



The Digital Nation – Lessons in building a successful digital economy

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The COVID-19 pandemic has massively accelerated the demand for, and supply of, digital goods and services. Digital lifestyles and methods that were previously expected not to develop until several years into the future have suddenly become a reality today. Although virtually all countries

already had national digitalization policies, the crisis and its continuing aftermath have put into sharp focus the gaps and shortcomings in existing digital infrastructures and plans.

It is becoming clear that new thinking is needed for nations to become digitally robust and resilient across all sectors, both public and private, as we face the future – we need a new “Digital Nation”

norm. To help inform the way forward, it is helpful to look at the best-performing digital nations in the world today. One such nation is Sweden, and we believe there are some valuable lessons to be learned from how it is approaching the digitalization challenge that are relevant for nations across the world.

The impact of COVID-19 on digitalization

The pandemic brought about a comprehensive test of the resilience of digital plans at a previously unimaginable speed and depth, as the avoidance of physical contact, hygiene, and restricted mobility drove huge increases in digital usage across sectors. There has been a widespread and enduring impact on human behavior, communication, and consumption, as well as the supply of digital goods and services and ways of working in both the private and public sectors. Teleworking, remote education, e-commerce, digital socializing, digital

The pandemic has turbocharged digitalization across industries and countries, stress testing existing national strategies and bringing any gaps and shortcomings into sharp focus. Drawing on the example of digital leader Sweden, this article focuses on the wider lessons that every country can learn, and the capabilities required to build effective and successful digital nations moving forward.



healthcare and streamed entertainment are all examples of where step changes have already taken place. The crisis also demonstrated the reliance countries have placed on digital infrastructure to maintain national safety and security.

All countries, not only the most digitally savvy, have had to step up their games in digitalization. New initiatives to develop digital tools can now be found all over the world, for example:

- **Fake news and disinformation:** Information sharing has been vital to spread critical messages about the progress of the pandemic and communicate actions to be taken. However, there has also been a substantial problem with fake news and disinformation. Many governments have started online campaigns to combat this threat. For example, Brazil's Ministry of Health implemented an SMS service to combat fake news, and in France, the government's information service has developed a dedicated chatbot to answer questions about COVID-19¹.
- **Disease monitoring:** Information sharing has been critical to not only communications, but also monitoring disease spread and creating dedicated COVID-19 portals. For example, the Danish Health Authority has developed a portal displaying health regulations, recommendations and statistics, and the National Health Information Center in Slovakia created an app to map disease hotspots.
- **E-health solutions:** The development of innovative e-health solutions has also accelerated. For example, the Republic of Korea launched a self-service health-check app that enables everyone entering the country to report their health status. In Croatia, an AI-based digital assistant has been developed to process thousands of health requests via social media and a government portal, and Greece implemented paperless e-prescriptions.

1. UN, Department of Economic and Social Affairs, Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic 2020

As we know, the economic impacts of the pandemic have been severe in every country. However, the impact was far greater in countries with low digital resilience and lack of comprehensive digital plans. For instance, the COVID-19 pandemic has caused acute and unparalleled disruption of education in nations where remote schooling is not an option for the vast majority of students. This is particularly the case in low-income countries that lack robust digitalization, in terms of both infrastructure and access to hardware and digital strategies. As much as 90 percent of pupils in sub-Saharan Africa do not have access to computers. Only six out of 39 World Health Organization (WHO)-studied countries in the same region had open schools as of August 2020, which illustrated the COVID-19-induced education crises in countries without solid digital capabilities.² School closures also have severe economic impact, highlighted by the OECD, which has estimated that an average member country will suffer a GDP reduction of 1.5 percent, on average, through the rest of the century due to school closures in the initial phase of the pandemic³.

