

Impact of Technology on Globalization in the Digital Era

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Abstract

This study is critical of the performance of technology in defining global distributive justice, and it focuses on how the exacerbating effects of technologies reinforce economic disparities between developed and less developed countries. In the wake of accelerating digitalisation, the study investigates how unequal chances in access to technologies complicate the constitutive pillars of global justice and fairness. It interrogates how the global justice system is exploited through technological disparities and analyzes the implications of the disparities in a world that is increasingly interconnected and unequal. It is driven by three fundamental objectives: (1) determining how technology perpetuates global distributive injustices; (2) assessing the extent to which technological expansion extends economic disparities; and (3) scrutinizing the role of global governance in rectifying such disparities. It responds to pertinent questions of adequacy of global systems in ensuring technological equity and justice. Adopting a qualitative doctrinal approach, it combines thematic analysis, the use of cases, and legal-policy analysis to examine digital sovereignty and the issue of governance. Overall, the study adds to global discourses by providing solutions in the form of strategies for equitable technological growth and calling for inclusive systems of governance that would ensure that technologies serve as instruments of global justice in lieu of causing injustices to deepen further.

INTRODUCTION

Technology is a useful servant but a dangerous master

In this digital era, with the adoption and innovation of various technologies, the concept of globalization has become significant and crucial in facilitating working ability and reducing costs. The rapid change in the global 'information and technological' society is now changing and having its effect on the lifestyle of people, on the way people live, learn, and work. With the current economic development, it has changed and shifted the fundamental factors across jurisdictions. Adopting and utilizing digital technology in the era of globalization has been considered a key factor in affecting the long-term development of a nation. With the advent of the concept of globalization, the free flow of information and ideas has brought knowledge and its myriad applications

to millions of people, helping them to create new choices and opportunities.¹

The idea of globalization converges with digitalization to understand technological advancements and inequalities. The term globalization means the interconnectedness and cross-border trades by enormous flows of data and information shared and innovations circulated across jurisdictions. The modern globalization in this digital era has shifted the business model while increasing the global economy, financial, and social connections. During the pandemic times, the whole world's economy was shocked, as it faced challenges to digital globalization and digital transformation of economies. As technologies are considered the driving force behind any global growth and innovations, revolutionizing human life. However, there is always a challenge related to the equal distribution of the benefits of technologies across the world. Such unequal access to technologies has raised various concerns in the context of global distributive justice, as to whether technologies are considered as an equalizing force or perpetuating imbalances in factors such as wealth, resources, and opportunities.

The concept of distributive justice refers to the idea of fair distribution of resources amongst the different members of society. In the context of global jurisdiction, the question of unequal access to digital and modern technologies is crucial with respect to some nations, industries, or social groups, as they benefit more than others. The term 'digital divide' refers to the differences in modern information and communication technologies (ICTs). As developed nations are characterized by various robust technologies and infrastructures, and developing and developed nations face tremendous challenges in achieving a similar level of technologies, which ultimately widens the gap between the nations and results in global inequity, far far-reaching implications for economic growth and social inclusion.

The most prominent objective of this study

is to examine technologies exacerbating global distributive justice while widening the digital divide. As the concept of digital divide is not only restricted to unequal access to technologies, but it also includes various socio-economic and political challenges arising due to the technological gap between nations, which are equally affecting the development of societies. As a result of the digital and technology gap, those countries that lack technology face a bundle of problems and issues such as getting education, finding jobs, accessing health services, and getting proper political representation. The difference in the world not only impacts the countries but also limits people's ability to join the digital economy which is necessary for both individual and national growth.

Nevertheless, the digital gap is not just a matter of differences between countries but also exists within a country, where it affects disadvantaged communities. In many countries, women, children, and other minority groups are the ones who suffer from this unequal access to technology. Such an internal divide also aggravates inequality, as individuals and minority groups are excluded from the social and economic opportunities arising from the impact of technology in the digital era.

The other important objective of this research study is to analyze the impact of technological advancements on reinforcing economic inequalities between nations. We all know how much technology has benefited in the facilitation of global trade, innovation, and economic growth, but it also reinforces economic imbalances by allowing wealthy and developed nations and multinational corporations to dominate and monopolize in the global market. Various developed nations, such as the US, Europe, and some parts of Asia, have been able to utilize their advanced technological infrastructure to maintain and dominate in the economic structure, while leaving the lower-income countries striving to achieve basic technological infrastructure.

