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Artificial Intelligence and the Sustainable Internationalization of Education in the Global South

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ABSTRACT: *AI and GenAI technologies are becoming increasingly widespread in higher education, and there is tremendous potential as well as serious problems concerning internationalization in developing economies. While the literature on AI in higher education is dominated by studies conducted in the context of the Global North, structural considerations of the Global South, such as digital infrastructure deficiencies, epistemic postcolonialism, resource constraints, and state-centric provision of services, require a different approach. The present conceptual paper investigates the implications of integrating AI into higher education in the context of sustainable internationalization. On the basis of internationalization theory, the diffusion of innovations theory and the United Nations Education, Scientific and Cultural Organization's Sustainable Development Goals (specifically, SDG 4 and SDG 10), the paper formulates the AI and Sustainable Internationalization Framework, which conceptualizes AI adoption as a dynamic relationship between system-led (top-down, policy-led) adoption and tool-led (bottom-up, practitioner-led) experimentation. This paper presents the current empirical and theoretical literature on GenAI adoption, teacher preparedness, digital inclusion, and institutional policies, grounding these in cases from the Global South, including sub-Saharan Africa, South Asia, Southeast Asia, and the Arab world. Emphasis is placed on achieving sustainable outcomes through digital inclusion, capacity development, and a justice-focused internationalization process, rather than the unsustainable outcomes of deepening the digital divide.*

Keywords: Artificial Intelligence, Conceptual Analysis, Developing Economies, Digital Divide, Global South, Integrative Review, SDG 4, Sustainable Internationalization

INTRODUCTION

Traditionally, internationalization in higher education has been characterized by international student movement, international research partnerships, and the global movement of educational curricula and credentials. In recent years, a new disruptive trend has emerged in this space: artificial intelligence, specifically generative AI technologies (GenAI), including LLMs. Reviews have shown that GenAI technologies have disrupted practices of pedagogy, assessment, administration, and research within higher education institutions around the world (Giannakos et al., 2025; Jin et al., 2025). At this point in time for developing countries and Global South nations, there is also an ongoing reconsideration of internationalization efforts based on the principles of equity, sustainability, and decolonization of

knowledge production (Cukurova, 2025). Because international students are themselves primary users, and often the first adopters, of GenAI-enabled learning, assessment, and support tools, AI adoption is not merely a domestic higher-education issue but also has direct implications for cross-border student mobility, South–South academic flows, and the everyday academic and social integration of international students in host institutions (Jiewei et al., 2026; Teperman et al., 2026).

The above is a major paradigm shift. The bibliometric analysis and systematic review showed that there was an exponential rise in the amount of research on the use of AI in education after 2019, with thousands of articles being published annually in the literature of health care, engineering, linguistics, and education at large (Abulibdeh, 2025; Akpan et al., 2025). However, one should not ignore the fact that the growing literature on AI in education does have some asymmetries, which consist in the fact that the majority of empirical evidence and policy recommendations are Western/Northern-centered, while there are almost no studies done in sub-Saharan Africa, South Asia, and Latin America (Jin et al., 2025; Olaniyan et al., 2026). In cases when the literature contains Global South views, these views usually highlight structural barriers, such as limited internet connectivity, poor competency of university instructors in AI, and lack of relevant policy (Henadirage & Gunarathne, 2026; Olaifa et al., 2026).

This problem is the issue that this paper is trying to solve. If Artificial Intelligence is going to help and not hurt the internationalization of education in developing countries then we need to have an understanding of the challenges that these countries face. The Global South has some problems like the digital divide, the legacy of colonial knowledge systems the importance of the state in delivering services and making sure that technology is used in a way that supports the Sustainable Development Goals, like Quality Education and Reduced Inequalities.

This paper is trying to answer three questions. First how can we understand the adoption of Artificial Intelligence in education in a way that looks at both the big picture, like government policies and the small picture like what individual teachers are doing? Second what are the specific challenges in the Global South that affect whether the adoption of Artificial Intelligence has bad outcomes for international education? Third what can we learn from studies and examples from the Global South about how to use Artificial Intelligence in a way that is fair and equitable, for everyone? This study is important in two ways. First it helps us understand internationalization theory and innovation diffusion theory better by applying them to the situation in the Global South region. This fills a gap that other researchers like Jin et al. And Cukurova noticed in 2025. Second this study is useful in a way. It gives policymakers, universities and researchers who work in developing countries a way to think critically about how they use Artificial Intelligence. They can consider if using Artificial Intelligence is sustainable and fair than just focusing on using the technology. The study also points out that relying much on digital platforms from other countries can create new problems. It shows how important it is for countries to have control, over their digital systems and Artificial Intelligence. This is what we mean by sovereignty and locally controlled Artificial Intelligence ecosystems.

LITERATURE REVIEW

There has been an extensive body of research on artificial intelligence in the education field, and this review presents 22 scholarly works carried out in the past year, 11 of which were published in 2026 and classified into three thematic groups, namely, (1) AI in personalized learning, which fosters inclusion and aligns with the fourth SDG; (2) challenges posed by the digital divide and lack of infrastructure in Global South countries; and (3) policy and governance issues related to international AI in education.

