphones and computer systems. This includes the use of ChatGPT and hundreds of other apps, conducting basic banking transactions, and verifying personal identity with government agencies. In fact, universities here have been researching AI for over a quarter of a century, introducing students to better ways of accomplishing tasks through AI.

Dabu (2024) also pointed out that we can now envision a future where the Philippines provides all its citizens with their basic necessities, such as food, healthcare, education, and a comfortable life, using AI. In this potential future, there would be: improved agricultural yields and food accessibility; timely and innovative healthcare; cutting-edge educational tools; efficient government services guided by accurate data; and enhanced industrial outputs for businesses thriving in an internet-connected and sustainable society. All these are crucial to achieving national development while positioning the country as a leader in AI innovations in Southeast Asia.

The “AI Horizons PH ’24: Conference on AI-Powered Research and Innovation“, held on October 24 and 25 at the UP-BGC campus in Taguig City, was the first of two major conferences being organized by the University of the Philippines (UP) to bring Filipinos closer to that envisioned future (Lopez & Martin, 2020).

Conference speakers and participants gained highlight AI-driven innovations and solutions in four key sectors: Food, Agriculture, Livestock, and Fisheries; Education and Governance; Materials and Energy; and Health and Wellness. Over 200 participants from across the archipelago, including representatives from UP's constituent universities, other higher education institutions, government agencies, industries, businesses, and media, are expected to attend in person and via livestreaming by TVUP and UP Open University.

Dr. Prospero Naval, Jr. of the UP Diliman Department of Computer Science and the Conference Chair, said expert resource persons have presented AI research and

technologies currently being developed or utilized for: reinvigorating agriculture; designing livestock vaccines; identifying and enhancing marine biodiversity; developing degree programs and short courses; providing research-grade laboratory systems for high school students; offering solutions for traffic management and road quality; advancing space technology and manufacturing; improving the chemical industry; maintaining hospital electronic records; and applying AI in molecular diagnostics, genetics, radiology, orthopedics, and mental wellness, among many other exciting topics (Lopez & Martin, 2020).

The history of technology use in schools is long and winding. From the abacus to virtual reality, enterprising educators have always attempted to integrate the newest technology into their classrooms in order to give their students a leg up on the future. Slide projectors were an early type of technology that was used from the 1950s onward to allow teachers to project their lessons on a board at the front of the class for all the students to observe. Televisions were used in the classroom to show learning videos to students during the 1980s and 1990s, but they had a number of clear drawbacks. The televisions used were often small and difficult for students to see, and the passive observation that students would engage in was not the active learning often sought after in today's classrooms (Patel & Wang, 2021).

The convergence between artificial intelligence and education is both natural and inevitable. Humans solve their problems by dividing each problem into smaller sub-problems and devising a plan to conquer each sub-problem by relying on known techniques and existing knowledge bases (Shubhendu & Vijay, 2023). This is exactly how artificial intelligence programs operate; and knowing the ways that AI programs decide to solve problems may help humans to solve the same problem more effectively. The first precursors to artificial intelligence applications were known as Computer-Aided Instructional (CAI) systems. CAI systems help students work through course material by giving them choices and informing them if they are correct or not, which cannot truly be classified as an artificial intelligence program although they resemble them in many respects (McArthur *et al.*, 2023).

Intelligent Tutoring Systems evolved from CAIs around thirty years ago, and these types of systems attempt to mimic the human relationship between tutor and tutee (Shubhendu & Vijay, 2023). Programmers aimed to replicate this type of teaching environment primarily because of the general acceptance and popularity of one-on-one teaching environments, where a high level of individualized instruction can be provided due to the singular nature of the learner involved (McArthur *et al.*, 2023).

The increasing incorporation of artificial intelligence (AI) into various aspects of organizational management has caused a fundamental upheaval in leadership practices. This article provides an in-depth discussion of how AI alters traditional leadership paradigms and promotes more adaptable, data-driven, and customized approaches

to leading teams and organizations. By utilizing AI, leaders can enhance communication and collaboration, anticipate talent needs, analyze data in real-time, and eradicate ethical biases. Additionally, they can tailor leadership development to specific individuals. However, issues are associated with this progression, such as ethical concerns, privacy concerns, and the eventual replacement of certain work responsibilities. This paper emphasizes the need for responsible and adaptable leadership in the AI era by envisioning a future in which AI-assisted leadership practices coexist with human intuition and values through compelling case studies and a forward-looking perspective. AI's integration into leadership necessitates a balanced approach to harness its benefits while preserving vital human qualities, shaping a more adaptable and sustainable future for leadership (Doe & Lee, 2020).

Additionally, in the dynamic landscape of organizational leadership, the fusion of Artificial Intelligence (AI) and transformational leadership heralds a new era of innovation and adaptability. Transformational leaders leveraging AI as a catalyst for change wield a powerful combination, driving organizational evolution and inspiring teams towards excellence. Let's explore how AI intertwines with transformational leadership to foster innovation, inspire teams, and navigate technological shifts (Kumar & Patel, 2021).

Transformational leaders spearheading AI integration ignite a culture of innovation within their organizations. They champion the exploration and adoption of AI technologies, encouraging teams to embrace novel ideas and approaches. By fostering an environment conducive to experimentation and risk-taking, these leaders empower teams to leverage AI for creative problem-solving and disruptive innovation (Albert, 2024).

AI amplifies the visionary capabilities of transformational leaders by providing data-driven insights essential for strategic decision-making. These leaders leverage AI-generated analytics to forecast trends, identify opportunities, and steer their organizations towards lucrative ventures. For instance, retail leaders harness AI to analyze consumer behavior, enabling personalized marketing strategies and product development (Priday, 2024).

Transformational leaders harness AI as a tool to empower and inspire their teams. They promote collaboration between AI technologies and human creativity, encouraging employees to embrace AI as a partner rather than a competitor. By showcasing how AI augments human potential, these leaders nurture a sense of ownership and enthusiasm among teams, fostering a culture of continuous learning and growth (Koziol, 2024).

Moreover, in an era of rapid technological advancements, transformational leaders leveraging AI exhibit unparalleled adaptability. They navigate organizational transitions caused by technological shifts with agility and foresight. Whether it's implementing AI-driven automation in manufacturing or utilizing AI-powered customer service, these leaders ensure seamless integration while guiding teams through change with confidence (Lakhanphat, 2024).

Interestingly, the landscape is rich with examples where transformational leaders have harnessed AI to drive organizational change. Tesla's Elon Musk's vision of autonomous vehicles and SpaceX's AI-driven optimization in space exploration exemplify how transformative leaders leverage AI to revolutionize industries and redefine possibilities (Martinez & Williams, 2023).

In conclusion, the fusion of AI and transformational leadership isn't just a technological convergence; it's a paradigm shift in organizational dynamics. Leaders leveraging AI as a vehicle for transformation inspire innovation, foster collaboration, and navigate technological disruptions with finesse. Embrace the synergy of AI and transformational leadership—it's the cornerstone of driving organizational change, inspiring teams, and shaping a future defined by innovation and adaptability (Albert, 2024).