The modern technologies such as Artificial Intelligence (AI), automations, and various digital platforms have benefited various developed nations, but also create challenges for developing and least developed nations, which are heavily dependent on

1 Annan, K. (2003, June 18). *Secretary General's Message to "The New World Order: Bridging the Global Digital Divide" Conference*. Business Council for the UN, New York.

human labor and agriculture. The AI and automations are now considered as an alternative to human labor and workers, which is resulting in unemployment and economic instability in countries that are not technologically advanced. Moreover, various multinational companies such as Amazon, Google, and Apple rely upon labor and human resources from developing or underdeveloped nations where labor cost is effectively low, to stay in competition, but the profits gained by these companies are brought back to their home countries, and do not benefit such developing or developed nations. This is known as 'technological colonialism,' which highlights the unfairness in the global economic system. Additionally, developed nations also dominate in intellectual property landscapes by holding and monopolizing patents and copyrights, not allowing underdeveloped or developing nations access to technologies. This also intensifies the economic inequalities between different countries.

What is more, with the technological growth and developments, it not only increases the economic inequality and other issues but also contributes to negative effects on various factors such as environmental harm, labor exploitation, and misuse of personal data. These issues are more severe in developed countries where technological resources are unequally distributed. The digital platforms and social media have been the major user data, especially in countries that have weak data protection laws. These digital and modern challenges are also weakening the digital sovereignty of the nations that create them while benefiting from the global injustices.

LITERATURE REVIEW

The economic growth model articulated by Solow (1956)² Carried quite a cachet, indeed, and profoundly influenced our comprehension of economic development. Solow's work, in turn, built on the magnificent insights of Kenneth Arrow, who, in the early 1960s, was the first to clearly

2 Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70(1), 65. <https://doi.org/10.2307/1884513>. (last visited on May. 1, 2026).

and rigorously present the notion of exogenous technological progress. Moreover, Solow is credited by many with providing the MacGuffin, the model structure, the math, and the fidelity to empirical reality that holds our attention, while Romer (1990)³ Is vouchsafed the novel, the twist in perspective, and the story of how growth really happens: innovation arises from purposeful and profit-directed search and development (R&D) activities.

The application of scientific knowledge to reach reusable goals in a reproducible manner is the definition of technology. An open innovation is a more recent, innovative approach that encourages organizations to look externally for information to integrate into their processes (Rauter et al., 2019).⁴ The potential of this strategy can have direct implications for what is commonly referred to as the circular economy. Although the circular economy in the use of resources to achieve a near-zero waste goal has a lot of potential to boost what is often referred to as sustainable profitability, what underlies the circular economy has yet to see a lot of external or internal exploration (Jesus & Jugend, 2023).⁵

A key managerial takeaway from the work of Chaston and Scott (2012) is to focus on building a strong learning culture in organizations that participate in open innovation. Such learning cultures might now be more easily established

3 Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, 98(5, Part 2), S71. <https://doi.org/10.1086/261725>. (last visited on May. 1, 2026).

4 Rauter, R., Globocnik, D., Perl-Vorbach, E., & Baumgartner, R. J. (2019). Open innovation and its effects on economic and sustainability innovation performance. *Journal of Innovation & Knowledge*, 4(4), 226. <https://doi.org/10.1016/j.jik.2018.03.004> (last visited on May 3, 2026).

5 Jesus, G. M. K., & Jugend, D. (2023). How can open innovation contribute to circular economy adoption? Insights from a literature review. *European Journal of Innovation Management*, 26(1), 65. <https://doi.org/10.1108/EJIM-01-2021-0022>. (last visited on May. 3, 2026).



because of the digitalization of society. The presence of digital technologies in the world today has led to the accessibility of unprecedented amounts of data, which presents enormous opportunities for carrying out open innovation. Artificial intelligence and other advanced tools now make it possible to analyse this data rapidly and to use it in collaboration during the several steps of open innovation (Burchardt and Maisch 2019).⁶ By analysing a few pivotal companies, this chapter shows how digitalization has expanded the possibilities for innovative open collaboration.

The technical, financial, economic, and social facets of digitization are developing ever more closely together. We are witnessing a fusion of e-economy and e-society, where 'e' stands for electronic or digital. The working conditions for this are improving, which means the basis of our societal and economic orders is increasingly digitalized and electronic. This enables new ways of working together, networking, and communicating, also in e-society, and accordingly, the basis of our order is up for grabs (Mura and Donath, 2023).⁷ Our current and future living and working conditions can be found only in the foundations of our current order, which is being digitized. And our order, as we have seen, is increasingly socially and financially precarious.

