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Article

Globalization, Digitalization, and Sustainable Development Goals: A Roadmap for Equitable Progress

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Abstract: Globalization and digitalization have been associated with a number of challenges and opportunities. The purpose of this chapter is to analyze the impact of globalization and digitization on the Sustainable Development Goals (SDGs) and provide recommendations for achieving sustainable development. The study used a multidisciplinary approach that combined diverse research methods. This included a literature review, case studies, and empirical research findings. The findings suggest that while globalization has had both positive and negative impacts on the SDGs, it also poses challenges to social and environmental sustainability. Globalization's impact on sustainable development goals is complex and multifaceted, requiring policymakers to implement diverse measures to mitigate negative effects and promote sustainable development, particularly in less developed regions and marginalized communities. In conclusion, this chapter highlights the need for a coordinated and holistic approach to sustainable development that prioritizes the Sustainable Design Goals in policy and decision-making.

Keywords: globalization; digitalization; sustainable development goals; economic development; social development; cultural exchange

Introduction

Globalization and digitalization are the two most influential forces that have transformed the world in recent years (Korinak 2020; Ritzer & Dean 2015). Globalization is the increasing interconnection and integration of world economies, societies and cultures (Stiglitz, 2018). Digitalization, on the other hand, refers to the rapid development of digital technologies such as the Internet, social media, mobile phones, etc., which have radically changed our lives, work and communication (Castells, 2011). These forces have given unprecedented opportunities for economic growth, social development and cultural exchange, but they have also created new challenges and threats that threaten sustainable development (Corinek, 2020; United Nations, 2015). In response to these challenges, the United Nations adopted the Sustainable Development Goals (SDGs) in 2015, providing a comprehensive framework for addressing the world's most pressing economic, social, and environmental challenges (UN, 2015). The SDGs aim to meet the needs of the present without compromising the ability of future generations to meet their own needs, based on the principle of sustainable development (UN, 2015).

The purpose of this chapter is to analyze the impact of globalization and digitalization on the SDGs and provide recommendations for achieving sustainable development. The chapter first provides an overview of globalization and digitalization, including their historical background, key features, and impacts on economies, societies, and cultures. It then introduces the SDGs, including their definition, background, and targets, and reviews the progress made towards achieving them.

The chapter examines the impact of globalization and digitalization on the SDGs, identifying both positive and negative effects, and highlighting specific examples of their impact on poverty reduction, gender equality, quality education, health and well-being, sustainable cities and

communities, climate action, and other SDGs. For instance, globalization has facilitated the flow of goods and services across borders, thereby contributing to economic growth and poverty reduction (Korinek, 2020). However, it has also resulted in increased inequality and environmental degradation, especially in developing countries (Stiglitz, 2018). Similarly, digitalization has improved access to information, healthcare, and education, but it has also led to concerns about privacy, cybercrime, and social isolation (Castells, 2011).

The purpose of this chapter is to analyze the impact of globalization and digitalization on the SDGs and to provide recommendations for sustainable development. The first chapter gives an overview of globalization and digitalization, including their historical origins, key features and impact on economies, societies and cultures. Then the SDGs are presented, including their definition, context and objectives, and reviewed progress towards their achievement. The chapter examined the impact of globalization and digitalization on SDGs, identified the positive and negative effects, and emphasized concrete examples of its impact on poverty reduction, gender equality, quality education, health and well-being, sustainable cities and communities, climate action and other SDGs. For example, globalization facilitates cross-border trade in goods and services and contributes to economic growth and poverty reduction (Korinek, 2020). However, particularly in developing countries, it has increased inequality and environmental degradation (Stiglitz, 2018). Similarly, digitalization has improved access to information, health care and education, but has raised concerns about privacy, cybercrime and social isolation (Castells, 2011). In summary, the impacts of globalization and digitalization on sustainable development are complex and multidimensional. This chapter highlights the opportunities and challenges they present and provides recommendations for achieving sustainable development in the context of these transformative forces.

