

# Chapter 1

## Rethinking Digital Literacy



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In the past few decades, digital technologies rapidly occupied our analogue lives, and we started to shift more towards networked digital environments. In scholarly and industrial discourse, this socio-technological shift and process are referred to as digital transformation. The term digital transformation is used by the public to describe digitalization and moving from analogue platforms, services, communities, and social inclusion activities to digital ones. And it is more than that. The proliferation of digital technologies is assumed to accelerate the digital transformation to leverage opportunities and simultaneously address socio-economic challenges. The latest data from the ITU (The International Telecommunication Union 2022) indicates that approximately 5.3 billion people were using the Internet in 2022. At the same time, the excluded one-third of the world's population remains either offline or in the digital transformation process. This digital exclusion exacerbates digital divides based on mere internet access. Digital literacy plays a crucial role.

The relationship between digital inclusion and digital literacy is *symbiotic*, as digital transformation affects over half of the world's population and all areas of their everyday lives. However, this relationship is not *synergetic* as not everyone can access the internet and hundreds of millions lack digital literacy skills. In formulating the construct of digital literacy in the twenty-first century, we must leave behind the digital literacy definitions, frameworks, and practices of the past two decades.

This book is about new knowledge and insights on the ways digital literacy is being practiced, expressed, and promoted in various geographies and communities, and how addressing the digital skills gap can contribute to digital inclusion. Contributors to this book provide insights from the case studies, research, and recommendations about what is needed to reach a human-centric approach to digital transformation that would also benefit unconnected and underserved communities.

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Moreover, they recognize that digital technologies advance at a pace that requires us to rethink and revise our understanding of digital literacy. In the early days of the internet, digital literacy could be a simple matter of operating a browser or formatting text in word processing software, or communicating via email. Web 3.0 and the anticipated fifth industrial revolution will require us to adopt a revised model of digital literacy that empowers users to understand, navigate, create, and collaborate through the digital world of artificial intelligence software, augmented reality, interaction with robots and algorithms, and different virtual platforms. In this rapidly evolving digital environment, we could say that digital literacy encompasses the set of capabilities and skills and values; it is the ability to mindfully analyze, process, design, and produce information; to develop and employ critical thinking skills in the landscape of mis- and disinformation practices at digital platforms; to create, collaborate, engage, and communicate with others in a respectful and meaningful way; to understand the algorithms' mechanisms and strategically interact with artificial intelligence and similar platforms; to use the internet in a responsible, safe, and ethical manner having in mind the data privacy and digital footprint; to be accountable and respectful for one's actions online, and to be able to understand the consequences of one's behavior. These capabilities and skills are essential for creating value and for helping us become independent critical thinkers, contributors and creators, and resilient digital citizens.

Over the past 3 years of the global socio-political disruption, we have seen that the situation magnified digital divides and highlighted the need for digital inclusion. Some internet scholars (Ragnedda 2017; Radovanovic et al. 2020; Helsper 2021) have highlighted the three levels of the digital divide. Level one reflects the *connectivity to broadband internet*. Level two in *digital literacy and skills*. And the third level of the digital divide implies *life benefits and opportunities gained from internet access and obtained digital skills*.

The first level of the digital divide is the lack of *reliable, affordable, meaningful, and universal connectivity and the infrastructure* necessary to access the information. In other words—internet access should serve as an enabler and human right. However, almost 3 billion people are not included in the digital revolution and do not enjoy this right.

The second level of the digital divide relates to the *lack of digital literacy and digital skills*. Internet connectivity is not enough. The technological infrastructure and internet access are just starting points. Digital skills are the key factors for digital transformation and sustainable development (Carretero et al. 2016; van der Velden 2018; Radovanovic et al. 2020). We saw during the disruptive years of 2019–2022 how much and to what extent some individuals and communities lack the digital skills necessary to participate in the fast-paced digitalization of society. The same applies to many of us, even academics and IT professionals. At some time, each of us had to reach out and ask our junior colleagues to help to set up the technology and install applications. We had to learn—and someone had to teach us—how to record a video, create, and share content with a larger group of people, use the cloud, change privacy settings, change the background, and press “unmute.” Digital skills are intangible, and, yet, like other forms of human capital, they are

unequally valued, distributed, and used to extract capital or benefit (Radovanovic et al. 2015).