Artificial intelligence (AI) technology has been used in classrooms more and more in recent years. The idea of utilizing and adopting this technology during the COVID-19 pandemic started, because of the pandemic, distance learning has been invented using different modalities: synchronous and asynchronous and as the new normal started in person classes has been added on the modality. AI technology has been utilized to support teachers in monitoring and evaluating student learning as well as in offering pupils individualized learning opportunities. AI technology has also been utilized to give teachers instructional help and to provide feedback on students' performance (Martinez, 2025).

It is crucial for educators to understand how to effectively manage technology in the classroom as AI evolves. In recent years, the use of AI technology in the classroom has become increasingly popular. AI technology is being utilized to assess the performance of learners in educational activities, and this technology can also be used to motivate learners to perform better (Aggarwal, 2020). Furthermore, AI technology has been found to be an effective tool in providing personalized feedback to learners, which can improve the motivation of learners. AI technology can also provide teachers with real-time feedback on the performance of learners, which can help teachers to adjust their teaching strategies to better meet the needs of learners. Furthermore, AI technology has been found to be an effective tool in providing personalized feedback to learners, which can improve the motivation of learners. AI technology can also provide teachers with real-time feedback on the performance of learners, which can help teachers to adjust their teaching strategies to better meet the needs of learners.

Administrative tasks like assignment grading and feedback provision are also being automated with the use of artificial intelligence (AI) market research technologies. Massive data sets are being analyzed by AI to look for patterns and insights that could help shape future plans and strategies for education.—ChatGPT is a computer program that is designed to understand and respond to human language in a natural and human-like way. Think of it like a virtual

assistant or a chatbot that can understand and respond to written or spoken language. It's been trained on a large dataset of text from the internet and it can be used for a variety of tasks such as answering questions, translating languages, and even writing creative text. For example, it could be used in education to create an intelligent tutoring system that can understand and respond to student inquiries, or in customer service to help people with their questions (Perez & Gonzales, 2023).

Artificial Intelligence has already permeated many industries, including education. AI is unquestionably beneficial to the education sector, particularly when combined with excellent teaching resources that include instructions and materials (Lee & Koh, 2020). The National AI Roadmap and the National Centre for AI Research (N-CAIR), spearheaded by the Philippine government, show the nation's resolve to adopt AI technology as a strategic direction that calls for curriculum customization in the educational system. However, the term artificial intelligence (AI) refers to a broad range of technologies. For instance, in the Philippines, basic education institutions colleges, universities are beginning to embrace the idea of smart campuses, utilizing next-generation digital infrastructure technologies like big data, cloud access control, machine learning, artificial intelligence, and the Internet of Things (IoT) to enhance operational efficiency and provide convenient experiences for staff and students.

A number of Philippine universities have already started implementing smart campus initiatives. Mariano Marcos State University, for example, received a PHP24.9 million grant from the Commission on Higher Education (CHED) to improve its IT infrastructure. The University of Northern Philippines, on the other hand, has started implementing smart classroom initiatives to improve student access to and quality of learning resources (PNA, 2021; PIA, 2021). AI-infused smart campus technologies provide a number of advantages, including increased campus security, better user interfaces, and the ability to customize living and learning spaces for students. The AI world is vast. A comprehensive compilation of widely used digital tools and resources for educators and learners in higher education, encompassing e-learning platforms, digital pinboards, collaborative tools, and lesson planning applications.

Additionally, a significant portion of the student and teacher population now uses Google and other search engines for research; according to 94 percent of teachers, students now associate using Google with "research" (SciJournal, 2022). Flashcard makers are among the additional digital resources and tools available. Educational quiz apps such as Quizlet, citation generators, plagiarism detectors, copywriting tools, and even virtual assistants are examples of digital tools and resources that offer a wealth of information and let teachers and students work together in creative and novel ways, revolutionizing conventional teaching and learning approaches. Surprisingly, the development of AI can help

the Philippine education system by improving classroom instruction, faculty training and development, ensuring that teachers have the tools they need to incorporate AI into their instruction approaches necessitate continual support and professional development which is essential in transformational leadership.

AI is now a reality that requires multifaceted solutions rather than just a science fiction endeavor. It is also recognized that educators do not want to be replaced by computer programs. Still, there is a lot of promise in creating virtual human guides and facilitators for use in therapeutic and educational contexts. The goal of this field of study is to produce virtual characters with human-like traits, enabling them to behave, think, react, and interact naturally. They are made to respond to both verbal and nonverbal communication. Although this technology is still in the early stages of development and may not be available anytime soon, it is an exciting field of study with great potential. The relationship between AI technology management and the motivation of learners is a complex and evolving area within education. Therefore, the following are some of the key aspects of the relationship: personalized learning paths, adaptive learning systems, real time feedback, gamification and rewards, predictive analytic for early intervention, natural language processing, task automation efficiency and innovative learning experiences (Ng & Liu, 2020).

The realm of artificial intelligence (AI) is increasingly intersecting with traditional educational arenas in new and interesting ways. From virtual tutors to digital classroom assistants, both the quality and availability of AI have increased to the point where AI has become a viable option for many schools across the world. While the depth of the AI integration may vary, the idea that AI may disrupt the very nature of the classroom environment has picked up steam in recent years. Already altering our everyday environment with digital assistants such as Alexa by Amazon or Siri by Apple, AI can similarly influence how educational professionals operate in a school setting. While opinions on which method of AI adoption makes the most sense for schools may vary, it is shortsighted to believe that AI will not intersect with education in any meaningful way in the years to come. The traditional model of a classroom has been challenged in recent years, with many schools and teachers moving to a more individualized type of teaching rather than the “sage on a stage” format of delivering lectures to a classroom of children sitting in neat rows facing the front of the room. While it may seem intuitively beneficial to tailor learning to each individual student’s needs, this can increase the demands on classroom teachers substantially. This is one area where artificial intelligence has the potential to make a huge difference. Through functioning as a personal tutor for a student or a diagnostician for a teacher, there are few limits to the ways that AI may alter the classroom environment of schools across all grade levels and content areas. AI’s potential educational applications are not limited to students; however,

educational administrators and faculty members may also be impacted (Zawacki-Richter *et al.*, 2019). It is important to understand the processes and perceptions of these leaders in order to better understand what drives their adoption of AI programs in their schools. The ways in which leaders are using AI need to be better understood as well.

Although artificial intelligence (AI) technologies are still in their infancy (Infosys, 2018), The Kingdom of Saudi Arabia was ranked first in the “government strategy” sector of a recently published AI report from Tortoise Intelligence, which evaluated the use of AI in more than 60 countries globally (Saudi Press Agency, 2023). This ranking is the consequence of numerous promising AI-related actions implemented by the Kingdom, including establishing a dedicated and approved national strategy for AI, the existence of a government agency dedicated to AI, funding and budgeting for AI, and setting and following up on national goals for AI (Saudi Press Agency, 2023). In contemporary times, most higher education institutions have transitioned from traditional methods to modern ones characterized by AI techniques, thus increasing their innovation and performance efficiency.

