EUROSHIP

closing gaps in European social citizenship

Digital Welfare Ecosystems in Europe: Social protection systems preventing social exclusion and enhancing opportunities to participate in the digital economy

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i) to advance the knowledge base that underpins the formulation and implementation of relevant policies in Europe with the aim of exercising the EU social rights as an integral part of EU citizenship and promoting upward convergence, and
ii) to engage with relevant communities, stakeholders and practitioners in the research with a view to supporting social protection policies in Europe. Contributions to a dialogue about these results can be made through the project website (euroship-research.eu), or by following us on Twitter: @EUROSHIP_EU.

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Abbreviations

AGID - Digital Italy Agency (Agenzia per l'Italia Digitale)
ANCI - Association of Italian Municipalities
API - Application Programming Interfaces
DESI - Digital Economy and Society Index
DigComp - Digital Competence Framework for Citizens
EU – European Union
ICT – Information and Communications Technology
INAIL – Italian National Insurance Institute for Accidents at Work
INPS - Italian National Social Insurance Institute
NKOM – Norwegian Communications Authority
PNRR - Italian Resilience and Recovery Plan
SPID - Italian public ID system *(Sistema Pubblico Identità Digitale*)

Introduction

Jacqueline O'Reilly, Rachel Verdin and Ann McDonald

Policy concerns

The European Commission (2021) '*2030 Digital Compass: the European way for the Digital Decade*' outlines how they aim to significantly improve the digitalisation of public services in Europe. However, the gap between the ambition and realisation of these objectives are one of the key policy challenges that this deliverable begins to examine.

> *"By 2030, the EU's objective is to ensure that democratic life and public services online will be fully accessible for everyone, including persons with disabilities, and benefit from a best– in-class digital environment providing for easy-to-use, efficient and personalised services and tools with high security and privacy standards. Secured e-voting would encourage greater public participation on democratic life. User-friendly services will allow citizens of all ages and businesses of all sizes to influence the direction and outcomes of government activities more efficiently and improve public services. Government as a Platform, as a new way of building digital public services, will provide a holistic and easy access to public services with a seamless interplay of advanced capabilities, such as data processing, AI and virtual reality. It will also contribute to stimulating productivity gains by European business, thanks to more efficient services that are digital by default[1] as well as a role model incentivising businesses, in particular SMEs, towards greater digitalisation.*
>
> *However, the gap to reach this vision is still significant. Despite the increasing use of public services online, services provided digitally are often basic e.g. filling in forms. Europe must harness digitalisation to drive a paradigm change in how citizens, public administrations and democratic institutions interact, ensuring interoperability across all levels of government and across public services[2] ."*
> (European Commission, 2021: 11).

It is not only the gap between the rate of progress between countries that is a cause for policy concern. The emergence within countries of a multitude of digital divisions became even more apparent during the pandemic (Verdin and O'Reilly 2021; Van Dijk, 2020). Here we provide empirical evidence of the effect of the digital transformation and its consequences for social citizenship.

[1] 'While public services will always be accessible in person, successful digital transformation will make digital the preferred way for people to access them.'

[2] 'Cf. in particular the Berlin Declaration on Digital Society and Value-based Digital Government, December 2020. The digitisation effort mandated by the EU Single Digital Gateway should be extended to other sectors so that citizens and businesses can interact digitally will all parts of national administrations.' (European Commission, 2021: 11).

Comparing digital transitions

The digital transformation of work and welfare has been a major policy concern in relation to the quality of new forms of employment, access to jobs and their impact on social protection (Neufeind et al. 2018; Verdin and O'Reilly 2021). Only recently has attention turned to examine how this digital transformation is being applied to the delivery of public welfare services (Busemeyer et al. 2022). Research in this area is very embryonic, both in terms of comparative theoretical analysis and systematic comparative long term evidence.

Some early approaches have drawn on quantitative data and qualitative assessments from the Digital Economy and Society Index (DESI) to benchmark where countries are at the forefront of these developments, while others lag far behind. In between, there are number of countries emerging with a staggered, uneven development across several economic sectors and dimensions of digitalisation (Bilozubenko et al. 2020; O'Reilly and Verdin 2021).

With an initial empirical and policy focus, we set out to understand how the digital transformation of work and welfare services has been evolving in Europe, its effects on social exclusion and opportunities to participate in the digital economy. The empirical evidence indicated that some countries leading these developments included Norway, Estonia and Spain; countries not far behind were the UK, with Germany making much slower progress, with Hungary making some improvements and Italy very far behind.

This was a puzzle. Why were Estonia and Spain so much more advanced than Hungary or Italy? All four countries have been categorised in mainstream comparative social policy and political economy frameworks with weak welfare states and comparatively poor or very variable employment performance. However, the established typologies did not always fit the empirical realities or capture the complexities within and between societies (O'Reilly 1996 and 2006).[3]

Established typologies do not always help explain differences in the digitalisation of public services for example where Spain was clearly doing much better than Italy, and Estonia was outperforming Hungary (Kattel & Mergel, 2019). This empirical evidence prompted our enquiry. Based on a series of expert interviews with key actors in each country and drawing on evidence from the EU DESI we probed this quantitative evidence with more qualitative case study examination to understand the evolution of these differences. One outcome was the development of the concept of digital welfare ecosystems.

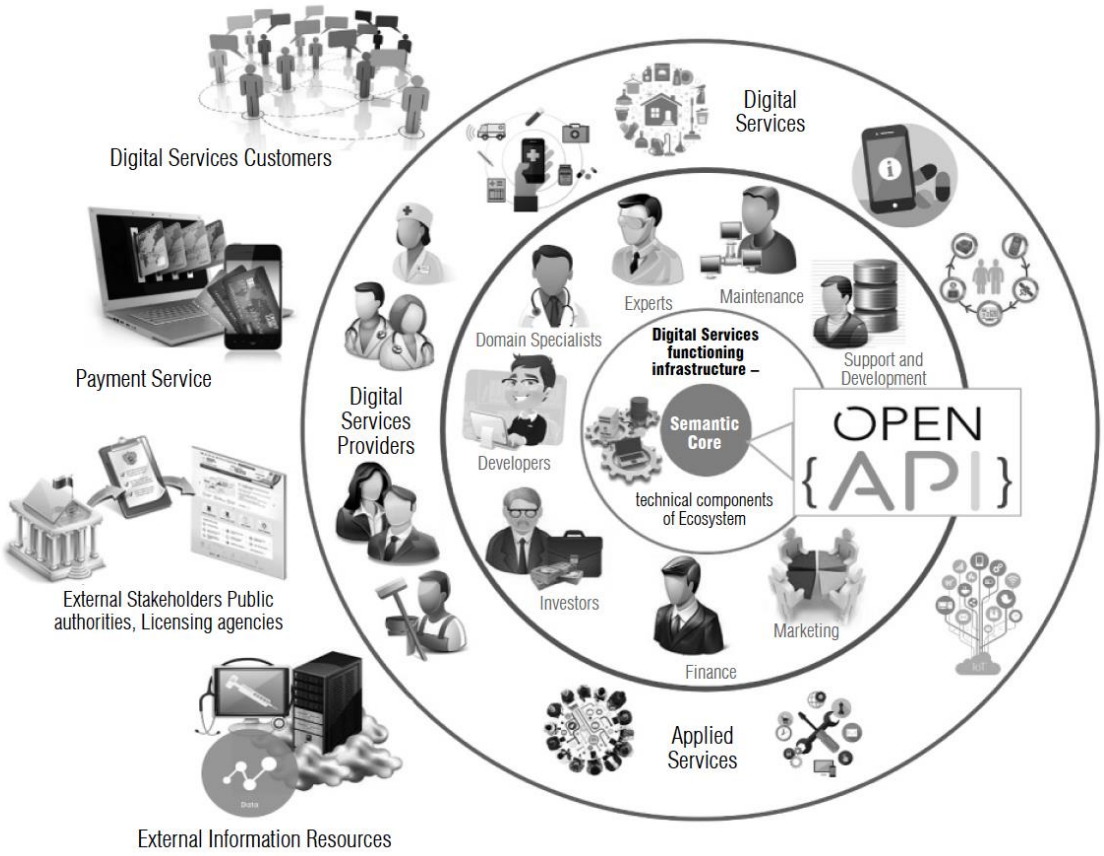
[3] While some countries have suffered from a long legacy of youth unemployment, for example in southern Europe (O'Reilly et al.2019), others such as Estonia have had rather high overall employment rates, especially for older workers. While there are temporal rapid upsurges of unemployment during crises, recovery is quite rapid in Estonia.

The concept of 'digital welfare ecosystems'

The concept of '*digital welfare ecosystems'* developed here is based on comparative empirical evidence and draws from a wider literature on innovation studies and workforce ecosystems (Altman et al. 2021). The aim of the concept we develop is to build on existing frameworks to explain regional inequalities in the evolution of innovation systems and changing practices at work. We apply this, for the first time, to understanding the evolution of digital welfare systems in Europe.

A conceptual architecture of a digital economic sector ecosystem has been outlined by Akatin et al. (2017). This is based on a semantic core of software developers working on Open Access Application Programming Interfaces (API) that can speak to each other. This semantic core is used by developers, investors and others to provide digital services to external end users. This is visualised in Figure 1.

Figure 1: Conceptual architecture for a digital economic sector ecosystem



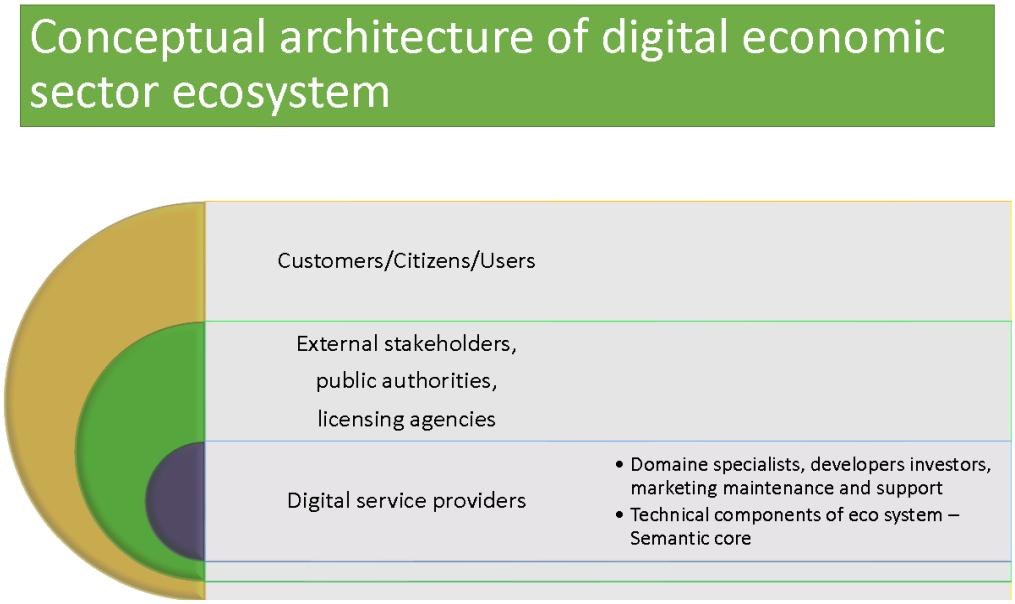
Source: Akatkin et al. (2017)

The concept of digital ecosystems and comparative political economy has been developed by Kitsing (2022: 151). He argues that a digital ecosystem can be understood as "*as a modular coordination process of a variety of actors where coordination among interdependent organizations can take place without hierarchical set-up.*" One of the

advantages of such an approach, according to Altman et al. (2021) is that it recognises the nature of dependencies beyond the immediate contracted workforce. This allows us to understand how organisations interact with those outside their organisation in order to achieve their strategic goals. This is particularly apposite to study the development of digital welfare ecosystems.

