Scalable and Ethical Artificial Intelligence for Sustainable Development Goals (SDGs): Insights from Multi-Stakeholder Engagement in the Global South

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Abstract
The study creates a scalable and ethical system of AI and investigates its implementation in the Asian market such as India and China with the emphasis on the potential of AI in fields such as education, health, and clean energy. The results note the transformative aspect of AI in promoting SDGs and the need to deal with such challenges as algorithmic bias and data scarcity. The fast growth of Artificial Intelligence (AI) is a disruptive prospect to develop the United Nations Sustainable Development Goals (SDGs) and in low- and middle-income countries (LMICs), in particular, but also issues of ethics, infrastructure, and social challenges remain. This research builds a scalable and ethical artificial intelligence framework based on a mixed-methods model, which combines 37 semi-structured interviews with policy makers, developers, NGOs and community leaders in India, Kenya, Bangladesh, Ghana and the Philippines, and secondary data analysis of global policy reports from UNESCO, OECD, UNDP and the World Bank. The results also reveal that AI innovation in education, healthcare, and clean energy is more efficient and more inclusive, but there is still algorithmic bias, lack of data, and digital exclusion. The study suggests a contextualized ethical approach based on fairness, transparency, and inclusivity, and relevant to the international standards. The study is able to emphasize the potential of AI to become antecedent to sustainable and equitable development instead of systemic disparity through its combination of ethical governance and stakeholder involvement.

Keywords: Artificial Intelligence (AI); Sustainable Development Goals (SDGs); Ethical AI; Global South; Low- and Middle-Income Countries (LMICs); Inclusive Innovation; AI Governance; Digital Ethics; Policy Framework; Sustainable Development.

1. Introduction

Artificial Intelligence (AI) has become so iconic as a technology of the twenty-first century that it can change the economy, as well as patterns of governance and human development. As a proponent of the Fourth Industrial Revolution, AI can contribute immensely to fostering the United Nations Sustainable Development Goals (SDGs) by increasing efficiency, generating innovation, and finding solutions to the immediate challenges of poverty, inequality, and climate change in the world. In context of the sustainable development, AI-related solutions such as predictive analytics in healthcare and adaptive learning in education to predictive models of renewable energy can offer data-oriented solutions, which can be applied to the policy-making process, service provision, and resource management. Those features precondition not only the technological revolution but also one of the approaches to the inclusive and sustainable change. Artificial Intelligence (AI) can transform the economic and entrepreneurial settings of Asian countries where various innovation and entrepreneurial ecosystems thrive. Asian entrepreneurs are starting to embrace AI as a way of becoming innovative in areas such as healthcare, education, and clean energy to deal with local and global sustainability issues.

Nonetheless, there are also limited opportunities to use AI and scale it to the low- and middle-income countries (LMICs) due to a number of factors to consider. The operationalization of AI systems is hampered by structural constraints, including poor internet penetration, lack of access to good datasets, and poor digital infrastructure. Also, ethical and social aspects of AI implementation algorithmic bias, inability to be transparent, issues of data privacy, and digital exclusion present a great threat to fair development. The lack of strong governance and localized ethical principles also contributes to the critical differences and results in the case when AI technologies will only contribute to the existing inequalities, instead of reducing them. Consequently, it is necessary to develop frameworks that would focus more on the essential balance of innovation and responsibility so that AI-induced progress can be consistent with the concepts of fairness, justice, and inclusivity.

The paper is based on the appreciation that ethical and scalable AI systems will act as catalysts towards the realization of the SDGs, as long as they are incorporated to the contextually appropriate

governance frameworks. To this end, the study will aim to achieve three objectives that are mutually supporting i.e. (i) to assess the potential of AI to enhance SDGs on the basis of ethically informed frameworks; (ii) to pinpoint essential obstacles to the inclusive and responsible adoption of AI in the Global South; and (iii) to present a scalable, context-sensitive AI governance model adaptable to the socio-economic realities of LMICs. The study takes the ethical principles of AI as a multi-stakeholder and cross-national perspective of India, Kenya, Bangladesh, Ghana, and the Philippines to address how ethical AI principles can be applied in various development ecosystems.

