



DEVELOPMENT AND ACCESS TO INFORMATION 2019

QUALITY EDUCATION • DECENT WORK AND ECONOMIC GROWTH • REDUCED
INEQUALITIES • CLIMATE ACTION • PEACE, JUSTICE AND STRONG INSTITUTIONS



International
Federation of
Library
Associations and Institutions

W
TECHNOLOGY &
SOCIAL CHANGE GROUP
UNIVERSITY of WASHINGTON
Information School



[DA2I.ifla.org](https://da2i.ifla.org)

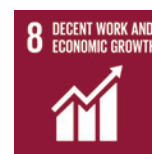


DA2I



Chapter 4

A2I for decent work and economic growth



Access to information and ICT for more inclusive economic development, employment and decent work opportunities

The achievement and measurement of the 2030 Agenda will entail a multidimensional arrangement of solutions. To this end, the Agenda highlights the importance of its means of implementation for achieving the Sustainable Development Goals (SDGs) through the mobilisation of financial resources and the development of capacities and technology, as well as through data generation and institutional strengthening. Notably, the Agenda deems that information and communication technologies (ICT) play a facilitative and supportive role in this context, which confirms their importance for opening up major possibilities for the acceleration of human progress (Del Rio et al, forthcoming).

As we move toward Knowledge Societies¹, information and knowledge have an increasingly significant impact on people's lives (UNESCO, 2003). In this regard, access to information can be considered a complex process that encompasses "the rights and capacity to use, create, and share information in ways that are meaningful to each individual, community, or organization" as stated in the Development and Access to Information (DA2I) Report 2017 (Garrido & Wyber, 2017, p. 15).

In this context, it has been widely noted that ICT can play a key role in improving access to and sharing of information by potentially reducing the costs of producing, sharing, distributing and visualising information and knowledge, which is essential for the democratic functioning of societies and the well-being of each individual. ICT may therefore empower individuals, allowing them to exercise their rights, be economically active, and learn new skills. Furthermore, the internet and mobile communications have massively accelerated the pace and volume of information available, as well as its reach into even the most remote parts of the world².

Additionally, access to mobile services may bring new economic opportunities for low-income populations, for example through services such as m-banking and e-commerce. Not only is financial inclusion an important aspect for small businesses and entrepreneurship, but m-banking and micro credits also can lower transaction costs and foster economic growth. Furthermore, in many sectors – such as health, education, the labour market, and food and agriculture – a broad set of services, ICT-enabled solutions and resources can lead to transformations that can foster social, economic and political development in a sustainable manner.

In this scenario, it is expected that ICT will increasingly take over routine and analytical tasks, not only confined to manual tasks in manufacturing, but also to analytical tasks of decision-making (European Commission, 2016)³. It is therefore of utmost importance that people have the necessary skills for using the elementary functions of ICT meaningfully and efficiently. As the European Commission's report on ICT for work (2016) shows, digital skills are required across all types of work, including jobs outside the office. Notably, most jobs require basic digital skills, including being able to communicate via email or social media, to create and edit documents, to search for information, or to protect personal information online. Individuals who lack digital skills are consequently at risk of marginalisation not only in the labour market, but also in day-to-day life.

STEFANIA L. CANTONI; TATIANA JEREISSATI & LEONARDO M. LINS

Regional Center for Studies on the Development of the Information Society (Cetic.br), Brazilian Network Information Center (NIC.br)

ICT, therefore, cut across all sectors of economy and society, and the internet can be an important catalyst of development for individuals, communities and countries. For instance, they can provide extensive and growing access to information, services and applications that may add value to people's lives, enhance their productivity and enable them to access new opportunities (ITU, 2016, p. 91). In this sense, although within the SDG framework there are few specific mentions of ICT, they can potentially contribute to all SDGs.

Particularly for achieving decent work and economic growth – Goal 8 of the SDGs – economic growth will need to be fostered in a sustained, inclusive and sustainable manner, along with the promotion of productive employment and decent work for all. In this respect, ICT, by facilitating access to information, can play an important role by contributing to entrepreneurship, job creation, employment, education and training, economic productivity and growth, creativity and innovation, and financial inclusion.