In contrast to the traditional service delivery of welfare, digitalised systems are dependent on the infrastructure of connectivity to develop and deliver their services. This requires working with businesses who can provide the technological infrastructure beyond those traditionally offered by bricks and mortar operations. Public service providers have sometimes consulted third sector organisations about the way they connect with the target groups. Connections with businesses have previously focused on outsourcing service delivery to commercial businesses and non-profit NGOs, for instance outsourcing of active labour market courses or health services.

Figure 2: Simplified conceptual architecture of digital economic sector ecosystem



Source: Authors developed from Akatkin et al. (2017)

Focusing on digital transformation we examine a triad of actors including government, business, and community third sector organisations (ranging from very local organisations to national charities). In essence this approach allows us to examine the relationship between the three core groups of actors within countries, and sometimes across them, in how digital welfare ecosystem are evolving. We provide a refined and simplified version of a digital ecosystem that could be applied to the field of digital welfare in Figure 2.

While government and business typically have a very hierarchical set up, the relations between them, and community third sector organisations, can be much more fluid, and political over time. One of the advantages of developing an ecosystems approach is that it allows a more organic way of understanding how actors within systems can effectively bring about change, or not, over time to address the challenges of embedded and emerging digital divisions (Van Dijk, 2020).

A useful comparison on the key indicators determining a country's success at bridging the digital divide, according to Bilozubenko et al. (2020: 216), include: "*households – the level of internet access; individuals – mobile internet access; individuals – internet use; enterprises that employ ICT specialists; and enterprises that provide training to develop/upgrade ICT skills of their personnel.*" While these dimensions provide a useful basis to plot the levels of digital transition, they tell us little about how governments roll out digital welfare services effectively to address digital divisions.

Using the concept of digital welfare ecosystems our focus is on the way the digital role out of welfare services has been developed and its impact on social citizenship to supplement what we know about citizens' attitudes to these technologies (McDonnell et al. 2022) or comparative objective benchmarks (Verdin and O'Reilly 2021). The organic and dynamic perspective this enables allows us to go beyond more conventional comparative welfare and political economy approaches. It allows us to start to explain some of the differences we observe between countries that are frequently labelled as belonging to similar types, and therefore should have similar trajectories. To date comparative quantitative evidence available from the DESI suggests that they are not sharing these trajectories in the role out of digital welfare, as well as considerable variation across the dimensions being examined in the DESI (O'Reilly & Verdin, 2021:7)

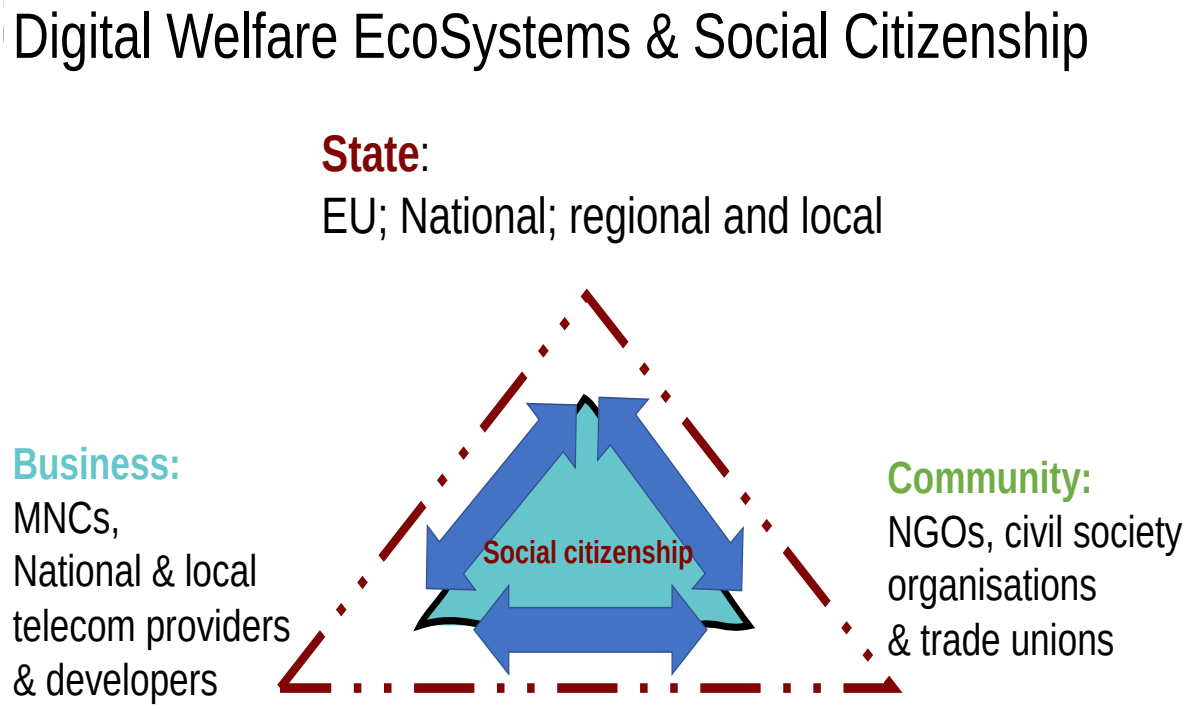
By focusing on a triad of actors from government, business and community third sector organisations (Figure 3) we can examine their involvement in the creation of digital channels of welfare and how new forms of social citizenship are emerging, or not. Social citizenship here relates to how the opportunities for exercising social rights is shaped by the nature of social dialogue, interaction and coordination between these actors and the implementation of mutually beneficial and effective change. This is in keeping with the aims outlined by the European Commission (2021) '*2030 Digital Compass'.*

A further advantage of the ecosystem approach, according to Kitsing (2022:151), is that digital ecosystems require a "*fundamentally a different form of coordination from traditional organizations and markets. "Digital ecosystems" refers to digitalization of these coordination processes as well as digital actors involved in the process. A digital ecosystem is also interacting with the non-digital world as different institutions interact with digital ecosystems."*

This interaction between the way the digital ecosystem interacts with the '*non-digital world'* and the way *'institutions interact with digital ecosystems'* is an important perspective well illustrated by the impact and effect of lockdowns imposed during the covid pandemic (Verdin and O'Reilly 2021). As contributors here acknowledge, the plethora of government

initiatives demonstrates that the digital transformation was long underway before the pandemic. However, the impact of lockdowns is widely seen to have accelerated this transformation. In particular, governments redoubled their efforts to make services digitally available. The pandemic has encouraged more citizens to access public services online, prompting much needed improvements in digital capabilities (Lloyds, 2022). However, the extent of this change has been varied within and between countries. At the same time Haskell and Westlake (2022) suggest that rather than an acceleration in digitalisation, there has been a stagnation reflected in falling rates of R&D investment due to the uncertainty created by this turbulence. These developments are all in a process of transformation, which makes it apposite time to examine them.

Figure 3: Digital Welfare Ecosystem and the consequences for social citizenship



While public authorities may be a dominant partner in such networks, it still needs the participation, resources and legitimacy of other actors to ensure or improve its capacity to achieve significant goals. The roll-out of digitalised welfare services depend not only processes taking place only inside but also outside the government. These interdependencies and actors' responses probably generate more or less open tensions. In Europe we find different relations and divisions of responsibilities between public authorities, the market, and organized civil society. At the same time, increasing digitalisation of welfare services and the labour market also cause changes in those relations. Great complexity of issues and institutional patterns means that decision-making becomes dispersed. This raises questions about stakeholder relations and how they influence digital welfare provisions and the practice of social citizenship.

This report presents a comparative analysis of the digitalisation journey for each of the respective EUROSHIP countries: Norway, Estonia, Spain, the UK, Germany, Hungary and Italy. Our assessment of the delivery of digital transformations is mapped recognising the interrelationship of government, business and third sector providers around four core dimensions:

- **Digital government:** how technological reforms to improve existing welfare systems and social protection for digital employees and those looking for work and benefits are progressing
- **Connectivity**: identifying political debates on digital strategies and assessing the implementation of accessible digital infrastructure
- **Digital Inclusion and Skills:** how to give everyone access to digital skills and services considering the opportunities and obstacles this presents for social inclusion.
- **The consequences for social inclusion** in relation to the deficit in digital skills, and how the growth of digital forms of employment have impacted systems of social protection.

Based on this comparative analysis we aim to identify similarities and differences in the way digital welfare ecosystems are evolving. We seek to identify factors attributable to their success or stagnation. And, we aim to understand to which extent these evolving relations contribute to the development of social citizenship in the way different partners communicate about user needs that can address digital divisions to meet the aims of the EU '*2030 Digital Compass* (European Commission 2021).

References

Akatkin, Y. M., Karpov, O. E., Konyavskiy, V. A., & Yasinovskaya, E. D. (2017). Digital economy: Conceptual architecture of a digital economic sector ecosystem. *Business Informatics*, (4 (42) eng), 17–28. https://doi.org/10.17323/1998-0663.2017.4.17.28.

Altman, E. et al. (2021, April 13). Workforce Ecosystems: A New Strategic Approach to the Future of Work (J. Schwartz, D. Kiron, R. Jones, & D. Kearns-Manolatos, Eds.). Retrieved from MIT Sloan Management Review website: https://sloanreview.mit.edu/projects/workforce-ecosystems-a-new-strategic-approach-to-the-future-of-work/

Bilozubenko, V., Yatchuk, O., Wolanin, E., Serediuk, T., & Korneyev, M. (2020). Comparison of the digital economy development parameters in the EU countries in the context of bridging the digital divide. *Problems and Perspectives in Management*, *18*(2), 206–218. https://doi.org/10.21511/ppm.18(2).2020.18

Busemeyer, M. R., Kemmerling, A., Kees Van Kersbergen, & Marx, P. (2022). *Digitalization and the Welfare State*. Oxford University Press.

