Global Happiness Council

Thematic group: Digital Well-being

Policy Brief 1

Surviving COVID-19

Key messages:

- Digital technologies have enabled society to continue to function during the COVID-19 pandemic with minimal downtime, but, at the same time, raise several controversial questions on the future sustainability paradigm on which our economic system rest.
- The COVID-19 pandemic has demonstrated both weaknesses and opportunities for the digitalization of society, letting emerge paradoxes and dilemmas in various aspects of crucial governance areas, such as health, education, work and government administration.
- While digital innovations bring a large number of positive benefits to society, they can also generate negative consequences and potential long-term side-effects on wellbeing.
- When building and developing new digital solutions, it is paramount that this is accompanied by forward-looking policies, flexible regulations, and innovative governance mechanisms that improve wellbeing and fundamental rights and citizens' freedoms.

COVID-19 and Digital Wellbeing

The COVID-19 pandemic has led to a rapid reconfiguration for our societies, economies, and our day-to-day experiences, with a somewhat seamless transition to a 'digital' way of life. This quick transition to the 'digital' dimension was a global phenomenon with strong implications on local ecosystems.

At the height of the pandemic, up to 1.6 billion children were affected by educational disruptions, learning via online lessons [1]. Companies allowed employees to work from home, if possible, and in many countries this meant well over half the labor force was working from home [2]. Medical consultations taking place via telemedicine platforms soared due to the closure of medical facilities. Governments relied heavily on digital channels for service delivery and communication.

Services focusing on connecting people via digital channels encountered rapid growth throughout the pandemic. In March 2020 the number of daily active users on Microsoft Teams grew by 38%; in the same month, Zoom had 26.8 million new downloads; and Facebook messaging and video traffic doubled [3]. While many of us remained in physical isolation, it was possible to be more connected than before, as friends and colleagues were just a click away.

Yet, digital connections are not the same as those offline. The replacement of physical connections with digital ones often has a negative effect on wellbeing. Recent research has found that increased usage of video conferencing has led to a boom in demand for cosmetic surgery [4], increasing levels of fatigue, and decreasing levels of self-esteem [5]. For children, who are now spending a large portion of their day in online learning environments, their health is at risk [6]. Previous research has shown that the internet and excessive online activity has the potential to "impair brain and verbal development" and can lead to increased prevalence of mental health issues [7]

The transition of many traditionally physical activities to the digital dimension became urgent and necessary, and has enabled the continuous functioning of society. As a result of such rapid reconfiguration across all sectors, and reliance on digital tools and collaborative systems, the economic damage and economic slowdown many experts expected has not been as severe as initially predicted [8, 9]. However, it has also become clear that the societal transition to a more 'digital' life does not necessarily relate to increasing levels of happiness or wellbeing, quite the contrary for some. A debate has been raised as a result of this crisis between a few privileged digital enthusiasts who have benefited or see the future on one hand, and many non tech-savvy individuals feeling disaffection on the other, this has even lead to the emergence of "neo-luddism" attitudes [10].

While it is undeniable that digital technologies have been instrumental for coping with the ongoing COVID-19 pandemic it has become clear the rapid societal movement to a more digital life does not necessarily relate to increased levels of happiness. In a wide variety of contexts and situations, the pandemic and the increased reliance on digital technologies has further perpetuated already existing inequalities, worsened mental health, increased stress, and decreased wellbeing. Such issues can be grouped together under the term digital wellbeing, which describes "*the impact of technologies and digital services on people's mental, physical social, and emotional health*" [11]. In order to better understand the effect of the COVID-19 pandemic on wellbeing, this short policy brief explores its impact on four concrete areas of governance: healthcare, education, work, and government.

Healthcare: the crisis of sustainable health and digital resilience

The COVID-19 pandemic is first and foremost a health-related crisis. In order to manage the pandemic, a strong, resilient, and innovative healthcare sector is needed. Throughout the pandemic it has become increasingly clear that healthcare systems where digital health information systems, telemedicine capabilities, and a strong digital health infrastructure performed better than systems without. The development of digital healthcare is a critical component for the future of healthcare.