This chapter looks at how ICT can potentially contribute to achieving SDG 8 by improving access to information as well as by offering a set of ICT-enabled solutions and services. It examines the numerous aspects to be considered for leveraging ICT for decent work and economic growth, both at the individual and organisational levels. It also addresses the obstacles and conditions for meaningful access to information and to financial services. Finally, it emphasises the relevance of monitoring the SDGs and advocates for the need for harmonised indicators for this purpose.

1. ICT and access to information

In considering ICT as a means for improving access to information, the relationship between ICT and SDGs emerges as a truism; ICT potentially increase access to

information, which in turn could empower individuals, allowing them to better exercise their rights, be economically active and productive, learn and apply new skills, and find better means for earning a livelihood. So empowered, they can potentially participate in decision making and holding their governments accountable, and they enrich their cultural identity and expression. Thus, access to information is crucial for enriching the collective knowledge-building process as well as for economic, social and political development (IFLA, APC & TASCHA, 2014; ISOC, 2015; World Bank, 2016).

SDG 8, concerned with decent work and economic growth, sets four targets encompassing different aspects that require access to information, such as productive employment, education and training, economic productivity, entrepreneurship, creativity and innovation. For people to learn and use new skills that may be relevant for work, especially in a changing and dynamic world, access to information is an important step in a complex process. Not only does accessing information require specific physical, social and legal preconditions, but information itself needs to be transformed into knowledge in order to be useful.

Furthermore, when aiming to achieve full and productive employment and decent work for all women and men, it should be noted that “the relationship between gender equality and access to information is a complex chain of events that reinforce themselves in a feedback loop” (Hafkin, 2017, p. 83). On a similar note, access to information and knowledge – together with economic rewards – is crucial for the development of a creative economy, and in view of the growing contribution of the creative industries to national economic output, most countries are seeking to adopt policies to develop their creative industries to strengthen their competitiveness in the global economy (UNESCO, 2013a).

Given their direct and secondary aspects, ICT can potentially contribute toward accomplishing decent work and economic growth by improving access to information both by individuals and organisations.

1.1. ICT for improving access to information by individuals

ICT potentially allow people, anywhere in the world, to access information and knowledge almost instantaneously (ITU, 2005). In particular, by expanding the information base, lowering information and search costs, and creating information goods, ICT can facilitate searching, matching and sharing of information and contribute to greater organisation and collaboration among economic agents (World Bank, 2016).

Particularly in agriculture, ICT can be used to keep workers informed about prices, inputs or new technologies, potentially reducing time and costs, as well as friction and uncertainty, by eliminating costly journeys and facilitating coordination with traders. In short, ICT can potentially affect economic development as they can help reduce barriers to accessing information and reduce service costs. For example, a mutually beneficial transaction might be hindered if two parties cannot find each other or acquire enough information to confidently proceed with the transaction; in such cases, the transaction costs are infinitely high. An example of the use of technology to overcome service costs is the emergence of e-commerce platforms – environments where supply and demand sides meet – which has made it easier for producers to find customers (World Bank, 2016).

Additionally, when addressing full and productive employment and decent work, *Target 8.5 – “Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value”* explicitly recognises the need for inclusiveness. In addition, indicator

8.5.1 measures the average hourly earnings of female and male employees, by occupation, age and disability status, and indicator 8.5.2 addresses the unemployment rate, by sex, age and disability status.

In terms of inclusive employment, according to the UNESCO Global Report (2013b), persons with disabilities are much more likely to be unemployed or economically inactive, and even those who are economically active often earn less than their non-disabled counterparts. In this regard, technological developments may open new avenues for social inclusion, learning, employment and participation of persons with disabilities (UNESCO, 2013). To this end, ICT can enable multiple means of communication – voice, text and gestures – facilitating access to information by persons with disabilities, as well as social interaction, thus opening up significant and widespread opportunities for employability and economic productivity⁴. In addition, telework can allow people to engage with work remotely, outside the office (World Bank, 2016), overcoming difficulties related to displacement.