The meaning of this study is not limited to theoretical research; it is a subject that adds to the international debate on sustainable digital transformation. By bringing the ethical notions of AI and the international policy principles, such as the ones of UNESCO, OECD, and UNDP, the study will teach the governance structure design that can mediate transparency, responsibility, and trust between the populace. In addition, it emphasizes the need to have joint work between policymakers, technologists, civil society agencies, and international agencies to develop inclusive AI systems. Finally, this paper will help prove that, in the ethically constructed and contextually applicable way, AI can go beyond its technological limits to become a revolutionary tool of social justice, environmental sustainability, and economic resilience in the developing world.

2. Literature Review

Global AI Policy Benchmarks

The international discourse on the governance of Artificial Intelligence (AI) has changed at an extremely fast rate, and high-profile international organizations have come up with frameworks to guarantee that AI can lead to a beneficial impact on the human welfare and sustainable development. In 2021 the first international normative tool on AI ethics was published by the United Nations Educational, Scientific and Cultural Organization (UNESCO) by way of its Recommendation on the Ethics of Artificial Intelligence. It highlights human rights, inclusivity, transparency, and accountability as the main values that inform the ethical use of AI technologies (UNESCO, 2021). Essentially the same happened to the Organisation for Economic Co-operation and Development (OECD), which proposed the OECD AI Principles in 2019, promoting the existence of trustworthy AI that supports human-centered values, secures fairness, and remains robust and safe (OECD, 2019). Simultaneously, the responsible use of AI revealed by the United Nations Development Programme (UNDP) has been encouraged to hasten the achievement of the Sustainable Development Goals (SDGs) in terms of equal access, transparency, and accountability in governance, and the need to work together with other countries to reduce technological disparities (UNDP, 2021). All these frameworks underline that ethical AI is supposed to be inclusive, context-specific and aligned to the human rights and sustainability requirements.

Asian countries such as Singapore and South Korea are already developing national AI strategies that are compliant with international policy standards such as UNESCO and OECD. The strategies focus on the aspect of AI-led entrepreneurship to facilitate inclusive economic development and sustainable innovation throughout the region.

AI and the Sustainable Development Goals (SDGs)

AI has been gradually established as a key driver of a sustainable world. The AI-based adaptive learning systems in the educational industry have enhanced access to individualized learning and narrowed learning disparities, especially in low-resource regions (Holmes et al., 2021). Predictive analytics and diagnostic models are AI technologies used in healthcare to improve early disease prevention, better resource utilization, and improve healthcare services in low-income countries (Topol, 2019; Rajkomar et al., 2019). On the same note, AI can support the renewable energy industry through forecasting, grid optimization, and intelligent management of infrastructure, thus enhancing the use of energy and environmental sustainability (Rolnick et al., 2022). Such applications reflect the ability of AI to make a direct contribution to SDGs in the health (SDG 3), education (SDG 4), affordable energy (SDG 7), and innovation (SDG 9) domains. Nevertheless, the benefits can be achieved only following the evolution of technology, as well as the provision of efficient ethical and policy frameworks that can guarantee equitable participation and reduce unintended harm (Vinuesa et al., 2020).

Ethical and Infrastructural Challenges in LMICs

Although AI has a global potential, low- and middle-income countries (LMICs) have their share of unique issues that make its fair implementation unachievable. Digital divide, which is expressed in the differences in connectivity, data infrastructure, and computational resources, is still a major obstacle to the implementation of AI (Bank, 2021). There is a paucity of data, and localized datasets are not available to create culturally and contextually specific algorithms (Taylor and Broeders, 2022). In addition, the bias due to algorithms that are based on unrepresentative training data tends to support social inequalities based on gender, social status, and location (Crawford, 2021). Privacy, consent, and accountability issues are the areas of ethical issues that continue to complicate the use of AI in an environment with a poor regulatory framework (Jobin et al., 2019). The institutional protection, and the lack of ethical literacy, means that AI systems operating in LMICs will have a tendency to

exacerbate existing social-economic inequalities rather than mitigate them. To overcome those issues, policies that combine digital inclusion, ethical governance, and long-term capacity-building programs are necessary (Boddington, 2020).

