

Dimensions of AI-Supported Governance for Inclusive Higher Education

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ABSTRACT:

The rapid integration of artificial intelligence (AI) in higher education has opened new opportunities for promoting inclusive education, but also presents important organizational and leadership challenges. This study aimed to identify how AI-supported governance is applied to promote inclusive higher education and what possible dimensions of AI-supported governance can be derived from the reviewed literature. Guided by the PRISMA 2020 framework, the study utilized 33 peer-reviewed journal articles published between 2020 and 2025. Findings revealed three major themes on how AI supports governance in promoting inclusive education which include AI-Enabled Inclusive Teaching and Learning Systems, AI-Driven Institutional Governance and Data-Informed Decision-Making, and Organizational Capacity Building for Sustainable AI-Supported Inclusion. Meanwhile, 10 dimensions of AI supported governance for inclusive higher education were identified in the study that could guide institutions to design, deploy, and govern AI in ways that safeguard equity, protect rights, ensure accessibility and interoperability, build educator capacity, allocate resources sustainably, and continuously monitor and remedy harms to achieve genuinely inclusive higher education. The findings contributed to educational management, resource management, and collaborative institutional culture enhancement for equitable implementation of educational programs while considering the power of AI-enabled teaching and learning support systems in achieving the 21st century skills and student learning competencies.

Keywords: AI governance, digital infrastructure, educational equity, inclusive education, leadership and management

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1. Introduction

The emergence of artificial intelligence has changed the landscape of higher education institutions with governance responding to agile, technology-savvy policies and data-informed accountability mechanisms that aim to balance innovation with equity, accountability and the protection of vulnerable learners. AI governance refers to the framework of policies, regulations,

ethical principles, institutional structures, and oversight mechanisms that govern the design, development, deployment, and use of artificial intelligence. Its primary objective is to ensure that AI systems are ethical, transparent, accountable, safe, fair, and compliant with legal and societal standards (UNESCO, 2021). AI governance focuses on governing AI itself that is, establishing the rules, responsibilities, and safeguards that

regulate AI technologies throughout their lifecycle (World Economic Forum, 2024). It addresses issues such as algorithmic bias, explainability, privacy, accountability, human oversight, and regulatory compliance (UNESCO, 2021). In contrast, AI-supported governance refers to the use of artificial intelligence as an enabling tool to improve governance processes and institutional decision-making. Rather than governing AI, AI-supported governance concerns governing organizations with the support of AI. In higher education, AI-supported governance involves applying AI technologies such as learning analytics, predictive analytics, intelligent decision-support systems, adaptive resource allocation, and administrative automation to enhance institutional planning, policy implementation, quality assurance, student support, and inclusive decision-making (Kuleto et al., 2021; Wang et al., 2021). Here, AI functions as a decision-support mechanism that assists institutional leaders in achieving organizational goals while remaining subject to ethical and regulatory oversight.

AI governance principles in terms of fairness, transparency, privacy, and accountability are already established, and frameworks exist for corporate environments (Horowitz, 2026) while AI applications in education like adaptive learning, intelligent tutoring, predictive analytics are also well-researched (Song et al., 2024). This study will adopt the concept of AI governance to navigate the areas of responsibility and accountability of school leaders and managers in transforming education with inclusiveness and dedication. To reliably use AI to support governance (AI-Supported Governance), the institutions must first have robust AI Governance in place for those supporting AI tools.

Information on risks in higher education which include bias in admissions algorithms (Van Busum & Fang, 2025), lack of explainability in grading AI (McConvey et al., 2023), and student data privacy concerns (Al-Zahrani, 2024) have been made available in most studies while the need for an "AI-aware culture" in universities has also been recognized, including training for

faculty and staff (Horowitz, 2026; Chen et al., 2025). Cotilla Conceição and van der Stappen (2025) studied the impact of AI on inclusivity in Higher education but focuses on its relationship with technological innovation rather than governance.