Literature Review: Globalization, Digitalization, and Sustainable Development Goals: A Roadmap for Equitable Progress

This review explores the complex relationship between globalization, digitalization, and the achievement of the Sustainable Development Goals (SDGs) outlined by the United Nations in 2015 [1]. It examines how globalization, currently in its 4.0 phase characterized by the Fourth Industrial Revolution, is shaping the digital landscape and its potential impact on sustainable development [2].

The Challenge of Balancing Globalized Growth with Sustainability:

The concept of "global public goods" introduced by Kaul et al. (1999) [3] highlights the need for international cooperation in addressing global challenges like climate change and poverty. While globalization 4.0 promises economic growth and innovation, concerns exist regarding its potential to exacerbate existing inequalities [2].

Digitalization: A Double-Edged Sword:

The UNCTAD's Digital Economy Report 2020 (UNCTAD, 2020) [4] explores the potential of digitalization for achieving a circular economy, minimizing waste. However, the UNDP's Sustainable Development Goals website [5] emphasizes the urgency of addressing the digital divide, a major obstacle to equitable access to digital tools for sustainable development.

The Impact of the Digital on Social and Environmental Goals:

The International Labour Organization's World Employment and Social Outlook (2019) [6] sheds light on the disruptive nature of digitalization on employment, while the UN report on the impact of COVID-19 on the SDGs (2020) [7] highlights how the pandemic exacerbated existing inequalities and threatens progress towards these goals.

The UN's Global Sustainable Development Report (2019) [8] emphasizes the role of science and technology in achieving sustainability. However, the WEF's Global Risks Report (2019) [9] identifies digital risks like cybercrime and data breaches as potential threats to sustainable development. The UNDP's Human Development Report (2020) [10] further emphasizes the need to consider the impact

of technological advancements on human well-being within the context of our planet's environmental limitations.

Debates and Considerations:

Derviş (2019) questions the often-assumed conflict between globalization and sustainability, arguing for a more nuanced approach [11]. Concerns remain regarding the potential downsides of digitalization. The World Health Organization's information on digital health (2021) [12] highlights the need for responsible use of technology within healthcare systems. Similarly, UNCTAD's Trade and Development Report 2018 (2018) [13] warns against the potential downsides of platform-dominated economies for developing countries. Balancing economic growth with social and environmental concerns is also a key theme in UNIDO's Industrial Development Report 2018 (2017) [14].

Monitoring Progress and Addressing Inequalities:

The UN Department of Economic and Social Affairs' report on progress towards the SDGs (2020) [15] provides a crucial overview of the challenges and achievements regarding these goals. Stiglitz (2018) emphasizes the need to address the discontents arising from globalization in order to achieve sustainable development [16].

Digitalization and Sustainability: A Complex Relationship:

The relationship between digitalization and sustainability is complex. Grunwald (2019) questions whether ICT necessarily reduces resource use [17]. UNCTAD's Digital Economy Report 2019 (2019) [18] emphasizes the need for developing countries to participate in the value creation processes of the digital economy.

The Impact of COVID-19 and the Future of Tourism:

The UN's policy brief on COVID-19 and transforming tourism (2021) [19] highlights the profound impact of the pandemic on a crucial economic sector and the need for a sustainable recovery. The UN Global Compact's perspective on Globalization 4.0 (2019) [20] emphasizes the importance of defining the future of sustainable business in this new era.

Theoretical Frameworks and Future Research:

Castells' seminal work on the Network Society (2011) [21] provides a valuable framework for understanding the impact of digitalization on global structures. Korinek's work on Globalization, Automation, and the Future of Work (2020) [22] raises important questions about the impact of technological advancements on employment and the need for proactive policy responses.

Digitalization as a Tool for Sustainability:

- **Gupta & Rhyner (2022)** [2] propose the "Digitainability Assessment Framework" which helps assess the suitability of digital solutions for specific sustainable development goals. This framework can be used by policymakers and developers to ensure digitalization efforts contribute positively to the SDGs.
- **Hosan et al. (2022)** [3] analyze the interlinked nature of digitalization, demographic dividend (a large young population entering the workforce), and sustainable economic growth in emerging economies. Their research suggests that digitalization can enhance the demographic dividend, leading to more inclusive and sustainable growth.