Furthermore, in order to achieve Target 8.5 in particular – as well as the entire 2030 Agenda – Member States must bridge the gender (digital) gap, so that women can fully benefit from access to the internet and the resources that ICT may provide. Generally, women tend to be poorer than men, have less access to education and hold less powerful positions in businesses and in politics. This being said, there are many inequalities and barriers faced by women that prevent them from fully benefiting from the opportunities provided by ICT, including those related to social norms, gender-based division of labour, gender stereotypes and even gender-based violence (UNCTAD, 2014). However, ICT can potentially increase women's opportunities for employment, entrepreneurship, and social good in areas that are increasingly embedded in everyday life, such as facilitating financial transactions,

filling out government forms, and communicating with others around the world (Garrido, Fellows & Koepke, 2017). Thus, in different spheres, including the social and economic, women can profit from ICT, as these can often obviate the need for mobility and help overcome the barriers to accessing information. This, in turn, facilitates more informed decisions and may increase economic opportunities (UNCTAD, 2014). Finally, beyond access, other barriers must be taken into account as women seek to effectively utilise information⁵ (Hafkin, 2017).

Garrido & Wyber (2017) argue that distinct gaps in access to education and training opportunities contribute to unemployment levels among youth. Therefore, increased access to information could presumably contribute to developing employable skills and overall employability, which relates to the achievement of *Target 8.6 – “Substantially reduce the proportion of youth not in employment, education or training.”* ICT tools and resources, such as massive open online courses (MOOCs)⁶ and open educational resources (OERs)⁷, can facilitate the acquisition of skills and promote job trainings as well as lifelong learning⁸.

1.1.1. ICT for learning skills, skills for using ICT

Empowering individuals requires not only the provision of access to information but also the skills to transform it into knowledge⁹ – to be able to seek information, critically evaluate it and create new information and knowledge. Furthermore, as people develop the skills and resources to obtain, share, create and express information, they are building powerful mechanisms to address the challenges that they understand as being the most pressing to them (Garrido, Fellows & Koepke, 2017).

That being said, ICT can potentially expand access to education and open up new possibilities by eliminating spatial and time constraints, but digital skills

are fundamental for them to effectively contribute to reducing the proportion of youth – and adults – not in employment, education or training. Not surprisingly, SDG 4 Target 4.4 calls for “substantially increasing the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship,” and a related indicator explicitly refers to ICT: *4.4.1 “Proportion of youth and adults with information and communication technology (ICT) skills, by type of skill.”*

In other words, although ICT may leverage the learning of employment-related skills, one must have the necessary skills for using ICT and for accessing information more generally. This goes beyond basic digital competencies for the adequate use of tools: digital skills generally are composed of computational, informational and communicational literacy (Hinostroza, 2017). Such competencies include one's ability to use computers to investigate, create and communicate in different spheres of life – at home, at school, in the workplace and, generally, in society (Frailon et al., 2013, cited in Hinostroza, 2017, p. 16).

Finally, future scenarios point to the emergence of new categories of jobs, in the context of advancing technologies, partly or wholly displacing others. This means that sets of skills required in both old and new occupations will change in many industries and transform how and where people work. This entails difficult transitions for millions of workers and the need for proactive investment in developing a new surge of agile learners and skilled talent globally¹⁰ (WEF, 2018). In this context, many stress the relevance of developing a particular set of skills – namely 21st century skills – grouped into four areas: life and career skills; learning and innovation skills (critical thinking, communication, collaboration etc.); key subjects and 21st century themes (language, mathematics,

science, finance, ecology, etc.); and information, media and technology skills (Hinostroza, 2017).

1.2. Information, creativity and innovation enabled by access to information through ICT

Given that information is currently disseminated faster than ever and that it is an essential asset for economic competitiveness, it is important that both enterprises and governments promote ways to develop the necessary skills for information to be used in creative and innovative ways. Since information is considered fundamental for increasing economic productivity, the sunk costs for its creation must be overcome. However, although the cost of producing information is high, this is not the case for its reproduction (Shapiro & Varian, 2002). As the use of ICT increases and information becomes more widely disseminated, the cost of accessing information decreases. This poses the following challenge for enterprises: there is an increasing number of competitors capable of reproducing information that is produced by organisations. Therefore, given this more competitive environment, enterprises must develop organisational structures capable of responding rapidly to technological and market changes.

Target 8.2 calls for “higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.” Access to and sharing of information are crucial for promoting innovation, and once this becomes a routine within organisations, this may lead to greater economic productivity and technological diversification, given that the ecosystem in which it functions allows the creation of new information. As innovation is internalised by enterprises, this in turn fosters a dynamic culture, in which entrepreneurship and creativity are rewarded, and

can lead to the emergence of new enterprises that offer solutions to the most diverse problems and needs; in environments where innovation is the rule, there is a demand for quality jobs that require specific capabilities from individuals and enterprises.