The example of Sweden

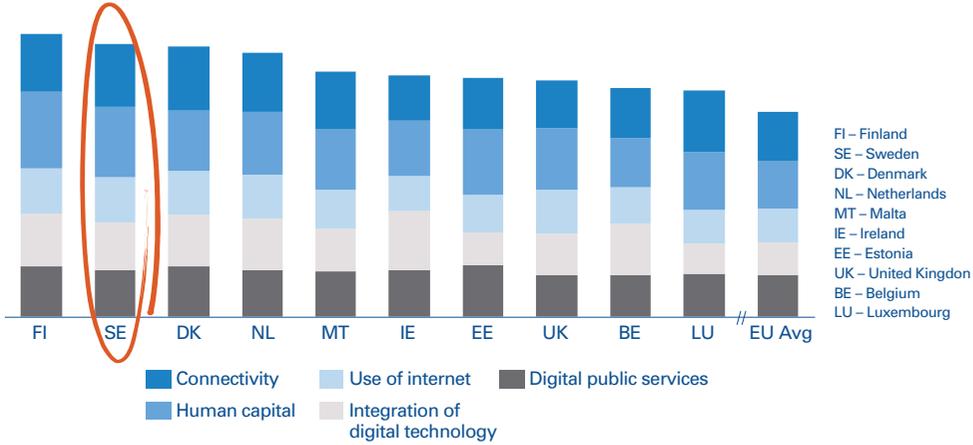
Sweden is a digital leader in the EU. As shown in Figure 1, it is ranked second after Finland in the European Commission's Digital Economy and Society Index (DESI), which measures the digital competitiveness of member states, with high performance across every dimension of the Index⁴, including connectivity, use of internet, digital public services, human capital and integration of digital technology.

2. UN, The virus that shut down the world: Education in crisis [Online] 2020

3. OECD, The impact of COVID-19 on education [Online] 2020

4. European Commission, Digital Scoreboard, Digital Economy and Society Index [Online] 2020

Digital Economy and Society Index 2020



Digital Economy and Society Index 2020

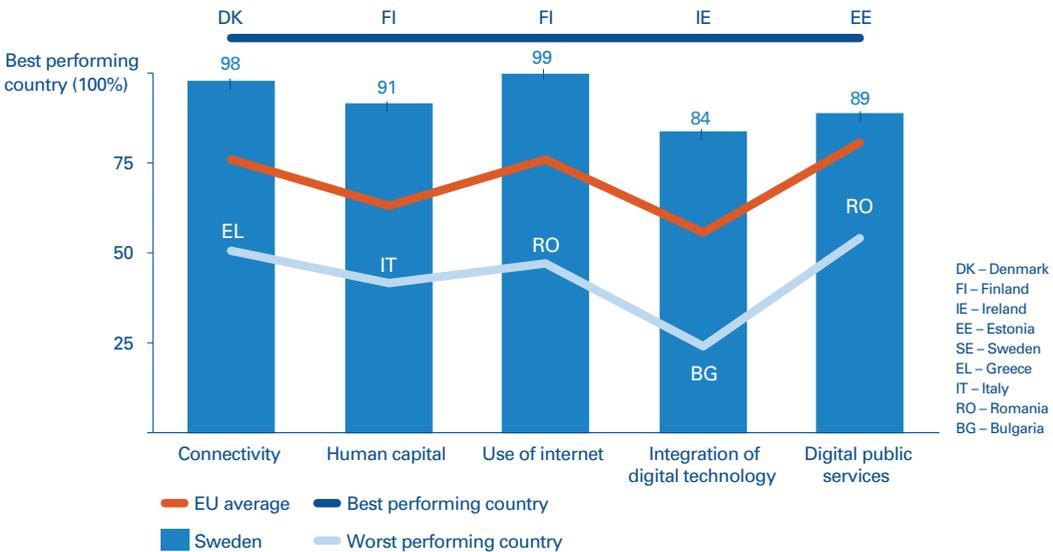


Figure 1: DESI of Sweden versus other European countries

In 2017 the Swedish government set out a clear goal to become the foremost nation in the world to realize the possibilities provided by digitalization. A set of policies and a framework guiding this ambitious objective were put into action, including large-scale investments in digital infrastructure to improve the conditions for digital innovation, in order to ensure digital efficiency and secure an effective digital transition. The generic model is shown in Figure 2.