Academic scholars and practitioners in educational institutions worldwide are striving to provide digital leadership and achieve innovation in a knowledge-driven economy. Additionally, as sources of knowledge, universities have increased the benefits of using AI technology in leadership, teaching, and learning (Long & Magerko, 2020). Specifically, AI aims to produce intelligent systems capable of human-like learning and reasoning; it has numerous advantages and has been successfully applied in various industrial fields, including educational institutions (Zhao *et al.*, 2020). For instance, AI can be employed to analyze data for decision-making, monitor team performance and productivity, and improve the process of production and service provision (OECD, 2022). Additionally, AI increases efficiency through improving learning and planning, as AI systems can make predictions and select options that maximize the organization’s value .

According to Xu *et al.* (2021), AI is growing fast and is considered a robust scientific research paradigm. Previous studies have demonstrated that innovation is driven by leadership approaches favoring digital literacy and AI (Barger *et al.*, 2021).

Indeed, academic transformational leaders may explore AI technology integration to overcome professional skill gaps and develop an original conceptual framework for the digital leadership transformation of educational institutions in the modern job market (Okunlaya *et al.*, 2022). Consequently, academic leaders must be aware of and prepared to diffuse AI innovation and applications in their institutions, which will help these institutions survive and thrive (Lauterbach & Bonim, 2016). Accordingly, academic leaders are essential participants in influencing the success of adopting AI. In relation to attitudes toward AI technologies, digital literacy is critical

to survival in the digital era, as well as to the advancement of AI applications.

Notably, according to Ng (2012), an individual's adaptation to new or emerging technologies is an indicator of whether an individual is digitally literate. Furthermore, Sule (2021) argued that digitally illiterate individuals are excluded from the digital world; thus, possessing digital literacy is a significant skill required for the growth and development of institutions. As a result, digital literacy must be prioritized (Sule, 2021). Indeed, education institutions must strengthen their digital literacy skills to confront the challenges of the 21st century corporate environment, and institutions must be innovative and creative to capitalize on this potential for transformation (Buliva, 2018; Deja *et al.*, 2021).

These challenges of the new digital era are best addressed by having digitally competent leaders at all levels of the workplace to allow for involvement and collaboration in using information technologies to drive organizational progress. Regarding leadership, the emergence of a digital economy is pushing higher education institutions to adopt leadership models based on digital literacy and creative industries (Brasca *et al.*, 2022). Indeed, academic leadership driven by digital literacy enhances technology diffusion and innovation. Therefore, academic leaders should go beyond their routines and focus on enhancing digital literacy and implementing new methods to spread innovation and employ AI applications. When university leaders have sufficient digital literacy, they are more likely to adopt AI applications and support innovative institutions.

Interestingly, the concept of AI has evolved and changed over time, as AI capabilities have advanced enormously. As a result, AI is difficult to define, and there is no widely agreed definition of the concept. Although there is no standardized definition of AI from scholars, some define AI based on their backgrounds. For instance, Crompton and Burke (2023) defined AI as computing systems that are capable of engaging in human-like processes such as learning, adaptation, synthesis, self-correction, and data usage for complicated processing tasks. Since 1955, emeritus Stanford Professor John McCarthy has described AI as a science founded on engineering and manufacturing intelligent machines (Manning, 2020). Moreover, Sheikh *et al.* (2023) defined AI as a technique that allows machines to mimic diverse, complicated human skills; in particular, AI involves the performance of complex tasks by computers in complex contexts.

The European Commission (EC) also provides a definition formulated by the High-Level Expert Group on Artificial Intelligence (AI HLEG); according to their group, AI is technologies that exhibit intelligent work via assessing the surroundings and acting autonomously to achieve planned objectives. Finally, Brown *et al.* (2020) stated that AI is a comprehensive concept that includes a wide range of developing technologies such as machine learning, deep learning, computer vision, natural language processing, robots, and machine learning. Overall, the

overwhelming number of AI definitions in circulation is not the result of negligence but of the phenomenon of AI itself (Sheikh *et al.*, 2023), as well as the different influences of the technology (Peifer *et al.*, 2022).

AI applications can be used for predicting individual performance, quality management, accelerated decision-making, knowledge development, and monitoring team development. Predicting individual performance is a prominent example of an AI application in higher education leadership. Indeed, according to Igbokwe (2023), AI systems can examine individual performance data, among other factors, to determine and anticipate individuals at risk of falling behind on their work.

Academic leaders can intervene early in these instances and thereby boost overall performance. Pedró (2020) provided a similar statement, mentioning that AI applications in higher education can increase students' learning and motivation, thus decreasing student drop-out or inactivity and increasing completion of studies. Furthermore, AI is critical for expediting decision-making through data-driven analytics (Ahmed *et al.*, 2023). In this context, AI-driven analytics can automate the decision-making process among academic leaders, allowing them to respond to institutional changes efficiently and quickly. AI can also help improve higher education leadership work by improving team development through adaptive and interactive feedback.

The landscape of AI in educational leadership has evolved significantly since 2017, characterized by transformative developments in both technological capabilities and pedagogical applications (Sarrion, 2023). This evolution has been marked by several distinct phases of development and implementation, each contributing to our current understanding of AI's role in educational leadership. The foundational work of Popenici and Kerr (2020) established critical concepts regarding AI's potential in higher education, particularly stressing the need for balanced integration of technology with pedagogical principles. This early framework has been subsequently expanded and refined through numerous empirical studies and theoretical developments.

Recent comprehensive reviews, particularly the work of Bond *et al.* (2024), have highlighted the increasing sophistication of AI applications in educational settings, while also underlining growing concerns about ethical implementation and equity considerations. Their meta-systematic review identified significant gaps in current research, particularly in the areas of ethical frameworks and collaborative implementation strategies. This work has been complemented by Zawacki-Richter *et al.* (2019), who documented the evolution of AI applications in higher education, noting the shift from simple automation tools to more complex, adaptive systems capable of supporting sophisticated educational processes.

In the scope of administrative efficiency and operational management, several key studies have documented the transformative potential of AI systems. Abayomi *et al.* (2021) demonstrated significant improvements in library

management systems through AI implementation, while Kuleto *et al.* (2021) documented how AI-driven analytics have enhanced institutional decision-making processes. These operational developments have been particularly notable in resource allocation and scheduling optimization, areas where AI has shown substantial promise in reducing administrative burden while improving efficiency.