For small and medium-sized enterprises (SMEs), the connection between technology adoption and economic growth is especially pertinent. As firms innovate and acclimate to new technologies, they can further diversify their production processes and broaden their market reach. Still, the influence of open innovation on growth might not be uniform. It may vary based on the specific attributes of individual organizations, particularly SMEs. On the international stage, of course, globalization presents both opportunities and challenges for domestic

businesses. The cross-border movement of goods, capital, and services increasingly integrates our economies. For SMEs, international trade is vital. It sharpens your competitiveness. Most importantly, it is the key route for effective technology transfer (Meng et al., 2021).⁸

The theoretical models we possess indicate that globalization and the adoption of technology should have a beneficial effect on economic growth. And yet, the body of empirical evidence we have does not show a clear, consistent impact; that is, it does not consistently support the idea that these forces boost economic growth in the way we might expect. A wide range of studies has explored these issues with different measures of "technology" or "globalization." When assessing the impact of technology, many of these studies point to the importance of information and communication technology (ICT) as a potent factor in the development of economies. The notion that digitalization is closely tied to development and growth is also a key takeaway from the studies that look at the impact of globalization (Myovella et al., 2020⁹ & Dahmani et al., 2023).¹⁰

Different researchers have looked at different indicators when trying to quantify technological advancement, so we have a rather mixed bag of evidence in this regard. Nonetheless, we can draw some broad conclusions relevant to our interests.

8 Meng, L., Qamruzzaman, M., & Adow, A. H. E. (2021). Technological adaption and open innovation in SMEs: A strategic assessment for women-owned SMEs sustainability in Bangladesh. *Sustainability*, 13(5), 2942. <https://doi.org/10.3390/su13052942>. (last visited on May 6, 2026).

9 Myovella, G., Karacuka, M., & Haucap, J. (2020). Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. *Telecommunications Policy*, 44(2), 101856. <https://doi.org/10.1016/j.telpol.2019.101856> (last visited on May 6, 2025).

10 Dahmani, M., Mabrouki, M., & Ben Youssef, A. (2023). The ICT, financial development, energy consumption and economic growth nexus in MENA countries: Dynamic panel CS-ARDL evidence. *Applied Economics*, 55(10), 1114. <https://doi.org/10.1080/00036846.2022.2096861>. (last visited on May 8, 2026).

6 Burchardt, C., & Maisch, B. (2019). Digitalization needs a cultural change—Examples of applying agility and open innovation to drive the digital transformation. *Procedia CIRP*, 84, 112. <https://doi.org/10.1016/j.procir.2019.05.009> (last visited on May 3, 2026).

7 Mura, P. O., & Donath, L. E. (2023). Digitalisation and economic growth in the European Union. *Electronics*, 12(7), 1718. <https://doi.org/10.3390/electronics12071718>. (last visited on May 5, 2026).

Investigators have sometimes looked at “primitive” indicators of technological development, like fixed-line telephone subscriptions, secure internet servers, and various measures of mobile telephony, like phone subscriptions and “smart” phone usage (Adeleye, 2023).¹¹ Other investigatory works have leaned toward looking at more “advanced” indicators of technological development (Martínez-Caro et al., 2020).¹² From both types of studies, we can gain some insights pertinent to our current investigatory interests.

The earlier literature suggests that many different sorts of indicators have been used to study the effects of technology and globalization on economic growth. Yet it seems no agreement has emerged around any specific indicators. Moreover, the combined influences of adopting digital technologies and of globalization have barely been studied at all. This matters because the countries that want to grow their economies through productivity and globalization must place a bigger bet on innovation if they want to achieve technology transfer and sustainable development (Skare and Soriano, 2021).¹³

This research aims to play a part in the discourse about long-term economic growth. It does so by exploring the adoption of digital technologies in production, the continuing globalization of the world economy, and their joint effects on the quality of environmental resources over time. It employs the

well-known Cobb-Douglas production function for long-term economic growth as the basic analytical framework.

TECHNOLOGY, EXPLOITATION, AND GLOBAL INJUSTICES

Assessment of How Technology Shapes Global Injustices

Technological innovations have completely changed the global landscape by amplifying existing disparities rather than erasing them. The majority of assessments state that technological advancements have occurred so quickly that there is now a significant divide between those who are familiar with modern technology and those who are not. The industrialized and underdeveloped worlds are clearly separated by this digital environment since the latter lack the infrastructure and resources needed to properly utilize technology.

Similar to the World Economic Forum report, which emphasizes how wealthy economies are home to a disproportionate amount of developing technology, such as artificial intelligence (AI), even though these technologies could assist in addressing some of the more pressing global issues. Because of the ensuing concentration, developing nations are unable to take advantage of these advancements and address urgent socioeconomic needs.¹⁴ Such a gap has extremely serious repercussions; those developing countries may find it difficult to compete in a global economy if they do not have equal access to technology.