While there is increasing literature consisting of descriptive and pilot studies, significant research gaps persist. Longitudinal studies evaluating the long-term impact of AI-enabled governance on equity and learning outcomes are still limited (Shaikh & Bora, 2025; Nampira et al., 2025). Comparative studies of governance models across different institutions and regions remain sparse (Wu, Zhang, & Carroll, 2024; Rodríguez-Abitia et al., 2023). Standardized and validated measures and audit frameworks for fairness, accessibility, and explainability are largely lacking in practical implementation (Filomachi Spathopoulou et al., 2024; Oncioiu & Bularca, 2025). Localization has been repeatedly called for (Shaikh & Bora, 2025; Babayemi et al., 2025), but there is a dearth of empirical work on low-bandwidth, cost-effective technical solutions and scalable privacy-preserving methods (e.g., federated learning) for under-resourced contexts. Finally, although many studies point to the value of participatory co-design and faculty development, there is little experimental evidence testing which professional development models, co-design processes, or policy levers best translate governance commitments into measurable inclusive practice (Referza, 2025; Martiniello et al., 2021).

There were similar studies conducted on AI governance in higher education specifically investigating ethical and regulatory governance of AI, institutional policies and governance frameworks, and data privacy, transparency, and accountability in AI implementation (Kooli & Chakraoui, 2025; UNESCO, 2021; Wang et al., 2021). But the present study gives more emphasis on the identification of possible dimensions concerning AI-supported governance for higher education in the context of inclusive education. The study only focuses on higher education with the exclusion of basic education due to the distinct governance complexities, organizational

structure and educational processes of these two departments in most countries. This will define the practical scope and depth of the study for focused analysis and more actionable recommendations.

This study investigates how AI technologies are applied to support institutional governance and inclusive educational management, rather than examining the governance of AI technologies themselves. However, because AI-supported governance depends on responsible AI use, AI governance serves as one of its foundational components. In other words, AI governance establishes the policies and safeguards for responsible AI use, whereas AI-supported governance applies AI within those governance structures to improve institutional effectiveness and inclusion.

There are studies conducted on possible AI risks, awareness, assistive technologies for learning and assessment, while limited studies have conducted on how to effectively operationalized general AI governance principles within the institutional and pedagogical context of inclusivity in higher education. Despite its potential to enhance inclusion, the implementation of AI-supported governance faces significant organizational barriers that limit its effectiveness. Therefore, this systematic literature review would contribute to build dimensions of AI-supported governance to the specific domain of inclusive higher education through identifying the gaps between established AI governance frameworks and practical requirements of inclusive higher education which still need more investigation that would uncover the shared practices of most higher education institutions.

Research Questions

This study is guided the by following questions:

1. How is AI-supported governance applied to promote inclusive higher education?
2. What are the possible dimensions of AI-supported governance for inclusive higher education can be derived from the reviewed literature

3. What gaps and future research directions have been identified in the literature on AI-supported governance for inclusive higher education?

2. Methodology

Research Design

This study employed a systematic literature review (SLR) guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework to synthesize existing evidence on managing inclusive higher education in the age of artificial intelligence (Page et al., 2021). This is an appropriate approach given the capacity of systematic literature reviews to synthesize diverse empirical and policy studies in a rigorous and transparent manner to map existing evidence, identify recurring governance dimensions, and identify gaps and comparative patterns needed to guide equitable AI deployment in higher education.

Data Source and Abstraction

A systematic review was selected because it provides a transparent, rigorous, and replicable approach to identifying, evaluating, and synthesizing relevant scholarly literature on a specific research problem. Literature searches were conducted in Scopus, Web of Science, Google Scholar, Science Direct, and other research relevant repositories as these databases are indexing peer-reviewed research across education, educational technology, and leadership disciplines. Only journal articles published in English between 2020 and 2025 were considered to capture recent developments in artificial intelligence and inclusive higher education.

The search strategy combined Boolean operators and keywords such as (*“artificial intelligence”* OR *AI*) AND (*“inclusive education”*) AND (*“higher education”*) AND (*Governance* OR *leadership*, OR *management*). The database search identified 435 records, following the predefined inclusion and exclusion criteria as shown in Table 1 of which 33 studies met the eligibility criteria after duplicate removal, screening, and full-text assessment.