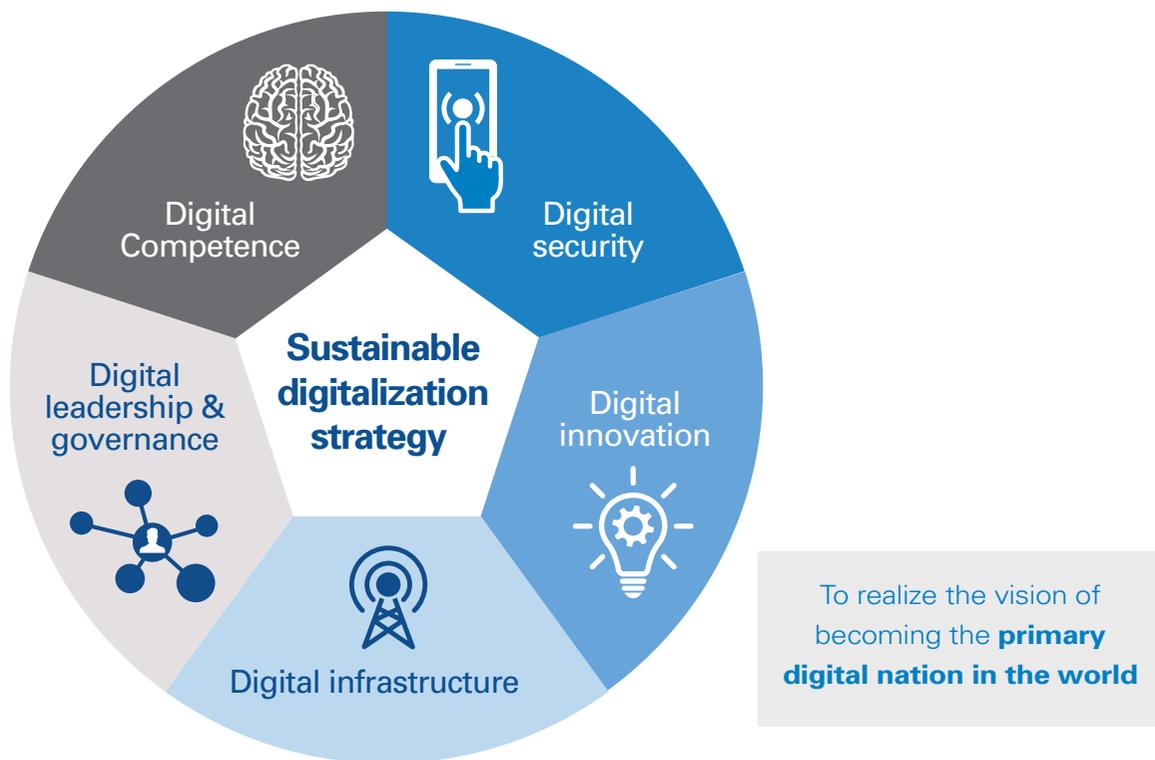


Figure 2: Sweden's national digitalization framework

In 2020, Sweden was ranked number one in the 2020 Network Readiness Index (NRI), an annual global comparison of countries' ability to take advantage of the opportunities of digitalization. Sweden has already seen a high degree of digitalization compared to other OECD nations, including:

- One of the highest internet-access rates in the world, at 98 percent
- A high number of pupils who access personal computers, at a reported 95 percent compared to the OECD average of 88 percent
- Widespread use of public digital services

However, the shift to more complete cross-sector digitalization has been advancing at only a modest pace. The drivers for greater teleworking, implementation of digital communication, and reform of obsolete IT systems within public organizations have been lacking, as the need was not seen as urgent – until the pandemic hit in early 2020.

A report conducted by ADL into how digital tools were used to handle the social consequences of COVID-19 in Sweden highlighted the pressing requirement for key economic sectors such as retail, education and healthcare to transition faster to digital. It also concluded that although the digital strategy so far had been beneficial to organizations and businesses coping with the crisis and remaining operational, additional measures to increase digitalization were crucial to ensure further preparedness and adapt to new circumstances and conditions in the post-COVID-19 world. The gaps identified included:

- Information inequalities affecting disadvantaged groups
- Obsolete policies
- A low usage rate of certain digital tools and services, even though the infrastructure was available
- Gaps in digital policies for key sectors including retail, education and healthcare (see below)

We can see from the example of Sweden that even leading countries with already-built-out digital infrastructure, high levels of digitalization and advanced plans have gaps in their digital blueprints that the pandemic has highlighted.