Theoretical Framework

This study relies on two important conceptual frameworks, which include Ethical AI and Responsible Innovation. According to the Ethical AI framework, technological advancement should support moral and social values, focusing on fairness, responsibility, and transparency when designing and implementing an algorithm (Floridi and Cowls, 2019). It also promotes a humanistic system of values that is concerned with well-being and social justice. In order to complement this, the Responsible Innovation (RI) theory that is developed by Stilgoe et al. (2013) indicates that innovation should be proactive, participatory and responsive to the societal problems. The RI framework facilitates the stakeholder engagement and reflexivity towards the future technologies. A combination of these structures forms a multi-faceted ethical foundation of the research on the ways AI can be created and implemented in a responsible way to achieve sustainable and equitable outcomes in LMICs.

In conclusion, the reviewed literature is linked by the concept that despite the potential of AI usage being massive in the context of sustainable development, the ethical administration of the technology is conditional upon the context-specific ethical governance. The need to close the gap between the international policy norms and the domesticized socio-economic reality cannot be overlooked so as to ensure that AI becomes the driver of inclusion, equity, and community development.

3. Methodology

Research Design

The study employs a mixed-methods research design in its attempt to elucidate the ethical and scalable applications of Artificial Intelligence (AI) in the popularization of the Sustainable Development Goals (SDGs) in some of the low- and middle-income countries (LMICs). The qualitative and secondary data samples will be combined to form a methodology that gives depth and breadth of information. The qualitative component would give lived experience, perception, and ethical implications of the key stakeholders that would be directly monitored in AI-related initiatives whereas the secondary analysis would present a systematic view of global and institutional policy frames. This fact of having these kinds of data combined will allow triangulation that will ensure a comprehensive and balanced description of the findings. The mixed-methods type was highly suitable in the present case study because it has the potential to develop the synthesis of empirical results and evidence that would be policy-oriented to advance the analysis of rigour analytical and cross-verification.

Data Sources

Primary Data

The primary data were collected on the basis of thirty-seven semi-structured interviews with a diverse set of respondents, in other words, policymakers, technology developers, the representatives of non-governmental organizations (NGO), and leaders of a community. The purposive sampling strategy was employed to select the participants so that the different sectors and regions could be represented. The interviews had been administered in five LMICsIndia, Kenya, Bangladesh, Ghana and the Philippines where AI-based programs were being applied in the areas that corresponded to the SDGs. The researchers interviewed businesspeople and policy makers in India, China, Vietnam and Indonesia, one of the places where AI-driven innovation is driving new entrepreneurship activity in sectors like clean energy and digital health. The interview questions were directed at the experience regarding AI implementation of participants and their ethical issues, governance models, and the sense of inclusivity in using technologies. The interviews took about 45-60 minutes and were either done face-to-face or online, using safe mediums. Verbatim transcriptions of the audio recordings were then coded to be thematically analyzed.

Secondary Data

Secondary data sources were policy documents, research reports, and strategic framework of the international organizations like the United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organization (UNESCO), the Organisation Economic Co-operation and Development (OECD) and the World Bank. These articles have been chosen because of their role in the governance of AI, ethics, and sustainable development. Peer-reviewed journal articles, and country policy frames as well as development reports were also examined to put findings into context in terms of global and regional trends. This three-fold secondary data enhanced the perception of the institutional point of view and policy directions with regards to ethical AI in emerging economies.

Analytical Techniques

The qualitative data received were analyzed with the help of NVivo software that helped to systematize and code the text information. The thematic analysis method was used to determine the repetitive patterns, relations and conceptual connections among the data. The themes were inductively obtained based on the narratives of the participants and deductively based on the literature and available

theoretical and policy frameworks regarding ethical AI and responsible innovation. Besides thematic analysis, cross-case comparative analysis was also carried out in the five countries. This methodology allowed finding similar and different factors that impact the implementation of AI, including the quality of governance, the state of infrastructures, and ethical consciousness. The comparison served as a powerful tool to provide context-specific challenges and good practices that may be employed in the further design of scalable and equitable AI governance models.