AI for Personalized, Inclusive, and SDG 4-Aligned Learning

Many recent studies have shown that the implementation of AI and GenAI technologies positively affects personal education, student engagement, and academic achievement. According to Vieriu & Petrea (2025), an increase in academic achievement and student engagement was observed in an AI-powered learning environment at a Romanian technical university; however, students were worried about becoming overly dependent on AI and their loss of critical thinking skills. Another experimental study conducted by Yuan & Liu (2025) involved 383 Chinese university students learning English as a foreign language and revealed the positive effect of AI applications such as Duolingo on enjoyment and engagement in foreign language studies. Pedagogically speaking, Mohebbi (2025) conducted a systematic review of 18 studies related to language instruction with the help of AI and concluded that technologies such as chatbots, automatic feedback programs, and virtual reality platforms promote self-regulated learning and learner autonomy; however, overuse should be avoided. Furthermore, Derakhshan

(2025) explored the relationship between GenAI instruction and learner autonomy by conducting interviews with 30 postgraduate English-as-a-Foreign-Language (EFL) learners and reported that AI instruction promoted emotional engagement and goal setting. Lee and Palmer (2025) approached this question from the perspective of curriculum design and argued through a systematic review that engineering should be explicitly taught as a core AI literacy skill in higher education since well-designed prompts substantially improve the quality of GenAI-generated educational content Tan et al. (2025a/2025b).

Crucially for the Global South context, several of these studies report a shared finding directly relevant to SDG 4: AI-enabled personalization can substitute, at least partially, for scarce specialist instructional capacity. Hara (2026) demonstrates this directly, showing how AI-supported Education for Sustainable Development (ESD) initiatives in lower-middle-income ASEAN economies have advanced digital literacy and lifelong learning through higher education–business–government partnerships, despite constrained public education budgets. Dennison et al. (2026) provide perhaps the most concrete Global South evidence in this strand: their Shiksha Copilot system, a teacher-AI collaboration tool deployed in low-resource Indian schools, enabled teachers to curate and customize lesson plans, directly addressing the personalization-at-scale challenge that characterizes under resourced systems. Whereas Yuan and Liu (2025) and Vieriu and Petrea (2025) note improvement in engagement and performance levels among users of AI tools, Gerlich (2025) and Jose et al. (2025), to be explored later, establish an inverse link between the usage of AI tools and critical thinking due to cognitive offloading (Jiang et al., 2026). The conflict between the use of AI as a tool of personalization and its possible influence on cognitive dependence is not resolved in the literature and is especially significant for developing countries, where critical thinking instruction may not necessarily be consistent (Suriano et al., 2025).

The Digital Divide, Infrastructure, and Equity Gaps in the Global South

Theme two highlights the structural impediments that exist with regard to the use of AI in places where there is no wealth. In this regard, Zou et al. (2025) conducted research into digital learning trends and identified socioeconomic and infrastructural impediments to connectivity, access to devices, and teachers' capabilities as being essential in hindering the expansion of equitable digital learning initiatives, adding that despite such infrastructural barriers, for instance, it is effective how some models such as that of the Open University have been able to increase educational accessibility (Tan et al., 2025a). In a study by Olaifa et al. (2026) on the "bridging the AI divide" theme, the authors examined STEM education at high schools in different developing nations and reported that unless connectivity and infrastructure gaps were addressed, such inequalities would persist. In this context, Henadirage & Gunarathne (2026) Yuan & Liu, (2025) offer a case study on country-level research in Sri Lanka, looking at the assessment dynamics in management education through the lens of GenAI adoption. In particular, the authors point out that despite the rapid proliferation of GenAI, even in Sri Lankan institutions lacking resources for this, technology adoption goes hand-in-hand with no frameworks for assessing reforms aimed at improving academic integrity and assessment validity. This concern is especially acute outside the Global North, where academic integrity and assessment validity frameworks for GenAI remain far less developed (Belkina et al., 2025). Even greater digital divide equity problems become evident from the research performed by Jiewei et al. (2026), who explore "software colonialism" in Global South art education, showing that the hegemony of proprietary software (Adobe in Global North) can be compared to linguistic imperialism in terms of curriculum and skills development.

On the same note, Olaniyan et al. (2026) investigate the attitudes toward the GenAI of students at higher education institutions in the Global North and Global South, adopting the idea of epistemic (in)justice, and find that students from the Global South perceive GenAI technologies as reproducing hierarchies of knowledge and marginalizing local languages and cultures. From the point of view of psychosocial and cognitive consequences, Gerlich (2025) Lee & Palmer, (2025) surveyed and interviewed 666 people in different age groups and discovered that there is an evident reverse relationship between the regular use of AI technology and critical thinking skills, conditioned by cognitive offloading among younger people and those who are more dependent on AI users. As noted by Klimova and Pikhart (2025), although AI technology provides increased opportunities for the personalization of education and psychological support in higher education institutions, it also creates conditions for digital fatigue, technostress, and reduced face-to-face interactions. Along the same lines, Jose et al. (2025) call this phenomenon "the cognitive paradox" because the same capacities of AI technologies that make the process of education more efficient create obstacles to long-term cognitive engagement in the learning process (Jiewei et al., 2026; Tan et al., 2025b).

