(Research/Review) Article

Digital Inclusion for Sustainable Prosperity: Bridging the Global North–South Divide

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Abstract: Digital transformation has become a major driver of global economic growth while creating new challenges in the form of disparities between developed countries (Global North) and developing countries (Global South). This study aims to analyze the role of digital inclusion in bridging these disparities to achieve sustainable prosperity. The research method used is descriptive qualitative with a literature review approach to various international reports and publications from ITU, World Bank, UNDP, and OECD. The results of the analysis show that effective digital inclusion is not only determined by infrastructure development, but also by increased digital literacy, equitable access, and adaptive public policies. Countries that implement comprehensive digital inclusion strategies show significant improvements in economic productivity, access to education, and equitable social welfare. The conclusion of this study confirms that digital inclusion is a strategic instrument in realizing fair, inclusive, and sustainable global development

Keywords: Digital inclusion, digital divide, sustainable economy, *Global North–South*

1. Introduction

The 21st century marks an important phase in global economic history, where digital transformation has become a major force that is changing the way people work, learn, interact, and access economic opportunities. Rapid advances in information and communication technology (ICT) have accelerated global connectivity and enabled cross-sector innovation. Digital technology is now the backbone of global economic growth, strengthening productivity and driving the emergence of new data- and platform-based economic ecosystems. However, behind this enormous potential lies a serious paradox: uneven digital progress is actually deepening the gap between developed countries (*the Global North*) and developing countries (*the Global South*).

According to a report by *the International Telecommunication Union* (ITU, 2023), more than 2.6 billion people worldwide still do not have internet access—most of them in Sub-Saharan Africa, South Asia, and parts of Latin America. Meanwhile, in developed countries, internet connectivity rates have reached over 90%, supported by digital infrastructure, technological literacy, and strong innovation policies. This disparity illustrates the harsh reality that global digitalization is not yet fully inclusive. As the world enters an increasingly integrated digital economy, those left behind in this transformation process risk being further marginalized from the tide of global development and prosperity.

World Bank data (2024) shows that digitization contributes directly to global economic growth of up to $6.3 trillion per year, but this contribution is concentrated in developed countries. Only about 15% of total global investment in the technology sector flows to developing countries. This inequality not only causes economic disparities but also widens the social gap, particularly in access to education, health services, and digital-based employment opportunities. On the other hand, the UNDP *Digital Strategy Report* (2024) survey states that around 70% of the population in developing countries still face barriers in accessing the internet due to high prices, inadequate infrastructure, or low digital literacy.

The impact of this digital divide is very complex. According to Tigănaşu *et al.,* (2025), countries that fail to adapt to the digital economy experience a slowdown in national productivity and limitations in global competitiveness. In the education sector, limited digital access hinders the implementation *of e-learning* and the development of 21st-century skills. In the economic sector, MSMEs in developing countries that are unable to transform digitally tend to lag behind the global market. The digital divide also hinders social innovation, deepens the poverty gap, and weakens citizen participation in digital democracy.

In addition to differences between countries, the digital divide is also internal and multidimensional. According to UNESCO (2023), there is a significant gender gap in internet use, with women in developing countries 20% less likely to access the internet than men. Meanwhile, the OECD (2024) highlights the inequality between urban and rural areas: rural communities often face obstacles in the form of limited network infrastructure, expensive connection costs, and low digital literacy. As a result, the benefits of digitalization are only enjoyed by a small portion of the population, while vulnerable groups—such as the poor, women, the elderly, and people with disabilities—remain left behind.

This phenomenon has given rise to what is known as "digital exclusion." Digital exclusion is not merely a technological issue, but also a matter of social and economic justice. In the context of global development, communities that lack access to or the ability to utilize digital technology tend to lose opportunities in education, employment, and efficient public services. Heeks (2022) emphasizes that digital inclusion must be understood as a basic right of modern society, on par with the right to education and health. Thus, digitization that is not accompanied by inclusive policies has the potential to deepen social inequality at the global level.

However, empirical evidence shows that inclusively designed digitalization can be a catalyst for sustainable development. A study by Liu *et al.* (2024) found that a 10% increase in internet penetration in developing countries can increase national gross domestic product (GDP) by up to 1.2%. In addition, the expansion of digital financial services such as *mobile banking* and *fintech* has proven effective in expanding economic access for low-income groups. Meanwhile, Perera *et al.* (2023) highlight that the success of digital transformation in developing countries is highly dependent on the quality of human resources, policy stability, and the readiness of the local innovation ecosystem.

On a global scale, various international institutions have prioritized digital inclusion as a key element of sustainable development. *The United Nations* (2023), through its 2030 Agenda *for Sustainable Development*, emphasizes the importance of access to digital technology in supporting the achievement of *the Sustainable Development Goals* (SDGs), particularly Goal 9 (industry, innovation, and infrastructure) and Goal 10 (reducing inequality). Digital inclusion

is not only about expanding connectivity, but also about ensuring that all segments of society have the skills, opportunities, and supportive environments to use technology productively and safely.