Due to employment automation, technological improvements have also played a significant role in economic displacement. Automation has caused job losses in the manufacturing and other service sectors in more economically developed nations, which has raised unemployment and caused general dissatisfaction in the community. For instance, according to the Brookings Institution, even while the economy expands, the richest

World Economic Forum. (2024). *Global inequality and technology*. <https://www.weforum.org/agenda/2024/02/global-inequality-technology/> (last visited on May 20, 2026).

11 Adeleye, B. N. (2023). Re-examining the tourism-led growth nexus and the role of information and communication technology in East Asia and the Pacific. *Heliyon*, 9(2), e13505. <https://doi.org/10.1016/j.heliyon.2023.e13505> (last visited on May 9, 2026).

12 Martínez-Caro, E., Cegarra-Navarro, J. G., & Alfonso-Ruiz, F. J. (2020). Digital technologies and firm performance: The role of digital organizational culture. *Technology Forecasting and Social Change*, 154, 119962. <https://doi.org/10.1016/j.techfore.2020.119962> (last visited on May 10, 2026).

13 Skare, M., & Soriano, D. R. (2021). How globalization is changing digital technology adoption: An international perspective. *Journal of Innovation & Knowledge*, 6(4), 222. <https://doi.org/10.1016/j.jik.2021.04.001> (last visited on May 19, 2026).



percentile benefits disproportionately from it, which concentrates wealth and reduces the size of the middle class.¹⁵ Similar situations arise in developing nations where this specific segment of the traditional labor market that relies on low-wage workers is threatened by automation.

When it comes to keeping up with technological advancements, legal and normative frameworks frequently fall woefully short and fail to provide much-needed protection against exploitation for the most vulnerable members of society. For example, labor rules may not work effectively in extensively automated environments or in gig economies, which are designed with traditional job arrangements in mind. The employees in each of these situations endure precarious working circumstances without much legal redress. The ILO asked for a revised labor standard that would include protections for appropriate salaries and safe and healthy working conditions, taking into account changes in the workplace brought about by technological advancements.¹⁶

Exploration of Exploitation in Labor Markets and Digital Economies

New types of exploitation, frequently disguising themselves as flexibility and opportunity, are brought forth by the digital economy. Gig economy platforms, which advertise flexible jobs from companies like Uber and TaskRabbit to augment workers' incomes, perpetuate unfair labor practices by classifying workers as independent contractors rather than employees. This deprives them of many basic benefits, such as health insurance, paid time off, and job security.

Examples from recent times include the way businesses have fought for the rights of their

employees in court. Proposition 22 was approved by California to exempt gig businesses from having to classify drivers as employees. Labor activists oppose this action because it reduces the rights that workers have and are entitled to.¹⁷ The legal framework employed in these measures is representative of a broader trend in which digital corporations have turned to taking advantage of regulatory framework flaws in order to increase profits at the expense of the well-being of their workforce.

One is that digital services utilize user-generated data without providing just recompense. For example, social media platforms gather a great deal of personal information about their users without providing much information about how or why this information is used or monetized. When it comes to consent and ownership in the digital sphere, there are moral dilemmas and representations. One attempt to address these worries is the General Data Protection Regulation of the European Union, which gives users more control over their personal data, despite the fact that it is fundamentally strict in practice.¹⁸

Multinational firms entering low-wage nations with either lax enforcement of labor laws or questionable legal methods are examples of the various ways that exploitation occurs in emerging nations. As a result, workers now face dangerous working conditions and a minimum salary. Human Rights Watch and other groups have reported on incidents of worker exploitation in factories that make products for some of the biggest brands in the world.¹⁹ Because supply networks lack

15 Brookings Institution. (2018). *Globalization, technology, and inequality: It's the policies, stupid*. <https://www.brookings.edu/articles/globalization-technology-and-inequality-its-the-policies-stupid/> (last visited on May 21, 2026).

16 Brookings Institution. (2018). *Globalization, technology, and inequality: It's the policies, stupid*. <https://www.brookings.edu/articles/globalization-technology-and-inequality-its-the-policies-stupid/> (last visited on May 21, 2026).

17 International Institute for Environment and Development. (n.d.). *The future of work: Technological change and global inequality*. <https://www.iied.org/future-work-technological-change-global-inequality> (last visited on May 22, 2026).

18 Harvard Kennedy School, Carr Center for Human Rights Policy. (n.d.). *Technology and human rights*. <https://www.hks.harvard.edu/centers/carr/programs/technology-human-rights> (last visited on Mar. 1, 2025).

19 United Nations. (2020). *The impact of digital technologies* <https://www.un.org/en/un75/impact-digital-technologies> (last visited on May 22, 2026).

accountability, it is crucial to establish worldwide legal norms that guarantee worker protection regardless of their place of employment.

