# Using Artificial Intelligence as a Tool for Inclusive Leadership in the Digital Era: Challenges, Opportunities and Implications

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#### Abstract

This paper explores the use of Artificial Intelligence (AI) in higher education institutions to enhance inclusive leadership. Inclusive leadership must support the ethical integration of AI to ensure it serves all students. Artificial intelligence has the ability to solve problems in education, improve teaching and learning methodologies, and accelerate progress towards long-term improvement. However, leaders face five top challenges in the age of artificial intelligence. These include: adapting to technological disruption, ethical issues, improving collaboration between humans and AI, leading workforce change, sustaining human leadership and fostering a moral culture. Leaders must understand the technical aspects, practical applications, and strategic implications of AI, prioritize continuous education, and create an adaptive culture. They must navigate ethical concerns like privacy, bias, fairness, and accountability, establish ethical leadership strategies, and ensure transparency in AI decisions. The study recommends strategies, including creating explicit criteria for the use of artificial intelligence, promoting digital literacy and ensuring that the impact of its technologies on learning is continuously evaluated.

#### **Keywords**

artificial intelligence, leadership, inclusive leadership, diversity, equity

### 1 Introduction

Al has the potential to address several challenges in education today; improving teaching and learning strategies and accelerating progress towards sustainable improvements. On the other hand, these rapid changes inevitably bring various challenges that require the adoption of new policies and regulations in administrative systems. UNESCO is one of the organizations committed to supporting the monitoring of the potential of AI tools to achieve the Education 2030 goals, while ensuring that their application in the educational environment adheres to essential standards of inclusion and value (Fengchun & Holmes, 2023).

In today's world, all institutions and communities strive to involve all skills and knowledge in the process of development and improvement, which has made inclusive leadership the preferred leadership style (Schiltmans & Davies, 2023). Al tools can help leaders make the institution more welcoming for all. For example, Al-driven recruitment platforms can help reduce hidden biases in candidate selection by focusing only on their qualifications and skills. Artificial intelligence can analyze how employees feel and help managers understand and solve any problems. This can promote a friendlier and more welcoming environment (Lakhanpal, 2024).

Inclusive leadership plays a key role in ensuring that new technologies enhance every student's learning. This study looks at how artificial intelligence can help make education more inclusive for everyone, in addition to the barriers that come with it, opportunities and implications. The advent of artificial intelligence (AI) tools has spread fear across the education sector in recent months. Institutions share one primary concern that adopting AI would undermine the existence of valuable academic paradigms: assessment, course design, activities, and more. Along with the increase in popularity, attitudes towards AI in higher education have gradually improved. Instead of neglecting AI, educators should spend time practicing and evaluating this new technology and helping students do the same. Most importantly, the smooth adoption of AI requires tremendous support and accountability from higher education leaders (Nguyen, 2023).

### 2 Literature review

# 2.1 Artificial intelligence

Recently, all organizations and societies are witnessing sustainable technological advancements in various sectors (eg industrial, economic, social and educational), which requires keeping up with the ongoing developments. One of the newest and most revolutionary in the world is artificial intelligence (AI).

Crompton and Burke (2023) mentioned in their article "Artificial Intelligence in Higher Education: The State of the Field" that the term artificial intelligence is not new. It was conceptualized in 1956 by McCarthy (Cristianini, 2016), who followed Turing's research (e.g. Turing, 1937, 1950). Turing explored the idea of intelligent reasoning, thinking and applications that can be used by intelligent machines. The definition of artificial intelligence has since improved and changed since 1956 as major improvements have been made in the capabilities of artificial intelligence. A recent definition of artificial intelligence is "computer systems that are able to engage in human-like processes such as learning, adapting, synthesizing, self-correcting, and using data for complex processing tasks" (Popenici et al., 2017) (Crompton & Burke, 2023 ).

Lozano & Blanco Fontao (2023) stated that although AI has its origins in the mid-20th century, the first AI to be published was in 1957 by American scientists from Dartmouth University (Ganascia, 2018). He then contributed in all other areas in the development era of the 21st century (Susnjak, 2022). In recent years, artificial intelligence technology has spread to various fields and sectors, such as healthcare (Xu et al., 2021) and sustainable industrial development (Peksen & Spliethoff, 2023). And education, especially higher education, is the most affected (Lozano & Blanco Fontao, 2023).

