

PSD and Digitalisation

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Main takeaways:

» **The COVID-19 pandemic has significantly boosted the profile and uptake of digital applications worldwide and gives developing countries a new opportunity to accelerate their digital progress.** Digital technology applications have already had a transformative impact in the financial sector. The potential for poverty reduction in areas such as agriculture is also likely to be significant.

» **The costs and benefits of digitalisation are not equally shared between regions, countries and communities.** Developing countries risk remaining largely passive consumers of digital products and services produced elsewhere. While the net impact on job creation is still unclear, there is real risk of a growing digital divide based on gender, age and geography.

» **Harnessing the opportunities and addressing the risks associated with digitalisation requires pro-active and sustained measures from governments, the private sector and donors.** Priorities include additional investments in digital infrastructure, skills and regulatory frameworks and nurturing tech firms and industries that use local knowledge to respond to local needs.

This Synthesis Note provides an introductory overview of risks and opportunities of digitalisation for private sector development (PSD) in developing countries, including practical programming options for PSD practitioners.



INTRODUCTION



The fourth - or 'digital'- industrial revolution of the 21st century promises transformations of economies and industries at a scale never seen before.¹ The COVID-19 pandemic is likely to accelerate the speed of change already seen in recent years. As a result, digitalisation support is now a key priority in donor agencies' [COVID-19 recovery strategies](#).

The impacts of new digital technologies such as artificial intelligence, big data, advanced robotics and the internet of things are very difficult to predict. However, what is known is that the benefits and costs of digitalisation are unlikely to be shared equally between regions, countries and communities. Digital giants in the US, China, East Asia and Europe are in prime position to reap the rewards from technological change because of their dominant market positions and digital ecosystems with access to skills, networks and other ingredients for success. The private sector in developing economies, and disadvantaged groups in particular, are likely to require sustained support to make the most of digitalisation. Indeed, appropriate support to digital technology applications in some sectors, e.g. finance and agriculture, has already accelerated development even in some of the world's poorest areas.

¹ The first industrial revolution of the late 18th century saw the rise of mechanised industry powered by coal and the steam engine. Electricity, gas and oil facilitated the emergence of new technologies like the internal combustion engine and the telephone during the second industrial revolution in the 19th century. The third industrial revolution of the second half of the 20th century brought electronics, computers and modern telecommunications. Robot technology facilitated the increasing automation of industry.

DEFINING DIGITALISATION

There is no commonly agreed definition of digitalisation. At the highest level it describes the integration of new technologies into all aspects of the economy and society (UN Broadband Commission, 2017). Within an increasingly digitalized economy, the core *digital – or IT/ICT – sector* encompasses industries such as telecommunications, software development and hardware manufacturing which produce essential digital building blocks (OFSE, 2018). The *digital economy* also includes digital platforms; other mechanisms that create, store, analyse and share data to facilitate the exchange of goods and services; and the producers and consumers who are utilising digital inputs in their economic activities (OECD, 2020). *Digital commerce* refers more specifically to the sale of goods and services online (MCF, 2019).

Measuring the progress that countries and regions are making in this rapidly evolving area is difficult. Most indicators focus on the spread and uptake of technology, e.g. mobile phone access and internet penetration. Efforts to capture broader concepts such as *digital connectivity* and *digital depth* – the extent to which economic activities, transactions, and policies are becoming digital – have recently been launched through the World Bank’s Digital Adoption Index (World Bank, 2016) and the IMF’s Enhanced Digital Access Index (IMF, 2020). Most developing countries lag considerably behind North America, Europe and large parts of Asia when it comes to access to and utilisation of digital technologies.



DEBATES AND EVIDENCE

Technology adoption in developing countries

Digital technologies are spreading around the world with unprecedented speed. For example, even though smartphones only reached the mass market about 10 years ago, it is estimated that 50% of people in Africa now own such a device (GIZ, 2019). Global internet use has risen from just over 1 billion people in 2005 to over 4 billion people in 2019 (ITU, 2019). The rapid rise of mobile payment systems like M-Pesa in Kenya and Paga in Nigeria has boosted access to secure financial services for millions of entrepreneurs. E-commerce platforms like Ant are creating opportunities for millions of traders to sell their products and services into national or even international markets (WDR, 2019). Conversely, most of the world’s offline population lives in least-developed countries where less than 20% of the population uses the internet - compared with more than 86% in the developed world (ITU, 2019).

Economic opportunities and risks

The optimistic case for the transformational impact of digital technology on companies and economies rests on the argument that digitalisation will enable efficiency gains in many sectors; generating new jobs, expanding access to essential services such as electricity and telecommunications, and reducing waste and pollution (WDR, 2016). Boosting innovation, diversification and access to global markets are also often cited as major opportunities. Producers in least-developed countries have much to gain from digital technologies because low existing employment in manufacturing limits the risk of worker displacement. In addition, a large supply of unskilled human capital offers ample scope for productivity improvements (ADF, 2020).