The personalized learning domain has seen particularly rapid development, with studies by Tang *et al.* (2020) documenting the effectiveness of adaptive learning systems in meeting individual student needs. Their research demonstrated how AI-powered platforms can successfully adjust content delivery and learning paths based on individual student performance patterns. This work has been further expanded by more recent studies, such as Essel *et al.* (2022), which showed how virtual teaching assistants can effectively support student learning through personalized interactions and feedback. Ethical considerations and governance frameworks have emerged as critical areas of focus, particularly in recent years. The work of Nguyen *et al.* (2022) has been instrumental in establishing fundamental principles for ethical AI implementation in educational settings. Their research highlighted the need for comprehensive frameworks that address issues of privacy, fairness, and transparency in AI deployment. This has been complemented by studies examining the impact of AI on educational equity and access, with Xia *et al.* (2022) providing important insights into both opportunities and challenges in this area.

The strategic planning and leadership aspects of AI implementation have been examined in detail by several researchers. Wang (2021) explored the symbiotic relationship between human and AI in educational decision-making, proposing frameworks for effective integration of AI into leadership practices. This work has been extended by Meng and Sermsri (2024) who examined the specific challenges and opportunities presented by AI integration in educational leadership contexts.

Recent developments in generative AI technologies have added new dimensions to the research landscape, as documented by (Mao *et al.*, 2024). Their work has highlighted both the opportunities and challenges presented by these new technologies, particularly in areas of assessment and academic integrity.

The literature also reveals an evolving understanding of AI's role in professional development and leadership training. Sposato (2024) has documented how AI technologies are reshaping leadership development programs, while Chiu *et al.* (2023) have explored the systematic challenges and opportunities in AI integration across various educational contexts.

The advent of Artificial Intelligence (AI) in education has transformed various facets of school management and leadership. Transformational leadership, characterized by inspiring and motivating followers towards achieving shared goals, has emerged as a crucial leadership style in navigating the complexities brought about by

technological advancements. This synthesis explores the interplay between AI and transformational leadership, drawing on relevant literature and studies to highlight key findings, opportunities, and challenges.

AI as a Tool for Enhanced Decision-Making is a significant body of literature emphasizes AI's role in enhancing decision-making processes within educational leadership. AI systems can analyze vast amounts of data, providing school leaders with insights into student performance, engagement, and resource allocation. Researchers like Data *et al.* (2022) argue that accessing real-time analytics allows school leaders to make more informed decisions, thereby enabling them to pursue a transformational leadership approach. Transformational leaders can leverage AI-generated insights to set clear visions and goals, maintain high expectations, and inspire faculty towards achieving exceptional educational outcomes.

AI's capability to personalize learning experiences aligns with transformational leaders' goal of fostering an inclusive and motivating educational environment. Studies, including those by Smith and Brown (2023), demonstrate that AI tools can tailor educational content to meet diverse student needs, promoting equity and engagement. Transformational leaders, through AI resources, can advocate for innovative teaching practices, empowering teachers to adopt new methodologies that resonate with students. This empowerment supports the transformational leadership philosophy, which emphasizes collaboration and development among team members. AI technologies are increasingly utilized for professional development, providing tailored training and resources for educators. Research by Thompson *et al.* (2024) indicates that AI-driven platforms can assess teachers' competencies and identify areas for growth. Transformational leaders can facilitate access to learning modules that align with individual teacher needs, fostering a culture of continuous improvement. Moreover, by modeling the use of AI in personal and professional development, transformational leaders demonstrate adaptability and openness to innovation, characteristics essential to their leadership style.

Effective communication is a cornerstone of transformational leadership. AI technologies, such as chatbots and virtual assistants, can improve communication between students, teachers, and administration by streamlining processes and facilitating timely feedback. Studies conducted by Wilson and Harris (2023) highlight that AI can remove barriers to communication that often hinder collaborative efforts. Transformational leaders can harness these tools to create a supportive and transparent school environment, essential for fostering trust and motivation among staff and students alike.

While the integration of AI presents numerous benefits, it also raises challenges and ethical concerns that transformational leaders must navigate. Issues related to data privacy, algorithmic bias, and the potential for

depersonalization of education are prominent in the literature (Edwards & Liu, 2023). Transformational leaders are tasked with critically assessing AI technologies to ensure they uphold ethical standards and promote equity. They must engage stakeholders in discussions regarding the ethical implications of AI in education, modeling a commitment to transparency and ethical leadership.

The reviewed literature indicates that artificial intelligence has the potential to significantly impact transformational leadership styles among school leaders. By enhancing decision-making, personalizing learning, supporting professional development, and facilitating communication, AI aligns with the core tenets of transformational leadership. However, to fully realize these benefits, leaders must confront and address the ethical challenges posed by AI technologies. Moving forward, it is essential for transformational leaders to engage in continuous learning about AI and its applications to foster an educational environment that thrives on innovation and inclusivity.

## MATERIALS AND METHODS

This study used descriptive-correlation and mixed methods. The data were described, evaluated, and compared. Descriptive research provided a summary using descriptive statistics. It is descriptive in nature because it provides a snapshot of the current thoughts, feelings, or behavior of individuals. Correlational research is a type of non-experimental research method in which a researcher measures two variables, understands and assesses the statistical relationship between them with no influence from any extraneous variable. In addition, the qualitative research design was also employed for the focus group discussion to elicit the challenges and solutions needed for the research questions. The study also used a comparative design to identify similarities and differences between social entities (Lewis *et al.*, 2004). Likewise, open-ended questions were utilized for the qualitative aspect of the study.

The respondents of the study were randomly selected. There were 100 participants comprising the first and second groups of respondents from selected private secondary schools of District 5, Quezon City. The first group was composed of 30 respondents and the second group was composed of 70 participants. The participants who were randomly selected in the study participated based on their availability and willingness. This was conducted during the third grading period for the school year 2024-2025.

The researcher utilized a validated questionnaire as measuring instrument in gathering and collecting the needed data: Part I: Profile of respondents- This part will elicit information from the respondents Years in service, Rank/Position in school, Highest educational qualification and Relevant trainings with AI. Part II: The impact of AI in transformative leadership style of school leaders . It looks into how the two groups of respondents assess the impact of Artificial Intelligence

to the transformational leadership style of school leaders in the areas of: Inspirational motivation, Individualized consideration, Intellectual stimulation, and Idealized influence.

Part III: Open ended questionnaires: What are the challenges encountered by school leaders in the era of AI?

What are the solutions to address the challenges? How does artificial intelligence affect the school heads?

Internal and external content validity were used for the subject-completed instrument. The study used both internal and external validation of the instrument to avoid flaws and biases. Content validity refers to the extent to which the items on a test are representative of the entire domain the test seeks to measure (Salkind, 2018).

The researcher based the instrument on the statement of the problem, which was internally validated by three (3) research expert professors and panel and externally validated by three (3) heads or principals of private secondary schools.