It is noteworthy that greater access to information does not necessarily lead to the generation of value for all; likewise, along with the dissemination of information, there is more intense competition among enterprises, precisely because the greater circulation of information enables more actors to access more markets, since the ease of internalising information may lead to the improvement of processes and the development of new products. Therefore, from the perspective of creating economic value, the greater circulation of information is both an opportunity and a challenge: those that can better and faster transform access to information into knowledge, and in turn into innovation, will gain competitive advantages that are difficult to reverse.

Target 8.3 aims to “Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation.” Accessing and using information efficiently and productively are essential for enabling enterprises to create and participate in dynamic ecosystems, in which the production of knowledge, along with its use in practice, leads to innovation and entrepreneurship, favouring the emergence of dynamic sectors and economic growth. The dissemination of ICT facilitates the production of knowledge and its sharing free of charge, favouring the entry of several actors in process or product development. Open environments – those in which the access to and sharing of information are not restricted – are more conducive to creating knowledge and innovation. Finally, the idea of promoting open and friendly environments for the free movement of information to foster knowledge creation and innovation applies to both nation states and enterprises.

2. Financial services as ICT-enabled solutions

A broad set of public and private services – both online, and off-line, that are leveraged by ICT, as well as ICT-enabled solutions and resources – may foster social, economic and political development in a sustainable manner, by contributing in areas such as education, health, finance, the labour market and public administration.

Currently, 2 billion individuals (and 200 million businesses) in emerging economies lack access to savings and credit and do not fully participate in the formal financial system (McKinsey Global Institute, 2016), preventing them from engaging in economic activities that could transform their lives as well as blocking economic development¹¹. Financial inclusion is particularly relevant for vulnerable populations and may contribute to greater security and stability; this allows, for example, one to better plan for the future or to respond to unexpected events (Diniz, 2018).

The 2030 Agenda recognises that financial inclusion is vital for small businesses and entrepreneurship, and particularly *Target 8.10* aims to “strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.” Likewise, a related indicator explicitly refers to ICT: 8.10.2 “Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider.”

In this context, ICT – together with the skills and confidence to use them – can help to improve the quality, variety and scope of micro-financial services and address some of the inherent needs of the daily lives of persons with low incomes, historically excluded from the financial sector for being profiled as high-risk and less profitable.

Digital platforms, for instance, offer many possibilities for facilitating inclusion of important

Through the internet, broadband and mobile phone-based ICT infrastructure, people living in poverty may increase their capability to improve their economic situation by accessing reliable financial services that can provide a vital safety net.

financial services: payment, credit, savings and insurance. Access through a mobile device can help overcome many of the problems associated with achieving financial inclusion: Programmes such as mobile banking combat the issue of remoteness; peer-to-peer money transfers avoid high transaction costs; offering new ways to establish credit helps those who struggle with a lack of credit history; and the creation of new business models addresses the lack of financial literacy and education among the financially excluded (Diniz, 2018). In countries with low levels of financial inclusion among a large proportion of the population, ICT-related innovations in the field of financial services include branchless banking correspondents, electronic money, and basic savings accounts (no-frills accounts) (Ontiveros, Martin Enriquez & Lopez Sabates, 2014, cited in Del Rio et al, forthcoming).

Through the internet, broadband and mobile phone-based ICT infrastructure, people living in poverty may increase their capability to improve their economic situation by accessing reliable financial services that can provide a vital safety net. From obtaining an account and conducting basic transactions such as money transfers and bill payments, users can move on to more advanced financial services such as loans and insurance products. The increased access to financial services enabled by ICT can in turn encourage investment, spurring job creation and economic growth (The Earth Institute, Columbia University & Ericsson, 2015).

3. Conditions for meaningful access to information and for access to financial services

The Development and Access to

Information (DA2I) framework, developed by the International Federation of Library Associations and Institutions (IFLA) in partnership with the Technology and Social Change Group at the University of Washington, proposes four interdependent dimensions that influence access to information and its ability to advance the SDGs, as follows:

1. Information and communications access infrastructure: the connectivity (and material resources) that establishes the physical connection to information.
2. Social context of use: the variety of local, cultural factors that shape the way users will engage with information.
3. Capabilities: the body of functional knowledge, skills and resources a population develops over time that shapes the nature of how information is used or not used.
4. Legal and policy landscape: the policies and regulatory frameworks that promote or hinder connectivity, affordability, inclusiveness and rights.