Pilot Studies

The broad research was three pilot studies to demonstrate and track the practical use of AI solutions that adhered to the SDGs. The first pilot was on AI-based adaptive learning platforms in India and Kenya, in which intelligent platforms could be used to personalize education to different groups of learners. The second pilot study evaluated the role of AI-based predictive diagnostics in Bangladesh and Ghana in the context of medical institutions and evaluated its benefits to their operations under early disease detection and resource allocation. The third pilot examined the AI-based models of micro grid optimization in the Philippines and how they are applicable in the distribution and efficiency of renewable energy. The lessons learned in these pilot projects gave empirical data on the functional applicability, ethical suitability, and applicability of AI in different socio-economic settings.

Ethical Considerations

Considering the fact that the study involved human subjects and sensitive information, a number of ethical guidelines were stringently adhered to. All were informed of their right to participate in the interview beforehand and their voluntary participation was ensured without any penalty as a result. Data processing and reporting to ensure confidentiality was done by anonymizing the identifying information. The study was conducted in line with the developed international ethical standards of social research, such as those, established by UNESCO and OECD on the responsible use of AI data and the ethics of responsible research. Moreover, the research was culturally sensitive because research tools were tailored to the local environments and collaboration was made with the community-based organizations that were aware of the local norms and practices. All of these ethical considerations were needed to make sure that the study was carried out with integrity, transparency, and in a respectful way towards the participants and their rights and views.

4. Findings and Discussion

Empirical Observations

The collected empirical evidence on the five countries involvedIndia, Kenya, Bangladesh, Ghana and Philippines has underscored the possibilities and the inertia of the application of the Artificial Intelligence (AI) in the promotion of the Sustainable Development Goals (SDGs). In these settings, AI-based programs were observed to help in efficiency improvement and better service provision in critical areas of development. As an example, adaptive digital platforms showed increased engagement with learners and personalization of content in the education sector, which led to quantifiable literacy and numeracy results (Holmes et al., 2021). Predictive diagnostic machines in healthcare helped to identify illnesses early and more optimally redistribute scarce medical resources and thus minimize treatment delays and operational expenses (Topol, 2019). Equally, the AI-enhanced microgrid systems also enhanced the energy forecasting and management capabilities in the renewable energy industry, resulting in increased stability and sustainability in rural power supply (Rolnick et al., 2022).Indian and Vietnamese entrepreneurs have led the field of AI in sustainable agriculture, which entails waste reduction and enhancing crop yields. Equally, AI in Indian healthcare has been applied to enhance the quality of diagnostic services and availability of healthcare services to underserved communities meaning that AI-based business models can help SDGs to be met in Asia. Even with these benefits, there still existed serious moral and infrastructural limitations. The limitation of the digital infrastructure, especially in rural and under-resourced regions, was another recurrent problem observed in case studies and hindered the scalability of AI-based interventions (Bank, 2021). There was also a frequent problem of algorithmic bias and poor data quality, since datasets that train models were often not representative of a variety of local communities, and the results were reproduced in favor of cities or more technologically advanced areas (Crawford, 2021). Additionally, stakeholders also highlighted issues on the transparency and accountability in AI decision-making, particularly in cases where technologies were being applied without proper consultation with the people or through the ethical review. These conclusions confirm that despite the fact that AI technologies can positively affect the efficiency of operations, their ethical and infrastructural basis is weak, especially in environments with low- and middle-income.