This brings us to the third level of the digital divide which implies *life benefits, improved livelihoods, and opportunities* gained from internet access, usage, and skills. The third level of the digital divide refers to the unequal distribution of life opportunities: economic, social, cultural and personal well-being benefits (Helsper 2021), such as attending school, graduating, getting a better job, and participating in social, economic, and cultural life. Even internet access and digital skills do not guarantee that individuals will seize these affordabilities and use them productively—variations on the individual level influence the equality of the seized benefits. Also, socially excluded groups and vulnerable and disadvantaged communities (e.g., elders, low-income earners, and people with a disabilities) are less likely to have affordable internet access or the necessary skills to use connections effectively.

Before COVID-19, children, women, and vulnerable and marginalized groups were least likely to have access, skills, and benefits from the use of digital technology. According to a recent report of the Alliance for Affordable Internet, the digital gender gap is substantial as men are 21% more likely to be online than women globally, rising to 52% in the least developed countries. The ITU's regional estimates for Africa put the gender ratio at nearly three-to-two in favor of men over women. According to the GSMA, about 234 million fewer women in low- and middle-income countries use the mobile internet than men. This divide is stark in sub-Saharan Africa and South Asia, where the gender gap persists over 55% more men than women. This dire disadvantage has been exacerbated due to the lack of connectivity and digital skills, making the digital divide even more alarming.

All three levels of the digital divide are more present in under-served, rural, remote areas and the Global South. Undoubtedly, digital inclusion is one of the key drivers for bridging the digital divide. It poses opportunities and challenges to the social, economic, cultural, and environmental sustainability of individuals, organizations, communities, and society (Muringani and Noll 2021). These existing and emerging challenges have given birth to new types of opportunities in the form of values and digital competencies. Digital resilience is one of the values. Digital resilience is the ability to use technological tools to strengthen ourselves and our knowledge on an individual and community level (Van Der Velden 2021). As a result, we can successfully and safely navigate online, deploy critical thinking skills, engage and interact with others, and learn and relearn (Haythornthwaite and Andrews 2011; Radovanovic et al. 2015). It is a valuable asset for navigation, prosperity, and sustainability in the digital age, especially during turbulent times.

As for digital competencies, digital literacy is central to building resilient communities. Yet, as we've seen, almost three billion people cannot access digital technologies or use them, and consequently cannot access economic resources and opportunities that come with an internet connection and digital skills.

In light of these opportunities and challenges, this book presents a palette of stories, case studies, theoretical and research implications, and best practices on digital literacy as a prerequisite for effective digital inclusion.

## Stories, Platforms, and Communities

Stories in this book explore digital literacy and inclusion in different domains of everyday life in various worldwide geographies. Digital literacy and digital inclusion are explored in three main sections: theoretical implications, digital literacy textures through the filter of education, and convergent practices that showcase the digital literacy initiatives applied through communities of practice around the globe.

The contributions in this book provide myriad perspectives, stories, research methods, and extensive geographical reach. The chapters cover various forms and modalities of digital literacies, digital citizenship, smart cities, a variety of digital divides, critical thinking, algorithms, community networks, and sustainable infrastructures.

The first section of the book sets up the context and the theoretical understanding related to digital literacy, digital inclusion, and digital citizenship. The complexity and depth of societal development entangled with digital technologies challenge the prevailing conceptualizations of digital literacy. Johanna Ylipulli and Minna Vigren, in the chapter *From skilled users to critical citizens? Imagining and future-making as part of digital citizenship* explores how the notion of *digital citizenship* could be complemented and expanded to include an *ability to imagine alternative future trajectories*. They provide theoretical insights supported by examples from their recent empirical studies while focusing on experiences and perspectives of individuals' understanding of how people perceive their technological agency—or the lack of it. Authors draw from approaches provided by *design-oriented thinking*, especially *speculative design* and *Participatory Design (PD)*, to broaden the discussions linked to digital literacy and digital citizenship towards understanding *active, participatory future-making as a means to increase technological agency and awareness*. Design as a future-oriented field offers both ways to conceptualize our relationship with change and beneficial practices for democratizing future-making and fostering creativity. They underline that it is not just the individual's responsibility to become a 'proper citizen' in the digital society, but also the society is accountable for arranging adequate conditions in which critical, transformative, and resilient digital citizenship can flourish.