European Commission. (2021, March 9). 2030 Digital Compass: the European way for the Digital Decade. ANNEX to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Retrieved September 15, 2022, from EU4Digital website:

https://eufordigital.eu/library/2030-digital-compass-the-european-way-for-the-digital-decade/
Haskel, J., & Westlake, S. (2022). *Restarting the future : how to fix the intangible economy*. Princeton, New Jersey: Princeton University Press.
Kattel, R., & Mergel, I. (2019). Estonia's Digital Transformation: Mission Mystique and the Hiding Hand. In M. E. Compton & P. 't Hart (Eds.), *Great Policy Successes* (pp. 143–160). NYC: Oxford University Press. Retrieved from https://library.oapen.org/bitstream/handle/20.500.12657/23594/9780198843719.pdf?se#page=158
McDonnell, A., Verdin, R., & Reilly, J. (2022). EU Citizens' attitudes to digitalisation and the use of digital public services: Evidence from Eurobarometers and eGovernment Benchmark EUROSHIP Working Paper No. 12 February 2022. *EUROSHIP Working Paper No. 12. Oslo: Oslo Metropolitan University.*, *12*. https://doi.org/10.6084/m9.figshare.19188227
Neufeind, M., O'Reilly, J., & Ranft, F. (2018). *Work in the digital age : challenges of the fourth industrial revolution*. London Etc.: Rowman & Littlefield International. Copyright. Retrieved from https://policynetwork.progressivebritain.org/wp-content/uploads/2018/06/Work-in-the-Digital-Age.pdf
O'Reilly, J. (1996). Theoretical Considerations in Cross-National Employment Research. *Sociological Research Online*, *1*(1), 1–21. https://doi.org/10.5153/sro.9
O'Reilly, J. (2006). Framing comparisons: gendering perspectives on cross-national comparative research on work and welfare. *Work, Employment and Society*, *20*(4), 731–750. https://doi.org/10.1177/0950017006069812
O'Reilly, J., Leschke, J., Ortlieb, R., Seeleib-Kaiser, M., & Villa, P. (2019). *Youth labor in transition inequalities, mobility, and policies in Europe*. New York, Ny, USA Oxford University Press. https://academic.oup.com/book/26877?login=false
O'Reilly, J., & Verdin, R. (2021). Comparing the digital transformation of welfare delivery in Europe. *EUROSHIP Working Paper No. 9. Oslo: Oslo Metropolitan University.* https://doi.org/10.6084/m9.figshare.17158028
Van Dijk, J. (2020). *The digital divide*. Cambridge Polity.
Verdin, R., & Reilly, J. (2021). The digital transformation of work and associated risks. *EUROSHIP Working Paper No. 9. Oslo: Oslo Metropolitan University.*, *9*. https://doi.org/10.6084/m9.figshare.17158064

Norway

Mi Ah Schoyen

Interactions between the citizen and most public services are digital-by-default in Norway. Online platforms and digital devices play a central role in the administration and delivery of social protection and welfare services. Overall, Norway counts as one of the digitally most advanced countries in Europe.

Norway has only 5.4 million inhabitants but covers a territory that is geographically larger than countries like Germany and the United Kingdom. Its economy is one of the wealthiest in Europe. The country is characterised by an encompassing, and in several respects universal approach to welfare, as is typical of the Scandinavian countries (Andersen et al., 2017). Citizens are met with a comprehensive cradle-to-grave system of social protection benefits and social services, covering a wide range of social risks that people may face over the life-course.

Digital government

Historically, Norway has benefitted from several favourable conditions that have lowered the transaction costs of transitioning to a digital society. Examples of enabling factors include a high level of citizens' trust in government, rich administrative data registers that can be coupled across a range of fields (e.g. employment, education, taxation, health, property), and relatively few legal and regulatory barriers against the implementation of e-government. In addition, as a high-cost country, the potential efficiency gains of digitalising government have been particularly large and became a political priority already in the 1990s, although the actual transition to a digital-by-default approach has mainly taken in the past decade.

In the Norwegian case the large public sector has been a '*driver of digital transformation […], as opposed to a simple adopter*' (Parmiggiani and Mikalef, 2022: 14). In 2014 amendments to the Public Administration Act and the Electronic Administration Regulations prepared the legal ground for a digital-by-default approach in the authorities' interactions with citizens. It did so by replacing the consent requirement with an opt-out option for individuals who do not want to interact digitally.

To access public (and private) online services, identification typically happens through a solution called BankID, a high security electronic ID issued by Norwegian banks. Already in 2014 all banks in Norway and more than two hundred businesses and government agencies had adopted BankID as the solution to provide secure personal access to their online services. When public sector institutions started to implement the BankID infrastructure as the port of entry to digital public services, many citizens were already familiar with this technology and quickly became users of new online services as they were rolled out (Eaton et al., 2014).

As most public services now rely extensively on online interaction (even though not all services have reached the same level of maturity), the focus is currently on user-friendly and seamless services. For end users, i.e., citizens, it should not matter if a service is administrated at the local level by the municipality or at the central state level. Moreover it is fundamental that everyone is able to access the digital ecosystem.

Connectivity

For the vast majority of Norwegian households access to affordable internet and the necessary hardware to get online does not represent a major obstacle when encountering increasingly digitalised services. Around 90 per cent of Norwegian households are located in an area covered by high-speed broadband infrastructure (defined as a download speed of at least 100 Mb/s) (NKOM, 2022). Nearly all Norwegian households have access to a broadband connection at home, at school or in the workplace. Even among low-income households there is almost full coverage (Statistics Norway, 2021). Moreover, most individuals possess one or more digital devices that enable a connection to the internet and digital services.

While nearly all Norwegian households are connected to broadband, a main challenge in the Norwegian telecom market is limited competition, which, in turn, translates into relatively high prices. Consumers are often locked to one service provider and, therefore, have few internet plans to choose from. In fact, a comparative analysis of the price level in the Norwegian broadband market found that across Norway only 50 per cent of households have a choice between two or more providers. The monthly fee Norwegian consumers pay for broadband connections of equivalent speeds is almost always higher than in the other Nordic countries (Tefficient AB, 2022).

Digital inclusion and skills

In a country in which a large majority is connected and there is high degree of online service provision. However, for those unacquainted with digital technologies risk particularly strong forms of economic and social exclusion. The factors most associated with weak digital skills include old age, a low level of education and low household income (Bjønness et al., 2021).

Against this background and as reflected, for instance, in the current government strategy *Digital throughout life* (Ministry of Local Government and Modernisation, 2021), the topic of digital exclusion has risen on the political agenda. In recent years there has been a strong focus across several government sectors and at all levels – from central government to the local level – on improving digital skills among groups who struggle. There is an increasing awareness in government and among service providers in the public sector that it is often those who need the welfare state the most who face the largest digital skill deficits.[4]

Conclusion

There is a recognition that digital inclusion is not only about skills (Ministry of Local Government and Modernisation, 2021; Ministry of Local Government and Modernisation,

[4] Personal communication with policy officer in the Authority for Universal Design of ICT, 22 December 2022.

2019). In this regard the government is working along several parallel tracks to improve digital citizenship.

First, there are efforts to define and develop user friendly public services. A key question here is how to make digital services a real alternative also for users with limited digital literacy.

Second, there is quite strong attention to the issue of universally designed (public as well as private) services. Inspections by the Authority for Universal Design of ICT, a public body operating under the auspices of the Norwegian Digitalisation Agency, regularly uncover shortcomings in the universal design of web solutions, apps and self-service machines in the public and private sectors.

Third, there is work in progress to develop an eID that is available for all residents. Current solutions exclude young children, incapacitated adults and foreigners without a Norwegian national identity number, limiting their access to digital services.

Finally, in many respects Norway offers a comprehensive development and evolution of a digital welfare ecosystem that integrates many of the key actors. Nevertheless, there is an ongoing debate about what level of non-digital services should still be offered to prevent further exclusion of those who are unable to use existing solutions.

References from Norway

Andersen JG, Schoyen MA and Hvinden B (2017) Changing Scandinavian Welfare States - Which Way Forward? In: Taylor-Gooby P, Leruth B, and Chung H (eds) *After Austerity: Welfare State Transformation in Europe after the Great Recession*. Oxford, New York: Oxford University Press, pp. 89–114.

Bjønness AM, Midtbø T, Størset H, et al. (2021) *Befolkningens digitale kompetanse og deltakelse. Med et ekstra blikk på seniorer og ikke-sysselsatte*. March. Skills Norway.

Eaton B, Hallingby HK, Nesse P-J, et al. (2014) Achieving Payoffs from an Industry Cloud Ecosystem at BankID. *MIS Quarterly Executive* 13(4): 223–235.

Ministry of Local Government and Modernisation (2021) *Digital Throughout Life. National strategy to improve digital participation and competence in the population*. September. Oslo: Ministry of Local Government and Modernisation. Available at: https://www.regjeringen.no/contentassets/8f8751780e9749bfa8946526b51f10f4/digital_throughout_life.pdf (accessed 15 August 2022).

Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*. 11 June. Oslo: Norwegian Ministry of Local Government and Modernisation. Available at: https://www.regjeringen.no/en/dokumenter/one-digital-public-sector/id2653874/ (accessed 26 August 2020).

NKOM (2022) *Internet in Norway–Annual report 2022*. June. Norwegian Communications Authority. Available at: https://www.nkom.no/rapporter-og-dokumenter/nettnoytralitet-nkoms-arsrapport-for-2021/_/attachment/download/b346d191-1ab4-41b3-9a3c-f28e81694e19:392d5e9cb58efbc1d28fbaa742c447aae0b8fc52/Net%20Neutrality%20in%20Norway%20-%20Annual%20Report%202021.pdf (accessed 30 August 2022).

Parmiggiani E and Mikalef P (2022) The Case of Norway and Digital Transformation over the Years. In: Mikalef P and Parmiggiani E (eds) *Digital Transformation in Norwegian Enterprises*. Cham: Springer International Publishing, pp. 11–18. DOI: 10.1007/978-3-031-05276-7_2.

Statistics Norway (2021) StatBank, table 11000: Percentage with access to different ICT, by household type and household net income 2013-2021. Statistics Norway. Available at: https://www.ssb.no/en/statbank/table/11000/ (accessed 3 November 2021).

Tefficient AB (2022) Assessment of Norwegian fixed broadband pricing in a Nordic context – 2022. Norwegian Ministry of Local Government and Regional Development. Available at: https://www.regjeringen.no/no/dokumenter/assessment-of-norwegian-fixed-broadband-pricing-in-a-nordic-context-2022/id2909628/ (accessed 8 January 2023).

See further discussions here https://euroship-research.eu/2022/11/30/digitalization-of-the-welfare-state-risks-and-opportunities-in-norway/

Estonia

Marge Unt, Kadri Täht, Eve-Liis Roosmaa, and Raili Nugin

Estonia's success in digital transformation has been attributed to several factors including: cooperation between the private and public sectors; the country's small size and concentration of population in the capital city; the need to build up the newly re-established state with limited resources; the influx of foreign investors and expertise; and the emergence of a network of ICT professionals and start-ups (Kattel and Mergel 2019).

Digital government

Estonia has a leading position in digital governance measured in the DESI index. While Estonia has never had a central digital agency or unified public databases, its success has been attributed to communication and cooperation between cross-sectional networks.

The country can be characterised by close relationships between public and private actors. For instance, the Estonian banking system set standards for e-services in the early days also for public e-services. Estonia has also been the birthplace of numerous start-ups and unicorns, with a focus on competing in the global market rather than against each other domestically.

On the centralization-decentralisation scale, state institutions in Estonia have a centralised structure, but each institution and local governments have a high level of autonomy in service delivery. Also the design principle follows the same logic: decentralisation of single databases, but the backbones of digital transformation are X-Road which is a data exchange layer and ID-card providing opportunity for electronic authentication and legally binding digital signature.

The rise of digital platforms and the platformisation of parts of the economy have significant implications for employment rights and social protection. Platform workers are not employees, staying in the grey zone and due to data limitations, it's not possible to assess for instance, how many of them lack social insurance. In order to collect taxes from gig work, the Estonian Tax and Customs Board has established the entrepreneur account system that allows private individuals to operate as entrepreneurs with automated tax payments. However, it is not mandatory for platforms to provide data on earnings, making it difficult to track tax avoidance and assess the effectiveness of the system. Estonian policymakers are waiting for future directives from the European Union on the regulation of platform workers (Kall et al 2021).

According to expert interviewees, the next steps in digital transformation in Estonia will involve pro-active services, where the state sends offers to individuals informing them of services they are eligible for. This will increase awareness of available services and benefits and enforce social citizenship for all, in line with the aims of the EU *2030 Digital Compass*. This shift is being driven by rising expectations from citizens and the increasing use of artificial intelligence in public services. There have already been several initiatives launched,

such as the Social Insurance Board's proactive event-based service that offers child benefits to parents after registering their new-born's name.