# 2.2 Artificial Intelligence in Higher Education

Crompton and Burke (2023) reported that the use of artificial intelligence (AI) in higher education (HE) has increased since 2015 (Chu et al., 2022) with continued improvements in its tools and technologies. Researchers (Chen et al., 2020; Crompton et al., 2020, 2021) evaluated the application of AI in higher education. One advantage is to consider individual differences and

multiple intelligences (Verdu et al., 2017), when providing specialized feedback (Dever et al., 2020), when evaluating results (Baykasoglu et al., 2018) and predicting educational attainment (Cagataylı & Celebi, 2022).

Efthymiou (2024) clarified the use of artificial intelligence supports higher education as one that:

- It improves student learning through sustainable transformations in higher education.
- Creates an educational environment tailored to the needs of students and recruitment.
- Facilitates interactive learning, combining student, teacher and curriculum for academic goals.d
- Provides assistance to students through AI chatbots such as BonBon.
- Provides mental health support through natural language processing skills.
- Enables a global classroom experience by making learning a universal conversation.
- Improves administrative skills by automating tasks such as record keeping, curriculum preparation and records management.
- Addresses learning gaps by providing real-time feedback and improving the quality of instruction.

Al is expected to revolutionize higher education and will require inclusive leadership to design balanced strategic policies to manage its impact. Ethical and rational use of artificial intelligence can create inclusive, accessible and high-quality educational opportunities (Efthymiou, 2024). Artificial intelligence is rapidly advancing into higher education, offering personalized tutors, student retention analytics, and numerous implementations. With financial projections reaching into the billions and an impressive increase in the number of students, the role of artificial intelligence in education is not only a topic of discussion, but a game changer with tangible results (Lindner, 2024).

# 2.3 Main differences between countries in the adaptation of AI in education

The use of AI in education varies widely between countries, depending on existing differences in technology infrastructure, funding, policy support and levels of digital experience. Developed and rich countries can rely on a more robust technological infrastructure as well as an ecosystem for innovation that includes the private sector. This ecosystem supports schools and universities in leading experiments with artificial intelligence in education. However, this is not the case in the Global South and developing countries in general, which face fundamental challenges, mostly related to the basic prerequisites for the functioning of technology, to quality education, from financing and infrastructure to electricity (Unesco, 2024).

San Global Research (2024) estimates that the global market for artificial intelligence in education will reach USD 2.4 billion by 2022, with an estimated CAGR of 27.2% between 2023 and 2032. The market is segmented by component, deployment, application, technology, end user and region/country.

In their study, Crompton and Burke (2023) conducted a systematic review that provides unique insights into current research on artificial intelligence (AI) in higher education (HE) between 2016 and 2022. The 138 studies they used covered 31 countries in six countries, seven continents of the

world. However, this distribution was not equal between the continents. Asia had the largest number (AIEd) of AI studies in higher education at 41%. Of the seven countries represented in Asia, 42 of the 58 studies were conducted in Taiwan and China. Europe, with 30%, was the second largest continent and had 15 countries with between one and eight studies each. North America was the third largest continent with 21% of studies, with the US producing 21 of the continent's 29 studies. 21 studies from the USA rank it second only to China. Only 1% of studies were conducted in South America and 2% in Africa. Figure 2 illustrates a visual representation of the distribution of studies across countries. Continents with a high number of studies are from high-income countries, and those with a low number lack publications in low-income countries. These results are shown in the following figure (Crompton and Burke, 2023).

### 2.4 Applying inclusive leadership in 2024 and why it is important

The terms inclusive leadership, diversity, equity and inclusion are increasingly used in all institutions and communities. All are incredibly important for personal and organizational development. But in recent years they have often been confused and even used interchangeably, leading to confusion that needs to be clarified to make it clear that people work in organizations when hiring and retaining the right people is increasingly important. (Stiebing, 2024).

Artificial Intelligence is evolving in education and inclusive leadership is critical to achieving equality in diversity and inclusion. Inclusive leadership includes addressing team composition based on gender, age, ethnicity, race and orientation and promotes a more inclusive and equitable environment. Leaders play a particularly important role: they account for up to 70 percentage points of the difference in employee experiences of belonging and psychological safety, and inclusive leaders saw a 17% increase in team performance, a 20% increase in decision-making quality, and a 29% increase in team collaboration. Inclusive leaders also reduced the risk of employee turnover by 76%" (Zheng, Kim, Kark, & Mascolo, 2023).