In this regard, for ensuring access to information – as well as to ICT-enabled solutions – certain preconditions must be met, such as having the necessary adequate infrastructure (fixed and mobile broadband) along with devices (computers, telephones, etc.) for connecting to the internet. Internet access via mobile devices is increasingly important in less developed countries and rural and remote areas, since mobile devices have become the primary gateway to the internet for many. Smartphones can potentially connect an increasing number of people to knowledge resources, job opportunities and cultural amenities. However, it must be noted that “those who depend on their smartphones to go online

encounter constraints with data caps and small screens, and the device is not their ‘go to’ tool for personal learning at home. Instead, those with smartphones but not home broadband rely on a kind of ‘workaround ecosystem’ that is a combination of using their mobile devices along with other resources such as computers and Wi-Fi available at public libraries” (Anderson & Horrigan, 2013).

Also important for accessing information are public internet access points, such as telecentres and libraries, in particular in countries or areas with lower household connectivity¹². In addition to maintaining a wealth of information resources, many libraries provide multiple forms of access to ICT, generally free of charge, as well as access to books, documents, periodicals and databases in-library or remotely through websites, along with mobile services. Moreover, librarians have a role to play by guiding those with little experience in accessing information and/or using ICT (Hafkin, 2017): beyond access, libraries can potentially help people understand the information they obtain. Consequently, libraries support SDG 8¹³ by providing public access to information and the skills training needed – especially by the digitally excluded – to search for jobs. For example, skilled library staff may provide assistance with online applications and related activities for finding a job (IFLA, 2016).

Hence, even when there is physical connectivity, particular capabilities are necessary for identifying, finding and using existing information and potentially using it for improving life conditions – notably employment and training – and for generating new information. Therefore, access to information and knowledge

requires digital literacy skills, media literacy (understanding of various types of media and formats through which information is transmitted), and information literacy (skills for seeking, evaluating, using and creating information effectively to achieve personal, social, occupational and educational goals) (UNESCO, 2018, cited in Del Rio et al, forthcoming). Taking into account that the 2030 Agenda pledges that “no one is left behind,” it is of utmost importance to consider a gradual advancement in digital inclusion, from ICT access to ICT use. Given that an important aspect of the digital divide¹⁴ refers to lack of skills, these are critical for ensuring that people can benefit from ICT and have meaningful access to information and avoid reproducing inequalities.

That being said, beyond internet connectivity and capabilities, information must be: relevant and made available (generated, made public and actively publicised by all stakeholders, in addition to being socially and economically relevant); accessible (potentially accessed by all, without difficulty, regardless of language, culture, geographic location or level of skill); and affordable in terms of cost of access (UNESCO, 2018, cited in Del Rio et al, forthcoming).

Along with the high cost of telecommunications, micro and small enterprises face another barrier to accessing financial services: they often lack the capacity to use ICT-led financial services due to poor communication infrastructure and lack of regulatory support. These are often hindered by the prevalence of obsolete technologies and prohibitive cost of installing new technology, and suffer from a lack of qualified staff and low digital literacy skills (The Earth Institute, Columbia University, & Ericsson, 2015). Once again, skill development and capacity-building are therefore preconditions for these businesses to access ICT-financial services. In countries where unemployment or underemployment are a growing problem, expansion of micro and

small business can create vital employment opportunities. By addressing low digital literacy levels and promoting access to ICT-led financial services, policymakers can provide a much-needed boost to the small business development-related SDGs (The Earth Institute, Columbia University, & Ericsson, 2015, p. 39).

4. Monitoring the achievement of the SDGs: the need for harmonised indicators & ICT findings

Access to information is a matter that cuts across the entire 2030 Agenda and is therefore tracked by indicators that are arranged under different goals and targets. Likewise, all SDG goals and targets are interdependent and must be pursued together, since progress in one area often depends on progress in other areas.

For the follow-up and review of progress toward achieving the SDGs, 10 criteria were established by the UN Statistical Commission for the collection of robust Global Monitoring Indicators, which will be compiled by international agencies using disaggregated data from national statistical systems. Timely and usable data are critical for informed decision-making, monitoring of progress, and evaluation of outcomes.