There are a number of examples where digital health initiatives clearly had a strong positive effect for the management of the crisis. For example, **Singapore**, which has a long history of digital healthcare and pandemic management [12], was able to quickly manage and track outbreaks of COVID-19. **Taiwan** utilized their experience with digital government to develop a public health campaign that fought fake news and misinformation with humor [13]. Many countries launched contact tracing applications, generally supported by Google and Apple. This created an interesting situation where Apple and Google were directly responsible for the management of data on close contacts and then provided access to only a single government designated entity per state, this is the first time in history that access to an operating system function has been precluded from independent developers. While such applications were common, and almost always supported by a government agency due to the aforementioned restriction, research has shown that the adoption and impact of many such applications has been low, partly due to low trust in government, thus limiting their effectiveness [14, 15].

However, just having digital tools is not enough. These tools must be applied correctly and be supported by strong and capable staff or else errors may follow. The **United Kingdom**, for example, relied heavily on Excel for their contact tracing initiatives, which led to the under reporting of case numbers due to software limitations [16]. **Estonia**, a country known globally for its digital government, also struggled to

reorient its digital health system to fighting the pandemic with a number of shortcomings identified at the beginning of the pandemics due to missing internal capacities [17].

The importance of functioning digital health information systems that are interoperable has not been lost on the international community. The World Health Organization's Regional Office for Europe has set up an international committee to explore how different digital health systems coped with the pandemic and developed recommendations for future proofing such systems against potential pandemics [18]. Additionally, the WHO has also begun to explore the development of an interoperable platform that enables the secure dissemination of data amongst partners based on Estonia's x-road technology [19].

Another clear example of how the COVID-19 pandemic is influencing the healthcare sector is in the growth of the telemedicine sector. Citizens need to be able to talk with health care professionals, but when hospitals and medical institutions are locked down, this is not possible. Telemedicine and digital health solutions help fill this gap by allowing citizens to connect digitally with their doctors, raise their concerns, receive prescriptions, and receive advice on how to treat or monitor any ongoing ailment. Such tools are beneficial as they increase access to healthcare and, especially for those residing in rural areas, it provides access to specialists, doctors, and appointments that may not otherwise be as easily available.

Though digital solutions appear to be critical for the future of healthcare systems, there are a number of risks that must be taken into account. Health data is private and sensitive and it must be protected. Any digital solution that relies on digitalized information runs the risk of improperly releasing or using such information. In all cases, attention must be paid to minimizing potential privacy and surveillance violations.

This is especially true when it comes to contact tracing applications and other digital surveillance methods used to fight the COVID-19 pandemic where there is a clear risk for enhancing government surveillance of citizens. Any digital health initiative must be accompanied by the necessary legal and regulatory safeguards, strong informational security, institutional interoperability, and internal governmental capacity or risk severe governmental overreach, citizen privacy breaches, and potential loss of trust.

Education: the effects of the digital divides and their consequences on sociability

Many education systems were able to rapidly implement and adopt some form of urgent digital response to the pandemic: recent statistics put the number of educational ministries engaging in such a response at over 90% [20]. What this approach looked like varied by country and different approaches have been trialed, from broadcasting educational material on TV and radio channels to fully digitalized education systems[1].

There are a number of positive effects associated with digital education and such methods help to ensure that students are able to continue learning and not fall behind in their studies. However, it is also clear that while the continuity of education was enabled, it was not available to all, inequalities were exacerbated, and educational quality suffered.

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[1] A large list of digital education innovations is available here.

One of the clearest issues at hand is that those who need education the most, those who are impoverished and live in less developed areas, are also those who are the least likely to be able to benefit from digital education due to the digital divide, lack of access to internet, or the lack of access to a computer [20–22]. In cases where the internet exists, students still must have access to the physical infrastructure necessary for engaging in their lessons.

At a minimum this means access to a computer, but increasingly important is access to a microphone and a camera as well. Space at home is also an issue, especially for families with multiple children and parents working from home. In such instances it is not enough to have one computer, but rather many are needed.

There are also issues associated with digital education itself, with some students and teachers feeling that digital learning decreases the quality of education when compared to in person learning. This puts students at a potential future disadvantage due to decreased learning outcomes.

As younger students are using technology and digital means for their education, there is increasing potential for risks related to cyber bullying, encountering inappropriate content, downloading viruses, or sharing private information.

Digital education also influences both parents and teachers. Parents must be involved even more than during normal schooling, yet, as parents are often working remotely as well, it is hard to manage this, increasing stress and decreasing wellbeing for the entire family. In the case of teachers, many did not have the technical expertise or competence to adequately provide digital education at the start of the pandemic [21], thus causing stress for them, and decreased educational performance for students.