In addition, *the World Economic Forum* (2024) highlights the concept *of "digital equity,"* which is equality in digital access, capabilities, and benefits. This approach emphasizes that digital development cannot be measured solely in technical terms (such as the number of internet users), but also in social terms—including user empowerment, economic justice, and personal data protection. This principle is important so that digitalization does not only benefit large corporations or rich countries, but also creates space for broader participation from countries *in the Global South.*

Reflecting on these conditions, digital inclusion has now become a global strategic agenda in reducing the North-South divide. Developing countries need to formulate policy strategies that focus not only on infrastructure development, but also on strengthening human capacity, fair digital governance, and cross-sector collaboration. A collaborative approach between the government, the private sector, academia, and civil society is key to ensuring that digital transformation truly contributes to sustainable prosperity.

Thus, efforts to bridge the digital divide are not merely a matter of technology, but a mission of humanity and global justice. The world needs a new paradigm of digital development that is inclusive, equitable, and oriented towards sustainability. Through comprehensive digital inclusion, it is hoped that every individual and country can actively participate in the global digital economy ecosystem, so that technological progress truly becomes a means to achieve *sustainable prosperity* for all of humanity.

2. Preliminaries or Related Work or Literature Review

The Concept of Digital Inclusion

Digital inclusion is a systematic effort to ensure that all individuals and communities have equal access to digital technology, whether in the form of hardware, internet connectivity, or user skills (Heeks, 2022). According to the OECD (2024), digital inclusion focuses not only on physical access to the internet, but also on the ability of communities to effectively utilize technology to improve social and economic welfare. In the context of global development, digital inclusion is a key element for social, educational, economic, and political transformation towards a just society.

The World *Economic Forum* (2024) introduced the term *digital equity*, which contains three main dimensions: (1) *equal access*, (2) equal *capability,* and (3) *equal* benefit. All three emphasize that digitization should not be measured solely by the number of internet users, but rather by the extent to which people are able to use technology to create economic and social added value. Therefore, digital inclusion strategies must include infrastructure development, improved digital literacy, and the empowerment of marginalized communities.

The Global North-South Digital Divide

The digital divide between *the Global North* and *Global South* has become a fundamental issue in the contemporary global economy. According to a report by *the* International *Telecommunication Union* (ITU, 2023), more than 2.6 billion people still do not have internet access, with most of this population living in Sub-Saharan Africa, South Asia, and Latin

America. This shows that there is *asymmetric digital development,* where developed countries enjoy high connectivity and innovation, while developing countries lag behind in the adoption and utilization of digital technology.

The study by Tigănașu *et al.* (2025) confirms that the digital divide is not only an infrastructure problem, but also reflects structural inequalities in the distribution of global resources. Countries in the *Global South* often face obstacles such as high connectivity costs, limited private investment in the ICT sector, and low human resource capacity in the field of technology. As a result, digitization in this region is slow and has had little significant impact on economic growth.

Furthermore, this gap also widens social inequality at the micro level. According to UNESCO (2023), women in developing countries are 20% less likely to use the internet than men. Meanwhile, the OECD (2024) notes that rural communities are 30–40% less likely to access digital services than urban communities. This situation confirms that digital exclusion is not only geographical in nature, but also related to gender, economic, and educational factors.

Digitalization and Sustainable Development

Digital transformation is closely related to the sustainable development agenda (*Sustainable Development Goals* – SDGs). *The United Nations* (2023) places access to information and communication technology as a supporting factor in achieving various SDGs, particularly Goal 4 (quality education), Goal 8 (economic growth and decent work), Goal 9 (industry, innovation, and infrastructure), and Goal 10 (reducing inequality).

Inclusive digitalization can create economic added value through increased productivity, logistical efficiency, and data-driven innovation. According to *the World Bank* (2024), a 10% increase in internet penetration can boost economic growth by 1.2% in developing countries. In addition, digitalization also plays an important role in expanding access to financial services (*financial inclusion)*, particularly through *fintech* and *mobile banking,* which facilitate low-income communities to participate in formal economic activities.

However, if digital transformation is not accompanied by inclusive policies, these economic benefits will only be concentrated in certain groups or regions. Perera *et al.* (2023) state that the success of digitalization in developing countries is greatly influenced by institutional factors, regulatory stability, and the readiness of the local innovation ecosystem. Therefore, digital inclusion strategies need to integrate a multidimensional approach covering infrastructure, education, public policy, and data governance.