Table 1 Inclusion and Exclusion Criteria

Category	Inclusion Criteria	Exclusion Criteria
Types of Research	Quantitative, qualitative, or mixed-method	Opinion papers, editorials, literature reviews, unpublished theses
Focus	Studies examining inclusive education, AI-supported leadership and organizational management, higher education, educational services	Studies focusing solely on one topic of the study
AI Component	Studies involving Artificial Intelligence, Generative AI, machine learning, intelligent tutoring systems, adaptive learning systems, learning analytics, or AI-assisted accessibility in education	Studies discussing general educational technology without an AI component
Respondents	School Administrators, Leaders, Managers, Teachers and Students	None
Language	Published in English	Published in languages other than English
Article Type	Research Article with full text available	Books, and conference proceedings
Year of Publication	Published within the defined review period (2020–2025)	Published 2019 and older

These 33 studies came from 24 different countries as respondents of the reviewed studies including Australia (1), Bangladesh (3), Canada (1), China (2), Egypt (1), Finland (1), Ghana (1), Turkey (2), India (3), Indonesia (2), Italy (3), Jordan (1), Malaysia (1), Mexico (1), Nigeria (2),

Palestine (1), Portugal (1), Romania (1), Russia (1), Serbia (1), Spain (2), Ukraine (2), United Kingdom (1), and USA (3). This signifies the diversity of contexts from different countries were considered in the study.

Table 2. Distribution of Included Studies by Year of Publication

Year Published	Authors	Frequency (n)	Percentage (%)
2020	Cain & Fanshawe; Rodríguez-Abitia et al.	2	6.06
2021	Demchenko et al.; Lampos et al.; Zingoni et al.; Afanasenko et al.; Martiniello et al.; Muhibbullah et al.; Pu et al.; Kuleto et al.; Wang et al.	9	27.27
2022	Belenkova et al.; Essel et al.	2	6.06
2023	Jony et al.	1	3.03
2024	Dotan et al.; Wu et al.; Sharma	3	9.09
2025	Asghar et al.; El Baradei et al.; Iacono et al.; Khlaif et al.; Referza; Spathopoulou et al.; Barua; Zimosz &	16	48.48

Ober; Suma S. M.; Shaikh & Bora; Irawan & Anwar;
Bessong et al.; Oncioiu & Bularca; Mbambo & Du
Plessis; Nampira et al.; Babayemi et al.

Total	33	100.00
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The distribution of included studies by year of publication is presented in Table 2. Almost half of the reviewed studies (48.48%) were published during 2025 indicating an increasing academic interest in AI-supported governance and inclusive higher education. The second-largest group was the studies published in 2021, with a percentage of 27.27%, which shows the growing attention to AI in education after the acceleration

of digital transformation during the COVID-19 pandemic. Of the studies included, 9.09% were 2024 publications, 6.06% were 2020 publications, and 6.06% were 2022 publications. Only one study (3.03%) was published in 2023, showing that the research field has grown substantially in recent years, particularly with the advent of generative AI and institution-wide AI governance efforts.

