Policy Highlights

The Digital Transformation of SMEs

OECD

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THE DIGITAL TRANSFORMATION OF SMES

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Small firms are lagging behind in the transition to digital

Firms of all sizes, across all sectors, are increasingly equipping their staff with digital tools. Today, over half of employees in the median firm, now use computers with Internet access.

Digital tools bring many significant benefits for firms. Digitalisation reduces transaction costs by providing better and quicker access to information, and communication between staff, suppliers and networks. It can help small and medium-sized enterprises (SMEs) integrate into global markets, through reductions in costs associated with transport and border operations and it significantly enhances the scope to trade services. It facilitates access to resources, including finance (e.g. peer-to-peer lending), training, and recruitment channels, including government services, which are increasingly being made available on-line. It also supports innovation, and greater access to innovation assets, as well as the potential for firms to generate data and analyse their own operations in new ways, to drive improved performance.

Yet despite the benefits and opportunities digital technologies bring, and the significant increase in up-take in recent years, many SMEs continue to lag in adoption, and for smaller SMEs, with 10-49 employees, digital adoption gaps, compared to larger firms, have grown over the last decade. Indeed in many countries (e.g. Greece, Hungary, Poland, Portugal and Turkey, where the median share of employees with connected computers in small firms remains at or below 40%), progress has stalled, while large firms in frontier countries (Denmark, Finland, Sweden at about 80% or above) have shown rapid progress over the period. Because digitalisation is an important driver of productivity growth, and in turn wage growth, these gaps have contributed to increased inequalities among people, places and firms.

The entry point for small firms is in digitalising marketing and administrative functions

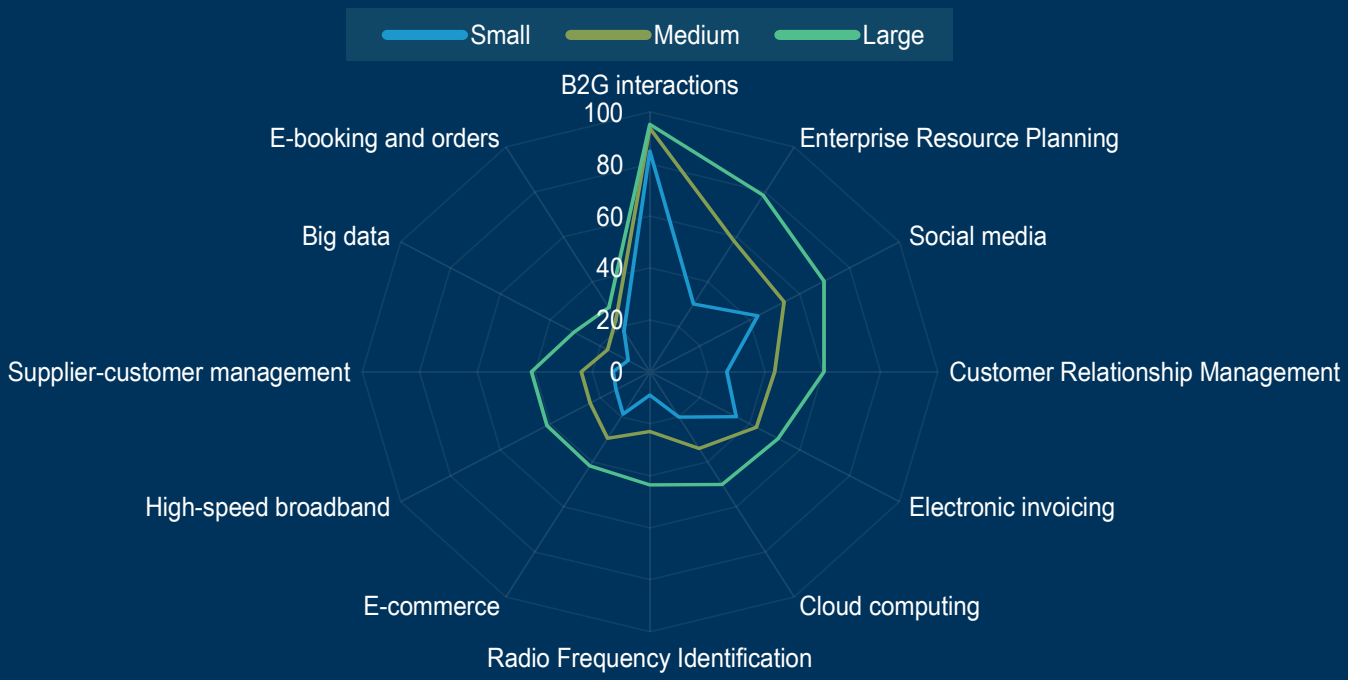
The biggest challenge is the first step for many firms. Once an initial transition is made to digital technologies, there are strong complementarities in technologies that can drive further adoption. To make this step, and as they identify and adopt additional digital technologies, SMEs tend to leverage on external systems, support and advice. This is partly to compensate for weak internal capacities but it is also on cost-grounds. For example, digital platforms (e.g. social networks, e-commerce marketplaces etc.) provide significant scope to optimise certain operations at very low cost (e.g. business intelligence and data analytics services). Similarly, for managing digital security risks, SMEs capitalise on external consultants or the security-by-design features of the digital products and services they use. They also source artificial intelligence (AI) solutions from knowledge markets, and can leapfrog to new AI systems with cloud-computing based Software as a Service.