Policy, Governance, and the Internationalization of AI in Education

This is the third strand and addresses the institutional policy and governance issues affecting AI adoption or failure to adopt. Jin et al. (2025) researched GenAI adoption policies among 40 universities in six different parts of the world on the basis of the diffusion of innovations theory and reported that while academic integrity, learning improvement, and equality are common goals, policy guidelines are uncommon, and institutions in the Global South are not well represented in the evidence base for global policies. An et al. (2025) analyzed GenAI guidelines from the top 50 U.S. universities and reported that 94% of faculty-facing guidelines emphasized course-specific GenAI policy communication as a level of policy infrastructure that is largely absent in many developing-economy institutions, according to Henadirage and Gunarathne (2026) and Olaifa et al. (2026).

At the level of teacher readiness and professional development, Tan et al. (2025) systematically reviewed 95 studies on AI in teaching and teacher professional development and reported that only 35% addressed professional development needs despite the centrality of teacher capacity to successful AI integration; their companion study revealed that TPACK (technological pedagogical content knowledge) mediates the relationship between teachers' AI competency and teaching performance, suggesting that professional development interventions structured around TPACK may be a transferable lever for global south capacity-building (Tan, Cheng, & Ling, 2025). Ng et al. (2025) similarly identified professional development, clear institutional guidelines, and technical support as the three pillars of successful school-level GenAI integration on the basis of 76 Canadian educators whose transferability to underresourced systems remain, as the authors themselves note, an open empirical question. Bewersdorff et al. (2025) classified 1,465 students across the United States, the United Kingdom, and Germany into three AI-engagement typologies ('AI Advocates', 'Cautious Critics', and 'Pragmatic Observers'), offering a framework that could be usefully tested in Global South student populations to design differentiated AI literacy interventions (Jiewei et al., 2026; Mohebbi, 2025).

Teacher trust emerges as a culturally mediated variable in Viberg et al. (2025), who surveyed 508 K-12 teachers across six countries on four continents, including Brazil, and reported that AI self-efficacy and understanding predicted trust in AI-EdTech regardless of demographic characteristics but that geographic and cultural factors introduced significant variance. From a theoretical perspective, Cukurova (2025) criticizes the conceptualization of AI as a simple instrument in education and introduces “hybrid intelligence”, an approach according to which AI allows humans to outsource, import, and extend their cognitive activities. This approach is especially applicable in the Global South because of its focus on the development of human capital instead of AI itself (Karmi 2026).

Finally, two works specifically address internationalization. Qiu et al. (2026) investigate how AI can help achieve internationalization and social entrepreneurship education through the use of the collaborative online international learning (COIL) model as an example, thereby providing evidence that AI can replace expensive and complex processes associated with international academic cooperation. Jogezai, Koroleva, and Ivanov (2026) look into GenAI in the context of higher education from the standpoint of challenges, opportunities, and ways to promote sustainability-related SDG achievement through AI. As seen above, the connection between SDG achievement and AI strategy is similar to that used to develop the conceptual framework discussed here. As seen from the above, the overall picture emerging from the selected literature is very clear (Jiang et al., 2026). The deployment of AI technologies is progressing quickly in the realm of higher education both in the Global North and Global South; however, the knowledge base, institutional frameworks, and theoretical lenses used for guiding the deployment process are predominantly drawn from institutions located within the Global North. Whenever such research is conducted from the perspective of the Global South (Hara, 2026; Henadirage & Gunarathne, 2026; Olaifa et al., 2026; Dennison et al., 2026; Khoza, 2026), it invariably focuses on the role of structural mediators' infrastructure, governance, and epistemic justice, which are generally neglected from theoretical perspectives, such as those of An et al. (2025) and Ng et al. (2025). It is precisely because of this observation that an effort will be made to develop a conceptual framework in what follows.

RESEARCH METHOD

This conceptual paper employs a qualitative, theory-building methodology grounded in an integrative literature review and framework synthesis (Torraco, 2005). Conceptual papers of this kind are an established and high-priority contribution type for the Journal of International Students, particularly where they introduce underutilized theoretical lenses, address underresearched regional contexts, or propose new frameworks for subsequent empirical testing (Jiang et al., 2026).

Research Strategy

The study adopts a qualitative document analysis and conceptual framework synthesis design. The paper does not collect information from people. Instead it looks at what other smart people have written about. It checks lots of sources, journal articles and reviews to come up with a new idea. This way of doing things makes sense because the paper is trying to come up with a theory not test one that already exists. The goal is to create a framework, like the AI and sustainable internationalization framework that can be used and tested in studies later on especially ones that focus on the global south.