Connectivity

Regarding connectivity, since the 1990s, foreign investors have played a significant role in the Estonian telecommunications market, which was the first in Central and Eastern Europe to be opened to the private sector. This laid the foundation for later internet network providers. The telecommunications market in Estonia is highly competitive, resulting in low-priced mobile internet and a user base that is 1.5 times larger than the EU average. In recent years, the speed of mobile network uploads and downloads has increased by an average of 70%. This may be one reason why fast broadband connections have not been as widely adopted by private users in Estonia. Currently, only 57% of households in Estonia have access to very high-capacity networks, which is lower than the EU average. Despite this, internet usage in Estonia is on par with the rest of Europe.

Digital inclusion and skills

Providing digital skills are part of the compulsory curricula both at the basic and secondary education levels. However, schools in Estonia are autonomous and therefore implementation of the curricula is regulated by schools themselves which results in uneven organisation of teaching digital skills in general education. At the vocational and higher education levels the role of developing digital skills is less pronounced. Development of ICT skills among the adult population is largely either a personal responsibility (taking part in ICT-related courses, self-directed learning, etc.) or provided by the employers.

One of the important obstacles in teaching and developing digital skills in schools is the shortage of teachers and ageing of the (mainly female) community of teachers. Another obstacle hampering provision of digital skills is the shortage of up-to-date digital tools (equipment, environments, software) and teaching materials, although constant progress is made in this regard (DESI 2022).

COVID-19 accelerated certain processes in the educational system, especially in the hybrid form of teaching, which is now of higher quality due to better skills of both teachers and the students. Thus, it brought about considerable progress in digital skills, which however took place not in all but certain specific skills.

Conclusion

In sum, Estonia provides a good example of a digital ecosystem with its development, in which spontaneous decentralisation was combined with centralisation and tight co-operation with private sector.

One of the players in this ecosystem was also the fragile state that was institutionally being built up together with the digital systems and services, allowing for spontaneous evolution rather than being a strong lead in the process.

The legal framework for digital development during the 1990s and 2000s oftentimes adjusted according to the digital developments. The private sector, particularly banking

enterprises, were pioneering digital authentication systems, which were taken over by tax office. The telecommunication market was privatized early on, ensuring by tight competition low connectivity prices.

The ecosystem model works for Estonian digital development particularly well. This was because of the ability to allow dispersed development within the X-road system. In this sense the digital welfare ecosystem emerged though a commonly shared semantic core that allowed different arms of both government and business (eg: banks and the tax office) to develop at their own speed, supported by political leadership and a highly educated team of specialists developing these systems in communication with the need to build societal trust for this transformation. This might lead us to suggest the Estonian ecosystem could be characterised as one of complementary synergies.

References from Estonia

DESI (2022) Digital Economy and Society Index (DESI) Estonia 2022. European Commission.

Digital Agenda for Estonia 2020. Ministry of Economic Affairs and Communications, p.21

Kall, K.; Ojamäe, L.; Roosalu, T. & Unt, M. (2021). Literature review on social policies and welfare models: City of Tallinn.

Kattel, R., & Mergel, I. (2019) Estonia's Digital Transformation: Mission Mystique and the Hiding Hand. In: Compton, M. E. and Hart, P. T. (eds.) Great Policy Successes. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780198843719.003.0008

Spain

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Introduction

Over the recent decades, digitalisation has had important consequences for both social conditions and the provision of public services in advanced capitalist economies. The Spanish case is no exception, as governments have made successive efforts to promote the use of digital technologies in a variety of areas. The COVID-19 pandemic further accelerated this process, with digitalisation permeating everyday life through telework, remote learning, social media, e-health and online public services. This shift from face-to-face to virtual interaction has facilitated social, physical and emotional distancing between not only different kinds of people, but also between public services and the populations they serve.

Our focus here is on the implications of digitalisation for social stratification, labour and the implementation of social policy. Across these dimensions in Spain, we see that the outcomes of digitalisation are not uniform or predetermined, but often contested, varying by spatial and temporal contexts, institutional conditions or sociodemographic characteristics. Specifically, we examine the emerging trends and inequalities rooted in the so-called "digital divide", that is, the capacity of commonly used digitalisation indicators to accurately depict this process in a given society. We also consider the effects of digitalisation on employment and working conditions in Spain, as well as the role of workers' collective action and public institutions in shaping their outcomes. Finally, we examine the digitalisation of public services by analysing the fully digital implementation of the Spanish minimum income policy, its shortcomings and its implications for highly vulnerable populations.

Measuring digital economy and society in Spain

Commonly used measures of digitalisation provide useful information, yet they can only go so far. Traditionally deployed indicators from the DESI reflect performance at the national level, yet largely obfuscate local and regional variation. This is particularly problematic in the Spanish case. Specific actions and public services are carried out at the regional or local levels in response to national objectives under important conditions of territorial inequality and often asymmetric sets of regional competencies.

Digital Divisions

Nevertheless, the index does capture the primary challenge to effective and equitable digitalisation for Spain, namely its shortcomings in human capital (EC 2021). This challenge is precisely attributable to existing dynamics of inequality that digitalisation threatens to amplify. Indeed, the country's digital skills divides are generally attributed to structural deficits and unequal access to education across different social groups (e.g., class, gender, age, rural-urban and national origin), as well as the resulting gaps in the distribution of foundational skills such as literacy, numeracy and problem solving (OECD 2021). According

to the Spanish Survey on Equipment and Use of ICT in households, only 41% of people between 16 and 74 years of age in Spain have advanced digital skills, while 51% have low-basic skills (Instituto Nacional de Estadística, 2020). While these figures are just above the EU average, they are still far from the target of 80% with at least basic digital skills by 2030.

Digital workers' rights and social protection

In addition to the social divides catalysed or consolidated by the widespread adoption of new ICTs, digitalisation is also transforming the world of work, often at the expense of labour rights (Kool et al. 2021, Alvarez 2018). Yet the precariousness faced by Spain's riders sparked a wave of worker organising that gave way to strategic litigation and new legislation to protect the welfare of platform workers beyond their specific occupational category. Here, Spanish institutions demonstrated some degree of porosity to worker demands.

However, these demands were primarily oriented around simply being treated as standard employees. For the most part, they did not propose new workers' rights more tailored to the future of work enabled by digital technologies. A key exception, however, is the codification of algorithmic transparency, as the so-called 'Rider Law' requires digital platforms to share the formula of their algorithms with the workers' council.

Digital Public Services and deficits

Regarding public services, the implementation of Spain's minimum income policy demonstrates that digitally transforming public services cannot be reduced to simply "virtualising" procedures that might previously have been done on paper. Rather, it has major consequences for the management, organization and provision of public services, which go well beyond simply allowing citizens to request an appointment, file a complaint or upload a document online (Baekgaard et al. 2021, Christensen et al. 2021).

The social composition and digital needs of target populations are indispensable elements to consider in policy design, alongside the interoperability and security of data and more traditional issues of institutional competencies and capacities. Currently, as the minimum income policy's implementation illustrates, digital gaps are being filled by NGOs and social service workers who are better trained to deal with complex digital application processes than the target populations themselves. While this is clearly an issue of policy design, it also begs the question of whether the public sector must take on the role of improving citizen's digital skills.

Conclusions

Learning how to digitally interact with society, companies and public administration is becoming a contemporary survival skill, one that is necessary to live and to work, to share our voices and participate in politics, to be informed and make decisions, to improve our quality of life and to fully develop our capabilities.

Yet digitalisation is hardly a panacea for the inequalities that segment our society and the social risks we are differentially exposed to. The Spanish case clearly suggests a considerable degree of friction between a highly digitalised public sector and a population for whom the social advances both required and promised by digital technologies have yet to arrive.

In some cases, such as that of Spain's digitalised bicycle delivery workers, collective action and a receptive government can fill this gap through legislation targeting the unfulfilled digital needs of citizens on the more precarious end of the digital divide. Such initiatives play a central role in preventing digitalisation from being a more dehumanising process and adapting it to different peoples' life courses with empathy and attention to psychological and emotional wellbeing. In the Spanish case, much remains to be done to adequately address digital divides and prevent any further suffering by the vulnerable people who are most in need of effective public assistance.

While the Spanish digital welfare ecosystem has achieved acclaim in international rankings, the depth of these achievements need to be interrogated more to understand the extent to which they can address social inequalities of education and disconnection. The characteristics of this digital welfare ecosystem might be characterised as stratified: on one hand there is an overall rate of success collectively, but this depends very much on the social status of its citizens.

References from Spain

Álvarez Cuesta, H. (2018) La Lucha contra los "falsos autónomos" en la prestación de servicios vía app. El caso "deliveroo&quot". *IUSLabor. Revista d'anàlisi de Dret del Treball*, 2018, n.º 2, pp. 280-293, https://doi.org/10.31009/IUSLabor.2018.i02.11.

Bækgaard, M., Mikkelsen, K., Madsen, J., & Christensen, J. (2021). Reducing Compliance Demands in Government Benefit Programs Improves the Psychological Well-Being of Target Group Members. *Journal of Public Administration Research and Theory*, 31. https://doi.org/10.1093/jopart/muab011

Christensen, J., Aarøe, L., Bækgaard, M., Herd, P., & Moynihan, D. (2019). Human Capital and Administrative Burden: The Role of Cognitive Resources in Citizen-State Interactions. Public Administration Review. https://doi.org/10.1111/puar.13134

European Commission (EC) (2021). *Digital Economy and Society Index (DESI) 2021 - Country Report - Spain.* Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi-spain

Instituto Nacional de Estadística (INE). (2020). *Survey on equipment and use of information and communication technologies in households.* Retrieved from https://www.ine.es/jaxi/Datos.htm?tpx=39466

Kool, T. A., Bordon, G., & Gassmann, F. (2021). Access to social protection for platform and other non-standard workers: A literature review. Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT).

OECD. (2015). *Skills Strategy Diagnostic Report* – Spain. Retrieved from https://www.oecd.org/spain/oecd-skills-strategy-diagnostic-report-spain-2015-9789264300262-en.htm

UK

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The digital transformation of welfare services and work in the UK demonstrates both innovation and a deepening of socio-economic cleavages. The neoliberal welfare state has been known for established characteristics in the fragmented provision of social policy. For example, the introduction of Universal Credit and a policy of 'digital by default' was intended to reduce the complexity of the legacy benefit system and modernise more efficient delivery. However, according to the House of Lords Committee (2020) this digital transformation has many deleterious effects and is seemingly at odds with a policy of integration and coordination of service provision, in particular for the poorest. This has resulted simultaneously in both patterns of innovation and path dependency in the UK's digital welfare ecosystem, transforming welfare provision and access to work.

While the UK digital divide may have shrunk experts suggest it has become deeper (Milner, 2022): some have moved forward rapidly, but the gap between those left behind has increased. These unintended consequences associated with the escalation of digital innovation are replete with intersectional inequalities; this became particularly evident during the pandemic. The complexity of these gaps is affected by differences in regional locations - the availability of providers and professionals supporting the role out of digital welfare services in the UK (Elliott et al., 2022).

Digital government

The transformation of the UK government to a digital organisation began in earnest in 2010. A Review by Marth Lane Fox, 'Directgov '2010 and beyond: revolution not evolution' set out the new digital strategy and 'Digital by default' was adopted as the stated government plan.

The Government Digital Service (GDS) was subsequently created to simplify, strengthen and place user needs at the forefront (Bjarne, Vidhya, & Martin, 2016). Gov.uk followed as a single portal for all government information, merging the online access for all ministerial departments and 331 other agencies and public bodies through one single domain.