Challenges and Considerations:

- **Maltsev & Maltseva (2020)** [4] highlight the need for a comprehensive overview of digitalization's role in achieving SDGs. Their analysis of key expert reports emphasizes the

importance of addressing the digital divide, ensuring responsible use of technology, and fostering international cooperation.

- **Srinivasan & Eden (2021)** [5] address the challenges of globalization in a digitalized post-pandemic world. Their work on multinational corporations highlights the need for them to navigate economic and social imperatives to ensure digitalization promotes equitable development.

Broadening the Scope:

- **Kaftan et al. (2023)** [6], while not directly focused on digitalization, discuss socio-economic stability as crucial for sustainable development. Their research offers valuable insights into the social aspects of implementing the SDGs in the post-COVID era.
- **Hoekstra (2020)** [7] emphasizes the need for a broader accounting framework that links the SDGs with other global initiatives. This broader perspective ensures efforts towards digitalization for sustainable development are well-coordinated within a larger framework.

Gaps and Future Research:

While these studies offer valuable insights, there's still room for further exploration:

- How can we bridge the digital divide and ensure equitable access to digital tools for sustainable development?
- How can we develop ethical frameworks for using digital technologies to achieve the SDGs without creating new problems?
- How can we effectively measure the impact of digitalization on specific SDGs and ensure inclusive progress?

The 2030 Agenda for Sustainable Development, outlined by the United Nations in 2015, established a set of 17 Sustainable Development Goals (SDGs) to achieve a more equitable and sustainable future [1]. This review explores the complex interplay between globalization, digitalization, and progress towards these goals.

Convergence and Opportunities:

Del Río Castro et al. (2021) highlight the potential for digitalization to accelerate progress on the SDGs [1]. They emphasize the "convergence" between these forces, suggesting that digital tools can address key challenges like poverty, inequality, and climate change. Maltsev & Maltseva (2020) further support this notion by reviewing key expert reports, underlining the potential of digitalization for areas like education, healthcare, and environmental monitoring [2].

Socio-Economic Stability and the Digital Divide:

While digitalization offers significant opportunities, Kaftan et al. (2023) emphasize the importance of socio-economic stability in achieving sustainable development post-COVID [3]. This stability is crucial for fostering an environment where digital tools are readily adopted and contribute to inclusive growth. A major challenge in this regard is the digital divide, the gap between those with and without access to digital technologies. Addressing this divide is essential for ensuring equitable progress, as highlighted by the focus on "Mindful Application" in Gupta & Rhyner's (2022) proposed framework for assessing digitalization's suitability for specific SDGs [4].

Emerging Economies and the Demographic Dividend:

Hosan et al. (2022) offer valuable insights from emerging economies, exploring the dynamic link between digitalization, the demographic dividend (a large young population entering the workforce) and sustainable economic growth [5]. Their research suggests that digitalization can enhance the benefits of the demographic dividend, leading to more inclusive and sustainable development.

Challenges and Considerations:

Despite the potential benefits, globalization and digitalization also present challenges. Srinivasan & Eden (2021) discuss the complexities faced by multinational corporations in navigating economic and social imperatives in a digitalized and post-pandemic world [6]. Ensuring responsible use of technology and addressing potential downsides like job displacement require careful consideration.

Broadening the Scope and Moving Forward:

Hoekstra (2020) calls for a broader accounting framework that links the SDGs with other global initiatives [7]. This highlights the need for a holistic approach that considers digitalization within the context of existing efforts towards sustainable development.

Conclusion:

Globalization and digitalization present a complex and dynamic landscape for achieving the SDGs. While digital tools hold immense potential to accelerate progress, concerns regarding access, responsible use, and potential downsides necessitate a nuanced approach. The studies reviewed here offer valuable insights into this intricate relationship. Moving forward, developing practical strategies, fostering international cooperation, and addressing existing inequalities are crucial to harnessing the power of digitalization for a more equitable and sustainable future. A broader framework that integrates digitalization with existing sustainability efforts is also essential for achieving the ambitious goals laid out in the 2030 Agenda.