However, technology complementarities can also contribute to large digital divides, as larger and more digital-savvy firms are more easily able to step up to more advanced digital practices. The gap between SMEs and larger firms is therefore more pronounced in the adoption of more sophisticated technologies (e.g. data analytics) or where mass matters for implementation (e.g. enterprise resource planning for back office integration, and supply-chain and customer relationship management software for front office and production process integration).

The entry point for the digital transition for most SMEs is in general administration or marketing functions, where the digital gaps between SMEs and larger firms in online interactions with the government, electronic invoicing, use of social media, and e-commerce, are smaller.

SME gaps in adoption are large in many areas

Diffusion rate, median OECD, based on country average percentages of enterprises using the technology over 2015-18



Note: Values represent the median of diffusion rates in countries for which data are available. Country diffusion rates are average rates calculated over the period 2015-18. This approach helps avoid distortions in time or in a single year, but may tend to underestimate the diffusion rates of technologies that are diffusing quicker. Data only cover enterprises with 10 or more employees. Small firms employ [10-49] person; medium-sized firms [50-249]; and large firms 250 and more persons.
Source: OECD calculations based on (OECD, 2020[2]) OECD ICT Access and Usage by Businesses Database, www.oecd.org/sti/ieconomy/ICT-Model-Survey-Usage-Businesses.pdf (accessed on 25 November 2020).

However, there are significant differences across sectors in terms of intensity and types of tools adopted. In knowledge-intensive sectors, such as information and communication services, adoption rates are far higher: the OECD median share of employees with access to devices with online connection is around 90%, compared to 50% across all sectors (OECD, 2020[2]). The adoption of a few key technologies in each sector is critical. In the accommodation and food services sector, high-speed broadband connection, having a website and using cloud computing (CC) to store files are the main technologies associated with higher value added and larger digital gaps. In the wholesale sector, the key technologies that drives gaps in adoption and value added are e-sales, CC to host databases and the training of ICT specialists, while in retail trade, e-sales and CC to manage customer relationships are the key technologies.

While policymakers should, therefore, ensure that small firms can access core digital tools as an entry point to the digital transition, it is important that this approach is complemented with a sector-specific and function-specific approach that promotes the most important tools for their business.

The Covid-19 crisis has been a game-changer

Lockdowns and social distancing imposed a radical rethinking of business models, with firms moving operations online or implementing smart working solutions at short notice in order to remain in business and overcome disruptions in supply chains (OECD, 2020[4]). Early evidence from business surveys worldwide point to up to 70% of SMEs having intensified their use of digital technologies due to COVID-19. Many of these changes are poised to last given the investments made and business benefits of the new models. Business surveys conducted worldwide over the past months confirm the shift: 75% of the firms surveyed in the United Kingdom have moved to remote working over the period and around a third have invested in new digital capabilities (Riom and Valero, 2020[3]); 55% of SMEs surveyed in Brazil acknowledge improvements in customer relationships, as well as process agility and customer acquisition, as key benefits of digitalisation during COVID-19 (Zdnet, 2020[4]); and 72% of online small business owners interviewed in Canada believe ecommerce is now necessary in order to have a successful business (Paypal, 2020[3]).