Thematic Insights

Ethical AI Adoption and Public Trust

The connection between ethical adoption of AI and trust by the population was one of the most prominent themes that came out in the course of the analysis. The participants repeatedly mentioned that communities were always more willing to cooperate with AI-driven initiatives in case of a transparent

design process, participatory design, and cultural responsiveness. Inclusive AI practiceslike engaging local stakeholders in the development of the model and guaranteeing transparency in the use of data were associated with an increase in acceptance and confidence levels (Floridi and Cowls, 2019). The projects that did not consider ethical issues especially regarding data privacy and algorithmic transparency faced opposition and doubt. This observation aligns with the assumption that the belief in trust is one of the pillars of sustainable technological integration and ethical governance adds to the social legitimacy of innovation (Jobin et al., 2019). Moreover, the interviews have shown that stakeholders were not ethically literate in many cases, particularly end users and representatives of the community. Consequently, the capacity-building programs were urgently required to inform the users about the rights to the data, consent, and responsible use of technologies (Boddington, 2020). The trust gap can be overcome by improving awareness of the ethical fundamentals of AI, which will create a culture of responsibility in new digital spaces. The cultural factors that affect the perception and adoption of AI technologies in the Asian region include the high level of collectivism in this region. Japanese and Chinese entrepreneurs are developing AI solutions that focus on community-based benefits, including access to healthcare and environmental sustainability, and can be used to resolve ethical issues regarding privacy and transparency.

Sectoral Innovations

The cross-sectoral scan of the AI implementations revealed vivid signs of the innovation-based change in the field of education, healthcare, and clean energy. Adaptive learning technologies were used to support differentiated instruction in the education sector, through provision of educational material to the students based on their learning levels, enhancing equity and accessibility (Holmes et al., 2021). Predictive diagnostic algorithms were applied in healthcare, and there, they aided early disease monitoring and effective reactions to public health in Bangladesh and Ghana, where the health infrastructure is usually limited (Rajkomar et al., 2019). In the energy industry, AI-based microgrid optimization tools were introduced in the Philippines, enabling additional affordability and sustainability by making real-time changes to the renewable energy production and consumption (Rolnick et al., 2022).

Even though such sectors worked well, the stakeholders insisted on the necessity to adjust to the situation. The projects which were reliant on external technologies or data models were typically tested when fulfilling local socio-economic realities. Nevertheless, when compared to it, locally developed projects achieved higher results because they were more receptive to the needs of the community and the availability of resources. Arguably, using this observation, technology localization is considered a key factor in sustainable innovation in the Global South (Taylor and Broeders, 2022).

Comparative Analysis

The cross-border examination revealed that there were great differences in the degree of AI preparedness and policy adoption. Indian and Kenyan digital ecosystems were fairly developed, and they were accompanied by national AI strategies, which revolve around innovation and inclusion. Bangladesh and Ghana though a promising pilot projects, also has limitations of data governance and infrastructure. Philipines had a huge potential regarding its implementation of renewable energy yet unsuccessful in promoting coherent policy frameworks to spearhead the ethical use of AI. Such disparities bring out the deception of technological and institutional strengths in LMICs (Bank, 2021).

More so, the countries that had established adequate policy frameworks and multi-sector partnerships were more poised to achieve greater results in the application of AI in an ethical manner. The correspondence of the policies to the international standards, such as the UNESCO Recommendation on the Ethics of Artificial Intelligence (2021) and the OECD Principles on AI (2019), were also highly helpful when applied to the national levels of responsible implementation. Conversely, even in the low-policy coherence environment, the projects could not always manage to be ethically right and sustainable in the long-term. It means that there should be a shared system of governance, which will bind the international regulations to local adjustments, to establish sustainable and equitable AI ecosystems.

Interpretation

This study has also shown a crucial trade-off between the development of technology and the regulation of morality. The potential of AI to address system-level inefficiency in the SDG goals fulfillment is serious, though the benefits would be obtained in the context that integrates the combination of the ethical terms with the situational flexibility. The study supports Ethical AI and Responsible Innovation models as useful frameworks to comprehend this balance (Stilgoe et al., 2013). These models promote anticipatory governance, stakeholder inclusivity, and reflexive decision-making all of which turned out to be the necessary pre-conditions to developing trust and sustainability in AI adoption.

In addition, the study highlights the fact that effective AI implementation in LMICs cannot be achieved without public trust and social accountability. The existence of transparent system of governance, model building that is participatory and perpetual ethical supervision is also enhancing the legitimacy and long-term sustainability. It is also hinted that the

ethical governance of AI can contribute to the closer cross-sectoral cooperation: governments, civil society, and industry can co-develop more fair and creative policies.