Study Selection Process

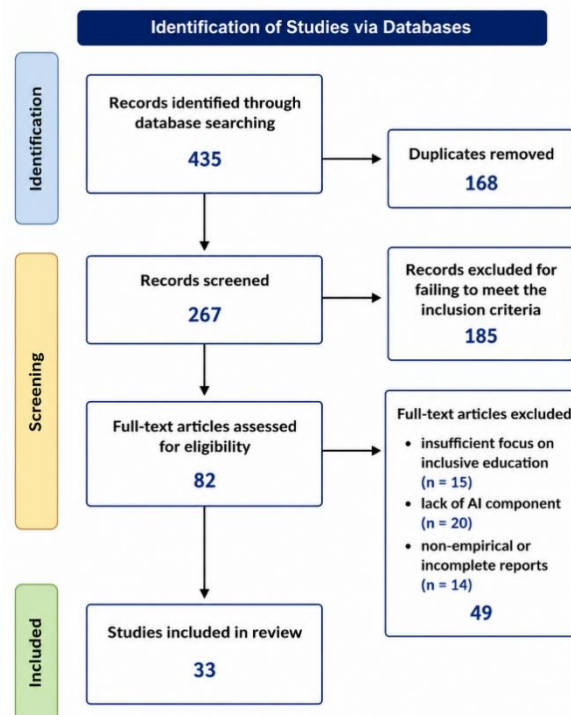


Figure 1. PRISMA 2020 Flow Diagram of the Literature Selection Process

Figure 1 presents the PRISMA 2020 flow diagram illustrating the systematic process used to identify, screen, assess, and select studies for inclusion in the review. An initial search of the selected electronic databases yielded 435 records. Following the removal of 168 duplicate records, 267 unique articles remained for title and abstract screening. During this stage, 185 articles were excluded because they did not satisfy the predetermined inclusion criteria. The remaining

82 full-text articles were retrieved and assessed for eligibility through a comprehensive review. Of these, 49 studies were excluded for specific reasons, including insufficient focus on inclusive education ($n = 15$), lack of artificial intelligence component ($n = 20$), and non-empirical or incomplete reports ($n = 14$). After the eligibility assessment, 33 studies met all inclusion criteria and were included in the final synthesis.

Data Extraction

The researcher systematically extracted data on authors, publication year, country context, research design, promotion of inclusive education, organizational challenges, leadership and management strategies from each eligible

study using a structured review matrix. The extracted data were analysed using thematic synthesis which involves iterative coding, constant comparison and theme refinement to identify recurring patterns and address the research questions. The sample extracted detailed information is presented in Table 3.

Table 3. Example of Detailed Information

Author	Sharma, A. (2024)
Title	Enhancing Accessibility and Inclusivity in Higher Education through AI and Cloud Computing: Opportunities and Challenges
Country	India (Four Higher Education Institutions)
Research Design	Exploratory quantitative research. Primary data were collected through a structured questionnaire from 110 respondents (Directors, Deans, Heads of Departments, and Senior Professors) across four higher education institutions using convenience sampling.
Promotion of inclusive education	AI-supported governance promotes inclusive higher education by integrating intelligent, cloud-based, and assistive technologies to deliver personalized learning, accessible educational services, data-driven student support, automated academic and administrative processes, and equitable access to learning resources for diverse learners...
Implementation Challenges	Technological barriers include digital inequities, limited institutional capacity, privacy and accessibility issues, complexities of AI integration, and the need for continuous quality assurance and faculty development. Organizational barriers include institutional resistance to change and lack of staff training and expertise.
leadership strategies	Effective leadership for AI-supported governance in inclusive higher education requires strategic investment in digital infrastructure, ethical and accessible AI governance, continuous capacity building, equitable resource allocation, institutional change management, and evidence-based monitoring to ensure sustainable, inclusive, and high-quality educational outcomes...

The review process was conducted following PRISMA 2020 guidelines in the identification, screening, eligibility, and reporting stages to ensure methodological rigor and trustworthiness of the review. The researcher kept a transparent audit trail of the search strategy, study selection, inclusion and exclusion criteria, and data extraction procedures to enhance transparency and reproducibility, and to reduce interpretive bias. The systematic synthesis of evidence across a broad array of geographical contexts and research designs enhanced the credibility, dependability, confirmability, and transferability

of the findings, which provide a robust basis for informing leadership, policy, and practice in AI-supported inclusive higher education.

Data Analysis

A range of study reports were analysed using quantitative counting, categorical coding and qualitative thematic synthesis to generate actionable governance insights. The first step was to code each included record using a pre-defined coding frame based on the research questions (AI applications, governance practices, equity outcomes) and the ten candidate governance dimensions. Two coders applied the binary

presence/absence scheme independently to each dimension for each source and differences between coders were resolved by discussion and third-coder adjudication to improve reliability. Frequency counts and cross-tabulations were used to identify dominant dimensions and co-occurrence patterns (e.g., capacity development co-occurring with ethics and monitoring) and these counts were used to select three overarching themes. Mixed-method, case, and policy studies provided qualitative content for framework analysis: excerpts were charted under

dimension headings, summarized and triangulated to identify common mechanisms, illustrative practices and contextual moderators.