Birring (2024) stated in his guide that the impact of inclusive leadership includes:

- It supports the sustainable behavior of the organization.
- Increases job satisfaction and job retention.
- Builds reputation avnd trust.
- Promotes equity and social responsibility.
- Increases organizational success. (Birring, 2024).

Unbiased and inclusive leadership is critical to organizational success. Traditional leadership development programs often fail to address bias and equip leaders with the necessary tools. Artificial intelligence tools enable leaders to gain unbiased leadership intelligence and lead their teams to success (Nguyen, 2023). Wit (2023) stated in his study that the higher education leadership literature increasingly focuses on inclusive leadership to promote equity, diversity and inclusion in higher education and its corresponding societies (Burkhardt, 2022; Lewis, 2016; Stefani & Blessinger, 2017). The global demand for equality, diversity and inclusion is evident, but these values are not fully realized in all higher education institutions (HEIs) or in society as a whole. Acknowledging these values and committing to them is not enough for sustainable change (Burkhardt, 2022; Stefani & Blessinger, 2017).

The role of higher education is to create knowledge and train society's human capital, which is reflected in their attitudes and achievements. Openness, inclusiveness, diversity of accessibility and equality are characteristics of inclusive leadership (Ashikali et al., 2021; Qi et al., 2019). Recognizing the contributions and talents of team members regardless of their gender, race, ethnicity, background, or disability enhances member performance in higher education, including learning, teaching, research, and creativity (Leon & Olmedo-Cifuentes, 2022).

Efthymiou (2024) stated that by reducing access barriers and enhancing educational opportunities, artificial intelligence has great potential to democratize higher education. Accessibility issues arising from factors such as cost and location often prevent access to traditional higher education. However, AI platforms can eliminate geographic and financial barriers by offering flexible and affordable learning opportunities. Artificial intelligence can provide personalized learning experiences designed around each student's needs, opening up high-quality education that was previously unattainable for students from diverse backgrounds (Efthymiou, 2024).

# 2.5 Challenges of inclusive leadership when using Artificial Intelligence

Although automation and artificial intelligence have huge potential to improve education, there are concerns about:

### 2.5.1 Security, privacy and cost

Educational institutions must prioritize strict data security measures to protect sensitive data and preserve the human aspect of the teaching and learning process. In order to guarantee sustainable and fair educational practices, it is also necessary to carefully assess the financial and ethical implications of the use of artificial intelligence. In his study, Tambuskar (2022) stated that the adoption of ride-sharing technology poses significant challenges, including privacy violations and uncertainty arising from the potential negative effects of AI (Cheng et al., 2022). Data management includes various aspects such as organization, collection, review, storage, use, archiving and destruction. It includes specialized programs, policies and communications from leadership and management. Regulations must provide tools to meet standards such as auditability, security, accessibility, availability, completeness, accuracy, integrity and consistency (Owoc et al., 2019). The effective use of big data analytics and artificial intelligence depends on the knowledge and analytical skills of individuals, as they have the skills necessary to perform complex data analysis for decision-making (Tong-n et al., 2022).

One of the challenges of inclusive leadership in using AI in higher education is the accuracy and bias of AI-based content, which needs to be addressed through ethical inclusive leadership (Dwivedi et al., 2023). Also, the way data and knowledge are generated using artificial intelligence increases the risks of plagiarism and requires inclusive management to use a strict set of academic policies that guarantee the application of academic ethics (Kasneci et al., 2023).

# 2.5.2 Top challenges for leaders

Spair (2023), as stated in his article "Five Top Challenges for Leaders in the Age of Artificial Intelligence," identified five top challenges that organizations involving leaders may face:

*Challenge 1: Adapting to technological disruption.* Leaders need to understand the technical aspects, practical applications and strategic implications of artificial intelligence in order to effectively adapt to technological change.