Public services have been progressively digitalised, beginning with a major overhaul of the UK's benefit system. Universal Credit (UC) was introduced in 2013 and integrated six legacy benefits combined with the adoption of a digital application and management system (DWP, 2010; NAO, 2018).

On one hand there has been widespread recognition of the UK's innovative approach in the development of GDS, as evidenced by the adoption of similar systems in the US, Canada and Germany. The evolution of the system and the ways the portal uses engagement strategy to encourage active citizenship has been praised (OECD 2020). A critical part of this infrastructure is a digital identity system. Verify was envisaged as way to confirm identity across all governments departments. However, on the other hand, despite this system being extended during Covid, it has failed to achieve the performance required and has been shelved amidst escalating costs (BBC, 2019; NAO, 2019).

Analysis of UK's performance shows strong performance, but also reveals where further improvement is needed (Commission, 2020; Korski et al., 2020; OECD, 2020). Insights from experts in the field confirmed this assessment of both innovations and barriers to progress in this rapidly evolving digital welfare ecosystem.

Connectivity and the digital welfare ecosystem in the UK

Accessing these systems obviously requires the hardware and software to do so. This has involved building new relationships between governments at national, regional and local level, with business providers and community organisations. This analysis, based on informed insights from business, government and the third sector, highlights the consequences of this fragmented policy agenda.

However, the implementation of a digital infrastructure that is accessible to all is fraught with challenges. The strategies pursued and political debates they prompt are reflected in issues such as: the regional variability in the quality and type of connection, choice of telecoms providers, and cost. Efforts to integrate and coordinate the digitalisation of government and provision of public services are seemingly at odds with the broader marketized and fragmented take up and implementation of this technological transformation.

Digital inclusion and skills

The pertinence of connectivity is particularly apparent when focussing on digital divisions and the different barriers people face in connecting. For those without the connectivity, skills or the motivation to go online digitalisation can further erode their social citizenship entitlements. Equally, as technologies transform the world of work some workers find themselves beyond the scope of legislative employment protections as new jobs emerge on digital platforms, resulting in increased precarity for these workers. The evolution of these types of jobs has resulted in several high-profile legal cases contesting the nature of the employment relationship and benefit entitlements of workers in the digital economy.

Conclusions: Evolution of the UK ecosystem

While digitally advanced there is substantial evidence of a fragmented and competitive ecosystem of actors surrounding the UK's digital welfare ecosystem, adept at innovation but also resulting in unintended negative consequences. The evolving and fractured expansion of the digital welfare ecosystem has evidenced poor coordination between the triad of organisations involved and a lack of strategic oversight needed to ensure successful innovations are broadly adopted and the digital inclusion challenge is met head on. In 2017 the UK government stated that 'digital connectivity is now essential' (DCMS, 2017). Helen Milner has gone further describing it as a public health requirement needful of the hardware, software and knowhow to connect, and akin to a public utility.

While the digital divide may be narrowing, as factors such as improved connectivity and the effect of the pandemic mean more of us are online, it is also becoming deeper (Lloyds, 2022). The risks associated with transformations for those who are digitally excluded are embedding existing intersectional inequalities. Efforts to streamline the UK welfare system

with the introduction of UC seem somewhat myopic in the broader context of connectivity costs and digital skill deficits.

Covid as a barometer of change has shown real areas of success, in terms of managing the huge upsurge in welfare claimants. However, it has also highlighted the need for a functioning identity system, and how critical gaps are for those that are not connected.

Greater resilience surrounding the risks of digital exclusion requires a wholesale oversight of the digital welfare ecosystem of places, providers and professionals involved. Analysis has shown how this network is evolving at pace, but in a fragmented and competitive environment. Evidence of duplication and unshared best practice, identified in our examination, highlights the need for strategic oversight. Further investment in skill is needed from the top down, bottom up and throughout the life course if these gaps are to be reduced and digital social citizenship encouraged.

References from UK

BBC (2019). Verify: Inquiry criticises government ID scheme [Press release]. Retrieved from https://www.bbc.co.uk/news/technology-47444308

Bjarne, C., Vidhya, G., & Martin, L. (2016). *Digital by default: A guide to transforming government*. Retrieved from https://www.mckinsey.com/~/media/mckinsey/industries/public%20sector/our%20insights/transforming%20government%20through%20digitization/digital-by-default-a-guide-to-transforming-government-final.pdf#:~:text=Digital%20by%20default%3A%20A%20guide%20to%20transforming%20government,money%2C%20and%20improve%20citizens%E2%80%99%20quality%20of%20life.%204

Commission, E. (2020). *Digital Economy and Society Index 2020: UK*. Retrieved from Luxembourg: https://digital-strategy.ec.europa.eu/en/policies/desi-uk

DCMS. (2017). *Next Generation Mobile Technologies: A 5G Strategy for the UK*. Retrieved from London: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/597421/07.03.17_5G_strategy_-_for_publication.pdf

DWP. (2010). Universal Credit: welfare that works. In (pp. 1-73). London: HMSO.

Elliott, I. C., Bottom, K. A., Carmichael, P., Liddle, J., Martin, S., & Pyper, R. (2022). The fragmentation of public administration: Differentiated and decentered governance in the (dis)United Kingdom. *Public administration (London), 100*(1), 98-115. doi:10.1111/padm.12803

Korski, D., HKassai, H., Chrousos, P., Wright, J., Harding, V., & Rowley, M. (2020). *Better Digital Government: Obstacles and Vision*. Retrieved from London: https://issuu.com/p4md/docs/201021_digital_strategy__principles_and_vision.doc

Lloyds, B. (2022). *2022 Consumer Digital Index: The UK's largest study of digital and financial lives*. Retrieved from London: https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.html

NAO. (2018). *Rolling out Universal Credit*. Retrieved from London: https://www.nao.org.uk/reports/rolling-out-universal-credit/

NAO. (2019). *Investigation into Verify*. Retrieved from Lonon: https://www.nao.org.uk/report/investigation-into-verify/
OECD. (2020). *Digital Government Index: 2019 results*. Retrieved from https://www.oecd.org/gov/digital-government-index-4de9f5bb-en.htm

Germany

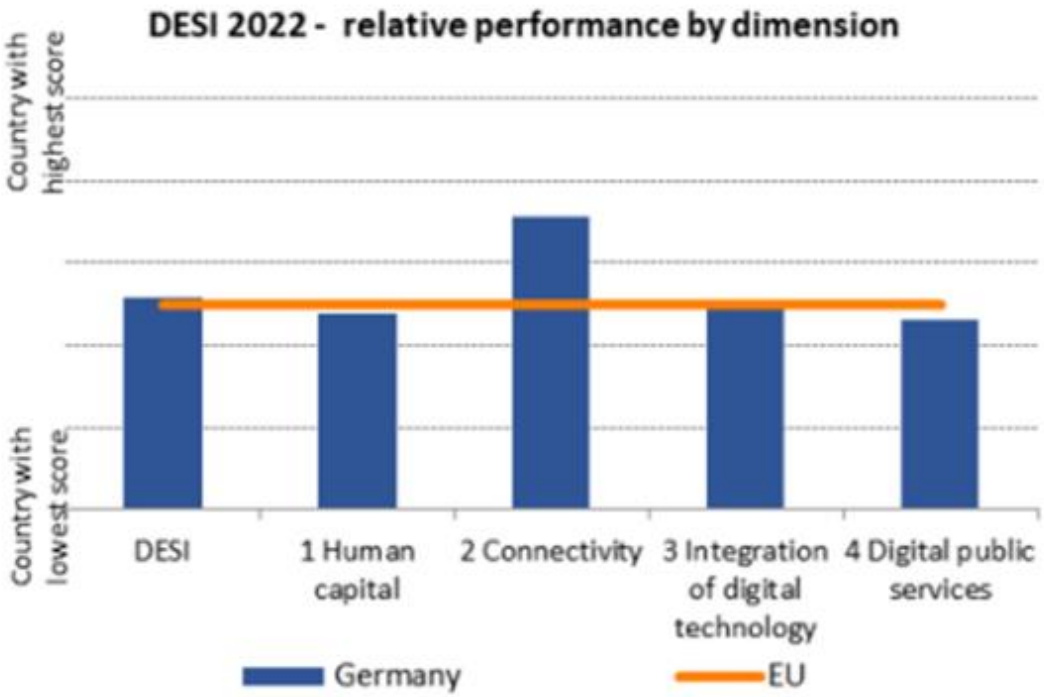
Christopher Grages

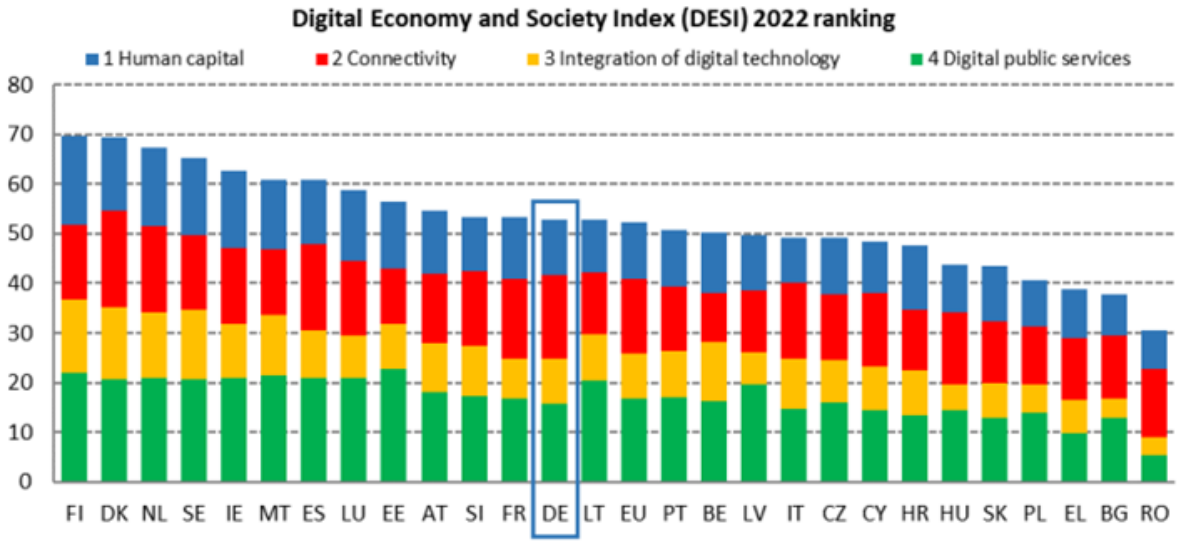
Comparing Germany's Digital Transformation

Germany progressed relatively well and showed much effort in improving digitalization in the last five years but is still ranked 13th of 27 EU Member States; according to Chancellor Schulz speaking at the Digital Summit in November 2022, this middle ranking in comparison to other EU countries requires a lot remains to be done.

Data from DESI (2022) show that in terms of connectivity Germany is ranked 4th out of the 27 EU countries, one of the most promising dimensions of digital transformation in Germany. This is based on above average performance in fixed very-high-capacity networks and G5 coverage. However, performance in fibre coverage is still below average and there is a persisting urban-rural digital divide.

With regard to digital government, Germany is 18th in the EU and still a low-achiever with much room for improvement concerning the interaction between the government and the public. Comparably good scores on open data are the only bright spot in this policy area. Germany also only ranks 16th out of 27 EU countries on human capital. The picture on digital skills is mixed and shows a sharp divide between an above average share of specialist but a level of basic digital skills that is clearly below average.