Examination of Societal Impacts of Unequal Access to Technology Across Different Communities

Technology access disparities have social effects. It affects a society's general standard of living, health, and education all at once. Since there would be no prospects for better lives, unequal access to technology merely serves to exacerbate pre-existing inequities in most societies, especially in underprivileged ones.

For instance, a child who does not have access to current technology or a stable Internet connection is much behind his peers in affluent areas when it comes to education. This was made clear by the COVID-19 pandemic, which drove schools to adopt remote learning strategies because low-income pupils couldn't possibly keep up with the rest.²⁰ The repercussions of this educational disparity on employment prospects and economic mobility are extensive.

One further sector where technology disparity has serious repercussions is health care. The usage of telemedicine is becoming more and more common as a means of delivering healthcare; yet, communities without internet access or those who lack digital literacy would not have access to this option. A Harvard Kennedy School article illustrates how different access levels can both empower and disenfranchise groups in terms of how they use technology.²¹ Vulnerable groups may be denied access to healthcare in situations where telehealth access is not distributed equally among all persons.

Beyond the individual, societal effects also
20 United Nations, "The Impact of Digital Technologies" available at: <https://www.un.org/en/un75/impact-digital-technologies> (last visited on May 22, 2026).

21 Harvard Kennedy School, Carr Center for Human Rights Policy. (n.d.). *Technology and human rights*. <https://www.hks.harvard.edu/centers/carr/programs/technology-human-rights> (last visited on May 22, 2026).

have an impact on social stability and community cohesion. For example, when technology advances, societal unrest is stoked by anger as disparities between various socioeconomic groups widen. As different national expressions of populism would suggest, historical examples show how economic inequality has contributed to political movements. It all starts with perceived conceptions of unfairness in the face of globalization and technological change.²²

THE DIGITAL DIVIDE: CAUSES AND CONSEQUENCES

Examination of the digital divide and its dimensions

The difference between people who have access to contemporary information and communication technology and those who do not is known as the "digital divide." The digital divide notion used in this paper encompasses multiple aspects since different people are impacted in different ways. Understanding these aspects is necessary to choose the best course of action for resolving the underlying problems that perpetuate inequality.

Key Dimensions of the Digital Divide-

Access Divide

This dimension refers to the physical availability of technology and internet services. The largest disparity is found between rural and urban areas, with the former usually having better connections. As per a recent estimate by the Federal Communications Commission, around 19 million Americans do not have access to internet services. More than half of them live in rural areas.²³ It is frequently thought to

22 Brookings Institution. (2018). *Globalization, technology, and inequality: It's the policies, stupid*. <https://www.brookings.edu/articles/globalization-technology-and-inequality-its-the-policies-stupid/> (last visited on May 23, 2026).

23 IEEE Communications Society. (2023). *Impact of the digital divide: Economic, social, and educational consequences*. <https://ctu.ieee.org/>



be restricted to opportunities in social interactions, work, and education.

Divide

There may exist in the ways that people use technology, even in cases when access is granted. It is probable that younger generations possess a higher level of digital literacy compared to elderly folks who might feel uncomfortable utilizing new technology. Nearly 44% of Americans 65 and older do not use the internet at all, per a Pew Research Center report.²⁴ The elderly population may not be able to fully participate in the growing digital environment due to this generational divide in digital abilities.

Quality-of-Use Gap

This dimension takes into account both the quantity and quality of an individual's access. E-learning and telemedicine are two examples of online activities in which people with slower access are unlikely to engage, as many apps rely on a high-speed internet connection. The COVID-19 pandemic made it abundantly clear that poor internet access is the issue it kept students from finishing their online assignments, for example.

Economic Divide

One of the main determinants of whether or not students have access to technology is economics. Poor students are unable to purchase these gadgets or internet subscriptions. Students from families with annual incomes under \$50,000 are more likely to have unreliable internet access during remote learning hours, according to data from the U.S. Department of Education. This income gap prevents opportunities for socioeconomic mobility and ensures that educational disparities will persist.

Geographic disparities

impact-of-the-digital-divide-economic-social-and-educational-consequences/ (last visited on May 24, 2026).

24 Digital Responsibility. *What are the causes of the digital divide?* <https://www.digitalresponsibility.org/what-are-the-causes-of-digital-divide>. (last visited on May 26, 2026).

Because connectivity in metropolitan regions is superior to that in rural ones, access to technology will always rely on one's location. In these places, infrastructure investment is more economically justified due to higher population densities. The Internet service provider will prioritize urban markets while ignoring other commercial opportunities in more rural locations; this is a relatively recent issue known as "digital redlining," and it leaves many rural residents without appropriate service.

Language and Cultural Barriers

Access to technology may be hampered by cultural issues. For example, because the online resources are primarily intended for the English-speaking population, it will be challenging for communities that do not understand English to fully utilize them and take advantage of the potential that these digital tools offer.²⁵ Furthermore, the use of technology is influenced by cultural attitudes toward it; some people may simply detest the thought of connecting with the digital world.