However, many businesses have not had the time or the advice needed to plan this transition well – to select the right digital systems, to upgrade digital skills, develop the right protections and security, and fully customise and understand the potential of these new tools. For these firms, the transition is not yet complete, and comes with risks.

One significant risk is the increased opportunity for hackers, to exploit SME's lack of preparedness. Coronavirus-related scams and phishing campaigns have been on the rise (OECD, 2020[4]) and the US Federal Bureau of Investigation has seen a spike in cybercrimes reported to its Internet Crime Complaint Center since the beginning of the COVID-19 pandemic, with a fourfold increase in cybersecurity complaints . The costs to SMEs of a breach can be large, and often well beyond the average SMEs' available cash reserves.

It's important to note therefore that while accelerated adoption of digital tools may be a silver lining to the crisis, there remains a continuous need for advice, support and guidance from reliable sources to cement the transition, address risks, and exploit the potential of the new tools.

Longer term structural barriers remain

In addition to the need to access the right advice and inspiration, other structural barriers to digital adoption remain too, including:

» An internal skills gap that prevents managers and workers to identify the digital solutions they need, and to adapt business models and processes;

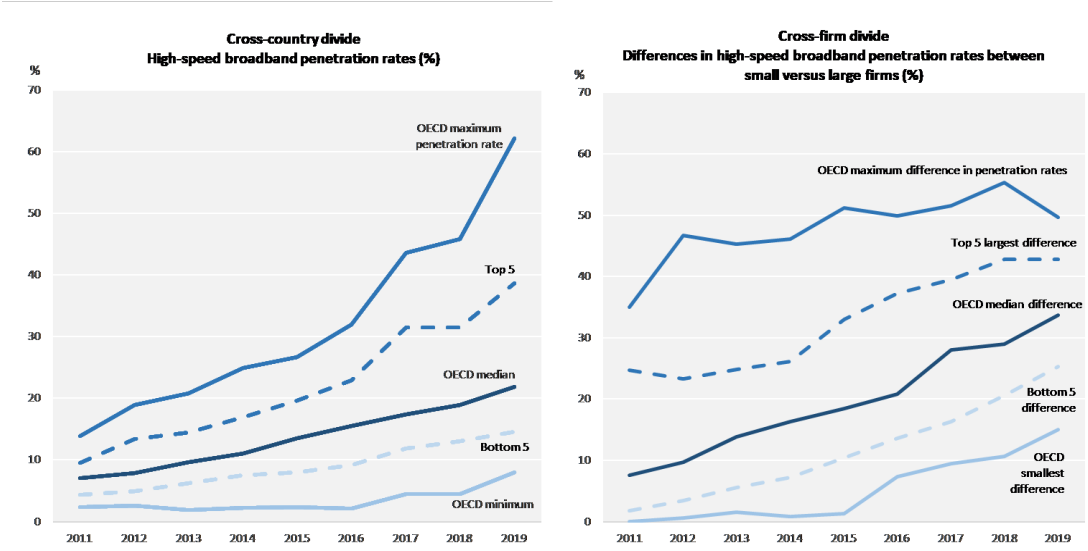
» A financing gap, as SMEs face difficulties in accessing finance for intangible digital investments that cannot be easily used as collateral to secure a loan;

» An infrastructure gap. Access to high-speed broadband is a prerequisite for the digital transformation of SMEs. Penetration rates of high-speed broadband have been increasing in all OECD countries since 2011, but the leading countries and firms have been pulling away from the rest (Figure 2), and gaps between firms in lagging countries have widened significantly.

These gaps have left some firms – and places – with limited scope to adapt their business models and maintain operations during extended periods of social distancing, exacerbating existing inequalities.
Many countries are seeking to tackle these issues by providing financial support and advisory services, such as through Denmark's SME Digital programme or the Australian Small Business Advisory Service. Some provide skills training for SMEs, as in Chile, Israel, Latvia or Spain. There are policies to upgrade infrastructure in Iceland and Costa Rica, and networking programmes in Belgium and Germany. These initiatives will play an important role in tackling the digital divide, but need to be well co-ordinated through appropriate multilevel governance, and mechanisms to align thematic investments (for example ensuring that the provision of infrastructure is supported by training and advice to enable their use).

