



Executive Summary: Digital Technologies, Services and the Fourth Industrial Revolution

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[Digital Technologies, Services and the Fourth Industrial Revolution](#)

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Managing the transformation to digital trade

From 3D printing (3DP) and artificial intelligence (AI), to cloud computing, 5G, and the Internet-of-Things (IoT), digital technologies are prompting radical new business models offered through digital platforms, that promise unparalleled productivity gains and global increases in standard-of-living.

Adoption of new technologies is also impacting traditional demand and employment patterns in highly disruptive ways and radically altering the nature of consumer and business transactions. The changes underway raise major questions for traditional domestic regulatory settings and for trade, investment, innovation and industry policies for the digital age. They point to an urgent need for reform of international trade governance especially at multilateral level. Digitally-enabled trade - lets call it e-commerce - is the big global trade growth story. We are on the cusp of a structural revolution, which ushers in the digital age. The trading system needs to get ready fast.

Services are integral to the industry transformations underway and their cross-border tradability is growing as a result. Recent estimates suggest 50% of traded services are already digitally-enabled compared with 15% of traded goods². Just as services are critical inputs into production of both manufactures and services, trade in digitally-enabled services (digitised services or e-services) is dependent on and underpinned by cross-border data flows. These are growing exponentially, now contributing more to global GDP than traded goods flows³.

Once perceived as relatively low productivity and less tradeable than manufactures, services are now in the global economic limelight. Almost any service can be packaged digitally and provided on-line in high value-added format, from any location in the world. As digitised services trade and underlying data flows increasingly form the digital economy backbone, policy makers across national jurisdictions are responding in different ways. The challenge is to learn from each other, to share best practices, to cooperate and to get the policy and regulatory responses right.

Unfortunately the response has sometimes already had negative impacts; increasing the otherwise low trade costs of e services, constraining development of new services offerings and inhibiting the trade growth potential on offer. Trade-restrictive responses impact most on small and medium-sized enterprises (SMEs) and run the risk of curtailing the many development dividends.

In manufacturing, automation, advanced robotics and 3DP are beginning to compensate for wage differentials as factors determining companies' production locations and investment decisions. For services industries on the other hand, while some require talent that remains scarce in developing countries, a growing variety of services are performed and delivered remotely through automated tasks. Developing country wage differentials will continue to attract this work. Indeed the evident trend increase in demand for off-shore e services from developing countries is expected to intensify⁴.

As the digital age takes hold, e services will grow in importance in international trade, both in their own right and as supporting pillars of trade in goods. The G20 has a responsibility to ensure that the potential growth in international trade flows, with consequent global gains in economic growth and development, is facilitated rather than stymied.

² McKinsey Global Institute (2016)

³ McKinsey Global Institute (2016)

⁴ Baldwin (2019)

G20 guidance is urgent. Against the background of trade disruptions wrought by the COVID-19 public health pandemic, G20 responses will be critical to how effectively the global trading system can weather the potential anti-globalisation backlash and secure the reforms so urgently required for digital trade to flourish.

Impact of the COVID-19 pandemic

The response to the COVID-19 pandemic is intensifying the push to digitalisation, as goods producers work to lower their vulnerabilities and services firms learn by doing. There is no doubt that the pandemic has impacted significantly already on global value chains in both goods and services industries and witnessed in particular a strong shift towards digital delivery of services which is likely to prove irreversible, itself leading to a number of changes in demand for associated digital business services.

In particular, the pandemic has witnessed an immediate intensification in the growth of demand for information and communications technology (ICT) services. Some ICT services have proved especially critical to the global effort to combat COVID-19. These include: remote exchanges among research teams to fight against the virus and look for medicines and vaccines; e-health services to allow daily medical services to be delivered to millions of patients; e-learning services to allow teachers to continue the education of millions of pupils and students; teleworking facilities to allow workers to stay at home but continue to sustain economic activity; digital payment and financial services to enable e-commerce and on-line services; and connectivity services that minimize the adverse effects of social distancing.

International cooperative measures to facilitate the free flow of anonymous medical/health data among trusted partners, as well as the temporary movement of health-care professionals has often proved vital in this context. There has however been a marked degree of lack of international government coordination in approaches to enabling the ongoing provision of essential services during periods of extended lockdown. This has unquestionably impacted negatively on services value chains and on the information technology/business-process outsourcing sector in particular.

In a number of developing countries with strong digitally-enabled services export performance via for example call-centres, the policy stance has failed to recognise the ICT sector as essential and has led to complete closure of the call centres. This has forced immediate reshoring in many services sectors from telecommunications to banking and insurance, which would not otherwise wish to reshore but have no choice but to do so in order to maintain their own operations. To some extent, this process of reshoring may prove temporary, at least with respect to digitally-enabled cross-border trade in services. But it may well lead to a more prolonged downturn in investment sentiment with respect to commercial presence offshore.

In the manufacturing sector, digital technologies and digitally-enabled services are heavily used in supply chain intensive industries and advanced manufacturing, including electronics, motor vehicles and machinery. Some reshoring is similarly likely to take place in these sectors, if with a longer time lag - and perhaps hand-in-hand with labour cost-saving via automation, for which digital technologies and their associated services will see greater demand to support that automation. The COVID-19 crisis also exposes the lack of visibility of global supply chains, given international trade is notoriously reliant on paper-based processes. Digitising the supply chain is no longer a nice-to-have, but becomes imperative to maintain visibility and manage supply chain risks. Blockchain technology should be applied to ensure privacy and give suppliers an incentive to share their data in the supply chain.

This would contribute to the anticipated medium to longer term trend increase in services traded internationally.

In both goods and services sectors, supply chain disruption inevitably leads to some corporate

re-assessment of production models and an effort to develop more resilience including by diversifying essential suppliers from other places around the globe or closer to home. But on balance, the current positive impact on demand for services is likely to be confirmed for the longer run.

Policy Recommendations

The paper identifies 4 inter-related areas of policy as critical for grasping the opportunities presented by the Fourth Industrial Revolution:

(1) **Updating the world trading system** (improving market access for e-services; reviewing the WTO Moratorium on Customs Duties on Electronic Transmissions; adopting principles for domestic regulation for services; introducing disciplines on cross-border data flows and data localization; and enabling digital flows with trust through privacy regulation)

(2) **Designing development strategies to embrace digital opportunities** (aid-for-trade to bridge the digital divide; building infrastructure for digital connectivity; and reaching the sustainable development goals (SDGs))

(3) **Upskilling for digital economy job creation and**

(4) **Stimulating Digital Innovation**

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