They should prioritize continuous education for themselves and their teams through regular training, workshops, seminars, online courses and collaboration platforms. Encouraging employees to update their skills ensures that the organization remains at the forefront of Al innovation. Strategic collaborations with Al experts, research institutions and technology companies can provide valuable insights and access to cutting-edge Al resources, helping leaders understand the implications of Al in their industry, access new technologies and co-create innovative solutions for them held in front of others. Cultivating an adaptive culture that supports change and innovation is critical to adapting to Al-driven disruption. This includes creating flexible organizational structures, fostering agile thinking and embracing failure.

*Challenge 2: Ethical issues Moral values.* The integration of artificial intelligence into business and society raises ethical concerns about privacy, bias, fairness and accountability. Leaders must navigate these issues with a clear ethical compass and ensure that AI applications respect human rights, promote justice, and align with societal values and organizational ethics. Establishing ethical guidelines is not just a regulatory requirement; it is a fundamental aspect of responsible leadership that involves proactively understanding and mitigating risk. Ethical guidelines are key factors to the responsible use of AI, governing the entire AI lifecycle from design to deployment, ensuring fairness, accountability, transparency and privacy. Transparency is critical to trust and understanding in AI systems. Leaders should make AI decisions understandable, including technical aspects, data usage, and priorities. They should also reveal limitations and potential pitfalls for informed interactions with users and stakeholders.

Challenge 3: Improving collaboration between humans and AI Synergizing strength. The successful integration of human and artificial intelligence represents a paradigm shift in the workforce and heralds a new era of collaborative intelligence. The unique combination of human intuition, creativity and emotional intelligence with AI analytics, data processing and predictive capabilities can lead to unprecedented levels of productivity, innovation and growth. Achieving this synergy, however, requires a deliberate effort by leaders to establish them in an environment where humans and AI are not seen as competitors, but as collaborators, each amplifying their strengths. Training projects for an AI-enhanced future should focus on strengthening digital literacy, fostering adaptability and continuous learning. This will provide employees with the knowledge and skills to collaborate with AI, facilitate the transition to AI-integrated workflows, and reduce resistance. Establishing responsibility: Shifting AI to repetitive tasks requires leaders to redefine human roles and focus on tasks that require creativity and emotional intelligence. This is consistent with an AI-enhanced environment and ensures harmonious cooperation between humans and AI. Building a culture of trust: Integrating AI into the workforce requires fostering trust and understanding in a culture that transparently communicates its use, decisions and ethical practices, and encourages open discussion of feedback and concerns to alleviate fear and foster collaboration.

Challenge 4: Leading workforce change, changing leader. Artificial intelligence is transforming the workforce, requiring changes in skills, job roles and organizational structures. While it may cause job displacement, it also presents opportunities for innovation and growth. Leaders must navigate this transition with strategic foresight, identifying high-demand skills, potential automation and emerging job categories. This understanding helps develop targeted strategies for a resilient workforce. Investing in workforce development is critical to the AI transformation. Up skilling programs should enhance AI-related skills, such as data literacy and technical proficiency, while promoting soft skills such as creativity and emotional intelligence, and foster a culture of continuous growth. The growing demand for AI-related skills requires leaders to adapt their recruiting strategies to focus on technical expertise, adaptive skills, and diverse talent pools. This includes partnerships with educational institutions, competitive advantages and creating an inclusive workforce. Leaders should offer comprehensive support to AI-enabled employees as they transition into new roles or career paths. This may include career guidance, job matching services or retraining programs. Leaders should provide empathy and support and foster a resilient workforce. A focus on up skilling, talent acquisition and transition support can help organizations thrive in the AI era, driving innovation, productivity and growth.

Challenge 5: Sustaining human leadership. Artificial intelligence is revolutionizing industry, which is why a human-centric approach is crucial as an executive. Leaders must focus on gualities such as empathy, ethical judgment, compassion and interpersonal skills. Artificial intelligence should be used to enhance human potential, not replace it. Leaders must hone skills, acquire talent and support transitions to ensure organizations survive and thrive in the AI era. This creates a mutually beneficial ecosystem for innovation, productivity and growth. Emotional intelligence is essential for people-centered leadership, enabling leaders to understand and manage emotions, foster empathy, and connect with teams. It includes active listening, empathy and effective communication. Improving emotional intelligence helps navigate human dynamics and ensures that the implementation of artificial intelligence improves the work environment. A values-based culture is necessary for the integration of artificial intelligence to align with basic human values. Leaders should set ethical standards, promote inclusivity, and use technology for the greater good. This creates a respectful and motivated environment that ensures the human soul of the organization thrives alongside the technology. In an AI-integrated workplace, leaders must prioritize employee mental health, job satisfaction and personal development. They should offer support, career growth opportunities and maintain a positive work environment. Leaders should solicit feedback on AI implementations and adapt as needed. Maintaining human-centered leadership, a focus on emotional intelligence, a values-based culture, and employee well-being will help organizations succeed in the age of artificial intelligence while fostering a culture where people feel valued and empowered (Spair, 2023).