Economic and Social Dimensions of Digital Inclusion

Economically, digital inclusion opens up new opportunities for more equitable growth. Digital platforms such as *e-commerce* and app-based services enable MSMEs in developing countries to access global markets without geographical barriers. A study *by* Liu *et al. (*2024) shows that the adoption of digital technology by the MSME sector can increase operational efficiency by up to 25% and expand the consumer base across countries. Thus, digitization is an important means of increasing the competitiveness of local industries.

On the social side, digital inclusion serves as an instrument for community empowerment. Access to digital information and services increases citizen participation in education, health, and democratic processes. According to the UNDP (2024), communities with internet access tend to be more aware of environmental issues, more involved in social activities, and have greater opportunities for employment. This shows that digital literacy is a social asset that needs to be developed systematically through formal and non-formal education.

However, digital inclusion also brings new challenges such as privacy risks, data misuse, and the spread of disinformation. Therefore, strengthening digital ethics and cybersecurity is an important part of modern digital inclusion theory. *The World Economic Forum (2024)* emphasizes that digital justice cannot be achieved without protecting *the digital rights* of all citizens of the world.

Theoretical Framework: Inclusive Digital Development

The theoretical framework of digital inclusion combines the three main pillars of sustainable development: economic, social, and environmental (UNDP, 2024). From an economic perspective, the theory *of digital transformation for development* emphasizes the importance of technology integration to accelerate national productivity growth. From a social perspective, the *digital capability approach* theory (Sen, 1999; developed by Heeks, 2022) highlights the importance of empowering individuals through the ability to choose and utilize technology meaningfully. Meanwhile, from an environmental perspective, the *green digitalization* theory (OECD, 2024) asserts that digital transformation must contribute to resource efficiency and climate change mitigation.

By integrating these three dimensions, the concept of digital inclusion becomes a strong theoretical foundation for achieving *sustainable prosperity*. Countries in *the Global South* are expected to not only be consumers of technology, but also producers of local innovations that are relevant to the needs of their communities. This requires a collaborative approach between the government, the private sector, and educational institutions to create a digital ecosystem that is fair, adaptive, and sustainable.

3. Proposed Method

This study uses a descriptive qualitative approach with *a literature review* method to analyze the relationship between digital inclusion and sustainable prosperity, particularly in the context of the gap between the *Global North* and *Global South* countries. The research data was sourced from secondary literature, including reports from international institutions such as *the International Telecommunication Union* (ITU, 2023), *the World Bank* (2024), and *the United Nations Development Programme (*UNDP, 2023), as well as the results of recent scientific studies (Heeks, 2022; Liu *et al.,* 2024; Perera *et al.,* 2023; Tigănaşu *et al.,* 2025).

The literature selection was conducted purposively, considering its relevance to the themes of digital inclusion, development policies, and economic equality. The analysis techniques used were *content analysis* and *thematic* analysis to identify patterns, supporting factors, and challenges in the implementation of digital inclusion in developing countries. Data

validity was maintained through source triangulation by comparing various reports and scientific publications from reliable sources. The research results are expected to provide conceptual contributions to the formulation of policy strategies to narrow the digital divide and promote sustainable development.

4. Results and Discussion

Digital Access Inequality between *the Global North* and *Global South*

The results of literature and global data analysis show that digital inequality remains a major issue in the contemporary world economic structure. According to a report by *the International Telecommunication Union* (ITU, 2023), out of the total world population, around 2.6 billion people are not yet connected to the internet. This inequality is particularly evident between the *Global North,* such as North America, Europe, and East Asia, where connectivity rates exceed 90%, and *the Global South,* particularly Sub-Saharan Africa and South Asia, where the average is still below 40%. This access gap not only illustrates differences in technological infrastructure but also reveals structural disparities in economic and social development. Developed countries have mature digital ecosystems, supported by research investment, technology-based education systems, and strong innovation policy support. In contrast, developing countries often face obstacles such as high internet costs, weak digital regulations, and low technological literacy.

World Bank data (2024) shows that the average cost of internet in developing countries reaches 6-10% of people's monthly income, far above the global affordability recommendation of 2%. These high costs lead to digital exclusion, especially for low-income communities in rural areas. As a result, certain groups of people do not have access to essential services such as *online* education*, e-government, e-health,* or *e-commerce,* which are now key to social and economic welfare. From a development perspective, the digital divide reinforces the phenomenon of *"digital dependency,"* in which *Global South* countries become consumers of technology rather than producers. This dependency hinders digital economic independence and widens the welfare gap between the North and South. According to Tigănaşu *et al.* (2025), the difference in the speed of technology adoption between the two global blocs causes countries in *the Global South* to fall further behind in digital development, thereby hampering inclusive economic growth.