Factors contributing to the widening digital divide (e.g., infrastructure, access, education)

Numerous interconnected elements are blamed for the digital divide:

Facilities

Inadequate infrastructure is a major deterrent to internet use. The inability of most developing nations to communicate with their populace is a result of inadequate investment in their telecommunications infrastructure. Rural areas have much lower broadband access, even at the local levels of affluent nations like the United States.

Socioeconomic Status

Economic disparity has an impact on access to technology as well. In actuality, the impoverished

25 Digital Responsibility, *What Are the Causes of the Digital Divide?*, available at: <https://www.digitalresponsibility.org/what-are-the-causes-of-digital-divide> (last visited on May 28, 2026).

use technology and Internet services less frequently, which exacerbates inequality. According to Deloitte, doubling internet coverage in the US could increase economic production by more than \$186 billion.²⁶

Education

The degree of education is one of the main determinants of digital literacy. An educated person is more likely to feel at ease utilizing digital tools and technology on the internet.²⁷ On the other hand, people who lack or have limited knowledge have a very hard time navigating the digital world.

Geographic Variation

One factor that continues to influence access to technology is location. It is a truth that access is higher in urban regions than in rural ones. Higher incidence is more common in areas with a tendency to have population density, making infrastructure investment more viable.²⁸

Age-Related Elements

Age is a contributing factor to the digital divide. Because most older generations are unfamiliar with new technology or have not had the opportunity for training, they find it difficult to adjust to it. Younger generations of digital natives abandon their elders.

Linguistic and Cultural Barriers

Accessibility issues with technology are also brought on by cultural barriers. Monolingual societies, for example, face difficulty gaining access to web-based products whose basic design is intended for the English-speaking public.

Gender Gap

Gender has a major role in determining how widely women are able to access and use technology due to factors like ingrained cultural norms that forbid

them from doing so or educational systems that prevent them from being digitally literate.²⁹

Implications for global distributive justice and social equity

Beyond personal experiences, the digital divide has far-reaching repercussions that raise important issues of social fairness and global distributive justice.

Economic Inequality

As the digital divide widens, fewer jobs will be available to individuals without internet connection and digital competencies, which widens the economic disparity. People without connections lose out on employment prospects as more duties become virtual and online, which keeps them trapped in cycles of poverty.

Educational Inequality

The COVID-19 pandemic's social distancing measures revealed how important internet access is to ensuring equity in education. Students without reliable connections had substantial difficulties turning in assignments and participating in online courses; approximately 55% of these disconnected students were Black, Hispanic, or Native American. These latter groups comprised forty percent of all students.

Social Alienation

Vulnerable populations, such as the elderly or the impoverished, who depend on online digital platforms to engage with others and society, may become socially alienated as a result of having access to the internet. The mental and overall well-being of individuals are severely impacted by a lack of connection with other living things.

Political Involvement

The digital divide may also restrict the political involvement of the extremely poor, not because they lack the capacity to have a political voice, but rather because they are ill-informed about civic engagement opportunities and public services like online access to the Department of Motor Vehicles.

²⁹ *Digital Participation Charter*, archived from the original on July 16, 2022.

²⁶ Investopedia. (2025). *The digital divide*. <https://www.investopedia.com/the-digital-divide-5116352>(last visited on May 28, 2026).

²⁷ Ibid

²⁸ Kontos, E. Z., Emmons, K. M., Puleo, E., & Viswanath, K. (2010). Communication inequalities and public health implications of adult social networking site use in the United States. *Journal of Health Communication*, 15(Suppl 3), 216.



More people will become locked out of automated procedures like online voter registration or public benefits services as public services are progressively transferred online.

Global Inequality

The digital gap offers a means of maintaining the disparities that now exist between wealthy and developing nations on a global scale. As technology advances, developed nations keep up with it, but many developing nations face connectivity issues that limit their ability to contribute to the global economy.

Impact on Innovation

Innovation becomes quiet when certain groups are left out of technological advancement, which means that the world is losing some innovations that could help solve some of the most pressing problems of the planet. This is because diverse voices bring more ideas and solutions to the tech ecosystem.

ECONOMIC INEQUALITIES IN THE CONTEXT OF TECHNOLOGICAL ADVANCEMENTS

Technology has behaved like a double-edged sword in the world economy; on the one hand, it has opened up the much-needed opportunities for growth, but on the other hand, it has deepened the already existing economic divides between countries. The worldwide digital divide is the main source of triage for issues related to access to technology and its advantages. There is a huge gap between the rich and the poor countries.