The switch to digital education has raised and brought to the public's attention a number of potential ways for wellbeing to decrease. Yet, the innovative potential of digital education has also become clear to the global society. Moving forward digital education will continue to have an impact and transform our educational systems, exactly how this will look, though, is not yet determined.

Work: the paradox of "smart" working and the need of a new social contract

In response to shutdowns, many organizations switched to a remote working environment. For example, in the European Union, almost 40% of respondents to a recent survey reported that they were working from home during the crisis; for those working in a city or suburb, close to 60% of respondents started to work from home due to the crisis [23]. In the United States, a survey showed that while before the pandemic 20% of respondents worked from home, now 71% worked from home [24].

In many cases, employees initially reported happiness with the new arrangement. Working from home provided advantages when it comes to flexibility, accessibility, and work continuity. For businesses themselves, remote work also provides a number of advantages in allowing them to save on office costs, have more global teams, increase communication, and adopt innovative organizational designs and management structures.

However, not everyone is able to work from home, and such digital arrangements appear for further perpetuate already existing divisions and inequalities with the higher educated and higher income groups being significantly more likely to be able to work online and have the necessary equipment and connections.

When it comes to the wellbeing aspects of digital work, research has shown that in both the short and long term there are a number of detrimental effects on an individual's wellbeing. The line between work and home life begins to dissipate, leading to poor work life balance; there is a pressure to always be available, online, and responsive.

For both men and women, working from home leads to a noticeable increase in working hours [25, 26]. For parents, and women especially, working in a remote environment led to decreased productivity, increased stress, more time spent on child care, and a feeling of inequality or disadvantage compared to their male colleagues [27, 28]. Additionally, there appears to be increased incidences and opportunities of and for surveillance of employees by their employees using digital tools [29, 30], clearly raising ethical and legal issues.

The combination of such factors causes fatigue, increased risks for mental health problems, and decreases one's overall sense of happiness. For this reason, the European Parliament has recently called for a new EU-wide fundamental right – the right to disconnect. Such a right would allow "workers to refrain from engaging in work-related tasks – such as phone calls, emails, and other digital communication – outside working hours" [31].

Government: turning the pandemic into a sustainability opportunity

Government is at the forefront of the response to the COVID-19 pandemic and public administrations have the duty to their citizens to protect their wellbeing, prosperity, and quality of life. In order to best accomplish this goal, governments have turned towards digital methods to augment their ability to meet citizen expectations and state functions. While the idea of a digital government is not new, the importance of a digitalized public administration has become even more apparent during the COVID-19 pandemic [32].

Governments that had strong digital capacities before the pandemic were able to better manage their response, gather and disseminate data, continue operations via digital channels, ensure service stability, and had more opportunities for interacting and engaging citizens with the response to the pandemic. However, being digital, and having digital services, is not enough on its own, there must be government capacity as well [33]. Governments that invested in developing the necessary internal capacity to manage and implement digital services and technologies worked better during the pandemic [34]. Rushing to digitalize in response to the pandemic may have severe long term and detrimental effects for governmental transformation and digitalization efforts [35].

Transforming into a more digital administration is a long process. It is contextually sensitive and requires strong support and trust from a country's citizens. When rushed, digitalization initiatives have the potential to cause a loss of trust in government, undermine the rights of citizens, and ultimately limit government effectiveness. It is for this reason that many digitalization initiatives during the COVID-19 pandemic have focused on engaging and including citizens into the process, building trust, and strengthening administrative capacity.

One of the clearest examples of such initiatives is through the release and maintenance of open government data related to the pandemic. Many governments early on in the pandemic decided to release their pandemic data in an open format to encourage any interested stakeholder to use such data

to conduct statistical analyses or develop visualizations. The opening up of data serves a number of purposes such as increasing trust, increasing participation and encouraging innovation.

Over the duration of the pandemic, a number of different countries and organizations have engaged and worked with open government data related to the pandemic, recent research has explored hundreds of such initiatives and found that they aided in general knowledge about public health, were important for communication, and helped with the drafting of policy [36].

Technology is only as strong as the state and institutions behind it. This can be clearly seen in the case of Estonia, a digital government powerhouse, who, due to missing internal capacities, was unable to fully bring their digital state to bear against the pandemic. In states where infrastructure is missing, this needs to be built up. Funds must be provided not only for innovations and new digital services, but for their long-term maintenance, security, and upkeep. Dubai, which has demonstrated its commitment to innovation and digitalization, provides a strong example of how to quickly develop, support, and fund digital government capabilities.