Source. Screening

The paper uses a step by step process to find the sources. First it finds sources: the paper starts with a pool of 20,000 records from Scopus that have to do with AI and education. It only looks at records that're in English and were published between 2024 and 2026. Then it screens them: the paper checks the titles and summaries of these records to see if they are really about AI in education. It gets rid of any records that're not relevant, not about education or not, from good sources. This leaves the paper with 95 records that're all about AI in higher education. Next it decides what to include: the paper checks these records again to make sure they are a fit. Each of the 95 records was then looked at completely against three inclusion criteria(a) meaningful work with system-led or tool-led AI adoption processes, (b) work that looked at at least one Global South situation (digital divide, knowledge or cultural representation government role, limited resources or alignment with Sustainable Development Goals) or (c) being a high-impact systematic review or analysis that gives a summary of the larger body of workleading to the 22 studies that were included in the literature review. This selection was made to cover the three themes (personalized learning, digital divide and fairness and policy/governance) while focusing on recent 2025–2026 publications because the GenAI-, in-education field is changing quickly. The Scopus search was done on 7-06-2026. The records found were saved in CSV format for checking and studying.

1. Database: Scopus
2. Field of Search: TITLE-ABS-KEY
3. Number of Documents in Initial Output: 20,000 documents
4. Fields of Application: Computer Science, Engineering, Social Sciences, Environmental Sciences
5. Types of Documents: Article, Conference paper, Book chapter, Review, Book
6. Keywords: Sustainable Development, Sustainability, Internationalization of Education, Global South, Developing Country, Digital Divide, Artificial Intelligence,

Table 1: Scopus Export Based Screening Summary. Source data export_c406912a-0b58-4b0b-90bc-80412fc1a231_2026-06-07T162659.738025162. CSV

Topic/Review focus	AI in Education/Learning/Internationalization of Education/Global South/Developing Country
Total records exported	20,000
Screening basis	Title only (Abstract & Keywords not present in this Scopus export)
Included	95
Excluded	19,905

Theoretical Lenses and Framework Construction

After going through the screening and checking if the studies were eligible the selected studies were analyzed using a way to find themes. The analysis looked at how AI was adopted the challenges in the structure what happens in the run how it spreads around the world and the abilities of people. The results of how each theme appeared are shown in Table 1. Three main ways of thinking helped shape the analysis. First internationalization theory (Knight, 2004) gives the language to understand how schools, countries and people take part in knowledge and technology networks. Second the diffusion of innovations framework (Rogers, 2003) has already been used for GenAI adoption by Jin et al. (2025). Gives ideas, like how well something fits how easy it is to try and how visible it is, to look at whether the system leads the adoption or the tool leads the adoption. Third, the UNESCO Sustainable Development Goals, particularly SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities),

provide the normative criteria against which AI adoption outcomes are evaluated as sustainable or unsustainable.

Analytical Procedure

The analytical procedure followed three steps. First, each reviewed source was coded according to whether its findings reflected primarily system-led (policy, governance, institutional) or tool-led (practitioner, classroom-level, individual) AI adoption dynamics. Second, the sources were coded according to the Global South structural realities in which they engaged with the digital divide, epistemic/cultural representation, state role, resource constraints, or SDG alignment. Third, the findings were synthesized into the dual-pathway model of sustainable versus unsustainable outcomes presented in the Results section, with the synthesis iteratively refined through comparison against the theoretical lenses described above. Each of these three coding steps operationalized one of the theoretical lenses introduced above: Diffusion of Innovations constructs (compatibility, trialability, observability; Rogers, 2003) informed the system-led/tool-led coding in step one; internationalization theory (Knight, 2004) informed the identification of Global South structural realities in step two; and the SDG 4/SDG 10 normative criteria informed the sustainable-versus-unsustainable outcome classification in step three. The output of this coding procedure is presented in Table 2, which maps each reviewed source onto its corresponding framework component and records the key finding associated with that coding decision.

Ethical Considerations

This study looks at available previously published scholarly articles. It does not involve any people, new data or personal details. Because of that it did not need approval from an Institutional Review Board. All the sources are properly mentioned following the APA 7th edition rules. The use of AI tools when writing this paper is mentioned in the Acknowledgments section. The review of the literature leads to the AI and sustainable internationalization framework, shown in Figure 1. There is also a map of the literature, in Figure 2. This part shows the findings in a way and the meaning of these findings is explained in the Discussion section.

RESULTS

The AI and Sustainable Internationalization Framework

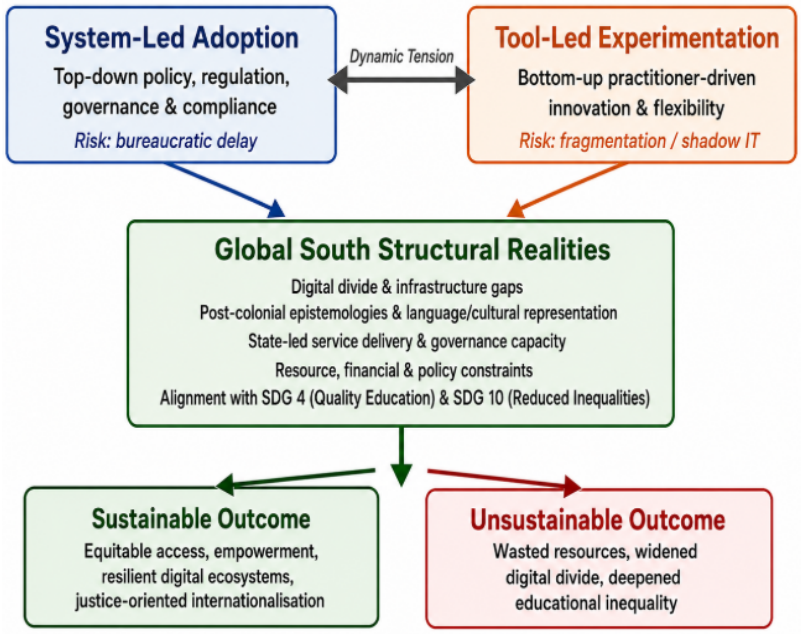


Figure 1. Sustainable and The AI Internationalization Framework for the Global South