The Global Digital Divide

The “global digital divide” is about the gap between the “have” and “have-not” nations in terms of digital technologies. As an example, the UN report of today states that only about 36% of the population in LDCs are internet users, in contrast to the worldwide average of 66%.³⁰ This is much more than just 30 United Nations. (2023). *Strengthening international cooperation in the digital age* [Press release]. <https://press.un.org/en/2023/gaef3587.doc.htm> (last visited on May 22, 2026).

a number; it symbolizes the risk of losing social mobility, economic growth, and a good standard of living.

Technologically advanced countries have been able to make progress in technology recently because of their access to readily available, efficient, and able to be used resources, such as physical, financial, and human. As an example, take the cases of *South Korea and Singapore*, which have both made groundbreaking financial commitments to their digital infrastructures and, as a result, they enjoy the highest rates of internet penetration and digital literacy within their respective countries. On the other hand, the majority of poor countries are troubled with basic internet access, and therefore, they are unable to engage in international trade.

Economic Consequences

This huge gap between the two groups has serious consequences for their economies. In line with ITU data, Africa’s mobile broadband adoption rate should lead to a 2.5 percent increase in GDP per capita for a 10% rise in broadband penetration. However, the lack of infrastructure and investments has caused many LDCs to be held up in the development spiral. Further, when the usage of obsolete technology, which only aggravates the existing disparities, is involved, the gaps become wider. On the other side, due to high infrastructure costs and regulatory challenges, most underdeveloped countries are still on 2G or 3 G networks, while developed nations are upgrading to 5G networks. This technology backlog limits access to some basic services, such as healthcare, education, and also limits local economies from progressing.

The Economic Impact of Technology on Developing vs. Developed Nations: Case Studies

Case Study 1: South Korea

One of the perfect examples of a country utilizing technology as a driving force for its economy is South Korea. In 2021, South Korea went deep into the investment of its digital infrastructures, and it can boast of having among the world’s highest internet penetration rates of 99%. The country has

now become one of the wealthiest in Asia due to spectacular GDP per capita growth, mounting huge economic returns from the same level of investment.

The government, which has become overly tech industry-centric, will provide full support to high-tech manufacturing companies. Major IT players globally, such as Samsung and LG, have made large-scale contributions to the country's economy and positioned South Korea as a leader in innovation. In addition, the nation's workforce development and education systems play a big role in maintaining its technological competitiveness.³¹

Case study 2: Sub-Saharan Africa

One of the biggest challenges faced by the technology growth in most of the Sub-Saharan African countries is the lack of high-speed internet. For example, besides the fact that mobile phone usage is rapidly increasing, the internet connectivity is either non-existent or very poorly established in most of the continent. As per the World Bank report, less than 1/5th of the population in Sub-Saharan Africa has internet access. This scenario limits the chances of career, education, and business growth. Kenya has become a success story due to innovations like M-Pesa, a mass-market mobile money transfer service, which has revolutionized the financial lives of millions. However, these outliers simply signify that there are fewer instances of such progress in the entire region. In short, broader types of development cannot be supported by the lack of sufficient infrastructure.

Access to technology is increasingly being seen as a major factor that propels economic growth. Countries that put digital infrastructure as their top priority seem to be the ones that benefit from higher GDP growth rates and better social outcomes.

The Role of Digital Infrastructure

Internet access is only one aspect of digital infrastructure. Programs for digital literacy and device accessibility are also aspects of even basic

³¹ Stanford University. (2028). *Developing economies*. <https://cs.stanford.edu/people/eroberts/cs181/projects/2007-08/developing-economies/> (last visited on May 22, 2026).

access. Deloitte statistics indicate that expanding broadband will boost economic production by about \$186 billion and generate nearly 875,000 new jobs in the United States alone. This is where economies across the board show a correlation between having access to technology and doing well economically. Strong digital infrastructures draw a lot of international investment and foster innovation.

Conversely, places with inadequate access to technology face greater vulnerability. The World Economic Forum report³² states that least developed countries (LDCs) typically depend on commodity exports because they do not promote sustainable economic growth. For instance, these nations risk continuing to be trapped in a never-ending cycle of poverty if they do not innovate their economies through technological advancements.

Education and Workforce Development

Another important factor in education and employment development is access to technology. Well-equipped contemporary schools will allow pupils to gain important skills required for today's employment markets. During the COVID-19 pandemic lockdown, for example, schools that had already taken the lead in developing curricula that included technology adaptability were better positioned to adjust to their regular remote learning procedures.

Unfortunately, many kids from underprivileged or rural backgrounds are left out of these chances due to unequal access. During times of remote learning, NCES estimates that roughly 55% of pupils not in school belonged to Black or Hispanic families. Social mobility is restricted, and cyclical poverty is brought about by this type of educational disadvantage.