3. Results and Discussion

Table 4 summarizes how AI-supported governance mechanisms and institutional practices were grouped by major themes and specific sub-themes which are applied to advance equitable, accessible, and accountable higher education.

Table 4. AI-supported governance applied to promote inclusive higher education

Major Theme	Sub-themes	Frequency	%
AI-Enabled Inclusive Teaching and Learning Systems	Personalized/adaptive learning & intelligent tutors	18	54.5
	Universal Design for Learning (UDL) alignment	8	24.2
	Assistive technologies & accessibility features	15	45.5
	Assistive governance for language & multilingual access	7	21.2
	Assistive/adaptive assessment & credentialing	5	15.2
AI-Driven Institutional Governance and Data-Informed Decision-Making	Learning analytics & early-warning systems for equity	14	42.4
	Institutional policy/guidance & governance structures	12	36.4
	Hybrid/human-in-the-loop decision-making	9	27.3
	Faculty development & AI literacy	12	36.4
	Privacy-preserving & ethical data practices	6	18.2
	Resource optimization & equitable allocation	6	18.2
	Integration with LMS & institutional systems	5	15.2
Organizational Capacity Building for Sustainable AI-Supported Inclusion	Co-design and participatory governance	5	15.2
	Cost-effective & low-bandwidth solutions	4	12.1
	Monitoring, evaluation & continuous improvement	7	21.2

AI-Enabled Inclusive Teaching and Learning: AI systems that personalize instruction in terms of adaptive tutors, automated feedback, and tailored practice ensure students'

progress at their own pace and receive supports matched to their needs, reducing dropout and widening participation. The management provides strong support to instruction that is

considered the lifeblood of the academic institution. Assistive technologies like speech-to-text, OCR, screen readers, AR/VR directly remove sensory and motor barriers so learners with disabilities can access the same materials and activities as their peers. When aligned with Universal Design for Learning, AI scales multiple means of representation, engagement, and expression so courses reach diverse learning styles and language backgrounds without requiring separate, stigmatizing tracks. AI-supported adaptive assessment and credentialing enable more equitable and multimodal demonstrations of learning, allowing competencies to be recognized across diverse learner abilities and contexts while supporting inclusive higher education (Nampira et al., 2025; Kooli & Chakraoui, 2025). This emergent theme supports the SDG #4 on quality education where the institutions provide inclusive and active mechanisms on how the students will participate in social and cultural environments based on their needs and capacity to achieve various learning outcomes and required competencies.

AI-Driven Institutional Governance and Data-Informed Decision-Making:

Embedding AI into governance structures enables learning analytics and early-warning systems that identify underserved or at-risk students so institutions can target timely, evidence-based interventions rather than relying on blunt and reactive measures. The management decision is grounded from the available data that could guide leaders in developing sustainable solutions that matter to all students. It is good practice of school leaders to consider data analytics from various sources like student and faculty satisfaction measures, school performance rating in various physical targets, student achievement and performance, quality assurance and world rankings before making decisions and approving policies that would benefit all stakeholders. Clear AI governance policies, human-in-the-loop oversight, and privacy-preserving data practices make AI deployments more accountable and contestable, thereby protecting marginalized learners from biased and opaque decisions (Kooli & Chakraoui,

2025; Wang et al., 2021; Nampira et al., 2025). Seamless integration of AI tools with LMS and institutional administrative systems enables analytics dashboards and student support services to be implemented systematically across the institution rather than remaining isolated pilot initiatives (Kuleto et al., 2021; Rodríguez-Abitia et al., 2020). The risk of AI becoming an advantage only for well-resourced programs or students can be mitigated through the prioritization of cost-effective, low-bandwidth solutions and equitable resource allocation within institutional governance plans. This emergent theme contributes to bridging theory and practice by offering a consolidated framework that demonstrates how students and employees of the academic institution are safe and guarded by ethical standards, and analytics workflows which can be operationalized to identify inequities, target interventions, and continuously evaluate inclusion outcomes. This can also provide insights in developing strategies on how to reduced inequalities as part of the achievement of SDG#10 where data informed governance can enable institutions to identify underserved and at-risks students for equitable allocation of support towards improving accessibility for learners with disabilities and marginalized groups.