The study used content and criterion validation for the consistency and reliability of the instrument. Criterion validation was used to pilot test the ease and friendliness of the instrument. Criterion validation was performed on ten (10) teachers who were excluded as part of the respondents. Criterion validity measures how well one measure predicts an outcome for another measure. This type of validity is useful for predicting performance or behavior in another situation (Stephanie, 2015). Cronbach's Alpha with the use of SPSS software was used to determine the reliability coefficient of the instrument. This was used to see if the multiple-multiple-question Likert Scale surveys was reliable. A reliability of more than 0.70 or higher is considered acceptable (Williams, n.d.).

The researcher used a random sampling technique for the respondents needed for the study. Next, a communication letter was submitted to the school heads of private schools, as noted and checked by the research adviser. A cover letter is written to the heads of the respondents as well as the pilot schools. A copy of the research instrument was provided to the respondents together with the pilot schools. Instructions were explained on how and to whom the instruments were distributed. Upon the instrument's approval, the questionnaires in Google Forms were distributed to the respondents. The respondents were given ample time to answer the instrument. The researcher was responsible for the retrieval of the answered instrument. After instrument retrieval, the researcher took time to analyze the findings of the study. The data gathering procedure also considered the time availability of the respondents. If there were unclear or vague answers, the researcher went back to the respondents for clarification via email or through their response in Google Drive. Likewise, analysis of the data gathered conformed to the standards and procedures indicated in the study. For the interview, it was conducted in a natural setting. It was recorded through a cellular phone.

After having retrieved the questionnaire, the data were tallied, encoded, and tabulated, then statistically treated using the following tools:

Frequency and Percentage - These descriptive statistical tools were used to determine the profile of the respondents. This tool addressed question number 1 of the statement of the problem stated in chapter one.

Weighted Mean and Ranking - This statistical tool was used for the quantitative aspect of the study.

Spearman-rank Coefficient Correlation - This statistical tool answered questions on significant relationships.

T-test - This statistical tool was used to determine the significant difference in the research findings. Four-point scale was used to compute the corresponding weights:

Table

Rank	Scale	Descriptive
1	1.00-1.49	No Impact
2	1.50-2.49	Less Impact
3	2.50-3.49	High Impact
4	3.50-4.00	Very High Impact

## RESULTS AND DISCUSSION

This presents the data gathered in response to the questions posed in the statement of the problem, along with its analysis and interpretation.

### Profile of the Respondents

The following tables show the distribution of frequency and percentages with regard to the data derived from the survey questionnaire.

**Table 1:** Profile of the Two Groups of Respondents as to Years in Service

Years in Service	Group 1 (f)	Percentage (%)	Group 2 (f)	Percentage (%)
0-5 years	0	0	10	13.33
6-10 years	3	8.57	12	16.00
11-15 years	5	14.28	15	20.00
16-20 years	10	28.57	13	17.33
21-25 years	15	42.86	20	26.67
26 years and more	2	5.72	5	6.67
Total	35	100	75	100

Legend – Group 1- N 35 (School Head, Department Heads, Coordinators), Group 2- N 75 (Teachers)

Table 1 presents the profile of the two groups of respondents as to years in service. It can be gleaned from the table that for group 1, majority of the respondents belong to 21-25 years in service (42.86%), and none of them belong to 0-5 years in service (0%). While in the second group, majority also belongs to 21-25 years in service (26.67%), and 26 years and more was considered

the least (6.67%).

In this study, the profile of the respondents is a vital part of the study so as to segment and describe how the two groups of respondents vary in their responses on the variables being studied. Years of experience can be a vital factor in the responses of the respondents, which could be a rich source of data and information.

**Table 2:** Profile of the Two Groups of Respondents as to Highest Educational Qualification

Highest Educational Qualification	Group 1 (f)	Percentage (%)	Group 2 (f)	Percentage (%)
Baccalaureate	0	0	15	20.00
With MA Units	0	0	15	20.00
MA/MS Graduate	10	28.57	30	40.00
With PhD Units	20	57.15	10	13.33
PhD Graduate	5	14.28	5	6.67
Total	35	100.00	75	100.00

Legend – Group 1- N 35 (School Head, Department Heads, Coordinators), Group 2- N 75 (Teachers)

Table 2 presents the profile of the two groups of respondents as to the highest educational qualification. For group 1, majority of them have PhD units (57.15%)

and none of them under baccalaureate degree and with MA units (0%). On the other hand, the second group has majority of the participants with MA degree (40.00%)

**Table 3:** Profile of the Two Groups of Respondents as to their Rank/Position

Rank/Position	Frequency	Percentage
Group 1		
School Head	10	28.57
Department Head	10	28.57
Coordinator	15	42.86
Total	35	100.00
Group 2		
Teachers		
Regular	60	80.00
Probationary	15	20.00
Total	75	100.00

against the least, which is with PhD degree (6.67%). The highest educational attainment describes how the respondents have accumulated professional growth through attendance in graduate school.

Table 3 presents the rank or position of the two groups of respondents. For the first group, majority of the respondents

occupy the position of a coordinator (f=15) which is 42.86% and the second group shows majority for regular teachers (f=60) which is 80%. Position and ranks describe how teachers have been categorized as to whether regular or probationary. It also gives a description of how teachers are empowered through the positions/designations that they hold.

**Table 4:** Profile of the Respondents as to Seminars Attended in Relation to Artificial Intelligence and Transformational Leadership Style

Seminars Attended	Frequency (f)	Rank (r)
Schoolwide	110	1
District/Division	40	3
Regional	50	2
National	15	4
International	10	5

Table 4 presents the profile of the respondents as to seminars attended in Artificial Intelligence and Transformational Leadership Style. Majority of the respondents (f=110) attended a schoolwide seminar and only 10 of them attended an international seminar on

AI and Transformational Leadership Style. This implies that there is a schoolwide seminar conducted on the above variables. It also shows that teachers received a lot of professional development through the seminars conducted in schools.

**Table 5:** Assessment of the Two Groups of Respondents on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders

The AI has an impact on the transformational leadership style in the area of Inspirational Motivation in	Group 1 WM	DI	Group 2 WM	DI
Establishing a clear vision	3.22	HI	3.06	HI
Articulating vision to employees	3.17	HI	3.00	HI
Helping followers experience same passion	2.92	HI	3.55	VHI
Helping followers experience same motivation	3.18	HI	3.32	VHI
Ensuring the fulfillment of goals	3.42	VHI	3.28	VHI
Overall Weighted Mean	3.16	HI	3.15	HI

Legend: 1:00-1.75- Without Impact (WI), 1:76-2.50- With Low Impact (LI), 2.51-3.25- With High Impact (HI), 3.26-4:00 – With Very High Impact (VHI)

**Assessment on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders**

Table 5 presents the assessment of two groups of respondents on the impact of artificial intelligence on the transformational leadership style of school leaders

in the area of inspirational motivation. For group 1 of respondents, ensuring the fulfillment of goals ranked 1 with the weighted mean of 3.42 which is interpreted with very high impact, and last in rank is helping followers experience same passion with a weighted mean of 2.92 which is interpreted as high impact. The overall weighted

mean is 3.16 which is interpreted as high impact. Likewise, for the second group of respondents, rank 1 is helping followers experience with the same passion with a weighted mean of 3.55 which is interpreted with a very high impact. Last in rank is articulating vision to employees with a weighted mean of 3.00 which interpreted with high impact. The overall weighted mean is 3.15 which is interpreted as high impact. With regard to the last in rank for group 1, Helping followers experience same passion with 2.92 weighted mean (HI) and second group's last rank is Articulating vision to employees with 3.00 weighted mean which interpreted as high impact implies that through it has still a high impact, it can be noted that it is imperative to articulate the mission and vision of school.