On the other hand, while digital technologies are spreading rapidly around the world, the much-anticipated benefits are slow to follow - especially in

poorer countries. Accessing the internet in developing countries costs between 11-25% of average monthly wages (GIZ, 2019). Digital technology's potential to generate significant economies of scale for firms could lead to excessive market concentration in poorly regulated economies. Where skills development does not keep up with labour market demands, income inequality is likely to rise (WDR, 2016). Regulators frequently struggle to keep up with large global technology businesses that may only have a small in-country presence (OFSE, 2018). Digitalisation without sufficiently robust governance and regulatory frameworks could also strengthen economic and political elites and raise the volume of electronic waste (ADF, 2020).

Box 1: Digitalisation and COVID-19

The pandemic has significantly boosted the uptake of digital applications in advanced economies, especially videoconferencing and related tools for remote working as well as e-commerce platforms. However, it is less clear whether digital technology has facilitated economic activities in less developed countries in the same way. A survey in five African countries showed that COVID-19 has prevented about 60% of respondents in the formal and informal sector respectively from working. 88% of informal sector workers reported a reduction in income compared with 63% in formal jobs (Geopoll, 2020).

Still, many entrepreneurs in developing countries can be expected to respond to changing customer behaviours and preferences by accelerating the roll-out of technology solutions which may speed up the formalisation of some largely informal sector activities (e.g. urban transport, food delivery). The impacts of COVID-19 may make policy makers more likely to acknowledge the viability of new approaches in areas such as e-commerce and digital service delivery (including agricultural extension services). This may facilitate greater investments in digital infrastructure and strengthen governance and regulation of the digital economy (ADIS, 2020). Finally, the pandemic is likely to trigger financial support from donors and private investors in the growing digitalisation of developing economies.

Job creation impact

Rapid technological change tends to trigger large-scale adjustments to work and employment patterns. The ongoing digital revolution is no different, but important questions remain over who the winners and losers will be. Automating manufacturing and service processes could result in large-scale redundancies in industrialised economies even if the apparent trend towards 'reshoring' gathers pace. On the other hand, greater use of digital technology could lead to significant efficiency gains in the informal sector and generate tens of millions of new jobs (GIZ, 2019). Digital technology may also offer more effective ways to deliver skills development at large-scale than more traditional institutional settings (e.g. web-based resources which can be accessed both on- and offline, coaching through communications platforms such as WhatsApp and Facebook). The global spread of digital technology has already generated new micro-entrepreneurial opportunities, e.g. phone card distribution and mobile money agents. Even in 2015 it was estimated that mobile technologies and services supported 6.7% of GDP and 3.8 million jobs in Africa (EC, 2017).



The falling costs of connectivity worldwide are creating new opportunities for connecting producers in the developing world with companies and consumers in wealthier countries. This could boost global economic integration and open up new opportunities for developing country producers to participate in international supply chains by e.g. selling directly to consumers around the world. However, there are also concerns that this could further undermine the bargaining positions of poor workers by replicating the 'gig economy', which is perceived to have eroded incomes and workers' rights in many developed economies (Brookings, 2016).

Gender digital divide

There are signs that existing disparities in the labour market are being replicated in the digital economy, especially when it comes to female employment and entrepreneurship. The gap between internet user penetration rates for men and women in least-developed countries has grown by almost 50% between 2013 and 2019 (ITU, 2019). Women are eight times less likely to work in digital jobs than men (EC, 2017). Bridging the gender digital divide will require interventions explicitly designed to overcome the constraints women face, e.g. affordability, digital skills and cultural norms (UN Broadband Commission, 2018). There are many examples of digital development initiatives targeting women and girls to learn from (e.g. S4YE, 2018).

**Digitalisation pathways**

Practical success in transforming entire sectors and business models through digital technology has been limited especially in developing countries where the ‘analog enablers’ for digitalisation – such as digital skills, reliable electricity access and appropriate regulatory arrangements – are often missing. At a global level, expertise and capabilities to innovate at scale are largely concentrated in ten ‘frontrunner economies’ which account for over 90% of all global patent families (UNIDO, 2020).

The market dominance of digital technology developed in the US, China or Europe over home-grown solutions that respond to local needs can impede progress (ADIS, 2020). Without local applications and content, there is a significant risk that developing countries will continue to be largely passive consumers of products and services created elsewhere. Local technology firms could instead focus on practical solutions that use local knowledge to address local constraints, such as analog outreach structures to complement digital platforms, e.g. human intermediation between customers and mobile money solutions or training for customers and agents using new technology. However, local businesses face significant challenges to overcome the dominance of global players, e.g. due to limited local markets, language barriers and pressure to generate cash within a short timeframe (MIT, 2020).

Box 2: How relevant is China’s example?

Over the past two decades, China has emerged as a global digital player with vast e-commerce platforms, world-leading technology applications - especially in the financial sector and media - and business platforms reaching even the most remote areas of the country. For example, launched in 2003, Alibaba had 9 million online merchants in 220 countries by 2017. By comparison, Walmart had just under 12,000 stores in 28 countries despite starting its international expansion in 1991 (WDR, 2019).