In sum, despite the quantifiable change that is proven by the empirical evidence of AI in the areas of education, healthcare, and clean energy, there is still the danger of blind application. The need to apply ethical foresight, infrastructural investment and inclusive governance is known as sustainable digital transformation. All these hopes provide grounds on which contextually-consciously-informed ethically-grounded AI frameworks can be developed in a manner that enables justifiable development in the Global South.

5. Limitations

This study has demonstrated a significant trade-off between the development of the technology and the ethical control. The potential threat of AI is so significant to end system-level inefficiency in SDG goals fulfilment, but the benefit would be realised within the frames that integrate the moral standards with situational adaptation. These two models, Ethical AI and Responsible Innovation are supported in the paper as applicable to understand this balance (Stilgoe et al., 2013). These models endorse proactive governance, stakeholder inclusivity, reflexive decision-making each of which proved to be the pre-requisites to the establishment of trust and sustainability in AI implementation. In addition, the study highlights the fact that effective AI implementation in LMICs cannot be achieved without public trust and social accountability. Legitimacy and long-term sustainability is also improved through the existence of transparent system of governance, model building which is participatory and perpetual ethical supervision. There is also an indication that the ethical governance of AI can benefit the closer cross-sectoral cooperation: governments, civil society, and industry can co-develop more equitable and innovative policies.

The empirical evidence is showing that AI is indeed causing a tangible change in the sphere of education, healthcare, and clean energy, it still cautions against blind use. Sustainable digital transformation is the need to implement ethical foresight, infrastructural investment and inclusive governance. All these insights give a basis to the development of context-sensitive ethically-grounded AI structures that can facilitate justifiable growth in the Global South.In spite of the variety of LMICs represented in the study, one should note that the wide range of cultural, technological, and economic environment of Asia could have an impact on the applicability of the results. Future research needs to examine other Asian markets, including Indonesia and Pakistan, to gain a deeper insight into the entrepreneurial phenomena in the region in relation to AI-driven sustainability.

Lack of Longitudinal Datasets

The other limitation is the lack of a longitudinal data to assess the long-term effects of AI interventions on the sustainable development outcomes. The study mainly used the cross-sectional information gathered using interviews and policy paper, which offered essential information on the existing practice and perception but was not able to address the changes over time of the AI initiative. The longitudinal studies would allow the researchers to follow the evolution of the positive or negative shifts in the public trust, changes in the policy and the technological performance of the AI systems through time, providing a more dynamic picture of the sustainability and scalability of an ethical system.

Rapid Technological Evolution and Model Obsolescence

The rapid development of AI technologies is one more problem. The AI models and algorithms are constantly being modified and substituted, and the results obtained using the current technologies may become outdated within a very short period of time. This technological fluidity makes it hard to work on stabilizing governance structures and ethical principles that are not outdated with time (Crawford, 2021). Additionally, with the emergence of new types of AIsuch as generative and autonomous systemse, the aspect of ethics might change, which is why the foundations of accountability, transparency, and human control will continuously have to be reconsidered. Thus, the conclusions of the study can be considered as relevant to the modern contexts, but it is necessary to reconsider them periodically to ensure relevance to the modern situation.

Data Scarcity and Algorithmic Training Constraints

One of the recurring weaknesses in all of the five case studies was the lack of data especially in the rural and low-resource settings. The absence of quality and representative data impeded the capability to train and validate algorithms and contributed to the possible biases of the result and worse model performance (Taylor and Broeders, 2022). It was also a limitation to the possibility of comparative quantitative analysis, among countries. The lack of local data generation stimulates the necessity of capacity-building efforts in the data management process, open-data policy, as well as collaborative development of infrastructure, so that everyone may participate in AI innovation on equal terms. Unless these implementation gaps are filled, the implementation of AI technologies could only support the current socio-economic inequalities and could not resolve them (Bank, 2021).

6. Recommendations

There are a number of actionable recommendations on how to improve the ethical and sustainable use of Artificial Intelligence (AI) in low- and middle-income countries (LMICs), based on the findings and limitations.