Connectivity

In general, fast broadband supply is available nationwide and proved to be stable during Covid-19. But there are still considerable differences in infrastructure between urban and rural areas and non-city federal states and city federal states (e.g. Hamburg, Berlin and Bremen) and their metropolitan regions.

The main effort to improve the supply is based on a so-called "Gigabit Strategy" that includes plans for a nationwide fibre network expansion by 2025/2030, which has not yet been fully adopted or implemented. In network expansion, there is cooperation with large private sector providers, while the focus on software solutions in public administration is on rather smaller providers due to reservations about sufficient data protection.

Key obstacles to infrastructural expansion are mainly based on complex building regulations and bureaucratic hurdles. The infrastructure of German networks is still mainly based on copper cables which provided a cheaper alternative to fibre networks. These networks have been expanded and maintained during the last decades (Henseler-Unger & Wernick 2016). This practice resulted in a path dependent development which prevented modernization and larger investments in fibre networks in recent years.

In addition, insufficiently targeted funding due to federalism also limited the pace of further expansion (Klein 2020; Ilgmann 2019). Moreover, the supply of construction workers was limited during the Covid-19 crisis and a delivery shortage due to economic crisis associated with the pandemic further made the situation more difficult recently. With regard to the further expansion of public WIFI coverage regulative and technical issues (power supply and monument protection law) also stand in the way of comprehensive provision.

Digital Government

The main initiative of the government to accelerate digitalization in public services was the of the Online Access Act (*Onlinezugangsgesetz*) adopted in 2017. Accordingly, all public services must be digitised by the end of 2022. However, in May 2022, only 79 of the 575 public services were available online (DESI 2022). Even if the speed of implementation

increased by the end of 2022, the ambitious goals have not even remotely been achieved. Estimates of how many services have actually been digitised by the end of 2022 vary widely and in many cases digitalisation only means that application forms are available online as pdf files.

Despite numerous partial efforts and small innovations, overall effects of previous initiatives to improve digital government were only marginal (Müller 2018). While Covid-19 was identified a stronger accelerator of the digitalization of public services, since it made them a necessity, there are still some key obstacles that hinder advancement in this policy area.

Again, federalism and lack of centralization of competences (Guckelberger 2020) in combination with strict legislation on data protection and missing opportunities for merging personal data could be identified as main hindrance. The latter problem should be addressed by a new *Register Modernization Act* (*Registermodernisierungsgesetz*) which introduces the "once-only" principle.

Another obstacle for the digitalization of public services provides the lack of digital skills of public service employees. Furthermore, the “translation” of analogue procedures into the digital world is associated with manifold legal and technical problems.

In addition, analogue and digital advertising campaigns are missing that inform the population about new digital services. Especially during the Covid-19 pandemic there have been difficulties in reaching certain groups (young people; long-term unemployed).

Finally, the insufficient digitialisation of consulting services and their fragmented financing widens the gap in the accessibility of digital services, since they are often a precondition finding suitable public services in the first place. Empirical findings show, that even if usage rates of digital public services increased during the pandemic in Germany, they are still significantly lower than in neighbouring countries. Furthermore, use and evaluation of digital public services differ significantly between the federal states (E-Government Monitor 2022).

Digital Economy and Social Security

Reliable information on the size of the workforce of the platform economy is rare and ranges from 0.85-12% of the working population, depending on the used definition of the digital workforce (Bonin & Rinne 2017; Eurofound 2019; Huws et al. 2017; Pongratz & Bormann 2017; Serfling 2019).

There is a large range of different fields of activity with different needs for security in the German platform economy (Eichhorst et al. 2016). However, the majority are young people, often with a migration background and/or low income (Huws et al. 2017; Leimeister et al. 2016).

The lack of insurance for solo self-employed people in Germany creates high risks in case of unemployment or retirement, which creates political pressure to reform (Busemeyer 2019; Greef & Schroeder 2017; Haunss & Nullmeier 2016). However, the integration of crowd or click worker into social insurance system proves to be difficult. One central problem is the

lack of co-financing of social insurance contributions since platforms define themselves as digital intermediaries and not as employers. Moreover, there is a lack of regulation and transparency of digital platforms.

Nevertheless, there are also positive aspects associated with the growing platform economy, which allows for improvement of reconciliation of family and work and eases labour market access for previously excluded persons especially for online work carried out from home (Eichhorst et al. 2016; Forde et al. 2017).

Digital Inclusion and Skills

Comprehensive digital inclusion in Germany is still undermined by comparably high costs for mobile internet in comparison to other EU countries (European Commission 2020) and end devices are not affordable for some vulnerable groups. The latter factor was alleviated to a certain degree due to temporary support measures during the Covid-19 pandemic.

Another factor that clearly limits the digital inclusion in Germany is the low practicality of current approaches to digital identity verification which impedes the use of digital government (E-Government Monitor 2022).

The need for digital skills and their acquisition has increased enormously as a result of the pandemic digitalisation push. This development also increased the already existing digital divides. Disadvantages in digital participation are closely linked to existing "offline" disadvantages (Carchio 2019; Bertota 2016; Hagemann 2017). Political pressure to improve the situation from social organizations led to the adoption of the *Accessibility Strengthening Act* (*Teilhabestärkungsgesetz*) in 2021.

In general, basic digital skills must be promoted more emphatically in public administration and in schools, where interactive/adaptive learning systems are still often lacking and digital skills are limited (Eickelmann et al. 2019; Kaspar 2020). Only if these efforts prove successful, digitisation can unfold its full positive potential and make access to work and public services easier for people who were previously at-risk of being excluded. Apart from the government, both private and social actors from third sector organisations are involved in processes to promote digital integration in Germany (e.g. initiatives against hate speech addressing younger people; digital skills for seniors).

Conclusion

While business and production models may change rapidly, it is often difficult for welfare systems to adopt to new needs associated with digitalisation promptly. Legacy systems path-dependencies inherited from a federalised system can become barriers to comprehensive change (Buhr 2017; Rahner & Schönstein 2018).

However, the conservative German welfare state showed strong symbolical and factual efforts to solve its „digitalisation problem“ in recent years and especially after the change in government in 2021 (e.g. by the introduction of a new ministry for digitalisation). Previous efforts of government digital strategies have been quite successful with regard to improving connectivity despite Germany still being a laggard in fibre networks.

The vertical and horizontal fragmentation of competencies, bureaucratic hurdles and legal complexity significantly slowed down the process in other key policy domains. Due to data protection issues, unclear competences in the context of federalism and lack of digital skills in public administration the comprehensive implementation of the ambitious *Online Access Act* (*Onlinezugangsgesetz*) is still insufficient.

Moreover, precarious working conditions and lacking social protection in the platform economy call for action but reform pressure is still low due to the unknown size of the problem and the complexity of the regulative measures needed. Finally, support measures for decreasing digital inequality are still far from being adequate and the pandemic even increased the problem in some regards. Basic digital skills are lacking in the population and the practicality of current approaches to digital identity verification are still insufficient.

Even though Covid-19 accelerated digitalisation in Germany, critical voices claim that current efforts to digitalise the welfare state are nothing more than a "shiny façade". This was 'jump-started' due to public pressure but has little to do with a comprehensive digital ecosystem. This would require including the standardised use of digital technologies, platforms, and services that interact with each other to create value for businesses and consumers.

Coordination between the triad of organisations involved is lacking or at best fragmented and further undermined by the hierarchical division of competencies between municipal, state and federal level. As a result, services are often only made available online as pdf-files. These are not translated into a user-friendly digital platform that unites the manifold different types of social services and allows for comprehensive data exchange. Against this backdrop, thefederalised digital ecosystem in Germany can be described as politically path dependent allowing a slow pace of incremental changes but without any major innovation or radical change.

References from Germany

Bertota, J.; Estevez, E. & Janowskic, T. (2016): Universal and contextualized public services: Digital public service innovation framework. *Government Information Quarterly* 33(2), pp. 211-222.

Bonin, H. & Rinne, U. (2017: Omnibusbefragung zur Verbesserung der Datenlage neuer Beschäftigungsformen. *IZA Research Report* Nr. 80, Bonn.

Buhr, D. (2017): What about Welfare 4.0? *CESifo FORUM* 18(4), pp. 15-21.

Busemeyer, M. (2019): Die Auswirkung von Digitalisierung auf Bildungs- und Sozialpolitik. In: Klenk, T., Nullmeier, F. & Göttrik Wewer, G. (eds.): *Handbuch Digitalisierung in Staat und Verwaltung*. Wiesbaden: Springer Fachmedien Wiesbaden.

Carchio, C. (2019): Platform work as a chance for a more inclusive labour market. In: Filì, V. & Costantini, F. (eds.): *Legal Issues in the Digital Economy. The Impact of Disruptive Technologies in the Labour Market*. Newcastle: Cambridge Scholars Publishing, pp. 73–104.

Digital Economy and Society Index (DESI) (2022): *Country Report: Germany*. European Commission: Brussels. https://digital-strategy.ec.europa.eu/en/policies/desi-germany

E-Government Monitor (2022): *Studie der Initiative D21 und fortiss – Forschungsinstitut des Freistaats Bayern*. https://initiatived21.de/egovernment-monitor/

Eichhorst, W.; Hinte, H.; Rinne, U. & Tobsch, V. (2016): Digitalisierung und Arbeitsmarkt: Aktuelle Entwicklungen und sozialpolitische Herausforderungen. *Zeitschrift für Sozialreform* 62(4), pp. 383–409.

Eickelmann, B., Bos, W., Gerick, J., Goldhammer, F., Schaumburg, H., Schwippert, K. & Vahrenhold, J. (eds.) (2019): *ICILS 2018# Deutschland: Computer- und informationsbezogene Kompetenzen von Schülerinnen und Schülern im zweiten internationalen Vergleich und Kompetenzen im Bereich Computational Thinking*. Münster: Waxmann Verlag.

European Commission (2020): *Mobile and Fixed Broadband Prices in Europe 2019. A study prepared for the European Commission DG Communications Networks, Content & Technology*. Brussels: European Commission Publishing.

Eurofound (2019): *Digital age: Mapping the contours of the platform economy*. Luxembourg: Publications Office of the European Union.

Forde, C.; Stuart, M.; Joyce, S.; Oliver, L.; Valizade, D.; Alberti, G.; Hardy, K.; Trappmann, V.; Umney, C. & Carson, C. (2017): *The Social Protection of Workers in the Plattform Economy. Centre for Employment Relations Innovation and Change (CERIC).* Leeds: Study for the European 's Committee on Employment and Social Affairs.

Guckelberger, A. (2020): Digitalisierung und Föderalismus – auf dem Weg zur digitalen Verwaltung in Deutschland. *VerwArch – Verwaltungsarchiv – Zeitrschrift für Verwaltungslehre, Verwaltungsrecht und Verwaltungspolitik* 2, pp. 133-161.

Greef, S. & Schroeder, W. (2017): *Plattformökonomie und Crowdworking: Eine Analyse der Strategien und Positionen zentraler Akteure*. Bundesministerium für Arbeit und Soziales, Forschungsbericht, Nr. 500, Berlin.

Hagemann, T. (2017): Digitalisierung und technische Assistenz im Sozial- und Gesundheitswesen. In: Hagemann, T. (ed.): *Gestaltung des Sozial- und Gesundheitswesens im Zeitalter von Digitalisierung und technischer Assistenz*. Baden-Baden: Nomos, pp. 9-18.