China’s digital success follows on from its global dominance in manufacturing and is underpinned by public investments in infrastructure, constant skills upgrading, government support for leading firms and sectors, and a large domestic market. Significant and sustained investments in these areas would have to go alongside consistent, long-term government planning for developing countries to follow in China’s footsteps (World Bank & China Development Bank, 2017).

WHAT CAN DONORS DO?

Donor efforts to leverage the benefits of digital technology for economic development and poverty reduction are not new, but there is a general sense that results have been mixed (Waugaman, 2016).

The [Principles for Digital Development](#) were created in 2017 and endorsed by a significant number of development organisations as generic guidance to digital technology practitioners to improve outcomes from donor support. COVID-19 is accelerating the drive towards digitalisation and it appears unlikely that this will be reversed after the pandemic. In response, many development programmes are adopting more efficient, digital solutions in areas that have previously relied on analog delivery mechanisms, e.g. training, technical advice and monitoring & evaluation. However, the rush to digitalise may hinder donor coordination and risk widening digital divides in terms of gender, age groups and urban vs rural populations. Donors can take appropriate mitigation measures, e.g. programme design that explicitly tackles bias and exclusion and engagement with technology companies to tackle the perceived barriers to serving harder-to-reach market segments (Woodward & Krueger, 2020).

Beyond the *how* of digital development, many recommendations as to *what* donors can do focus on the ‘analog complements’ of digital investments, in particular funding for essential infrastructure - such as secure and reliable networks - capacity-building to create a skilled workforce (ADF, 2020), and strengthening digital strategies, policies and regulatory frameworks (EC, 2017). Many donors combine strengthening the basic foundations of the digital economy with promoting the uptake of digital technology in priority sectors. Much of the guidance from recent literature also emphasises sound wider policies for private sector development such as a favourable business climate and public accountability.

Specific priority action areas for private sector development in the context of digitalisation include:



- 1. Business environment reforms (BER):** Strengthening the norms, standards and regulatory frameworks for domestic digital firms to thrive is widely regarded as an essential enabling condition. This includes taxation policies to facilitate appropriate value capture in countries where digital services are marketed (UNCTAD, 2019). Effective competition policies are required to avoid excessive concentration of market power and ensure that digital products and services remain affordable through healthy competition. Reducing barriers to market entry should facilitate innovation. This is an area where digital technology can also be a practical tool, e.g. through online business registries (WDR, 2016) and more efficient data management to aid regulatory inspections and enforcement (DCED, 2020). Digital platforms also hold much potential to make BER interventions such as public-private dialogue processes more effective and inclusive (DCED BEWG, 2021).
- 2. Transforming agricultural value chains:** The potential for digital technology to transform agriculture in developing countries is significant because of limited technology adoption to-date, and the sector’s strategic importance for economic growth, employment and food security. Access to better data can help farmers to optimise production, access the most appropriate inputs

and enter new markets. It can also direct government policy and interventions and strengthen integration into international supply chains (CTA, 2019). Greater digital technology use promises to make agriculture more profitable and generate employment opportunities for young people. Many donors and private companies are already active in this area, from data platforms to guide crop planning based on real-time data for weather, soil conditions, pest prevalence etc. to blockchain technology in fresh produce supply chains (FAO, 2019).

3. Incubating technology businesses: Technology incubators tend to serve the dual purpose of helping tech start-ups thrive while also nurturing a wider community of technology enthusiasts, innovators and entrepreneurs (ITC, 2019). They have received significant support from donors and host governments; however, evidence of their impact is scarce. A recent review of their role within the tech start-up scene in Nairobi found a disconnect between the goals of incubator managers and promoters and the challenges faced by the start-ups they were trying to promote (IZNE, 2017). There may also be a need for wider measures to foster tech entrepreneurship – such as mentorship and apprenticeship schemes (UNCTAD, 2019).

4. Private sector engagement: Bringing together companies within developing country regions to encourage cross-border development of digital products and services might be one way to overcome the challenges of limited national markets and dominance by global market leaders. Several donors are promoting structured partnerships between local start-ups and international firms to encourage learning and innovation and – in some cases – as part of the transition from donor-recipient relationships to more equal economic partnerships.

5. Skills development: Digital employment covers a wide spectrum of the labour market, including jobs directly created through the ICT sector (e.g. mobile app development) and those that can't be performed without technology (e.g. call centres). The teaching of STEM subjects, advanced cognitive and socio-behavioural skills, and basic 'digital literacy' skills are frequently highlighted as essential as are targeted measures to encourage innovation and entrepreneurship (WDR, 2016).

While donor interventions frequently target young people as they enter the labour market, life-long learning and reskilling is increasingly important in a fast-changing economic environment.



This synthesis note was written by Holger Grundel of the DCED Secretariat. Please provide feedback to admin@enterprise-development.org

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