Organizational Capacity-Building for Sustainable, Participatory Implementation:

Investing in faculty and staff AI literacy and ongoing professional development equips educators to mediate AI outputs pedagogically and ethically that turns technology into an instructional amplifier rather than a substitute for human judgment. Participatory co-design and stakeholder governance bring students especially those with disabilities or from marginalized backgrounds into decisions about tools and content gearing towards improving cultural and linguistic fit while enhancing legitimacy and uptake (Martiniello et al., 2020; Zingoni et al., 2021). Strategic monitoring, evaluation, and continuous improvement embed feedback loops that surface unintended harms that guide iterative fixes, and document equity outcomes over time (Rodríguez-Abitia et al., 2020; Wang et al., 2021). The sustainable funding and technical support of

the school administration can serve as capacity measures in ensuring AI initiatives are maintained, scaled responsibly, and focused on improving inclusive educational outcomes. This emergent theme contributes to Sustainable Development Goal 4 on Quality Education by strengthening institutional capacity and faculty competencies through participatory governance as

necessary for inclusive and sustainable AI implementation. On this way, faculty and staff development programs are guided by sustainability measures where participation in various training on special education, gender sensitivity and multicultural education can provide employees with wider perspective in the context of inclusive education.

Table 5. Dimensions of AI-supported governance for inclusive higher education

Dimension	Definition (what it includes)	Why it matters for inclusion
1. Policy & Institutional Architecture	Institutional AI policies, role definitions (AI centre / one-stop hubs), procurement vetting, alignment with national/international frameworks, and formal governance bodies.	Provides accountability, consistent decision pathways, and ensures equity is embedded in procurement, deployment and oversight rather than ad hoc, fragmented pilots.
2. Ethics, Privacy & Algorithmic Accountability	Bias audits, explainability/transparency requirements, privacy and consent safeguards, reporting/redress mechanisms, and ethics review processes.	Protects marginalized learners from opaque or unfair automated decisions, preserves trust, and creates avenues to detect and remediate harms.
3. Human-in-the-Loop & Sensitive-Use Oversight	Rules/workflows requiring human validation for high-risk decisions (admissions, grading, accommodations), identification of “sensitive uses” and heightened review.	Balances automation benefits with professional judgment to avoid harmful or inappropriate automated outcomes affecting vulnerable students.
4. Integration & Technical Interoperability	Standards, APIs and processes to embed AI tools into LMS, SIS, disability services platforms, and admin systems; legacy-system compatibility.	Ensures assistive features, dashboards, accommodations, and analytics are operationalized at scale rather than isolated pilots, improving consistent access.
5. Access, Localization & Assistive Readiness	Procurement and provisioning of assistive technologies, multilingual/localized datasets and interfaces, low-bandwidth/offline modes, and device provisioning strategies.	Prevents AI from deepening language, geographic, or disability gaps by ensuring usable, localized, and affordable solutions for diverse learners.
6. Capacity Development & Role Redesign	Sustained professional development (AI literacy, inclusive pedagogy, prompt engineering), workload/compensation policies, and role redefinitions (teachers as mediators).	Equips educators to interpret and ethically mediate AI outputs, ensuring technology augments pedagogy and does not undermine teacher agency or inclusion.
7. Evidence & Performance Monitoring	Learning analytics, early-warning systems, equity metrics, pilot→scale evaluation protocols, bias-monitoring dashboards, and living guidance documents.	Enables data-driven interventions, surfaces unintended harms, and supports iterative improvement targeted at inclusive outcomes.