Lessons for the key sectors of retail, education and healthcare

Three of the sectors most impacted by the transition to digital are retail, education and healthcare, and these sectors are also common to nearly all countries. What lessons have we learned from the pandemic?

Retail sector

The general trend of digitalization in the retail industry has been growing for many years, favoring large e-commerce actors and driving market consolidation. On an international scale the pandemic has driven a giant leap in digital-enabled consumption, with half of all consumers stating that they buy more online now than they did in pre-COVID-19 times⁵. Amazon enjoyed a 40 percent increase in sales during 2020.⁶ Additionally, nationwide distribution has been enabled through digitalization and e-commerce solutions.

The shift is also dramatic in terms of the broadening of the customer base – people who had never used digital retail channels before swiftly found themselves ordering everything from spaghetti to new laptops online. The increase is particularly significant among the elderly, who (individually or with the support of their more digital-savvy family members) are expected to drive e-commerce growth in the post-pandemic period. As shown by changed behavior in the Republic of Korea following the MERS outbreak, increases in online retail are likely to continue, stabilizing at a significantly higher level than before COVID-19. This poses logistical challenges and strain on infrastructure, as has been seen in Sweden. Key aspects of enabling policies therefore include:

- Regulation and transnational agreements to align and control logistics
- Policies to ensure the competitiveness of smaller national/local players, including creating a level playing field with larger players and ensuring equality between cities and more rural parts of a country

5. Bazaarvoice, Pandemics and presents: A look at how consumers plan to shop for the holidays in 2020, [Online] 2020

6. Amazon, Amazon.com announces second quarter results. [Online] July 30, 2020.

Education sector

As schools closed due to coronavirus-related restrictions, the abrupt shift from traditional education to digital methodologies transformed the learning experience for hundreds of millions overnight. According to UNESCO, 1.5 billion students worldwide were unable to receive on-premise education in March 2020, and this number remained as high as 320 million⁷ in late December the same year. Around 90 percent of high-income countries shifted to remote education during the pandemic, whereas the equivalent rate for low-income countries was just 53 percent⁸. The OECD estimate that the GDP of an average member country will reduce by 1.5 percent through the rest of the century translates to 69 percent of an average GDP in current value terms – all due to closure of schools during the first half of 2020.⁹ Countries that could continue education online were far less impacted. Learnings from digitalization within the education sector from Sweden can be summarized as follows:

- Digitalization of education should be further prioritized to avoid the significant adverse effects seen during the current pandemic and any similar events in the future. The impact of COVID-19 on education was lower where schools already offered digital education.
- Improving accessibility to education through digital means will increasingly disrupt conventional approaches as to how education is conducted, particularly in higher education. This will enable students to participate in programs and specific courses remotely and facilitate greater geographical flexibility.
- Digital leadership and competence need to be further developed and secured through targeted national policy agendas.
- National, holistic frameworks that ensure equality across the education system and on a microlevel are essential.

7. UN, The virus that shut down the world: Education in crisis [Online] 2020

8. UNESCO, Fighting COVID-19 through digital innovation and transformation [Online] 2020

9. OECD, The impact of COVID-19 on education [Online] 2020

Healthcare sector

Digital transformation within the healthcare sector has enabled completely different access to services for caregivers and patients alike. The rapid change has proven the agility of these two key supply and demand populations.