### **3 Conclusions and recommendations**

Leadership and inclusive leadership are interchangeable. Inclusive leadership improves traditional leadership practices by integrating the principles of equity, diversity and inclusion. Inclusive leaders create a positive environment where everyone participates in creating and realizing the institution's vision. In today's digital and connected world, inclusive leadership skills are essential

for leading educational institutions. Inclusive leadership fosters an environment where everyone feels comfortable contributing their unique perspectives—resulting in a richer pool of ideas and a better understanding of the institution we belong to, providing an inclusive way to lead any group regardless of differences.

Inclusive leadership is not only a moral obligation but also a strategic need in higher education. It is essential for the development of equitable, innovative and responsive institutions capable of meeting the challenges of the 21st century. By adopting inclusive leadership, universities can maximize the potential of their diverse populations, improve learning and research, and contribute to a fairer and more just society.

As higher education evolves, putting inclusion at the forefront of institutional goals results in stronger and more resilient higher education providers, as well as building a future where everyone can flourish and thrive. The way automation and artificial intelligence are coming together is radically changing the landscape of higher education. These technologies are creating a new era in which technology enables effective and personalized learning experiences, not only by changing teaching methods, but also by streamlining administrative processes and leadership styles.

Despite some institutional resistance, AI has enormous potential to improve the quality of education, develop tailored learning experiences, provide rapid support for students, and simplify administrative duties. AI-driven technologies have the potential to revolutionize higher education by facilitating inclusive, accessible and effective learning through personalized learning, interactive environments and student support services.

Educational institutions must emphasize ethical implementation and preserve the human aspect in the teaching and learning process while embracing the revolutionary power of Al. Achieving a progressive future in higher education will require a combination of strategic integration of Al with a balanced approach to realizing its full potential. Al is more than just a technological advance; it is a transformational era that is reshaping the basic structure of business, society and human interactions. As a result, leaders are expected to be stewards of this new frontier, embracing the power of artificial intelligence to drive innovation, efficiency and growth while protecting ethical ideals and ensuring that progress benefits all of humanity. Embracing adaptability is the first crucial step on this journey. Because Al technologies are evolving so quickly, what's cutting edge now may be obsolete tomorrow.

Leaders must foster an environment of continuous learning and flexibility where agility is not just a tactic but a core organizational characteristic. Ethical foresight is equally important. As the capabilities of artificial intelligence grow, so will its ethical implications. Leaders must navigate these murky waters with a clear moral compass, setting standards and policies that ensure AI is deployed responsibly, transparently, and fairly. It must promote ethical artificial intelligence that enhances human capabilities while respecting rights and dignity.

Creating a collaborative environment is another critical factor in realizing the full potential of AI.

This means building synergy between people and technology, leveraging each other's capabilities to achieve previously impossible goals. It's about creating teams where artificial intelligence and human intelligence complement each other, leading to greater creativity, better decision-making and more innovative solutions. Moreover, the demand for transformational strategies has never been greater.

Leaders must rethink leadership in light of AI. This requires a strong vision and confidence to explore and develop, turning setbacks into stepping stones to greater success. In addition, it is important to maintain a human-centered approach for enlightened leadership in the age of artificial intelligence. The journey through the era of artificial intelligence is one of transformation, difficulty and enormous opportunity. Leaders who embrace these responsibilities, adapt and innovate while remaining true to ethical and human-centered ideals will not only guide their businesses through the challenges of AI, but also lead them into a future where technology and humanity coexist. It is a future that promises not only survival but also innovation, ethical growth and a legacy of enlightened leadership. This is the potential and struggle of becoming a leader in the age of AI Enlightened leadership in the age of artificial intelligence.

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