The framework is shown in Figure 1. It has four parts that are all connected. At the top we have two ways that Artificial Intelligence enters higher education systems. These are system-led adoption and tool-led experimentation. They. Often conflict with each other. System-led adoption is when the system is in charge. This is what happens when institutions make policies like the ones documented by An et al.. Jin

et al. In 2025. In this case the people in charge make the decisions. Everyone has to follow the rules. This can be slow. Stop new ideas from happening like what happened in Sri Lanka with Henadirage and Gunarathne in 2026. On the hand we have tool-led experimentation. This is when teachers and practitioners try out Artificial Intelligence tools, like the Shiksha Copilot that Dennison et al. Wrote about in 2026. This way is faster and more flexible. It can also be messy and cause problems like what Ng et al. Said in 2025. It can also cause concerns about fairness, like Belkina et al. Mentioned in 2025.

These two ways of using Artificial Intelligence come together in the middle, where they meet the Global South Structural Realities. The literature synthesis identifies five such realities as consistently salient: the digital divide and infrastructure gaps (Zou et al., 2025; Olaifa et al., 2026); postcolonial epistemologies and the representation of local language and culture in AI systems (Cheema, 2026; Olaniyan et al., 2026); the centrality of state-led service delivery (Hara, 2026); resource and policy constraints (Tan et al., 2025); and alignment with SDG 4 and SDG 10 (Jogezai et al., 2026; Duke, 2026).

On the basis of how these structural realities mediate system-led/tool-led tension, the framework specifies two possible outcome pathways. A sustainable outcome arises when AI implementation is accompanied by equitable access, capacity-building investment, and policy-practice alignment, producing the kind of cognitive-capacity gains documented by Tan, Cheng, and Ling (2025) and the internationalization gains documented by Qiu et al. (2026). An unsustainable outcome arises when AI implementation proceeds without addressing structural realities, producing the cognitive-offloading risks documented by Gerlich (2025) and Jose et al. (2025), the assessment-integrity risks documented by Belkina et al. (2025) and Henadirage and Gunarathne (2026), and the epistemic marginalization documented by Olaniyan et al. (2026).

Thematic Distribution of the Reviewed Literature

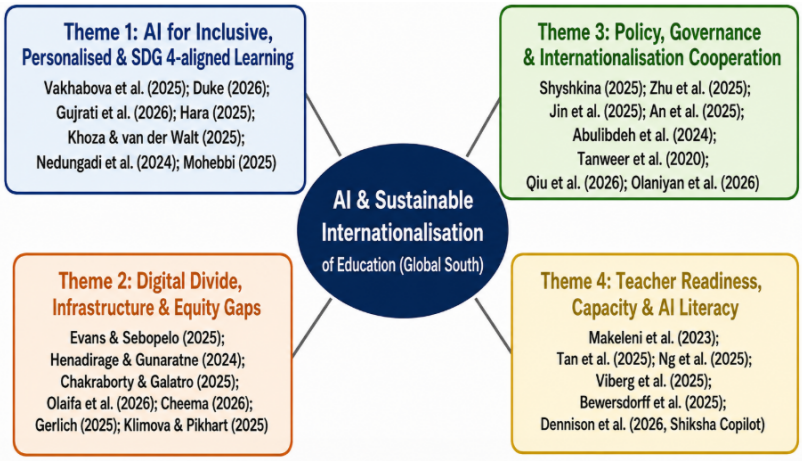


Figure 2. Thematic Map of the Reviewed Literature on AI and the Sustainable Internationalization of Education

The theme clusters identified in Figure 2 group the 22 reviewed papers into four categories: (1) application of AI for inclusive, personal, and SDG 4-oriented learning; (2) digital divide, infrastructure, and inequities; (3) policies, governance, and international collaborations in the GenAI sphere; and (4) teacher preparation and competency in AI technology. Notably, compared with the other clusters, Clusters 2 and 3 have more papers for the year 2026.

Table 2: Mapping of Reviewed Literature onto the AI and Sustainable Internationalization Framework

Framework Component	Representative Sources	Key Finding
System-Led Adoption	An et al. (2025); Jin et al. (2025); Henadirage & Gunarathne (2026)	Institutional policies prioritize integrity and equity but remain incomplete, especially regarding data privacy and Global South representation.
Tool-Led Experimentation	Ng et al. (2025); Dennison et al. (2026); Vieriu & Petrea (2025)	Practitioner-led GenAI use improves engagement and personalization but risks fragmentation without institutional coordination.