8. Resource Planning & Sustainable Financing	Budgeting and funding models for procurement, maintenance, cloud costs, devices, assistive tech, staffing, and partnerships (public-private, donors).	Secures long-term access and maintenance so inclusive AI remains available to underserved institutions/students rather than transient pilots.
9. Participatory Governance & Co-design	Mechanisms to involve students (including those with disabilities), faculty, accessibility services, legal experts, and developers in design, procurement, testing, and evaluation.	Improves cultural/linguistic fit, legitimacy and uptake of AI tools while surfacing accessibility requirements early and reducing design bias.
10. Security & Privacy-Preserving Technical Methods	Adoption of federated learning, differential privacy, secure pipelines, contract clauses, and vendor controls minimizing exposure of sensitive student data.	Allows institutions to use personalization and analytics while reducing legal/ethical risks, maintaining confidentiality for vulnerable learners.

The dimensions of AI-supported governance for inclusive higher education are presented in Table 5 which consolidates evidence across diverse contexts to define ten actionable dimensions that directly advance inclusive higher education. The review translates dispersed practices into a cohesive governance framework by mapping institutional policy and architecture (Nguyen et al., 2023; Wang et al., 2021; Khlaif et al., 2025; Zimosz & Ober, 2025; Dotan et al., 2024; Referza, 2025), ethics and accountability (Nguyen et al., 2023; Dotan et al., 2024; Zimosz & Ober, 2025; Khlaif et al., 2025; Asghar et al., 2025), human in the loop oversight (Nguyen et al., 2023; Dotan et al., 2024; Khlaif et al., 2025; Wang et al., 2021), technical integration (Kuleto et al., 2021; Wang et al., 2021; Belenkova et al., 2022; Essel et al., 2022), access/localization (Zimosz & Ober, 2025; Babayemi et al., 2025; Cain & Fanshawe, 2020; Martiniello et al., 2021; Zingoni et al., 2021; Mbambo & Du Plessis, 2025; Iacono et al., 2025), capacity development (Suma, 2025; Nampira et al., 2025; Bessong et al., 2025; Babayemi et al., 2025; Kuleto et al., 2021; Lamos et al., 2021; Zingoni et al., 2021; El Baradei et al., 2025), evidence-based monitoring (Wang et al., 2021; Kuleto et al., 2021; Rodríguez-Abitia et al., 2020; Essel et al., 2022), resource planning (Rodríguez-Abitia et al., 2020; Kuleto et al., 2021; Belenkova et al., 2022; Khlaif et al., 2025), participatory co design (Martiniello et al., 2021;

Referza, 2025; Wu et al., 2024; Oncioiu & Bularca, 2025; Spathopoulou et al., 2025) and privacy preserving methods (Nguyen et al., 2023; Dotan et al., 2024; Zimosz & Ober, 2025; Wang et al., 2021).

This framing helps to explain the shift in governance from one off tools to systemic arrangements. For example, equity priorities are anchored and fragmentation limited by institutional policy hubs and vetted procurement processes (Dotan et al., 2024; Oncioiu & Bularca, 2025; Wu et al., 2024). Ethics and algorithmic accountability (bias audits, explainability, redress) protect marginalised learners from opaque harms, while federated or privacy preserving techniques enable personalisation without undue data exposure (Spathopoulou et al. 2025; Babayemi et al., 2021). The assistive features are scaled up through integration with LMS and legacy systems, not experimental add-ons (Khlaif et al. 2025; Babayemi et al., 2021), and resource planning along with low bandwidth, localized solutions ensure AI does not reinforce urban/rich–rural/poor divides (Shaikh & Bora, 2025; Kannadhasan).

The study identifies governance levers that leaders can use sequentially and in combination to achieve inclusive outcomes. Capacity development and role redesign enable educators to mediate AI pedagogically and ethically, so that

algorithms become amplifiers of Universal Design for Learning and not substitutes for professional judgment (Referza, 2025; Pu et al., 2021). Participatory governance and co-design embed lived experience, especially of students with disabilities or from marginalized language groups, into procurement and evaluation, improving cultural fit and uptake (Martiniello et al. 2021; Khlaif et al., 2025). Evidence and performance monitoring (learning analytics, equity metrics, bias dashboards) build the feedback loops necessary to detect unintended harms and iterate interventions (Nampira et al., 2025; Asghar et al., 2025). These ten dimensions, taken together, provide a pragmatic framework that combines sound policy and ethical principles with interoperable technology, sustained financial support, educator expertise, and collaborative assessment to ensure that AI enhances access, embraces diversity, and preserves equity in higher education (Oncioiu & Bularca, 2025).