Though there are a number of benefits to government digitalization, there are a number of potential implications for wellbeing – this is especially true during the current unstable pandemic driven environment.

One of the clearest risks is related to data security, poorly built and implemented information systems may allow data to leak. Many of the world's citizens do not have access to computers or the internet, initiatives must be in place to either provide such access or keep alternative forms of service delivery functioning at the same time. This is not simple and it requires large and sustained investments into expensive infrastructure.

When it comes to wellbeing, there are also no guarantees that more digitalized government or digital service availability leads to increased wellbeing, satisfaction, or quality of life.

Conclusions and recommendations

Digitalization is profoundly changing societies around the world and at an accelerating pace. While the positive effects are evident, digital transformation also has its drawbacks leading to risks and unintended consequences for societies worldwide.

The digital dimension is inseparable from our modern day networked society and pervasively embedded into our economic system and social structure [37]. We are more connected than ever, and digital technologies have, and will continue to have, a transformative effect on how we live, work, learn, interact, and govern. This is unavoidable. However, what is preventable, is digitalization efforts that damages rights, sacrifices privacy, drives inequality, weakens mental health, increases stress and fatigue, and decreases life satisfaction, happiness and wellbeing.

In order to avoid such risks to our digital wellbeing, governments must enact supportive legislation, regulation, and strategic governance mechanisms to drive digitalization in such a way that it enhances, supports, and fosters a person's ability to grow, thrive, and be happy.

Some initial starting points for reflection and design of forward-looking action are offered below:

Healthcare

- Digital health platforms can offer new opportunities to improve wellbeing. However, health data is highly sensitive, and digitalizing such information may face resistance.
- Any successful digital health initiative must be based on a reliable digital identity infrastructure and provide interoperability, transparency on how data is collected and used, prevent misuse, and ensure that privacy is protected.
- The *self-sovereign identity* principles provide a framework that is both effective and respectful of citizens' privacy.

Education

- Digital learning will continue to have an impact and transform our educational systems.
- It is important that, at this foundational stage, efforts are made to ensure that digital education and teaching does not negatively influence individual and collective wellbeing.
- It is critical to ensure that society is able to utilize the opportunities afforded by digital technology in order to: i) expand access to education; ii) guarantee that students and youth have the possibility to gain the necessary skills and use technologies and infrastructure to learn; and iii) explore new and innovative methodologies for hybrid or fully digitalized education.

Work

- Workers' rights must be updated to function in the new hybrid online and offline work environment ushered in during the pandemic. A right to disconnect must be guaranteed, along with privacy and equal treatment.
- Limits to surveillance and employee monitoring must be considered. New governance and policy mechanisms will be needed to ensure the mental health and wellbeing of employees does not suffer due to new digital or remote working arrangements.
- A new social contract for the digital age must be agreed upon, guaranteeing digital rights and preserving the respect of fundamental values of democracy, sustainability and ethical behavior in the employment relations so to nurture social well-being and shared prosperity.

Government

- Digital government initiatives have the potential to improve societal wellbeing, and it is recognized as a powerful agent of change to accelerate the achievement of the SDGs.
- It is of paramount importance that when developing new digital services governments engage with the citizens, understand their needs, and ensure that newly developed initiatives positively influence the wellbeing and quality of life of all citizens.
- Governments must ensure any new digital initiative is accompanied by appropriate checks and balances, as well as increased levels of participation and resilience, which are all crucial pre-requisites of sustainable development.

References:

1. UNICEF and the International Telecommunication Union (ITU) (2020) How many children and young people have internet access at home? | UNICEF. In: UNICEF. https://www.unicef.org/reports/how-many-children-and-young-people-have-internet-access-home-2020. Accessed 28 Apr 2021

2. BBC (2020) Coronavirus: How the world of work may change forever - BBC Worklife. In: BBC. https://www.bbc.com/worklife/article/20201023-coronavirus-how-will-the-pandemic-change-the-way-we-work. Accessed 28 Apr 2021

3. Adjovi J, Flores A (2020) COVID-19: the telecoms industry will suffer less than many others, and can thus help to support the economy. In: Analysys. https://www.analysys.com/contentassets/74b25021d39c44b99270b20ad3926eee/analysys_mason_covid19_telecoms_quarterly_apr 2020.pdf. Accessed 28 Apr 2021