Digital Divide & Infrastructure	Zou et al. (2025); Olaifa et al. (2026); Gerlich (2025)	Infrastructure gaps and cognitive-offloading risks compound for underresourced learners, widening rather than narrowing gaps.
Epistemic & Cultural Representation	Olaniyan et al. (2026); Mohebbi (2025)	Dominance of Global North software and AI training data marginalizes local languages, cultures, and knowledge systems.
SDG Alignment & Internationalization	Hara (2026); Jogezai et al. (2026); Qiu et al. (2026); Duke (2026)	AI-enabled COIL and ESD initiatives advance SDG 4/10 and reduce cost barriers to international academic collaboration.
Teacher Readiness & AI Literacy	Tan et al. (2025); Bewersdorff et al. (2025); Viberg et al. (2025)	TPACK-based professional development and AI self-efficacy are consistent predictors of successful, trust-based AI integration.

Table 2 presents the output of the analytical coding procedure described above, listing six crucial dimensions of sustainable AI internationalization identified from the literature. The system-led dimension addresses institutional policies with a focus on equality and integrity; however, problems with data privacy and Global South representation exist (An et al., 2025; Jin et al., 2025; Henadirage & Gunarathne, 2026). The tool-led dimension emphasizes the importance of practitioner-led use of AI to enhance engagement and personalization; however, it risks fragmentation without institutional support (Ng et al., 2025; Dennison et al., 2026; Vieriu & Petrea, 2025). Research conducted on the topics of the digital divide and infrastructure reveals that the absence of technological skills and cognitive offloading could aggravate existing disparities in education (Zou et al., 2025; Olaifa et al., 2026; Gerlich, 2025). According to the findings in the epistemic and cultural representation literature, the dominance of the Global North in AI could result in the exclusion of local languages and epistemologies (Cheema, 2026; Olaniyan et al., 2026). Research related to the SDGs and internationalization shows that AI-enabled COIL and ESD have a significant effect on SDG 4 and SDG 10, as they provide more opportunities for learning globally and making it less expensive and more accessible (Hara, 2026; Jogezai et al., 2026; Qiu et al., 2026; Duke, 2026). Finally, teacher preparedness and AI literacy are essential factors for the successful implementation of AI, and AI self-efficacy and TPACK PD are vital factors (Tan et al., 2025; Bewersdorff et al., 2025; Viberg et al., 2025).

Bibliometric profile of the reviewed corpus

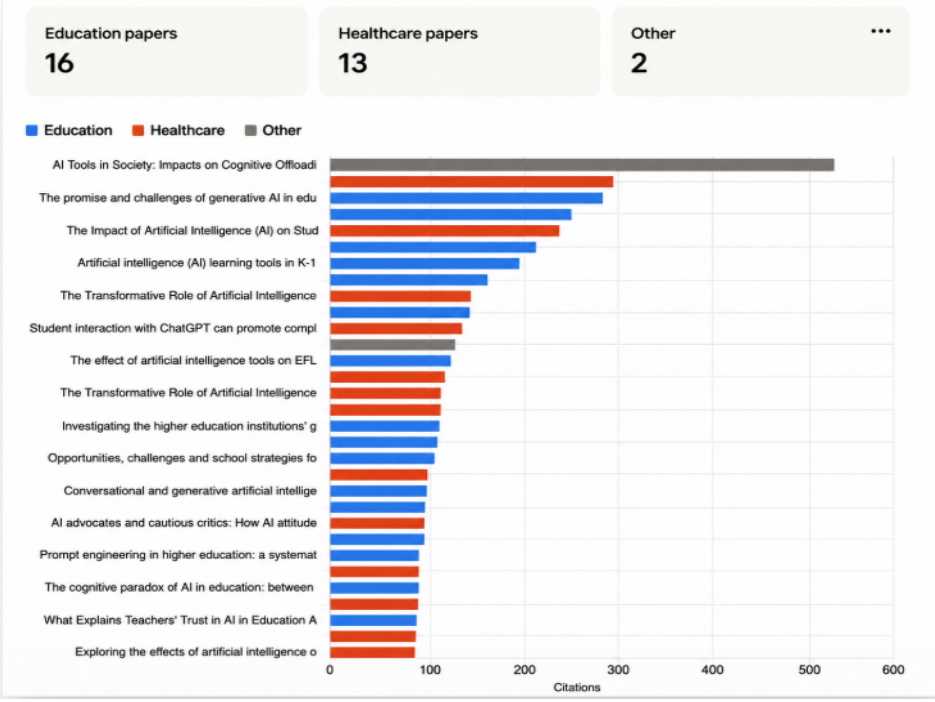
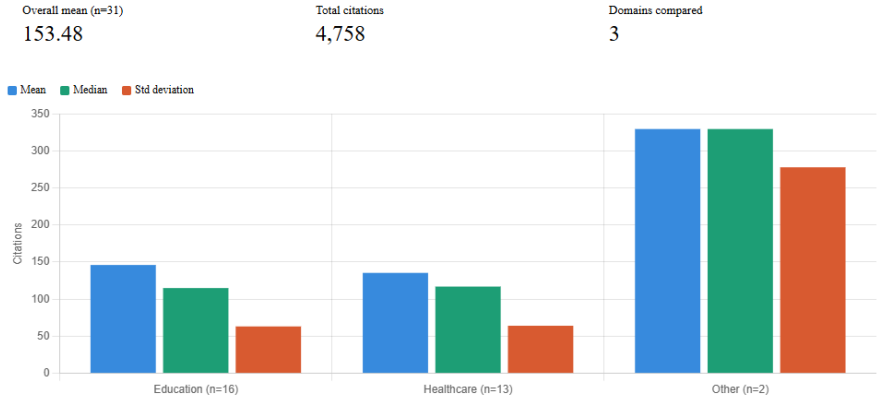