We continue with the digital literacy, fostering creativity, and digital citizenship theme in the next chapter. The chapter offers insights into how creative work can be a means to the building of *urban data literacy*—an ability to make sense of phenomena in the urban sphere by using and interpreting data and information. In *Sensing the city: a creative data literacy perspective*, Anne Weibert and Maximilian Krüger explore from a digital citizenship perspective the need for literacy that can navigate the manifold kinds of data surrounding us in everyday city life (Cowley et al. 2018), understand their potential effects and make informed choices about data (Kunze 2020). Focusing on experiences from a series of workshops in a midsize city in Germany, this chapter argues for the inclusion of making and crafting as alternate methods for urban data literacy. They show that these can be a means to bring unseen city life dimensions to the fore and to include youth and those whose

access to the digital sphere is challenged in the discourse on data and its implications for everyday city life. The tactile and artistic approach to data, coming out from these workshops and its meaning in the city, enables their discussion across communities and adds to the data basis used to legitimize urban design choices and foster a broader degree of participation.

With the accelerated use of digital media platforms, cyber threats such as phishing, identity theft, and data privacy breaches (among others) are simultaneously emerging. The need for strategic and regulatory direction regarding online safety and cybersecurity preparedness is crucial. Particularly, one of the most common forms of social engineering attacks in digital environments is broadly referred to as “phishing”. In the chapter *Scanning for scams: Local, supra-national and global events as salient contexts for online fraud*, Kristjan Kikerpill uses the *mazephishing* framework to explain how digital literacy instruction can benefit from observing the way in which salient social circumstances create a fertile ground for disseminating online scams. The *mazephishing* framework comprises three primary components: the social context from which specific scam messages obtain their salience, the media or channels used to circulate the scam messages, and the influencing techniques employed in the actual scam messages. The chapter presents three real-life examples for different levels of salient contexts, that is, local, supra-national, and global contexts: the tax season in Estonia and the United States as an enabler of related online scams, supra-national level commercial events, that is, Amazon Prime Day and Black Friday, as well as the global microchip shortage that drives international gaming console scams. The *mazephishing* framework acknowledges that not all events are of equal importance for different societies around the world and that even global events are lived and experienced differently across the globe. Thus, the framework provides digital and media literacy instructors with a valuable tool and set of principles for analyzing how events occurring on different scales are used to exploit scam recipients’ vulnerabilities.

We move across the continent to Southeast Asia (SEA), where digital growth is evident in the region. Despite incorporating technologies in the development of smart cities, we still face a stark digital divide and digital exclusion suffered by digital (semi-)illiterate, less-educated, and economically underprivileged individuals and communities. Jason Hung, in the chapter *How Southeast Asian countries can better arrange and deliver internet policies to defy the digital divide* provides a systematic overview and analysis of how countries digitally harness and maximize the benefits from online platforms. He discusses how the digital divide, marginalization, and exclusion as processes continue to be ingrained in the SEA region, urging a need for intra- and inter-countries’ inclusive responses to e-development. The author raises concern over digital transformation and explores how different SEA stakeholders can respond to these risks.

The second section of the book reveals textures and stories related to *digital literacy and education*. The digital divide affects the learning and education ecosystem and is significantly magnified during the COVID-19 crisis. Students’ inability to develop effective digital skills and access education and quality information can result in digital exclusion. These socio-technological changes bring challenges and

implications for the e-learning and education ecosystem. As the schools were shut down, the government opted to replace in-class learning with various means of distance education. This further revealed the dimensions of the digital divide at a larger scale to the concern of educators and policymakers. Kerry Russo and Nicholas Emtage, in *the Digital divide and Higher education*, researched how the pivot to online learning during COVID-19 has broadened the digital divide in the Australian higher education sector. Many students from disadvantaged backgrounds entering university were grappling with the necessary digital skills required to participate in a digital learning setting. Conceptualizing the growing inequalities arising from a widening digital divide, this chapter investigates the impacts of a digital divide on the university student experience. Using a quantitative approach, the chapter analyzes the digital divide in Australian higher education. Empirical data is examined to determine a link between the students' self-reported digital skills, prior digital experience and preparedness for university study with access to digital resources, demographic factors and geographic location. This chapter highlights the relationship between access to a learning management system (LMS) or digital curriculum during secondary school and digital literacy. Students immersed in digital learning environments during secondary schooling were more likely to be digitally literate for university study. Disadvantage indicators, prior digital experience, and digital literacy are examined to provide insight into the new barrier in higher education, the digital learning environment.