In light of this, ICT are explicitly recognised as a cross-cutting means of implementing the Agenda, as well as for their key role in the measurement of progress on all aspects of sustainable development. To this end, it is important that all areas where ICT play a relevant role are adequately measured and monitored. To achieve this, it is crucial to have internationally comparable ICT indicators based on commonly agreed definitions and methodologies, which allow policymakers and other key stakeholders to identify ICT-related trends and challenges.

In recent years, the Regional Centre for Studies on the Development of the Information Society (Cetic.br), a department of

the Brazilian Network Information Center (NIC.br), has been actively contributing to international debates on the standardisation of indicators and methodological definitions for the production of ICT statistics. The Center conducts several ICT national standalone surveys – such as the ICT Household and the ICT Enterprises Surveys – that are essential for collecting and disseminating ICT-related data, nationally and internationally. This allows a closer understanding of the role of ICT in facilitating access to information and education by both individuals and organizations, for example. The methodologies followed by Cetic.br for such surveys are aligned with the parameters set by international organisations, including the International Telecommunication Union (ITU) and the United Nations Conference on Trade and Development (UNCTAD). The Center therefore collects internationally agreed indicators on ICT that allow cross-national comparisons, but also produce a wide range of nationally relevant data that are disaggregated by important socioeconomic variables that allow greater understanding of local contexts. This process is crucial for monitoring the socioeconomic impacts of ICT and the achievement of the 2030 Agenda more broadly.

5. Conclusions

ICT are strongly linked to the access to and use of information, which are important for economic development, education, training and employment. ICT may have a relevant role in promoting a more inclusive, sustained and sustainable development. In particular, women and people with disabilities, as well as youth, mentioned by Targets 8.5 and 8.6, can benefit greatly from the opportunities offered by such technologies.

However, more than ever, access to information requires the skills necessary to access, use, share and appropriate the tools offered by ICT, in order to ensure that all benefit equally and that no one

is left behind. If social and digital gaps are not bridged, inequalities may be further reproduced, and those with skills – digital, cognitive, 21st century skills – may be better positioned to find a job and earn better wages. In this regard, the development of digital skills related to information processing for youth and adults is a priority, in particular for groups that have been identified as potentially economically or socially disadvantaged.

Due to the enhanced dissemination of ICT access and use, information circulates more efficiently among individuals, communities and organisations, increasing their chances of acquiring and

developing knowledge that can be useful for the productive process, favouring inclusive economic growth. For enterprises, the challenge is to transform this greater circulation of information into better decision-making and knowledge for innovation and, by doing so, to support Target 8.2 and Target 8.3.

Both for accessing information through ICT and for using ICT services and resources, such as financial services, there are many conditions that must be met in order to ensure that no one is left behind. Having access to information via ICT encompasses having connectivity – on mobile devices, at home, in public spaces

such as libraries, or elsewhere – but also developing the necessary skills to use information meaningfully, for relevant purposes. Access to information should be understood as a complex process that relies on the availability of relevant information as well as its affordability and accessibility.

Finally, in light of the key role that access to information plays in achieving SDG 8, and the potential offered by ICT for improving its access, use, creation and sharing, it is of utmost importance that timely and relevant data are collected to inform policymakers and to monitor the progress of internationally agreed goals such as the 2030 Agenda.