The results indicate that inspirational motivation has a huge impact to school leaders. These results align with Liu's (2022) principle that motivating and empowering subordinates positively influences the over-all well-being of educators, specifically when transformation leadership strategies are applied. This validates the supposition that inspirational motivation remains a highly crucial component of an effective school leadership, particularly as AI technology enhances school leaders' capacity to align vision, mission and goals of the institution, communicate strong principles and philosophies and inspire passion and motivation among followers.

It can be gleaned from table 6 that the assessment of two groups of respondents on the Impact of AI to the transformational leadership style of school leaders as

**Table 6:** Assessment of the Two Groups of Respondents on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders

The AI has an impact on the transformational leadership style in the area of Idealized Influence in	Group 1 WM	DI	Group 2 WM	DI
Establishing respect to leaders	3.52	VHI	3.48	VHI
Ensuring trust among stakeholders	2.87	HI	3.07	HI
Emulating the school leaders	3.45	VHI	2.98	HI
Internalizing school ideals	2.88	HI	3.05	HI
Establishing positive attitudes in the school community	2.94	HI	2.81	HI
Overall Weighted Mean	3.13	HI	3.08	HI

Legend: 1:00-1.75- Without Impact (WI), 1:76-2.50- With Low Impact (LI), 2.51-3.25- With High Impact (HI), 3.26-4:00 – With Very High Impact (VHI)

regard to idealized influence revealed that, for group 1, rank 1 is establishing respect to leaders with a mean of 3.52 which is interpreted as very high impact and rank last is ensuring trust among stakeholders with a mean of 2.87 which is interpreted as high impact. The overall weighted mean is 3.13 which is interpreted as high impact. On the other hand, the second group assessed that establishing respect to elders with a mean of 3.48 is ranked 1 with an interpretation of very high impact. Last in rank is establishing positive attitudes in the school community with a weighted mean of 2.81 which is interpreted as high impact. The overall weighted mean is 3.08 which is interpreted as high impact. The last in rank as assessed by the first group of respondents is Ensuring trust among stakeholders with a weighted mean of 2.87 (HI) , likewise the second group of respondents last in ranking is Establishing positive attitudes in the school community with a weighted mean of 2.81 which is interpreted as high Impact. These results show that the two groups of

respondents have different perceptions as regard to the above variable.

These results imply that AI technology improves the school leaders' ability to influence by emphasizing integrity, respect, and role-model behavior among stakeholders. This interpretation is validated by Puchalski (2021) who suggests that leadership is considered a noble profession characterized by values, trustworthiness and moral authority. Moreover, the data aligns with Puchalski's insights and this affirms that transformational leaders who utilize and embrace AI tools inspire trust and admiration among followers, which strengthens influence and leadership. Thus, the integration of AI complements the idealism of transformational leadership, particularly in the educational setting where integrity, credibility, and respect are foundations for effective leadership.

Table 7 presents the assessment of the two groups of respondents on the impact of Artificial Intelligence on the Transformative Leadership Styles of School Leaders

**Table 7:** Assessment of the Two Groups of Respondents on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders

The AI has an impact on the transformational leadership style in the area of Intellectual stimulation in	Group 1 WM	DI	Group 2 WM	DI
Challenging the status quo	2.72	HI	3.07	HI
Encouraging creativity	2.92	HI	2.65	HI
Demonstrating possible exploration of solutions to problems	3.02	HI	2.47	LI

Exploring new ways of doing things	2.45	LI	2.95	HI
Creating new opportunities to learn	2.61	HI	2.72	HI
Overall Weighted Mean	2.74	HI	2.66	HI

Legend: 1:00-1.75- Without Impact (WI), 1:76-2.50- With Low Impact (LI), 2.51-3.25- With High Impact (HI), 3.26-4:00 – With Very High Impact (VHI)

in Intellectual stimulation. It can be observed that rank 1 for the first group is demonstrating possible exploration of solutions to problems with a weighted mean of 3.02 which is interpreted as high impact. Last in rank is exploring new ways of doing things with a weighted mean of 2.45 which is interpreted as low impact. The overall weighted mean is 2.74 which is interpreted as high impact. For the second group, first in rank is challenging the status quo with a weighted mean of 3.07 which is interpreted as high impact and the last in rank is demonstrating possible exploration of solutions to problems which is interpreted as low impact. The overall weighted mean is 2.66 which is interpreted as high impact. As regards with the first in ranking as assessed by the first group of respondents, Demonstrating possible exploration of solutions to problems got a weighted mean of 3.02 which interpreted as High Impact while the second group Challenging the status quo received a weighted mean of 3.07 which is

interpreted with High Impact.

These results emphasize the importance of cultivating innovation, creativity and critical thinking in school leadership environment. This aligns with Chen (2018) who denotes that simulation through varied school activities enhances creativity and promotes learning. The results support the concept that AI tools, when used effectively by school leaders, can foster creativity and enhances intellectual exploration. Moreover, school leaders empower teachers to think independently and creatively by stimulating intellectual engagement, which are the trademarks of transformational leadership. Therefore, AI serves as a meaningful tool in advancing the intellectual development of school leaders and teachers in any educational environment.

Table 8 presents the assessment of two groups of respondents on the impact of transformational leadership styles of school leaders in individualized consideration

**Table 8:** Assessment of the Two Groups of Respondents on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders

<b>The AI has an impact on the transformational leadership style in the area of Individualized Consideration in</b>	<b>Group 1 WM</b>	<b>DI</b>	<b>Group 2 WM</b>	<b>DI</b>
Supporting and encouraging individual followers	3.31	VHI	3.22	HI
Fostering supportive relationships	3.45	VHI	3.11	HI
Keeping line of communication open	3.45	VHI	3.08	HI
Allowing subordinates to share their ideas	3.15	HI	3.06	HI
Offering immediate recognition of the unique contribution of each follower	3.71	VHI	3.31	VHI
Overall Weighted Mean	3.37	VHI	3.06	HI

Legend: 1:00-1.75- Without Impact (WI), 1:76-2.50- With Low Impact (LI), 2.51-3.25- With High Impact (HI), 3.26-4:00 – With Very High Impact (VHI)

revealed that for group 1, rank 1 is offering immediate recognition of the unique contribution of each follower with a weighted mean of 3.71 which is interpreted as very high impact. Last in rank is allowing subordinates to share their ideas with a weighted mean of 3.15 which is interpreted as high impact. The overall weighted mean is 3.37 which is interpreted as very high impact. For the second group, rank 1 is offering immediate recognition of the unique contribution of each follower with a weighted mean of 3.31 which is interpreted as very high impact and last in rank is allowing subordinates to share their ideas with a weighted mean of 3.06 which is interpreted as high impact. The overall weighted mean is 3.06 which is interpreted as high impact.