Henseler-Unger, I. & Wernick, C. (2016): Drei Thesen zum Breitbandausbau in Deutschland– Implikationen für die aktuelle Debatte. *Ifo Schnelldienst* 69(20), 20-22.

Huws, U.; Spencer, N. H.; Syrdal, D. S. & Holts, K. (2017): *Work in European gig-economy: research results from the UK, Sweden, Germany, Austria, the Netherlands, Switzerland and Italy*. FEPS, UNI Euopa, Herdfortshire.

Ilgmann, C. (2019): Breitbandausbau in Deutschland: eine strategische Analyse. *Wirtschaftsdienst* 99(2), pp. 119-125.

Kaspar, K., Becker-Mrotzek, M., Hofhues, S., König, J., & Schmeinck, D. (2020): *Bildung, Schule, Digitalisierung*. Münster: Waxmann Verlag.

Klein, G. J. (2020): Die öffentliche Förderung des Breitbandausbaus, eine kritische Würdigung. *List Forum* 46, pp. 199–212.

Leimeister, J.; Durward, D. & Zogaj, S. (2016): Crowd Worker in Deutschland - Eine empirische Studie zum Arbeitsumfeld auf externen Crowdsourcing-Plattformen. In: *Hans-Böckler-Stiftung Band 323*, pp. 1–80.

Müller, L.-S. (2018): Digitale Verwaltung – in Deutschland (noch) kaum ein Thema. In: Bär, C.; Grädler, T. & Mayr, R. (eds.): *Digitalisierung im Spannungsfeld von Politik, Wirtschaft, Wissenschaft und Recht*. Berlin: Springer Gabler, pp 285-290.

Pongratz, H. J. & Bormann, S. (2017): Online-Arbeit auf Internet-Plattformen. Empirische Befunde zum Crowdworking in Deutschland. *Arbeits- und Industriesoziologische Studien AIS* 10, pp. 158–181.

Rahner, S., & Schönstein, M. (2018): Germany: Rebalancing the coordinated market economy in times of disruptive technologies. In: Neufeind, M.; O'Reilly, J. & Ranft, F. (eds.): *Work in the Digital Age: Challenges of the Forth Industrial Revolution.* London: Rowman and Littlefield International, pp. 371-383.

Serfling, O. (2019): Crowdworking Monitor Nr. 2 für das Verbundprojekt „Crowdworking Monitor“. *Discussion Papers in Behavioural Sciences and Economics*, Hochschule Rhein-Waal.

Hungary

Melinda Kelemen and Tibor Meszmann

Greatly relying on and largely financed by EU funds, excellent digitalisation strategies were proposed in Hungary in line with EU priorities over the last decade; however, results after implementation are mixed. There has been great progress in digital infrastructure development, while development in eGovernment services and digital competencies have been more modest or rather poor. While government representatives and some strategic documents were continuously stressing that Hungary can be the winner of digitalisation, altogether, it remains a puzzle why has Hungary consistently remained in the cluster of low-performing countries, despite making some progress since 2017.

This study critically evaluates the implementation of digitalisation strategies, connectivity and policies for inclusion and the development of digital skills in Hungary since 2014. The authors build up their assessment based on previous findings of the EUROSHIP project, secondary resources, online research and interviews. We conducted six in-depth expert interviews during July and August 2022, with experts of various institutional backgrounds and professional work experience. This way, we covered the field of strategy, infrastructure, vocational and public education, digitalisation, social inclusion from both public, private and third sector perspectives.

Overall, the Hungarian digital transformation has progressed significantly. However, especially in terms of transformation affecting social citizenship, improvement is very patchy and uneven. The government, backed up by big business influence, had a great imprint on the practical implementation and shape of Hungarian digital transformation.

In the open, export oriented FDI-led economy, large businesses and their requirements exercised a strong, permanent influence on the rhythm and logic of digitalisation in Hungary too (Drahokoupil, 2018). Similarly to other Central-Eastern European states, it seems that in Hungary the government was the key intermediate actor in critically shaping the pace and logic of digital transformation and social citizenship.

In Hungary, the state was the dominant player in the digital economic sector ecosystem, but some areas, as infrastructure development and digital skill development, were shaped by big business interest. While in the very early stage of digital transformation in the 1990s, civil society was catalyst of change, NGOs and other social actors have been marginalised players during the last period.

Connectivity, digital strategies and their implementation

There are contradictory developments in the design and implementation of digital strategies in the country. Hungary performs quite well in terms of progress in digital infrastructure. The country enjoyed the latecomer's advantage in introducing new technologies necessary making connectivity easier for the vast majority of the population. DESI data for 2022 show that 83 percent of households have overall fixed broadband take-up, and the country has a

relatively high percentage of internet users (DESI 2022: 10). Formally, digitalisation enjoys governmental support and strategies underwent social consultation at least formally.

Digital programmes were implemented with a rather peculiar rhythm and logic, in a process where politics and special interests created a strong distorting impact. In the absence of comprehensive data, we could not evaluate the impact of digitalisation on equal opportunities and social citizenship. There are clear tendencies, however, showing how increased digitalisation reinforces social inequalities: it fostered greater access to welfare and employment only for the social strata that already has basic means to connect and digital literacy competences.

Digital Government

There appears to be an ambiguous development in social citizenship in terms of digital accessibility and usage of eGovernment services, including welfare provisions. Interviewed experts saw accessibility to and development of eGovernance services overall more favourably than that reported in the DESI index.

At the end of 2021, there were more than 3,000 public services available online, but only less than half of them allowed automatic pre-filling of personal data, for example (DESI 2022: 12). The number of eGovernment users also increased significantly: in 2019 only 64% of all internet users used eGovernment services, while in 2021 already 81% (DESI 2022:4).

A critical point in eGovernment services is the high number of those who still resist registration: about 20 percent of the adult population remains unregistered. In addition, despite having a single entry, the system is not unified across services, which does not make its usage easy for many.

Hungary adopted a hybrid solution in digitalising its eGovernment services, i.e., with digitised and paper-based procedures simultaneously in use. Accordingly, the society capitalizes only partially the opportunities stemming from digitisation.

Skill development and digital economy

Regarding digital skill development, the Hungarian education system plays a central role in reproducing social inequalities. Here, we argue that digital inclusion and transformation cannot be successful if it is implemented without consideration for and intentions to change deeper structural socio-economic problems and institutions.

The digital transformation, especially in terms of digital skill development, collides with the logic of the Hungarian workfare regime, but more generally, also with the political economy of an illiberal democracy and its deformative, secretive redistributive mechanisms that underly the transformation. Patterns of inequalities remain in the process of digital skill formation; and, there are no adequate follow-up mechanisms that evaluate programmes to tackle these backlogs in a qualitative frame. Hungary has one of the most rigid social structure: prospects of upward mobility are poor.

Progress in the digital economy has also been modest. The digital transformation appears to favour private interests such as the skill formation for multinational companies. Funds are

allocated also for those in a peripheral position in the labour market, but in the spirit of workfare, without monitoring and developing practices of social inclusion for those trying to access work.

Altogether, despite declared political pro-digitalisation rhetoric, neither employers nor businesses received sufficient support or were prepared for the challenges and opportunities stemming from the digital transformation. Typically small and medium sized Hungarian businesses lag behind in adapting to the global digitalisation drive.

On the labour market there is a relatively large group of (potential) employees who cannot reach low-end job thresholds, and even for those applying for high-end job the digital skills requirements are too high for them. As a result, there is both a shortage of highly skilled IT professionals, but also an increasing share of the active population without sufficient level of digital skills and competences for the requirements of new workplaces.

Social inequalities in the society are reproduced by the education system. Disadvantaged citizens, like– those belonging to the Roma minority, materially deprived, those with low education, living in economically poor areas are unable to use the advantages of digitalisation are fall even further behind.

Conclusion

The Hungarian digital transformation does not tackle systemic problems of Hungarian public and higher education, including the vocational training system, which cannot fulfil new labour market needs. Interviewees referred to the unpreparedness and lack of adequate governmental actions as a main reason why the Hungarian economy was lagging behind in its digital transformation. As an ecosystem it exhibited hybrid and polarised characteristics of uneven development that created lags in universal adoption: while some elements were progressing, too many were in stasis.

References from Hungary

Digital Economy and Society (DESI) Index 2022 Hungary, European Commission (2022) https://digital-strategy.ec.europa.eu/en/policies/desi-hungary

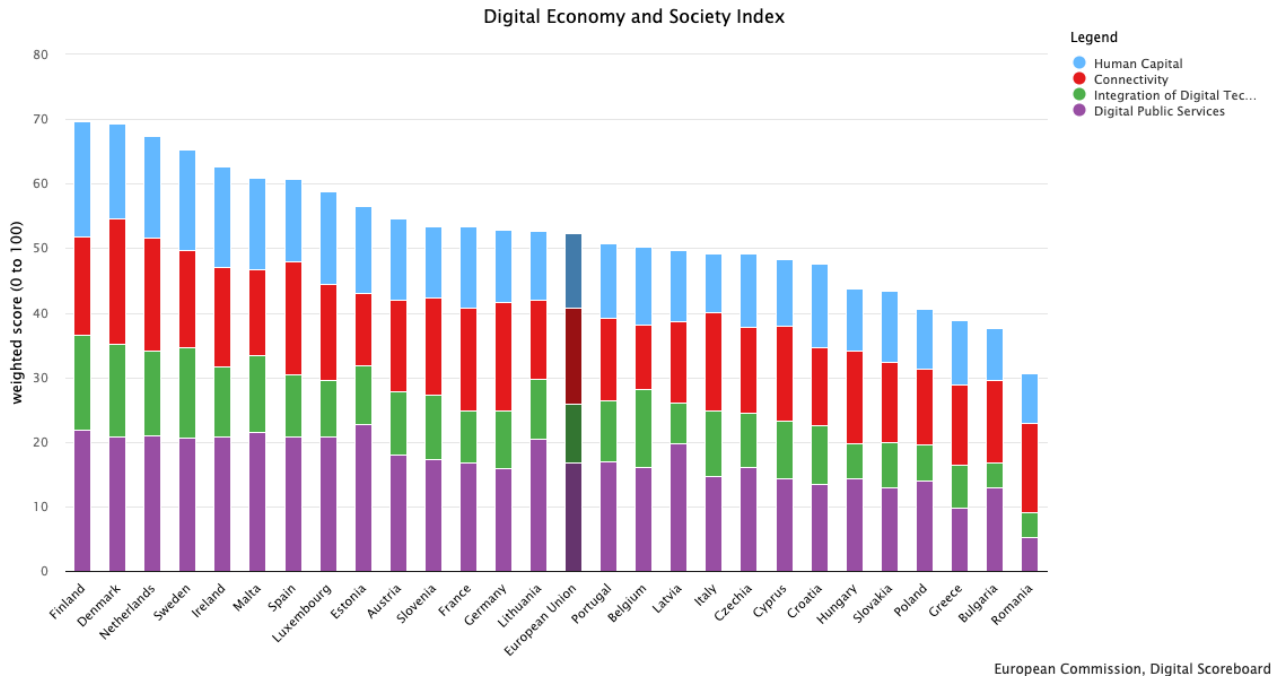
Drahokoupil, J. (2018). Central and Eastern Europe: Raising Living Standards. In *Work in the Digital Age* (pp. 431–498). London: Rowman and Littlefield. Retrieved from https://policynetwork.progressivebritain.org/publications/books/work-digital-age/

Italy

Maria Tullia Galanti

Introduction

Compared to other European countries and EUROSHIP countries, Italy shows several problems in the digitalisation of public services in the data available from the e-Government Benchmark (2013-2019) indicators. The 2022 DESI shows the enduring difficulties of the country, which scores particularly low in terms of human capital and connectivity.