Figure 3. Bibliometric profile of the reviewed corpus

The results of the citation analysis of the research articles categorized into three different types, namely, Education, Healthcare, and Other, are shown in Figure 3. As the figure shows, the maximum number of papers falls under the Education category (16 publications), while the Healthcare and Other categories have 13 and 2 papers, respectively. Papers are ranked by citation count, from 100 to more than 500 for the top-ranked works.



Domain	n	Sum	Mean	Median	Min	Max
Education	16	2338	146.12	115	92	289
Healthcare	13	1761	135.46	117	90	298
Other	2	659	329.5	329.5	133	526

Figure 4. Comparison of Citation-Performance Statistics across Research Areas

A comparative analysis of the citation–performance statistics across the three research areas is shown in Figure 4. Altogether, 31 articles were analyzed, which produced 4,758 citations, with an average of 153.48 citations per article. The clustered bar chart displays the mean, median, and standard deviation per area: Education (mean = 146.12; median = 115), Healthcare (mean = 135.46; median = 117), and Other (mean = median = 329.5).

DISCUSSION AND CONCLUSIONS

This paper aimed to look at three research questions about how AI's adopted in higher education what factors in the structure are unique to the Global South and what the next steps should be for an approach to internationalization that focuses on fairness. The findings offer answers to each of these questions while also showing some conflicts and limits.

Looking at the question, the research shows that AI adoption can't be seen just through one way of thinking like if it’s driven by policies or if it starts from the bottom up. The idea of system-led or tool-led that was in the model matches and goes further than the analysis of Diffusion of Innovations by Jin et al. (2025). They found that policy systems are still not complete at universities that have a lot of resources. Studies at the person level like those by Dennison et al. (2026) And Ng et al. (2025) Show that real changes often happen before or even against the official policies. This adds to work by clearly showing that these two ways of thinking are in a constant push and pull that needs to be managed not just seen as one being better, than the other.

Regarding the question the synthesis shows that the conditions in the Global South can be important in deciding if using AI leads to good results or bad results. These results add to the studies about risks (Gerlich, 2025; Jose et al. 2025; Klimova & Pikhart 2025) which were mostly done in the Global North. The studies suggest that the same offloading patterns may mix with problems like poor infrastructure and not enough resources. This can create risks in countries that are still developing. Far as the authors know this idea has not been tested yet and is a key area for more research. Also, the issues about knowledge that Olaniyan et al. (2026) Talked about add to the policy studies (An et al. 2025; Jin et al., 2025). They bring up the idea of making sure that AI systems include cultures and languages. This is not something that's common in the policies of the Global North. It is very important based on the research, from the Global South that was looked at here.

With respect to the third question, the framework points toward a Global South Agenda characterized by justice-oriented and equity-driven AI internationalization. This agenda has several concrete implications. The above synthesis shows that the use of AI in the Global South is dependent not only on technology but also on structural considerations such as the inadequacy of digital infrastructure and disparities in access, readiness, and technology dependence. These are key mediators that determine the efficacy of using AI for education internationalization. The use of AI needs to be managed through

contextual approaches to the governance and development of digital ecosystems. That reliance on digital platforms developed by other countries can pose a new threat to technological dependency. It is thus important to stress digital sovereignty and locally owned AI ecosystems. Internationalization theory (Knight, 2004) must be extended to address the internationalization of AI as a medium (as shown in the case of the COIL framework explored by Qiu et al., 2026) and as an object (in the form of international AI policy convergence and competition, as seen in the comparative research by Jin et al., 2025). From a practical standpoint, the research agenda requires that developing-world educational institutions implement a focused TPACK-based intervention for teacher professional development (Tan et al., 2025; Tan, Cheng, & Ling, 2025) owing to its established connections with both AI competency and teacher performance. On the policy side, the agenda derives four concrete implications directly from the framework's components: for the system-led pathway, national and regional bodies should coordinate AI-in-education policy resources (analogous to UNESCO-led SDG 4 coordination) so that individual institutions are not each required to build governance frameworks from scratch (An et al., 2025; Henadirage & Gunarathne, 2026); for the tool-led pathway, institutions should establish lightweight registration or visibility mechanisms for practitioner-level GenAI use so that agility is preserved without the fragmentation risk documented by Ng et al. (2025); for the structural-realities component, internationalization offices and mobility programmes should treat AI-enabled models such as COIL (Qiu et al., 2026) as instruments for advancing South–South academic cooperation and easing cross-border integration for international students (Jiewei et al., 2026), rather than as byproducts of domestic digitalization; and for the outcome component, institutions should track digital-divide, epistemic-representation, and SDG 4/10 indicators explicitly, rather than adoption rates alone, so that sustainable and unsustainable outcomes can be distinguished in practice.