4. The Economist (2021) Covid-19 is fuelling a Zoom-boom in cosmetic surgery | The Economist. In: Econ. https://www.economist.com/international/2021/04/11/covid-19-is-fuelling-a-zoom-boom-in-cosmetic-surgery. Accessed 28 Apr 2021

5. The Economist (2021) A new study suggests that "Zoom fatigue" is worse for women than men | The Economist. In: Econ. https://www.economist.com/graphic-detail/2021/04/17/a-new-study-suggests-that-zoom-fatigue-is-worse-for-women-than-men. Accessed 28 Apr 2021

6. JISC (2020) Towards happy and healthy students: digital wellbeing and COVID-19 | Jisc. In: JISC. https://www.jisc.ac.uk/news/towards-happy-and-healthy-students-digital-wellbeing-and-covid-19-19-may-2020. Accessed 28 Apr 2021

7. Martellozzo E (2020) Life is digital by default – so what's the impact on young people's mental health? | Media@LSE. In: Media@LSE. https://blogs.lse.ac.uk/medialse/2020/12/21/life-is-digital-by-default-so-whats-the-impact-on-young-peoples-mental-health/. Accessed 28 Apr 2021

8. United Nations (2021) No winners but fewer losers in global economy from COVID than expected UN News. https://news.un.org/en/story/2021/03/1087712. Accessed 28 Apr 2021

9. Carlsson-Szlezak P, Swartz P, Reeves M (2020) Why The Global Economy Is Recovering Faster Than Expected. In: Harv. Bus. Rev. https://hbr.org/2020/11/why-the-global-economy-is-recovering-faster-than-expected. Accessed 28 Apr 2021

10. Misuraca G (2020) Rethinking Democracy in the "Pandemic Society" A journey in search of the governance with, of and by AI. In: CEUR Workshop Proceedings. CEUR

11. JISC Digital wellbeing, Building digital capability. JISC. https://www.digitalcapability.jisc.ac.uk/what-is-digital-capability/digital-wellbeing/. Accessed 28 Apr 2021

12. Pan S, Pan G, Devadoss P (2005) E-Government Capabilities and Crisis Management: Lessons from Combating Sars in Singapore. MIS Q Exec 4:

13. Poon YX (2020) How Taiwan used memes to fight pandemic rumours | GovInsider. In: Govinsider. https://govinsider.asia/inclusive-gov/audrey-tang-digital-minister-how-taiwan-used-memes-to-fight-pandemic-rumours/. Accessed 28 Apr 2021

14. Browne R (2020) Why coronavirus contact-tracing apps haven't been a "game changer." In: CNBC. https://www.cnbc.com/2020/07/03/why-coronavirus-contact-tracing-apps-havent-been-a-game-changer.html. Accessed 20 Sep 2020

15. Toussaert S (2021) Upping uptake of COVID contact tracing apps. Nat Hum Behav 5:183–184. https://doi.org/10.1038/s41562-021-01048-1

16. Kelion L (2020) Excel: Why using Microsoft's tool caused Covid-19 results to be lost - BBC News. In: BBC. https://www.bbc.com/news/technology-54423988. Accessed 28 Apr 2021

17. McBride K (2021) Image of 'digital Baltics' cracks under weight of pandemic - New Eastern Europe - A bimonthly news magazine dedicated to Central and Eastern European affairs. In: New East. Eur. https://neweasterneurope.eu/2021/03/11/image-of-digital-baltics-cracks-under-weight-of-pandemic/. Accessed 28 Apr 2021

18. World Health Organization (2020) WHO/Europe | Media centre - Announcing the Pan-European Commission on Health and Sustainable Development: Rethinking Policy Priorities in the light of Pandemics. In: World Heal. Organ. https://www.euro.who.int/en/media-centre/sections/press-releases/2020/announcing-the-pan-european-commission-on-health-and-sustainable-development-rethinking-policy-priorities-in-the-light-of-pandemics. Accessed 28 Apr 2021

19. ERR News (2020) Estonia to sign digital health cooperation deal with WHO | News | ERR. In: ERR News. https://news.err.ee/1142077/estonia-to-sign-digital-health-cooperation-deal-with-who. Accessed 28 Apr 2021

20. UNICEF (2020) COVID-19 and School Closures: Are children able to continue learning - UNICEF DATA. In: UNICEF. https://data.unicef.org/resources/remote-learning-reachability-factsheet/. Accessed 28 Apr 2021