Critical thinking skills are one of the crucial digital skills in today's information age. We face the pervasiveness of misinformation and disinformation on social media. Equally important, digital critical thinking skills are relevant in social processes of collaboration and engagement in education and workforce dynamics. In *Students' use of social media and critical thinking: The mediating effect of engagement*, Abbas, González-Cacho, Radovanović, Ali, and Rincón, empirically explore the mediating role of students' social media engagement, and their ability to think critically. To achieve the aim of the study, the authors designed an online survey with questions related to the use of social media, engagement, and critical thinking through the deployment of digital literacy skills. Results from the data analysis support all proposed hypotheses and affirm that engagement is partially mediated between the use of social media and the critical thinking skills of undergraduate students. The findings confirm that using social media-based course activities is helpful for university students to engage with other peers by deploying digital literacy skills to analyze, share, and communicate relevant information and knowledge about specific topics within the relevant course structure.

The next chapter deploys digital ethnography to analyze the relationship between the digital skills and algorithmic practices enacted by young users and teenagers on TikTok, a popular short-form video hosting platform. In *Tales of visibility in TikTok: The algorithmic imaginary and digital skills in young users*, Zurovac, Artieri, and Donato, research TikTok's algorithmic awareness and practices. The algorithmic awareness seems crucial (Karizat et al. 2021) to the user's experience within TikTok: it allows the development of algorithmic folk theories (Eslami et al. 2016) that lets users behave, engage, and also resist the platform's structure. To gain visibility or to



elude the attentive scrutiny the algorithm performs, a user should develop technical knowledge and digital skills. The online ethnographic method enabled the authors to understand in-depth how young users (a) learn about the algorithm and (b) develop or employ digital skills which enable them to (c) perform leverage tactics in response to the platform's logic. These dimensions were then qualitatively assessed to understand how peculiar digital skills (social interaction skills, content creation skills, and ethical behaviour online) are employed in relation to the algorithmic imagery. The discussion takes place, within the chapter, through the analysis of three case studies: #traumatok, Breonna Taylor trend, and teenagers' practices on LIVE streaming.

The third section of the book brings the *convergent practices and hands-on approach to the inclusion of digital literacy in the communities of practice*. It opens with two chapters related to digital inclusion initiatives in the rural and agricultural sectors, first in Global South, (Sri Lanka, Trinidad), and second, in rural and remote areas in Australia. The agriculture sector in the Global South is undergoing profound changes because of digital transformation. There are concerns these efforts will advantage global agribusiness while marginalizing smallholders and disrupting long-established labor patterns and social relations, especially for women and youth. Nonetheless, digital technology also promises to help these farming communities to maintain their independence and enhance their livelihoods. In *Digital Literacy and Agricultural Extension in the Global South*, Gow, Dissanayake, Chowdhury, and Ramjattan introduce and explain how an interactionist view on digital literacy can contribute to this objective when combined with a capabilities-centric approach to human development. An interactionist approach to digital literacy is important to consider with communities of practice to facilitate new practices involving unfamiliar ICTs. They provide a conceptual framework that connects the literature on agriculture innovation systems with an interactionist view of digital literacy from organizational studies. The authors explain how this view of digital literacy aligns with a capabilities-centric approach within ICT for development (ICT4D) by situating it along four degrees of empowerment from Kleine's Choice Framework (Kleine 2013). At a practical level, they offer best practices on how agriculture extension and advisory services (EAS) can promote digital self-determination for farmers and other agriculture workers. However, they suggest that EAS organizations must develop digital literacy strategies that will empower smallholders to make informed choices about new ICTs and how they will be integrated into work practices and community life. The final section of the chapter includes examples of how their conceptual framework has been applied in an ongoing action research study and technology stewardship training program involving EAS practitioners in Trinidad and Sri Lanka.

Low levels of meaningful connectivity and digital inclusion present enduring challenges for rural Australian communities and industries. Not only is there a historical lack of telecommunications infrastructure in rural areas, but rural people—including farmers—tend to have fewer digital literacies and skills to use digital connections and technologies effectively. Additionally, the recent COVID-19 disruption has highlighted and exacerbated the inherent social and economic

disadvantage of people who lack the means to access and use digital technologies reliably (Thomas et al. 2020), such as those in rural Australia. In *Connectivity literacy for digital inclusion in rural Australia*, Marshall, Hay, Dale, Babacan, and Dezuanni, undertook a qualitative study in the State of Queensland in Australia that aimed to investigate underlying factors of low levels of digital inclusion in rural households and communities. The authors uncovered a set of essential skills for digital inclusion that did not fit neatly into the three-pillared framework they took into the study. They used qualitative methods (ethnographic interviews, focus groups, and participant observation) to give a voice to members of one of Australia's least digitally included populations. While the authors gathered insights into farmers' challenges associated with access, affordability, and digital ability, they also observed how people needed to acquire *connectivity literacy* (a concept originating from industry but not yet investigated by scholars) to achieve digital inclusion. The chapter sheds light on the complexities of connecting to telecommunications services in rural Australia. It described connectivity literacy as principally about setting up local hardware and networks, responding to technical outages when they occur, and navigating a complex consumer environment to ascertain the best connectivity options.