This paper has examined how artificial intelligence intersects with the sustainable internationalization of higher education in developing economies. Using an integrative literature review and conceptual framework synthesis methodology, drawing on internationalization theory, the diffusion of innovations framework, and the UNESCO SDG 4/10 agenda, the paper developed the AI and sustainable internationalization framework. This framework conceptualizes AI adoption as a tension between system-led and tool-led pathways, mediated by Global South structural realities such as the digital divide, epistemic representation, state-led service delivery, resource constraints, and SDG alignment, which together determine whether AI adoption produces sustainable or unsustainable outcomes for internationalization.

The synthesis of 22 recent studies, including 11 published in 2026, demonstrates both the considerable promise of AI for advancing SDG 4 in developing economies through personalized learning, teacher capacity-building, and AI-enabled international collaboration models such as COIL and the considerable risks of deepening digital divides, eroding critical thinking, and reproducing epistemic hierarchies if structural realities are not actively addressed. This paper contributes to the field of international education by extending existing theoretical frameworks to explicitly incorporate Global South structural mediators and by proposing a Global South Agenda for justice-oriented, equity-driven AI internationalization. Future empirical research building on this framework can contribute to ensuring that the next phase of AI-driven transformation in higher education narrows, rather than widens, the gap between the Global North and the Global South in the internationalization of education. Because these dynamics directly affect international students' access, integration, and academic experience, the framework also speaks to the internationalization and student-mobility concerns central to this journal and not only to domestic AI adoption debates.

Limitations

There are a number of limitations to this study. First and foremost, as a conceptual work, the suggested framework needs to undergo an empirical test because the literature synthesis utilized the secondary literature for theoretical justification, especially concerning the interaction of the offloading risk and infrastructure constraints as a component of the framework. In addition, while the analyzed literature consists of 11 sources that were published in 2026, there is a noticeable bias toward higher education institutions and certain regions of the Global South, such as South and Southeast Asia, and some African regions. There is a lack of literature from Latin America and from K-12 institutions in the Global South; the K-12 evidence base remains dominated by Global North samples (Yim & Su, 2025), and this gap in empirical, context-specific Global South evidencerather than a gap in conceptual attentionis itself among the paper's central findings. Relatedly, the cited studies vary in rigor and sample size, from large cross-national surveys (e.g., 508 teachers in Viberg et al., 2025) to small qualitative studies (e.g., 30 interviewees in Derakhshan, 2025); study quality was not formally appraised. Finally,

the rapid development of GenAI technologies makes the technological tools and policy guidelines mentioned in the paper quite dynamic in nature.

Directions for Future Research

Future research should pursue at least three directions. First, empirical studies should test the proposed interaction between cognitive-offloading risk (Gerlich, 2025) and infrastructure/resource constraints using comparative samples across Global North and Global South institutions. Second, comparative case studies on country-level evidence from Sri Lanka (Henadirage & Gunarathne, 2026), India (Dennison et al., 2026), and the Arab region (Jaboob et al., 2025) should examine how system-led/tool-led tension is resolved differently across diverse Global South policy environments. Third, given the epistemic justice concerns raised by Olaniyan et al. (2026), research is needed on AI systems specifically designed or fine-tuned for local languages, curricula, and cultural contexts and on institutional and international cooperation arrangements (such as COIL, per Qiu et al., 2026) that could support such development in resource-constrained settings. Each component suggests measurable indicators for such testing: institutional AI policy coverage for system-led adoption; practitioner tool adoption and 'shadow IT' rates for tool-led experimentation; connectivity, device, and language coverage indices for structural realities; and assessment integrity, critical thinking, and SDG 4/10 progress measures for outcomes pilotable via surveys or policy audits in a small set of Global South case-study institutions.

IMPLICATIONS

The framework and agenda proposed in this paper have several implications for policy, practice, and research in international higher education. For policymakers in developing economies, the findings underscore the need for coordinated, regional AI-in-education strategies rather than institution-by-institution policy development. National and regional bodies should make resources that help with governance come up with guidelines for ethics and find ways to make sure everything is quality. These resources should consider what is really possible in each area while still following the global goals of SDG 4 and SDG 10.

For the people in charge of institutions there is a problem between systems and tools. If they make many rules, they might stop new ideas from happening, which are needed to fix problems with resources. If they do not make any rules things might get messy and academic integrity might suffer. Maybe the best way is to find a ground, where institutions can still see what is going on but teachers have some freedom to try new things with GenAI.

People who work in education and help students move to countries should know that Artificial Intelligence is not just something we use in our own classrooms. Artificial Intelligence can also be used to help students from countries work together. There are models like COIL that can help reduce costs and get students from countries to work together more. We have to be careful that these tools do not ignore the languages and ways of thinking that are used in these countries. For people who do research this paper shows ways to test the Artificial Intelligence and sustainable internationalization framework in different parts of the Global South especially how Artificial Intelligence and infrastructure problems interact. Finally for students who study in countries the findings show that using Artificial Intelligence in a fair way can help students fit in better at school and in their social lives but only if we make sure that students have access to computers know how to use Artificial Intelligence and that the design is responsive, to different cultures and we have to do these things first not later.

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