21. Manca F, Meluzzi F (2020) Strengthening online learning when schools are closed: The role of families and teachers in supporting students during the COVID-19 crisis. In: OECD Policy Responses to Coronavirus. https://www.oecd.org/coronavirus/policy-responses/strengthening-online-learning-when-schools-are-closed-the-role-of-families-and-teachers-in-supporting-students-during-the-covid-19-crisis-c4ecba6c/. Accessed 28 Apr 2021

22. de Marcellis-Warin N, Munoz JM, Warin T (2020) Coronavirus and the widening educational digital divide: The perfect storm for inequalities? | California Management Review. In: Calif. Manage. Rev. https://cmr.berkeley.edu/2020/07/covid-education/. Accessed 28 Apr 2021

23. Sostero M, Milasi S, Hurley J, et al (2020) Teleworkability and the COVID-19 crisis: a new digital divide? Joint Research Centre, Seville

24. Parker K, Horowitz JM, Minkin R (2020) How Coronavirus Has Changed the Way Americans Work | Pew Research Center. In: Pew Res.

Cent.   https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/. Accessed 28 Apr 2021

25. Broom D (2019) Flexible jobs can make work-life balance worse, a German study finds | World Economic Forum. In: World Econ. Forum. https://www.weforum.org/agenda/2019/03/flexible-working-can-make-work-life-worse-germany/. Accessed 28 Apr 2021

26. Osborne H (2021) Home workers putting in more hours since Covid, research shows | Working from home | The Guardian. In: Guard. https://www.theguardian.com/business/2021/feb/04/home-workers-putting-in-more-hours-since-covid-research. Accessed 28 Apr 2021

27. Bateman N, Ross M (2020) Why has COVID-19 been especially harmful for working women? In: Brookings. https://www.brookings.edu/essay/why-has-covid-19-been-especially-harmful-for-working-women/. Accessed 28 Apr 2021

28. Moore SMH (2020) Women risk losing decades of workplace progress due to COVID-19 – here's how companies can prevent that. In: Conversat. https://theconversation.com/women-risk-losing-decades-of-workplace-progress-due-to-covid-19-heres-how-companies-can-prevent-that-145073. Accessed 28 Apr 2021

29. Riso S (2020) COVID-19: Fast-forward to a new era of employee surveillance | Eurofound. In: Eurofund. https://www.eurofound.europa.eu/publications/blog/covid-19-fast-forward-to-a-new-era-of-employee-surveillance. Accessed 28 Apr 2021

30. Finnegan M (2020) The New Normal: When work-from-home means the boss is watching | Computerworld. In: Computerworld. https://www.computerworld.com/article/3586616/the-new-normal-when-work-from-home-means-the-boss-is-watching.html. Accessed 28 Apr 2021

31. European Parliament (2021) 'Right to disconnect' should be an EU-wide fundamental right, MEPs say | News | European Parliament. In: Eur. Parliam. https://www.europarl.europa.eu/news/en/press-room/20210114IPR95618/right-to-disconnect-should-be-an-eu-wide-fundamental-right-meps-say. Accessed 28 Apr 2021

32. Misuraca G, Barcevicius E, Codagnone C (2020) Exploring Digital Government transformation in the EU – Understanding public sector innovation in a data-driven society. Joint Research Centre, Seville

33. Mazzucato M, Kattel R (2020) COVID-19 and public-sector capacity. Oxford Rev Econ Policy 36:S256–S269. https://doi.org/10.1093/oxrep/graa031

34. Mazzucato M, Quaggiotto G (2020) The Big Failure of Small Government by Mariana Mazzucato & Giulio Quaggiotto - Project Syndicate. In: Proj. Synd. https://www.project-syndicate.org/commentary/small-governments-big-failure-covid19-by-mariana-mazzucato-and-giulio-quaggiotto-2020-05?barrier=accesspaylog. Accessed 24 Nov 2020

35. Miller N (2020) Why Covid-19 might set digital government back | Apolitical. In: Apolitical. https://apolitical.co/en/solution_article/why-covid-19-might-set-digital-government-back. Accessed 19 Nov 2020

36. Gonzalez-Zapata F, Perez JAR, Chauvet L, et al (2021) Open data in action: initiatives during the initial stage of the COVID-19 pandemic. GovLab, Organisation for Economic Co-operation and Development (OECD), Paris

37. Castells M (1996) The rise of the network society, 1st ed. Blackwell Publishers, Malden Mass.