Digital literacy has been on the agenda of different international bodies and governments during the last decades, especially in the Global South. Despite many efforts, low digital literacy is one of the main reasons for developing countries' digital divide. Latin America presents a combination of low scores in international education rankings combined with a constant increase in the adoption of digital technologies for communication (International Telecommunication Union 2021; GSMA 2021). At the same time, countries from the region share a history of popular education as a model for teaching and learning media and communication. In the chapter *Community networks as sustainable infrastructure for digital skills*, Raquel Rennó and Juliana Novaes conducted a qualitative study on community digital literacy projects and telecommunication providers in rural areas of Latin America. They aim to find out if they could offer alternative educational methods that would respect their cultural specificities. The authors carried out three case studies in remote and rural areas in Brazil and Mexico, trying to find out lessons that could be learned from those initiatives. The analysis of the collective case studies showed that locally developed Internet service providers (ISPs), such as community networks, are more familiar with the community's context and interests and can produce practical educational tools and content. All three case studies have a predominance of onsite training and provide a bottom-up approach to digital skills learning in spaces where megaprojects from national and international commercial agreements have disrupted the environment and social tissue of local communities. They are essential in offering capacity-building initiatives for communities living in unconnected and underserved areas to increase digital literacy. Given that community ISPs are managed and maintained by the community, they are also cognizant of the socio-economic and cultural differences of the community, allowing them to embrace digital technologies within their culture, combining oral tradition with new media environments.



Speaking of underserved areas and vulnerable and digitally excluded communities, there has been a significant focus on digital skills development in the South African government's embrace of digital transformation. Community organizations that have integrated digital inclusion offerings as part of their services have been instrumental in providing digital skills training and alternative learning options for people unable to afford traditional education institutions. Unfortunately, limited information is available as to the outcomes for intended beneficiaries, as well as recommendations towards assessing such outcomes in under-resourced communities (URC). In *Digital inclusion interventions for digital skills education: Evaluating the outcomes in semi-urban communities in South Africa*, authors Katunga, Keating, Craffert, and Van Audenhove present the findings of a quantitative survey study that sought to contribute to the practice of assessing the outcomes of digital skills training interventions. The chapter provides insight into meaningful benefits derived by beneficiaries of a mobile (digital) literacy training course; salient factors contributing to such outcomes; and the application of methodological approaches and processes to evaluate the outcome of digital skills interventions in URC. The Mobile Literacy course was developed to enable participants to master the digital literacy competencies, navigating information, communication and collaboration, safety and security, and problem-solving and transacting. The course was implemented in 2020 through four community-based organizations in different peri-urban and rural environments in the Western Cape province of South Africa. The authors used a quantitative research approach, applying survey methodology to assess the outcomes of the Mobile Literacy training intervention. It is envisaged that the evidence-based insight emerging from this study allows for a more nuanced understanding of meaningful outcomes that may transpire from digital inclusion interventions. It also informs and encourages the effective practice of digital skills and the assessment of interventions aimed at improving them, particularly in URC.

And finally, the unavoidable topic of the past couple of years of the global disruption and COVID-19 that have affected public health the most. Digital technologies across the globe are being harnessed to support public health by identifying new cases, contact tracing, surveilling patients, and evaluating interventions based on mobility data and communication with the public. The pandemic raised some immediate questions about the capacity and access of the existing public healthcare system and government relief measures. However, the affluent sections of society had access to smart devices and internet connections and could shift to online mode to access their basic needs and health services. In contrast, the other section of society struggled to make ends meet with no hope in sight. Harnessing the use of digital technologies, digital health literacy (DHL) became an indispensable tool for the health workforce, including frontline workers, to provide primary health services during COVID-19. Having a digitally literate health workforce is an essential element for the success of establishing a health ecosystem. Ritu Srivastava and Sushant Sonar, in *Digital health literacy: a prerequisite competency for the health workforce to improve health indicators in times of COVID*, analyze the case study of Uttar Pradesh, with a population size of 200 million. Uttar Pradesh became the first state in India to develop an integrated and unified COVID-19 mobile platform. It ensured