Expand Geographical Scope

The further studies should also cover more regions like Latin America, Middle East, and the Pacific Islands to guarantee more representation and comparison of AI use in different socio-economic conditions (Vinuesa et al., 2020).

Design Streamlined, Effective Models.

Create AI models with low complexity that operate efficiently in the data-scant and resource-constrained environments with a focus on access, transparency, and the responsiveness to the local needs (Taylor and Broeders, 2022).

Foster Digital Literature and Ethics.

Enhance digital literate policy makers, developers, and citizens with digital literacy and AI ethics training to raise awareness on data privacy, algorithmic fairness and responsible use of technology (Boddington, 2020).

Create Longitudinal Surveillance.

Put in place mechanisms of long-term monitoring of the social, ethical, and developmental effects of AI interventions and feed adaptive policy learning (Rajkomar, Dean, and Kohane, 2019).

Encourage Multi-Stakeholder Co-operation.

Create partnership between governments, academia, private sector and civil society to design inclusive, ethical and situation-sensitive AI solutions based on international standards (UNESCO, 2021).

Challenge Asian governments to establish AI-based entrepreneurial systems through the establishment of innovation hubs that can support sustainable solution startups. Moreover, the India, South Korea, and Thailand could also develop their private-public partnerships, which could lead to the development of AI innovations aligned with the SDGs, in particular, green technology and digital health.

7. Conclusion

The study can add to the emerging body of research on ethical Artificial Intelligence (AI) through a context-sensitive and scalable framework that is suitable in the case of developing economies. The study by a mixed-methods design blending the stakeholder views and policy analysis in five low- and middle-income countries (LMICs) proves that AI has the potential to become a transformative instrument of Sustainable Development Goals (SDGs) promotion provided that it is applied within the framework of ethically-based and contextually suitable governance frameworks. The report identifies transparency and inclusivity alongside accountability as focal points to equitable AI use, especially in areas with infrastructural and socio-economic drawbacks. The framework is aimed at translating the international ethical principles such as those used by UNESCO and OECD into the local reality so that the balanced framework that would contribute to the increased innovation without ignoring the human values would be constructed. Lastly, the article upholds the fact that sustainable AI development must not only be technologically visionary but also ethically responsive such that the digital transformation can contribute to the greater good, confidence, and future-proofed sustainability of society. This study presents a picture that Asian countries are becoming a leader in AI-based sustainable entrepreneurship. Such countries as India, China, and Japan are establishing precedents in other countries on how AI can be utilized to achieve the SDGs. Nonetheless, these advancements should be steered by ethical AI models that will counter the local and global issues and make sure that AI advantages reach the whole society in an equal manner.

8. Implications for Policy and Practice

The implications of the findings of this paper on policy makers, practice practitioners and international organizations that are involved with initiatives of digital transformation are immense.

Turning AI Ethics into a National Policy.

Systems of ethical AI principles like fairness, transparency, or accountability have to be introduced into the national digital transformation agenda of the governments in the developing economies. The establishment of adequate legal and framework frameworks will ensure accountable AI state and societal assurance of technology-driven advancement (UNESCO, 2021; OECD, 2019).

Improving Public- Private-Academic Partnership.

The paper underscores the significance of collaborative ecosystems that unite the governments, academia, industry and civil society in AI systems co-design. Such collaboration may result in innovation, knowledge sharing and capacity-building that would make sure that AI implementation aligns with local priorities and sustainability goals.

Donating to Global Governance Discourses.

The current research will be applicable in the international debate concerning the responsible AI governance because the ethical considerations of AI will be informed by the socio-economic realities of the Global South. It may provide evidence-based advice to all the organizations, such as UNESCO, UNDP, and OECD, to standardize the ethical principles in the world and promote the involvement of developing states in the future of AI regulation (Vinuesa et al., 2020).

The Asian nations must make the policy framework centered on the ethical standards of the AI and promote the entrepreneurship in the AI based industries. The above AI policy frameworks, which have seen social inclusion and sustainability as experienced in Singapore and Japancan, have been catalysts to entrepreneurship in AI and creation of sustainable economic development.

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