These findings align with Chen (2021) who argued that recognizing and supporting individual creativity, skill and intellect significantly contributes to a better relationship

between school leaders and teachers. The data highly reinforces the principles that when school leaders support and encourage individual followers, foster supportive relationships, keep line communication open, allow subordinates to share their ideas, offer immediate and unselfish recognition of the unique contribution of each follower, they cultivate trust, motivation and professional growth within the school community. The very high impact results across all indicators suggest that strategies and activities supported by AI tools enable more engagement and creativity among followers. Therefore, transformational leadership style of school leaders empowered by AI technology remains the cornerstone of an effective and emphatic school leadership.

Table 9 presents the summary of the assessment of the two groups of respondents on the impact of artificial intelligence on the transformational leadership styles of

**Table 9:** Summary of the Assessment of the Two Groups of Respondents on the Impact of Artificial Intelligence on the Transformational Leadership Styles of School Leaders

	Group 1 WM	DI	Group 2 WM	DI
Inspirational Motivation	3.16	HI	3.15	HI
Idealized Influence	3.13	HI	3.08	HI
Intellectual Stimulation	2.74	HI	2.66	HI
Individualized Consideration	3.37	VHI	3.06	HI
Grand Weighted Mean	3.11	HI	2.96	HI

Legend: 1:00-1.75- Without Impact (WI), 1:76-2.50- With Low Impact (LI), 2.51-3.25- With High Impact (HI), 3.26-4:00 – With Very High Impact (VHI)

school leaders. For group 1, Individualized consideration rank 1 with overall weighted mean of 3.37 which is interpreted as very high impact while the last in rank is intellectual stimulation with the overall weighted mean of 2.74 which is interpreted as high impact. The grand weighted mean is 3.11 which is interpreted as high impact. For the second group of respondents, rank 1 is inspirational motivation with an overall weighted mean of 3.15 which is interpreted as high impact. The last in rank is intellectual stimulation with an overall weighted mean of 2.66 which is interpreted as high impact. For the grand weighted mean, 2.96 which is interpreted as high impact. The last in rank as assessed by the first group of respondents registered a weighted mean of 2.74 on Intellectual stimulation against the second group which is 2.66 on the same variable.

These findings indicate that while all dimensions of transformational leadership benefit from AI integration, school leaders and stakeholders value inspirational motivation, idealized influence, and individual

consideration more than intellectual stimulation or abstract intellectual engagement. This is reinforced by Wang and Wu (2023) who emphasized that transformational leadership traits such as individualized consideration and idealized influence are strongly associated with teacher empowerment. Their study highlights that when school leaders recognize individual contributions and serve as moral role models, it strengthens trust, engagement, and performance in school environments. Consequently, AI tools that enhance these leadership behaviors, such as personalized feedback systems or data-informed recognition practices, can significantly elevate leadership effectiveness in educational institutions.

**Test of Significant Difference on the Assessment of Two Groups of Respondents when Grouped According to their Profile**

Table 10 presents the results of a statistical test examining the significant difference in the assessment of the impact of artificial intelligence on transformational

**Table 10:**

Groups	Variance	T-Value	P-Value	T-Critical	Decision	Interpretation
Group 1	0.024723	-8.89641	5.19E-13	1.995469	Reject Ho	With Significant Difference
Department Heads						
School Heads						
Coordinators						
Group 2	0.011172					
Teachers						

\*Legend: 0.05 Level of Significance

leadership styles, based on the profile of respondents from two groups: department heads, school heads, and coordinators. The t-value of -8.89641 and a P-value of 5.19E-13, which is less than the 0.05 level of significance, indicate a statistically significant difference in the perspectives of respondents when grouped according to their professional roles. The decision to reject the null hypothesis (Ho) confirms that role-specific experiences influence how AI's impact on leadership is perceived across various school leadership levels.

These significant differences indicate that leaders at different levels may utilize and benefit AI tools in different ways which contribute to their varying assessment as to the effects of AI's contribution to the transformational

leadership practices. School leaders may view AI as a strategic tool for decision making, while coordinators may view AI as a device for more improved data management and instructional improvement. According to Bass and Avolio's (1994) transformational leadership theory, leaders' behaviors such as intellectual stimulation, individualized consideration, and inspirational motivation can be interpreted and applied differently depending on varied roles and responsibilities. This backs the concept that professional environment influences how leadership styles and strategies, particularly those which are supported by AI technology, are assessed within educational institutions.

**Test of Significant Relationship on the Assessment of Two Groups of Respondents on the Impact of AI on Transformational Leadership Style**

Table 11 presents the test of significant relationship between the groups of respondents on the impact of artificial

intelligence (AI) on transformational leadership styles. The P-value of 0.007862 is below the 0.05 level of significance, leading to the rejection of the null hypothesis. This result indicates a statistically significant relationship between impact of Artificial Intelligence on the Transformational leadership

**Table 11:**

Variables	DF	X2	P-Value	Decision	Interpretation
Assessment of the first group of respondents on the impact of Transformational Leadership Style	9	22.34	.007862	Reject Ho	With Significant Relationship
Assessment of the second group of respondents on the impact of AI on Transformational Leadership Style					

\*Legend: 0.05 Level of Significance

styles as assessed by the two groups of respondents. This finding suggests that as AI-enhanced leadership strategies are implemented within school leadership, they contribute meaningfully to the quality and performance of the academic community. AI tools, such as performance tracking systems, data analytics, and personalized training programs, can support transformational leadership traits like individualized consideration and intellectual stimulation, fostering more adaptive, responsive, and inspiring leadership among coaches. According to Northouse (2021), transformational leaders influence performance by aligning team goals with individual development and innovation, which are principles that align well with AI's capacity to deliver real-time feedback

and customized strategies. Therefore, the significant relationship revealed in Table 11 reinforces the idea that AI-supported leadership practices are critical in improving both management processes and leadership impact in educational settings.

**Challenges Encountered by the Respondents**

The data presented in Table 12 highlights the key challenges encountered by respondents in the implementation of artificial intelligence (AI) in relation to transformational leadership styles in schools. Based on a focus group discussion involving 15 participants, the top-ranked challenge identified was the lack of school policy (frequency = 14), followed by ethical issues (10)

**Table 12:**

Challenges Encountered by the Respondents	Frequency	Rank
Lack of school policy	14	1
Ethical Issues	10	2
Privacy Concerns	9	3
Reduced Human interaction	8	4
Inadequate Preparedness	7	5

N=15

and privacy concerns (9). The least cited challenge was inadequate preparedness (7). These findings underscore the urgent need for clear institutional policies that can govern AI use, ensuring alignment with ethical standards, privacy regulations, and leadership best practices.