Access to high speed broadband remains unequal, and progress has stalled for small firms

Gaps in penetration rates between countries (left hand panel) and small and large firms (right hand panel), 2011-19



Note: High-speed broadband connection is defined for download speed at least 100 Mbit/s. Penetration rates are the percentage of enterprises with high-speed broadband connection in the country. Cross-firm divides are differences in penetration rates between small and large firms in the country. Data only cover enterprises with 10 or more employees. Small firms employ [10-49] persons, and large firms 250 and more persons.

Source: OECD calculations based on (OECD, 2020[2]) OECD ICT Access and Usage by Businesses Database (accessed on 25 November 2020).

How are governments boosting SME's digital transformation?

SCALING UP SME INTERNAL CAPACITY

- **Providing SMEs with technology support and assistance**, through targeted financial support (consultancy vouchers, grants), technology extension programmes (diagnosis, self-assessment tools, e-business solutions, guidance and package of learning material) or a mix of both;

- **Encouraging SME training and upskilling**, by reducing training costs (e.g. tax incentives, subsidies) and promoting workplace training (e.g. via employers networks and associations, or intermediary "brokers", apprenticeships programmes) or by pooling training investments, and **strengthening management skills in SMEs** (e.g. through training, workshops, coaching programmes and by raising demand for these programmes);

- **Building a data culture in SMEs**, by increasing awareness and capacity to manage and protect their data (e.g. though information dissemination, financial support or technical assistance);

- **Raising the digital security profile of SMEs**, through awareness campaigns, or providing them with guidance on useful digital security measures, toolkit, auditing, assurance framework, protocols and certification schemes, and training opportunities.

EASING SME ACCESS TO STRATEGIC RESOURCES

- **Leveraging fintech and alternative sources of finance for SMEs**, by promoting the use of new technologies (such as blockchain and AI) to lower transaction costs on finance markets; encouraging the deployment of financing and matching marketplaces, as well as the use of mobile banking, or alternative data for credit risk assessment;

- **Encouraging business innovation and the supply of new digital solutions**, through a range of research and innovation policies (e.g. research grants, public procurement, tax incentives, demand-side regulation, competences centres, public-private partnerships etc.) in the field of digital security, blockchain, AI etc.;

- **Connecting SMEs with knowledge networks**, through cooperation programmes (e.g. with large firms or online platforms), or SME-lead public procurement (e.g. Small Business Innovation Research-type of programme) or networking interfaces (e.g. digital innovation hubs, centres of excellence, clusters and co-working spaces);

- **Providing SMES with access to data and technology**, though testbeds and experimentation labs, data centres, digital innovation hubs, university transfer offices, co-creation platforms etc.

CREATING THE RIGHT BUSINESS ENVIRONMENT FOR SME TRANSFORMATION

- **Setting a supportive regulatory framework**, by: reinforcing efforts to harmonise legislations on trade secrecy and intellectual property rights protection across jurisdictions; enforcing data protection regulations; developing digital security legislations and setting standards for the industry; addressing regulatory uncertainties around distributed ledger technologies; and by ensuring the well-functioning of knowledge markets where SMEs can access digital solutions;

- **Promoting e-government and e-services for SMEs**, through one-stop shops and digital portals (e.g. for information provision, or assistance, certification or simulation online, the "only once principle"); e-invoicing, e-signature and electronic submissions (e.g. tax administration and compliance by default); adoption of new digital technologies in public services (e.g. blockchain, AI); and through open government data etc.;

- **Deploying high-quality digital infrastructure,** through infrastructural development plans and roadmaps (e.g. high-speed broadband and connectivity in remote areas), or other platforms (e.g. computer emergency responses teams) or public-sector-backed blockchain service infrastructure with interoperability with private sector platforms.

PROMOTING A WHOLE-OF-GOVERNMENT APPROACH

- **Developing long-term strategic frameworks**, by setting high-level objectives and principles, designing national strategies and action plans, and coordinating investments and action across the board;

- **Creating governance arrangements in emerging policy areas**, such AI or blockchain (e.g. coordination bodies and structures);

- **Setting consultative instances and advisory groups** at national and subnational levels, involving experts, entrepreneurs, industry and academia, and local governments in order to promote ethical and more responsible digitalisation policies.

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