Throughout the pandemic and beyond, virtual healthcare solutions have had substantial mitigating effects on the sector's potential economic loss as patients refrained from visiting physical clinics. The digital transformation has therefore aided handling of the pandemic while maintaining well-being on a national level, as well as spurring e-health innovations. The potential for significant efficiency gains and wider access to care, regardless of ability, geographical presence and time, is immense. In order to truly capture the potential of digital healthcare, in terms of access advantages, efficiency gains and improved ways of working, the conditions for incentives have to be transformed. The key policy learnings include the following:

- Policies are needed to level the playing field around outcomes and results, rather than favoring existing systems. This may include changing reimbursement models. For instance, Swedish policies regarding economic incentives for performing healthcare favor physical visits to a clinic, even if the same care can be performed remotely. In China, a giant surge in virtual physician meetings was unleashed when the country's digital health insurance agency implemented payment for such visits.
- As telehealth becomes more common and thus enables enhanced collection and access to medical data, the need for implementing adopted data protection regulations emerges. Such regulations would serve to protect the individual, while simultaneously ensuring that this valuable data could be used for continuous medical improvement.

Lessons for national digital policy – The Digital Nation norm

Beyond supporting these sector-specific learnings, nations should always be cognizant of the continuous investments needed to make digital impacts more sustainable and scalable, particularly as unforeseen needs (such as the pandemic) may require rapid change. These investments should cover ensuring that digital capabilities and competence are spread across all segments of society, stimulating innovations to drive future solutions and building out further infrastructure. These need to be combined with large-scale societal digital transformation, supported by suitable policies to support implementation and governance.

Investment to ensure extensive digital infrastructure and access to equipment and knowledge are prerequisites, but to realize the full potential of digitalization in the post-pandemic world, new models and national plans will be needed. Building on the experience of Sweden, we envisage a new Digital Nation norm, which will be aimed at progressively offering more digital applications and services across all sectors in a way that will be rapidly scalable and agile in terms of its implementation. There are some key success factors for this new Digital Nation norm to succeed. (See Figure 3.)