Social and Economic Dimensions of Digital Inclusion

The results of the study show that digital inclusion is a major driver of sustainable socio-economic development. Digitalization is not only related to expanding connectivity, but also to empowering communities through equal access, improving digital skills, and creating inclusive opportunities. A study by Liu *et al.* (2024) found that a 10% increase in internet penetration in developing countries can increase the national Gross Domestic Product (GDP) by up to 1.2%. This shows that digital inclusion has a real economic impact on productivity and welfare. In addition, digitization also encourages the creation of new jobs, expands market networks for MSME players, and improves the efficiency of public services.

However, these benefits are not distributed evenly. In many developing countries, digital literacy remains a major obstacle. UNESCO (2023) notes that more than 40% of people in low-income countries do not yet have basic digital technology skills. Low digital literacy

prevents many people from taking advantage of new economic opportunities offered by the digital world, such as remote work, *e-commerce,* or *digital marketing.*

In addition, gender equality in digital transformation is also a serious challenge. Women in developing countries have 20% fewer opportunities to access the internet than men (ITU, 2023). This gender gap has implications for the low participation of women in the digital economy, even though their role is very important in strengthening the economy of families and communities. The digital divide also exacerbates regional inequality. The OECD (2024) shows that people in rural areas are twice as likely to be unconnected compared to urban residents. This inequality hinders regional economic growth, limits access to information, and reduces the global competitiveness of regions.

Digital Inclusion as a Catalyst for Sustainable Prosperity

In the context of sustainable development, digital inclusion is closely related to *the Sustainable Development Goals* (SDGs), particularly Goal 9 (industry, innovation, and infrastructure), Goal 10 (reducing inequality), and Goal 4 (quality education). According to *the United Nations* (2023), access to information and communication technology is a key factor in accelerating the achievement of the global development agenda. Inclusive digital transformation can strengthen *e-governance,* increase the transparency of public services, and expand access to digital education and health. In the economic sector, digitization has proven capable of growing the inclusive financial sector through *fintech and mobile banking platforms.* For example, in Kenya, the M-Pesa service has succeeded in increasing financial access for millions of rural communities and contributed to reducing poverty (UNDP, 2023). In other words, digital inclusion not only expands access to technology but also builds national competitiveness and strengthens social resilience. When people are able to use technology to increase productivity, transparency, and welfare, digital development becomes a real foundation for sustainable prosperity.

Structural Challenges and Global Policies

Despite its great potential, the realization of digital inclusion in *the Global South* faces a number of fundamental obstacles. First, limited investment in technology. According to *the World Bank (2024),* only about 15% of total global investment in the technology sector flows to developing countries. This lack of investment has resulted in slow infrastructure development, low levels of local technology research, and high dependence on imported products. Second, digital policy disparities between countries. Countries in *the Global North* have stricter data regulations and mature cybersecurity systems, while developing countries still face issues of privacy, personal data protection, and a lack of a digital legal framework. Heeks (2022) emphasizes that without policies that favor digital justice, digital transformation can actually create new forms of social inequality. Third, ethical and digital security aspects. Data globalization raises concerns about privacy, disinformation, and the exploitation of user data in developing countries by global companies. Therefore, *the World Economic Forum (*2024) highlights the importance of "*digital* equity," which focuses not only on access but also on fairness in the use of technology.

Policy Strategies and Recommendations

Based on the synthesis results, several strategic steps can be implemented to strengthen global digital inclusion:

a. Investment in Inclusive Digital Infrastructure Developing countries should expand telecommunications infrastructure to remote areas through *public–private partnership* financing models and internet access subsidies.

b. National Digital Education and Literacy Digital literacy needs to be incorporated into formal and non-formal education curricula. Community-based digital training programs need to be expanded to reach marginalized groups.

c. Digital Justice Regulations and Policies Governments need to adopt regulations that guarantee affordability, personal data protection, and equal access to technology for all citizens.

d. International Collaboration and Technology Transfer Partnerships between developed and developing countries should be geared toward equitable collaboration, including knowledge sharing, technical training, and innovation funding.

e. Empowering MSMEs and the Local Digital Economy Strengthening the capacity of SMEs to utilize digital technology is key to accelerating inclusive and sustainable economic growth.

5. Conclusion

Digital inclusion is an important foundation for achieving sustainable prosperity and global justice in the era of technology-based economies. Studies show that the digital divide between *the Global North* and *Global South* is not only a technological gap, but also a reflection of deep economic and social inequalities. Equitable digital transformation can increase productivity, expand economic participation, and strengthen social systems and governance. However, to make this a reality, inclusive public policies, sustainable investment in digital infrastructure and education, and mutually beneficial global cooperation are needed. Digital inclusion is not merely about providing internet access, but also ensuring that every individual has the same abilities and opportunities to participate in the digital economy. With a collaborative, humane, and sustainability-oriented approach, the world can bridge the North-South divide and move towards an era of inclusive and equitable digital prosperity

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