Gaps and future research directions have been identified in the literature on AI-supported governance for inclusive higher education

Gaps in the Literature: The existing literature on AI-supported governance for inclusive higher education has mainly focused on the deployment of AI technologies in teaching and learning, and less on its role in ensuring equitable, ethical and sustainable implementation of institutional governance mechanisms. Current research has largely focused on personalized learning, assistive technologies and learning analytics. There has been relatively little focus on holistic AI governance frameworks such as policy development, strategic decision making and leadership accountability resulting in institutional readiness for compliance in regulatory bodies. Moreover, there is a lack of empirical research concerning the long-term effectiveness of AI governance initiatives, particularly their impacts on educational equity, access, and institutional performance. There are also crucial gaps in understanding how institutions of higher learning can deal with issues such as algorithmic bias, data privacy, transparency, interoperability and accessibility in various institutional and cultural

contexts. Additionally, research from low- and middle-income countries is lacking which limits the generalizability of governance models to different higher education systems.

Future Research Directions: Future research needs to move beyond technology adoption and focus on the development and empirical validation of holistic AI governance frameworks that integrate inclusive education principles. Longitudinal and multi-institutional studies are needed to assess the effectiveness of AI governance strategies in enhancing equity and accessibility leading to student success, and organizational performance over time. Researchers could also study governance models that enhance faculty AI skills and participatory leadership for successful stakeholder engagement and human-in-the-loop decision-making while satisfying ethical, legal and accessibility requirements. More emphasis should be placed on the assessment of the interoperability of AI systems with institutional infrastructures including the scalability of AI-supported inclusive practices in resource-limited settings, and the development of context-sensitive governance models that consider the needs of diverse learners, including students with disabilities and multilingual populations. This kind of research will give stronger evidence for policy making and support the sustainable implementation of AI-supported governance in inclusive higher education.

4. Conclusion

This systematic review demonstrates that AI-supported governance promotes inclusive higher education by operationalizing learner-facing technologies (adaptive tutoring, assistive tools, multilingual supports, and accessible assessment) within institutional decision-making, policy frameworks, and operational systems so that personalization and accessibility are delivered at scale and under accountable oversight. The study identified ten interrelated AI-supported governance dimensions that provide a practical framework for aligning AI deployment with Universal Design for Learning and equity goals. The corpus

demonstrates that leaders need to blend clear, equity centred policies and ethics safeguards with investments in interoperable infrastructure, persistent faculty development, participatory co design with marginalized learners, and analytics driven monitoring to detect and remediate biases or exclusion, otherwise AI risks augmenting existing digital divides. Notable gaps remain in empirical evidence on long-term impacts especially longitudinal studies across low-resource contexts, standardized metrics for auditing fairness and accessibility, scalable models for federated/ privacy-preserving implementations, and comparative evaluations of governance arrangements across institutional types and geographies.

This review is limited by the fact that it only considers peer-reviewed studies published in

selected databases and timeframes and by the relatively small number of empirical studies on the long-term institutional outcomes of AI-supported governance across different higher education contexts. Future studies should focus on longitudinal, cross-cultural and multi-institutional studies of leadership effectiveness as well as the long-term impact of AI-supported governance on educational equity, accessibility, student success, and institutional performance. Governance approaches to achieving inclusive higher education in the age of artificial intelligence must prioritize equity, ethics, human oversight, and institutional capacity in the adoption of AI so that universities can use AI responsibly and school administrators can ensure that technological innovation promotes educational inclusion for all learners.

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6. Author Declaration

I hereby confirm that this review article is my original scholarly work. The author declares no conflict of interest in this publication.