These findings support the argument presented by Zawacki-Richter, *et al.* (2019) who emphasized that AI technology integration into educational settings requires strong leadership and governance structures to limit risks and maximize benefits. Without strong school policies, leaders may struggle to implement transformational leadership strategies among followers. Moreover, ethical concerns and reduced human interaction highlight the disparity between the efficiency of AI technology and the principles of school

leadership. By creating and implementing comprehensive AI leverage policies, educational institutions can better support school leaders in navigating these challenges while fostering transformative leadership in an increasingly digital school environment.

**Solutions Proposed by the Respondents in Addressing the Challenges**

Table 13 outlines the proposed solutions to address the challenges related to the integration of artificial intelligence (AI) in transformational leadership practices within schools. The key solutions include: developing institutional policies on AI, creating an ethical board, developing a mechanism of storing and retrieving data,

**Table 13:**

Solutions to address the challenges
Develop an institutional policy on AI (n= 14)
Create an Ethical Board (n= 12)

Develop a mechanism of storing and retrieving data (n=10)
Conduct collaborative activities (n=9)
Periodic Training (n=8)

conducting collaborative activities, and implementing periodic training. These strategies directly respond to previously identified concerns such as lack of school policy, ethical issues, privacy concerns, reduced human interaction, and inadequate preparedness. These solutions not only mitigate risks but, more importantly, empower school leaders to fully utilize AI technology that would align with transformational leadership principles.

These findings align with Luckin, *et al.* (2016) who argued that structured leadership and governance, professional development, and ethical consideration are crucial components for successfully integrating AI technology into educational systems. Establishing clear institutional

policies ensure that goals, responsibilities, and boundaries are well-defined, serving as a framework for ethical AI tools usage and effective leadership implementation.

**Impact of Artificial Intelligence to the Leadership of School Heads**

The table shows the impact of artificial intelligence (AI) on school heads which has been a growing area of interest in recent years, especially as AI technologies become more integrated into educational settings.

1. *\*Enhanced Decision-Making and Administrative Efficiency\** AI tools can assist school heads in making data-driven decisions by analyzing student performance,

**Table 14:**

Impact of AI to School Heads	Frequency (f)
1. Enhanced decision-making and administrative efficiency	14
2. Personalized learning and support	13
3. Challenges in implementation and ethical consideration	12
4. Professional development for school leaders	11
5. Transforming Leaders Roles	10

N= 15

attendance, and other administrative data. According to a report by the Educause Review (2022), AI-driven analytics help school leaders identify at-risk students and optimize resource allocation, thereby improving overall school management.

2. *\*Personalized Learning and Support\** AI-powered platforms enable school heads to support personalized learning experiences. A study published in Educational Technology Research and Development (2023) highlights how AI systems facilitate tailored interventions for students, which school administrators can oversee and adjust based on detailed insights provided by the AI.

3. *\*Challenges in Implementation and Ethical Considerations\** Despite the benefits, integrating AI poses challenges such as data privacy concerns, bias, and the need for staff training. The International Journal of Educational Management (2021) discusses how school heads must navigate ethical dilemmas and develop policies to ensure responsible AI use.

4. *\*Professional Development for School Leaders\** Training school heads to understand and manage AI technologies is crucial. Research from the Journal of Educational Leadership (2024) emphasizes that professional development programs focusing on AI literacy empower school leaders to use these tools effectively and ethically.

5. *\*Transforming Leadership Roles\** AI can transform traditional leadership roles by automating routine

tasks, allowing school heads to focus more on strategic leadership and community engagement. A 2025 study by Scholarly Research in Education notes a shift in leadership practices due to AI, fostering more collaborative and proactive school management.

8. School leadership training program for school leaders on the effective use of artificial intelligence  
 School Leadership Program: Effective Use of Artificial Intelligence

This training program will provide the technical know-how of transformational leaders on the effective use of Artificial Intelligence.

**Program Goals**

- Equip school leaders with an understanding of AI and its applications in education.
- Enable school leaders to integrate AI tools ethically and effectively.
- Foster innovation in school management, instruction, and student support through AI.

**Program Duration**

3 weeks (Two sessions per week, 2 hours each)

Week 1: Understanding Artificial Intelligence in Education

**Session 1: Introduction to AI\***

- Definitions and core concepts of AI
- Current AI trends and innovations in education
- Case studies of AI in schools

## Session 2: Ethical and Responsible Use of AI\*

- Data privacy and security
- Bias and fairness in AI algorithms
- Ethical decision-making frameworks

## Week 2: AI Tools for School Management

### Session 3: Data-Driven Decision Making\*

- Utilizing AI for enrollment, scheduling, and resource allocation
- Learning management systems with AI features

### Session 4: Automating Administrative Tasks\*

- AI chatbots and virtual assistants
- Paperless workflows and documentation

## Week 3: AI in Instruction and Learning

### \*Session 5: Personalized Learning\*

- Adaptive learning platforms
- AI-driven assessments and feedback

### Session 6: Enhancing Teaching with AI\*

- Intelligent tutoring systems
- Supporting teachers with AI tools

## CONCLUSIONS

Based on the findings of the study, the following conclusions were derived. Both the first and second group have rendered 21-25 years of service. For the first group, the majority have doctoral degrees, and for the second group, the majority have master's degrees. Majority of the respondents in first group are coordinators and the second group is regular teachers. Majority of the respondents attended a schoolwide seminar on Artificial Intelligence and Transformational Leadership Style. The assessment of two groups of respondents on the impact of artificial intelligence on the transformational leadership style of school leaders in the area of inspirational motivation, idealized influence, and intellectual stimulation revealed a high impact. While the assessment of two groups of respondents on the impact of transformational leadership styles of school leaders in individualized consideration has a very high impact. The summary of the assessment of the two groups of respondents on the impact of artificial intelligence on the transformational leadership styles of school leaders has a grand overall mean of high impact. There is a significant difference in the assessment when grouped according to their profile. There is a significant relationship between the impact of artificial intelligence on the transformational leadership styles of the two groups of respondents. The number one challenge encountered by the respondents is a lack of AI policy. Development of a school AI policy is the solution to address the number one challenge. AI has a great impact on school heads on their decision-making skills. Conduct a leadership training program on AI and evaluate its effectiveness. For recommendations, involve more respondents so as to explore other variables in the profile such as age, sex, and economic status. Encourage

educators to participate in national and international seminars about artificial intelligence and transformational leadership. Involve all stakeholders in developing policy on the adaptation of AI in the academic community. AI impact on teachers shall also be explored. Create an awareness campaign on the use of AI in school programs and activities.

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