1. According to UNESCO, Knowledge Societies are based on four principles, namely freedom of expression; equal access to education; universal access to information, especially in the public domain; and giving expression to cultural diversity. Built on the concept of Information Society, the plurality inherent in the concept of Knowledge Societies “implies diversity, variety and openness to choice,” where “people can access and exchange quality information and ideas that are relevant to their life and development” (UNESCO, 2003:2).
2. For example, as agriculture is increasingly knowledge-intensive, ICT may help farmers improve crop yields and business productivity through better access to market information, weather forecasts, training programmes, and other online content tailored to their needs.
3. According to the ICT for work: Digital skills in the workplace Report (European Commission, 2016), the use of ICT – in the EU member countries – has increased significantly in the last five years in more than 90 percent of workplaces, with micro-sized workplaces more likely to report limited increases compared to bigger ones. In addition, 38 percent of workplaces report that the lack of digital skills has an impact on their performance.
4. However, as the World Bank (2016) points out, the mere existence of technology is not sufficient to eliminate the gap in the socioeconomic inclusion of people with disabilities, since an adequate ecosystem is needed to promote the implementation of accessible digital technologies.
5. In this regard, it is worth mentioning the role of libraries for empowering women through ICT, as described in the Beyond Access Issue Brief “Empowering Women and Girls Through ICT at Libraries” (2012), available at http://beyondaccess.net/wp-content/uploads/2013/07/Beyond-Access_GirlsandICT-Issue-Brief.pdf
6. A MOOC is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials, such as filmed lectures, readings and problem sets, many MOOCs provide interactive tools with user forums to support community interactions among students, professors and teaching assistants (TAs), as well as immediate feedback to quick quizzes and assignments.
7. Open educational resources (OERs) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. To learn more, visit <https://en.unesco.org/themes/building-knowledge-societies/oer>.
8. Lifelong learning is related to voluntary and self-motivated education, conducted beyond school, with the main goal being to improve personal or professional development. To learn more, visit <http://uil.unesco.org>.
9. Traditional media, civil society organisations and public institutions such as libraries can contribute in the translation of information into accessible knowledge and purposive use, “by curating information, extending informational resources to communities in need, and offering social spaces for convening, learning, creating, and problem-solving in their communities” (Garrido, M. & Wyber, 2017, p. 11).
10. It must be noted that here we are referring to the potentials of ICT for workers and future workers to acquire skills and, by doing so, prepare themselves for the labour market. However, as the World Economic Forum declares in The Future of Jobs Report 2018, a range of immediate implications and priorities stand out for different stakeholders, such as companies and governments. “(...) Imperative for achieving such a positive vision of the future of jobs will be an economic and societal move by governments, businesses and individuals towards agile lifelong learning, as well as inclusive strategies and programmes for skills retraining and upgrading across the entire occupational spectrum. Technology-related and non-cognitive soft skills are becoming increasingly more important in tandem, and there are significant opportunities for innovative and creative multistakeholder partnerships of governments, industry employers, education providers and others to experiment and invest in new types of education and training provision that will be most useful to individuals in this new labour market context” (WEF, 2018, p. 22).
11. According to the McKinsey Global Institute (2016), the widespread adoption and use of digital finance could increase the GDP of all emerging economies by 6 percent, or \$3.7 trillion, by 2025.
12. These include “facilities that allow any member of the public to make affordable use of computers with broadband connections, along with associated ICT tools, such as printers and scanners, as well as technical support for using the internet. Public access facilities may be purpose-built state-supported ‘telecentres’ or ‘community multimedia centres’ (CMCs), or private ‘cybercafés.’ Locating public access services in existing institutions situated in the community, such as libraries and post offices, is often a particularly effective method of deploying public access” (IFLA, APC & TASCHA, 2014).
13. Several examples on how libraries have supported employment around the world can be found in IFLA’s paper A Social Justice Mission: Libraries, Employment and Entrepreneurship, available at https://www.ifla.org/files/assets/hq/topics/libraries-development/documents/libraries_and_social_justice.pdf
14. According to the Organisation For Economic Co-operation And Development (OECD), the term “digital divide” refers to the gap between individuals, households, businesses and geographic areas at different socioeconomic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the internet for a wide variety of activities (OECD, 2001, p. 5).

© 2019 by the International Federation of Library Associations and Institutions (IFLA) and the Technology and Social Change Group, University of Washington (TASCHA). Copyright in chapters 3-7 is retained by their authors, who have granted a non-exclusive right to publish their works here.



This work and all of its component parts are licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) license. To view a copy of this license, visit: creativecommons.org/licenses/by/4.0

Citation: 'Garrido, M. & Wyber, S. Eds. (2019) Development and Access to Information. International Federation of Library Associations and Institutions: The Hague'.

ISBN 978-90-77897-73-7 (Paperback)
ISBN 978-90-77897-74-4 (PDF)

ISSN 2588-9036 (Print)
ISSN 2588-9184 (Online)

IFLA Headquarters

P.O. Box 95312
2509 CH The Hague
The Netherlands
www.ifla.org

Contact: DA2I@ifla.org
Website: DA2I.ifla.org