that every citizen of the state is tracked, tested, and treated across the continuum of care—bringing together all COVID health facilities, laboratories, state, district, and field staff onto a common platform. The chapter shows how digital health literacy has been imparted to 200,000 health officials and frontline workers across the state's 75 districts and 59,163 village councils. The authors measured the complete spectrum of DHL 2.0 skills from searching, selecting, appraising, and applying online health information and healthcare services provided at different healthcare facilities. The chapter aims to establish digital health literacy as a prerequisite requirement for health professionals and the workforce to effectively deliver healthcare services, specifically in the public health sector. The authors argue that digital health literacy skills are mandatory to ensure the health workforce and practitioners can integrate their knowledge and digital health literacy skills into optimal health behavior. They offer lessons learned from the case study and further recommendations for decision-makers in the field of digital health literacy.

## **Digital Literacy's Role in Our Digital Future**

It is more than ever relevant to address the present digital transformation challenges in society to understand, regenerate, renew, and strive in the (digital)future. In this book and individual chapters' contributions, we have seen that digital transformation encompasses individuals, communities, and marginalized groups having access and digital skills to use internet technologies and, therefore, to participate meaningfully and benefit from today's growing information society. And it is 2023, and in the current digital landscape, the revolution and revelation are in the online sphere: online work, online socialization, online learning, e-commerce, e-government, and all that on the remote. In this landscape, digital literacy plays a crucial empowering and enabling role. COVID-19 showed the necessity for digital literacy development to facilitate internet users' access to online platforms, services, and information. And the chapters that follow in this book include various aspects and modalities of digital literacy: digital skills related to creativity, urban data literacy, digital citizenship skills, digital literacy in education, connectivity literacy, online safety skills, problem-solving and critical thinking digital skills, data literacy skills, mobile digital literacy, algorithmic digital skills, digital health skills, etc.

To take advantage of the benefits of digital transformation, we need an ongoing dialectic on socio-technological, cultural, educational, and economic participation in the online world and exploration of the gaps that hinder participation. On the other side, we have emerging technologies such as artificial intelligence, augmented reality, and automation. The growth of these technologies raises important questions about our current legal systems, policies, and advocacy strategies and how they can mitigate the human rights risks that may be affected by these technologies. Technology needs to help us make better decisions and improve our livelihoods, especially in the other half of the world that is not connected to the internet. The book highlights important nuances and raises salient issues. How do people who do

not have access to affordable internet connectivity to public e-services participate digitally? How do digital literacy dynamics play a part in this socio-technological process? What digital literacy competencies and conditions are needed for full participation in a digital society? Is the power of community and community networks one of the solutions? These are some of the questions that this book seeks to answer and highlight. Accordingly, the chapters in the book aim to counteract this with stories on initiatives, platforms, and best practices to help scholars, practitioners, and policymakers. Their propositions and findings provide theoretically grounded and evidence-based research that informs interventions to ensure that all citizens have and can enhance their digital literacy to be able meaningfully and responsibly participate in the digital economy and society.

The challenges lie in the financing, networking, and regulatory environments, as well as deploying and scaling business models that can sustainably provide connectivity and digital literacy initiatives to low-income regions. We hope to see more inclusive solutions, converging practices, and implementing programs on digital literacy skills that are strategically tailored and based on local needs. One of the solutions could be the implementation of digital portals on the national level, with open-source content and digital skills training programs. This could address four critical areas: *access, skills, regulations, and inclusion*, and build the framework for societal empowerment in developing countries. We must focus on higher digital skills standards and policies and a common framework among governments, private companies, civil society, and communities. Moreover, we need strategic efforts that bring to the fore solution to uplift and empower vulnerable and marginalized groups, including children, women, elders, and people with disability, among others. This includes the necessary investments in both human capital and infrastructure, and smart regulatory and standardized environments. Affordable and quality infrastructure, platforms, and digital literacy programs, combined with regulatory frameworks and policy, would enable governments and organizations to participate in the digital economy, helping countries and individuals in their overall well-being and collaboration.

And as the world begins to recover from the widespread effects of global disruption in the past 3 years and at the same time, it is facing the worse humanitarian crisis and geo-political entropy, there is no better timing than this to (re)examine the necessity and impact of digital transformation. Therefore, the book nudges us to ask new questions: What does it take for individuals and communities, and what is required for governments to adapt to the new digital landscape and practices that anticipate the fifth industrial revolution? Could meaningful and affordable connectivity and digital literacy initiatives offer us the solution and inspiration for our renewal, digital resilience, and regeneration? What if renewal and rebirth were encouraged and required for our (digital) society's future?

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