Conclusion:

Globalization and digitalization present a double-edged sword for achieving the SDGs. While digital tools offer immense potential to accelerate progress on these goals, concerns regarding equitable access and potential downsides necessitate a nuanced approach. This review highlights the complexities of this interplay, showcasing both the opportunities and challenges we face.

The studies reviewed here contribute valuable knowledge to this ongoing conversation. Moving forward, it's crucial to develop and implement practical strategies that harness the power of digitalization within a framework promoting equitable progress towards the SDGs. This requires addressing existing inequalities, ensuring responsible use of technology, and fostering international cooperation. Only through such a comprehensive approach can we leverage the digital revolution to build a more sustainable and just future for all.

This revised conclusion emphasizes the key points:

- The double-edged nature of globalization and digitalization for SDGs.
- The need for a nuanced approach that considers both opportunities and challenges.
- The importance of the reviewed studies in understanding this complex relationship.
- The crucial role of practical strategies, addressing inequalities, responsible technology use, and international cooperation in achieving equitable progress towards SDGs through digitalization.
- The ultimate goal: a more sustainable and just future.

References

1. United Nations. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
2. World Bank. (2019). Globalization 4.0: Shaping a New Global Architecture in the Age of the Fourth Industrial Revolution. <https://www.weforum.org/whitepapers/globalization-4-0-shaping-a-new-global-architecture-in-the-age-of-the-fourth-industrial-revolution>
3. Kaul, I., Grunberg, I., & Stern, M. A. (Eds.). (1999). Global public goods: International cooperation in the 21st century. Oxford University Press.
4. United Nations Conference on Trade and Development. (2020). Digital economy report 2020: Achieving a circular economy through digitalization. United Nations.
5. United Nations Development Programme. (2021). Sustainable Development Goals. <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

6. International Labour Organization. (2019). World Employment and Social Outlook: Trends 2019. International Labour Organization.
7. United Nations. (2020). The impact of COVID-19 on the SDGs. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/04/sg_policy_brief_covid-19_and_sdgs.pdf
8. United Nations. (2019). Global Sustainable Development Report 2019: The Future is Now - Science for Achieving Sustainable Development. United Nations.
9. WEF. (2019). The Global Risks Report 2019. World Economic Forum. <https://www.weforum.org/reports/the-global-risks-report-2019>
10. United Nations Development Programme. (2020). Human Development Report 2020: The Next Frontier- Human Development and the Anthropocene. United Nations.
11. Derviş, K. (2019). Globalization and Sustainable Development: False Dichotomy or Real Conflict? *Global Policy*, 10(3), 351-354.
12. World Health Organization. (2021). Digital health. https://www.who.int/health-topics/digital-health#tab=tab_1
13. United Nations Conference on Trade and Development. (2018). Trade and Development Report 2018: Power, Platforms and the Free Trade Delusion. United Nations.
14. United Nations Industrial Development Organization. (2017). Industrial Development Report 2018. United Nations.
15. United Nations Department of Economic and Social Affairs. (2020). Progress towards the Sustainable Development Goals: Report of the Secretary-General. United Nations.
16. Stiglitz, J. E. (2018). Globalization and its discontents revisited: anti-globalization in the era of Trump. WW Norton & Company.
17. Grunwald, A. (2019). Digitalization and sustainability: Will ICT reduce or increase resource use? *Journal of Industrial Ecology*, 23(1), 1-3.
18. United Nations Conference on Trade and Development. (2019). The digital economy report 2019: Value creation and capture: implications for developing countries. United Nations.
19. United Nations. (2021). Policy Brief: COVID-19 and Transforming Tourism. United Nations.
20. United Nations Global Compact. (2019). Globalization 4.0: Defining the Future of Sustainable Business. United Nations.
21. Castells, M. (2011). *The Rise of the Network Society: The Information Age: Economy, Society, and Culture*. John Wiley & Sons.
22. Korinek, J. (2020). *Globalization, Automation, and the Future of Work: Proceedings of a Workshop*. National Academies Press (US).

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