Legal Frameworks Addressing

³² World Economic Forum. (2022). *Least developed countries (LDC) and technology*. <https://www.weforum.org/agenda/2022/01/least-developed-countries-ldc-technology/> (last visited on May 22, 2026).



Economic Inequalities

Governments, through the provision of legal frameworks, are obliged to ensure that technology is accessible in a fair manner as one of the most effective ways to finally put an end to the imbalances that persist. To a large extent, the international agreements, including:

The United Nations Sustainable Development Goals (SDGs)

emphasize the necessity of getting rid of the digital gap. Building resilient infrastructure and promoting sustainable industrialization and innovation are the objectives of Goal 9 of the SDGs. All countries worldwide are called upon to invest in technology and create the conditions for sustainable development that are fair to all.

Digital Economy Agreements

Most of the countries are presently in the process of signing either bilateral or multilateral agreements that will facilitate cooperation and trade in the digital economy. These agreements envisage a reduction in the digital divide by empowering the developing countries with the necessary skills and technologies.

Public-Private Partnerships

These enable a government to partner with private sector companies in building more infrastructure systems and, at the same time, ensuring that the technologically disadvantaged are the ones who receive induced technological breakthroughs.

CONCLUSION AND POLICY IMPLICATIONS

This research analyses the combined effects of digital technologies and globalization on global long-term economic sustainable growth. The social, technological, economic, and environmental impacts of digital transformation are a major concern of this study. The main argument raised is that digital transformation is the lifeline of a globalized economy, as most countries and communities integrate into the world market. This is a study of the interaction between the technology gap and

access to the benefits between the developed and the underdeveloped ones, which, apart from being pulled in different directions by the forces of globalization, have also been driving sustainable digital growth in an increasingly globalized economy.

The research argues that because of technological innovation, economic growth and development are now more tightly interwoven than before, and at the same time, they are dependent on technology. Technological innovations affect the industries that adopt them at a rapid pace. Apart from that, technology changes relations between people and also the relations of people with countries.

We usually consider “economic development” as something that a “country” or “region” is capable of doing, but actually, this development is mostly the work of a single person. And it most certainly could not take place without a huge supply of intellectual and social “capital”.

This research work, after dissecting and probing several literature and examples, brings real and profound implications for today’s decision-makers.

Public sector units must invest in and equip themselves with digital technology

And urge for a nationwide holistic policy that facilitates technology-based activities, startups, and physical and digital infrastructural development. Apart from outlining the vision, this plan should also delve into the grassroots level to make digital skills training accessible; to encourage research and innovation; and, most importantly, to allow small and medium-sized enterprises to use the digital world.

Sustainable globalization

To us increasingly connected world, sustainable globalization also means fair global wealth distribution, the rights and security of the workers, the protection of the environment, and the unification of educational, technological, and social levels. These are the aims of sustainable globalization, and this is the reason sustainable globalization is a vital element of the equation.

To be Effective, Environmental Standards Need to Be Properly Integrated

Setting up environmental indicators relevant to the economy should be a major part of the process of economic planning. Besides growth-promoting technologies that we are used to, we should also introduce those that are environmentally friendly. This can be achieved by raising the levels of green technology adoption and, at the same time, by limiting carbon emissions through stricter regulations.

To Maximize Knowledge Transfer, Support Collaboration

Innovating through sharing ideas is possible globally and in collaborations, and the resultant knowledge inflow is accelerated. The link is very simple and direct in that regard. Next, you have to establish an environment that facilitates different categories of people, researchers, businesses, and policymakers, to connect beyond borders, exchange their knowledge, and become technology leaders.

Supervision and Engagement

Continual assessment of the consequences of digital technology and globalization adoption in the economy and environment is of great significance. Policy makers on all tiers should consider international standards for digital skills that facilitate quick changes when and where global evidence-based indicators indicate alterations in strategy are necessary.

Data Constraints Should Not Be Overlooked

The limited availability of data for this research indicates an urgent call for the improvement of data collection processes. We advise the research and policy-making communities to take up the role of advocates for the establishment of a basic, comprehensive, and standardized set of datasets that focus on digital technology adoption and its economic implications.

With the continuous digital revolution in the world, how globalization and sustainable economic growth

interact will be of great importance in the coming years. There needs to be an extensive consideration that ensures technological development benefits both the environment and the economy, while at the same time, all are aligned. On the premise that technologies are to be accessible to everyone, then the participation of all in their development, as well as the voicing, is a must. Also, the concept of global distributive justice should not be forgotten in this rapid technological growth and digital era. The concept stands for equal representation, distribution, and recognition of all nations, individuals, and companies.

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