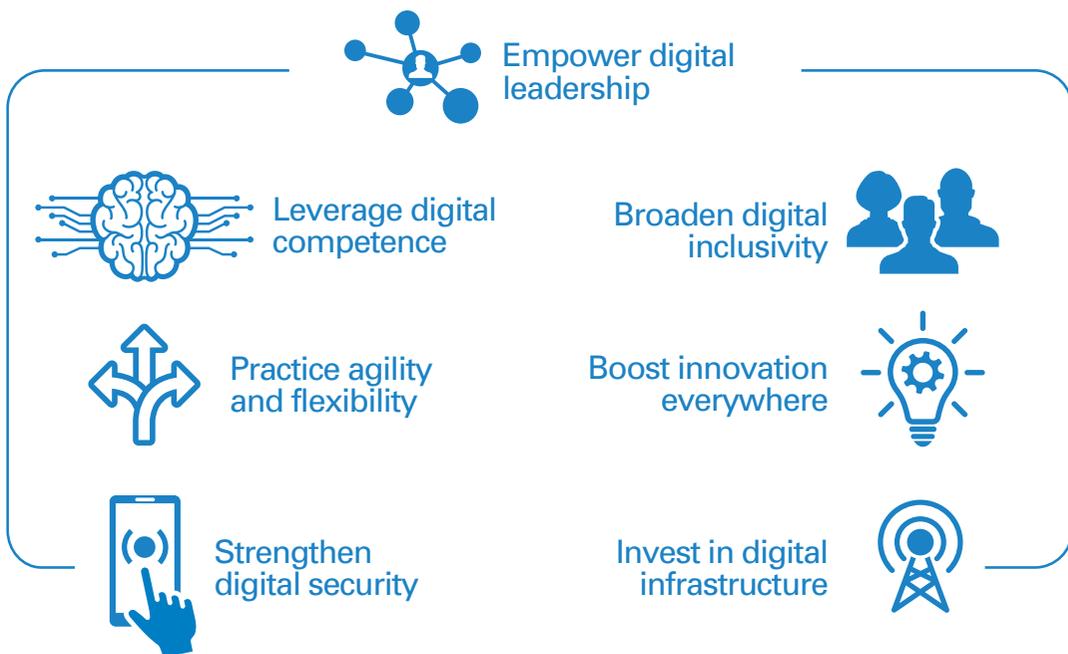


Figure 3: Key success factors for the new Digital Nation norm

- **Empower digital leadership:** Having empowered and capable digital leadership to realize the potential of digitalization on a societal and corporate level is key. This leadership should advance end-to-end human-centric thinking and implementation, enable coherent and congruent national systems, and drive pan-national agreements that are aligned on standards, protocols and interoperability constructs across sectors.
- **Leverage digital competence:** Competence is different to digital knowledge. For instance, digital pedagogy differs from digital teaching – digital pedagogy incorporates digital tools and different methods of teaching for enhanced learning through digital means, whereas digital teaching is the mere use of digital tools in a traditional setting. In this regard, pedagogical performance and success factors depend on how well education is adapted to changed circumstances, rather than simply transferring traditional classroom teaching to digital delivery channels.
- **Broaden digital inclusivity:** The conditions to enable digitalization need to be enhanced both between sectors and across diverse groups in society. COVID-19 has highlighted how differences in digital access and know-how can greatly affect economic and social well-being. Through the design and rethinking of e-solutions, digital access will be a key instrument for broadening societal inclusion. Access for all to basic services through digital means is essential.
- **Practice agility and flexibility:** Governments and authorities need to become more agile and flexible in policy making, decision processes and implementation. Readiness of public and private stakeholders to rapidly test and assess practices in accordance with the updated digital blueprint is also required. The quick feedback loops and iterations that were seen during the pandemic have demonstrated the “art of the possible”, and these practices need to be continued going forward. Digital Nation plans need to be impactful,

yet flexible enough to cope with changing requirements and needs, some of which cannot be foreseen. Plans need to be agile, constantly reviewed and enhanced iteratively as and when needed.

- **Boost innovation everywhere:** Innovation needs to be encouraged in digital tools and methods as much as for traditional methods, for instance, through making sure reimbursement models and incentives in key sectors are properly aligned with new ways of operating. In a regulatory sense, digital supply, tools and methods cannot be viewed as mere secondary choices, but have to be regarded as equivalent options. Reimbursement and incentives should be based on results achieved, rather than the mode of service delivery. For example, in healthcare, physicians should be reimbursed according to number of patients catered to, whether physically or remotely, rather than number of physical visits made.
- **Strengthen digital security:** In many countries, information security was not prioritized during the pandemic. However, the increasing reliance on digital technology for every aspect of daily life in the post-pandemic world means that attacks and data losses may have severe consequences and damage trust in a country's governance abilities. For example, increasing levels of homeworking require tighter IT security and more digital competence on the part of users, since it is generally the user that is targeted during attacks. Some countries need to clarify regulations around the usage of cloud solutions by public administrations.
- **Invest in digital infrastructure:** The increasing need for digital communication drives higher demands from IT and communication infrastructure. To push development and increase broadband penetration, continuous investments in infrastructure are necessary, in both cities and rural areas. For example, research from Briglauer and Gugler¹⁰ shows high payback and impact from broadband investments generally, and these effects are even larger in societies that are already operating digitally.

10. Briglauer and Gugler, Go for Gigabit? First Evidence on Economic Benefits of (Ultra-) Fast Broadband Technologies in Europe [Online] 2019

Insights for the executive

The pandemic has undoubtedly provided a huge impetus towards digitalization across sectors and groups in countries across the world. As well as changing the behaviors of consumers, business and government towards digital tools and approaches, it highlighted gaps and inadequacies in existing national digital policies, infrastructures and plans, and provided a test bed for new approaches and tools.

Countries now have a unique opportunity to rethink their national digitalization policies and plans. This means much more than just investment in digital infrastructure and security, although this will also be required. The pandemic has taught us several things that will be critical, including building responsiveness and agility into policy and regulation, ensuring that business models and incentives are aligned to support digital innovation, and building new capabilities and competences.

Above all, becoming a true digital nation will require the participation of all stakeholders in the new digital society. Governments have an important role to play in stimulating, encouraging and legislating to ensure and enable access and participation among all citizens. They need to work with regions and municipalities, as well as private companies, to ensure enhancement of digital competence across all sections of society, tailored to the requirements of different stakeholders. Simultaneously, private actors play an important role in this transition – providing a unique opportunity to contribute and collaborate with the public sector in achieving a common objective that will provide mutual benefit. How effective countries are at becoming digital nations, and how fast they get there, will be a key factor in their economic success over the coming years.

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