Source: Digital Economy and Society Index 2022.

In comparison with its EUROSHIP counterparts, Italy scores last in DESI 2022 in basic digital skills, in the proportion of ICT graduates and specialists, in the number of e-government users. The availability of virtual repositories is worse than the European average, such as the availability of indicators regarding key enablers. Overall, the DESI 2022 depicts a situation of a country with significant problems in the digitalisation of the public administration and, most importantly, in the digital skill of both the administration and the citizens.
As for the digital economy ecosystem, these data anticipate problems of communication between digital service providers, the public authorities, external stakeholders and licensing agencies, and the customers/citizens/users.

Digital government

Digitalisation has long been residual issue on the political agenda (de Francheshi 2018). A policy strategy for making the country and the public services more digital has been lacking for a long time. Local experimentations usually took advantage of European and external

funding, but the scaling up of digital technologies strongly depended on the configuration of the local actors (Di Giulio and Vecchi 2019, 2021).

Other attempts at the diffusion of digital technologies, such as electronic identities or digital payment platforms for national, regional and local taxes suffered from IT problems without relying on a stable political commitment.

At the same time, at the level of the national government, the institutionalisation of digital policies lagged despite the institution of a dedicated agency, *Agenzia per l'Italia Digitale* (AGID). A first sign of a coordinated action by the national government and the cabinet office occurred with the 2015 Strategy for Digital Development/*Strategia per la crescita digitale* 2014-2020. This expressed, for the first time, a clear commitment of the national government towards some strategic development in connectivity and in the roll-out of digital services. The strategy is developed with three-year planning documents (*Piani triennali per l'informatica).* These provide the lines of development on the most crucial issues and establishing the production and update of data regarding implemented initiatives and measures.

Digital policies acquired centrality in the government agenda following the European inputs, considering both the before and after of the pandemic. Along with the AGID, the other key actor in the digital transformation at the national level is the *Dipartimento per la trasformazione digitale* as administrative division of the Presidency of the Council of the Ministers – the Italian Cabinet.

Connectivity

In 2015, the government also launched a strategy to develop broadband. This aimed to tackle one of the main problems of the digital environment: the digital infrastructure. The activation of direct state intervention, via some public enterprises (such as Infratel), constructed internet infrastructure in the so-called grey and white areas of the country. The infrastructural policies to build broadband represents the greatest investment in Italian digitalisation strategies and involve public and private actors in a consortium called Open fiber.

The development of connectivity in Italy still depends strongly on the complex multilevel authorization and concession system. This requires the need for strong coordination at the national level with the Department of Regional Affairs and the Association of Italian Municipalities (ANCI) playing a key role.

In DESI 2022, the data regarding Italian connectivity showed that mobile connectivity is increasing at the levels comparable to those in Germany, while other indicators such as the overall fixed broadband take up for all households are below the European average. These data may overshadow an effective private investment in mobile technologies and an ineffective public investment in broadband. This problem has been strongly addressed by the 2015 initiative Strategy for broadband (*Strategia per la banda ultralarga)* involving also the Ministry of Economic Development, now re-launched thanks to the Italian Resilience and Recovery Plan (PNRR) investments in connectivity.

Digital inclusion and simplification of the access to the welfare services

While the digitalisation of access to national tax services has been facilitated and controlled by the Italian tax agency, the *Agenzia delle entrate* since 2016, the pandemic represented a game changer for accelerating the digitalisation of different welfare services. It pushed forward the implementation of electronic health records in all the Italian Regions, now operating as an interconnected digital repository of data on vaccinations and other health information.

In the field of social protection, the *Istituto Nazionale della Previdenza Sociale* (INPS) (the National Social Insurance Institute), and the *Istituto Nazionale Assicurazione contro gli Infortuni sul Lavoro* (INAIL) (National Insurance Institute for Accidents at Work), are driving a transformation aimed at making services more accessible and transparent through digital technologies. INPS and INAIL are key implementers of social protection. They recently invested in digital connectivity and the Cloud computing to enable the rollout of "click days" services i.e. allowing access regulatory services (including those related to immigration) and welfare subsidies.

The territorial branches of INPS and INAIL also operated at the regional and municipal level to help individuals with either limited digital skills or no access to the internet (Jessoula et al. 2022). This process started in March 2016, with a project of INPS and AGID. This aimed to provide access to contributory and non-contributory benefits via a personal digital identity called *Sistema Pubblico Identità Digitale* (SPID); this is now required to claim benefits.

Another important initiative of INPS during the pandemic and in the context of the Italian Resilience and Recovery Plan (PNRR), is the 'One Click by Design'. This is aimed at making the procedures for accessing services and information simpler for citizens. INPS plan for the rollout of services revolves around three different phases:

1. Focus on digital services that need little adaptation to the new infrastructure;
2. Focus on not fully digitised services that need both technological and also organizational interventions to be integrated into the platform;
3 Focus on services that need structural overhaul interventions to enable full digitization (Jessoula et al. 2022).

Digital inclusion and skills

DESI indicators show that Italy lags behind European countries in terms of human capital (also in terms of ICT specialists and graduates) (de Francheshi 2018). Recent attempts to close the gaps in digital skills are facilitated by the NRRP resources and the activism of some municipalities. AGID recently aggregated different private and public actors in a network to promote the development of digital skills called *Patto della Coalizione nazionale per le Competenze Digitali* as part of the EU Commission National coalitions for digital skills and jobs. The Commission warned in 2017 that the success of earlier plans ''relies on the effective coordination of government, business associations and the higher education sector" (de Francheshi 2018: 473).

The network advances initiatives building on the National Recovery and Resilience Plan. This devotes around 27% of the total resources to digital transformation, with particular reference to closing broadband connectivity gaps between the north and the south and between urban and peripheral areas. At the municipal level, the investments in the *Servizio Civile Digitale* are aimed at staffing local administrations with support for accessing the digital service, for example as support in the creation of digital identities (SPID).

The evolution of the digital welfare ecosystem in Italy

Overall, Covid has highlighted the inequalities in the digital infrastructures and skills of the country but represented also an accelerator for the implementation of services and technologies (Agostino et al. 2020) such as the enabling platforms, digital identities, and digital health which were lagging. The challenge is to set up a governance strategy that reaches considerable advancements in connectivity and in the increase of digital skills by offering a more closed and steered coordination between different levels of government (Di Giulio and Vecchi 2022).

In this interplay, the role of digital service providers and the software houses working with the local governments, in particular, may reveal crucial to increase the interoperability of digital public services.

At the same time, the activities of several third-sector actors, from the organization of trade unions to charities, are increasingly addressing the digital needs of all the more vulnerable parts of Italian society, including immigrants, people with disabilities, and long-term care patients.

In this sense, the collaboration between the public and the private actors at the local level promises to equilibrate the dynamics in the digital economic ecosystem, though representing a challenge in terms of coordination and universality of social citizenship. The characteristics of the Italian digital welfare ecosystem illustrates characteristics of limited coordination between different actors and uneven development between the regions. In many ways this reflects well established features of the political economy of Italy and its institutions; the challenge remains as to its impact on the transformation of future digitalisation of public services.

References from Italy

Agostino, Deborah, Michela Arnaboldi, and Melisa Diaz Lema. 2020. “New Development: COVID-19 as an Accelerator of Digital Transformation in Public Service Delivery.” *Public Money & Management* 0(0): 1–4. https://doi.org/10.1080/09540962.2020.1764206

de Franceshci, C. (2018). Italy: Prioritising human capital. In *Work in the Digital Age*. London: Rowman and Littlefield. Retrieved from https://policynetwork.progressivebritain.org/publications/books/work-digital-age/

Fissi, Silvia, Elena Gori, Alberto Romolini, and Marco Contri. 2022. “Facing Covid-19: The Digitalization Path of Opera Di Santa Maria Del Fiore in Florence.” *European Planning Studies* 30(4): 573–89. https://www.tandfonline.com/doi/full/10.1080/09654313.2021.1974352.

Di Giulio, Marco, and Giancarlo Vecchi. 2019. “Multilevel Policy Implementation and the

Where of Learning: The Case of the Information System for School Buildings in Italy." *Policy Sciences* 52(1): 119–35. http://link.springer.com/10.1007/s11077-018-9326-4.

Di Giulio, Marco, and Giancarlo Vecchi. 2021. "Implementing Digitalization in the Public Sector. Technologies, Agency, and Governance." *Public Policy and Administration*: 1–25.

Di Giulio, Marco, and Giancarlo Vecchi. 2022. "How 'Institutionalization' Can Work. Structuring Governance for Digital Transformation in Italy." *Review of Policy Research* (April): 1–27. https://onlinelibrary.wiley.com/doi/10.1111/ropr.12488

Jessoula M., Pavolini E., Raitano M., Natili M. (2022). ESPN Thematic Report on Making access to social protection for workers and the self-employed more transparent through information and simplification – Italy, European Social Policy Network (ESPN), Brussels: European Commission.

Conclusions

Jacqueline O'Reilly, Rachel Verdin and Ann McDonald

One of the core concepts of the EUROSHIP project is to identify new forms of social citizenship. Here we have sought to begin understanding how this is being transformed with the digitalisation of public services. Digital Citizenship according to the European Commission (2021:12) needs

> "*To be fully empowered, people should first have access to affordable, secure and high quality connectivity, be able to learn basic digital skills – which should become a right for all- and be equipped with other means which together allow them to fully participate in economic and societal activities of today and the future. They also need to have easy access to digital public services, on the basis of a universal digital identity, as well as access to digital health services. People should benefit from non-discriminatory access to online services and as well from the realisation of principles, such as secure and trusted digital spaces, work-life balance in a remote working environment, protection of minors, and ethical algorithmic decision-making….*
>
> *This European way for the digital society should also underpin and support open democracy initiatives by contributing to inclusive policy-making, enabling wide-ranging engagement with people and stimulating grass-roots action for developing local initiatives as enabler factors to improve social acceptability and public support for democratic decisions…..*
>
> *It is equally important to set up a comprehensive set of digital principles that will allow to inform users and guide policy makers and digital operators such as:*
>
> *· Universal Access to internet services*
> *· A secure and trusted online environment*
> *· Universal digital education and skills for people to take an active part in society and in democratic processes*
> *· Access to digital systems and devices that respect the environment*
> *· Accessible and human-centric digital public services and administration*
> *· Ethical principles for human centric algorithms*
> *· Protecting and empowering children in the online space*
> *· Access to digital health services*." (European Commission 2021: 12).

However, the European Commission (2021) acknowledges the gap between the aims and implementation of these goals.

Based on our comparative analysis we have sought to identify similarities and differences in the way digital welfare ecosystems are evolving and their consequences for social citizenship. We have identified some of the factors attributable to their success or stagnation. And, we have sought to illustrate how these evolving relations contribute to the

development of social citizenship in the way different partners in the ecosystem communicate about user needs that can address digital divisions.

We have developed **the concept of digital welfare ecosystems** to capture the digital transformation of public services. This concept allowed us to identify key actors involved in this transformation and the varying degrees of dialogue between them. These actors included: i) **governments** (at a EU, national, regional and local level); ii) **business** innovation, telecom and software providers; and iii) **community third sector organisations** concerned with digital divisions and disconnected communities. One of the strengths of this approach has been to identify new and emerging interdependencies between governments, business providers and the communities they serve.

The nature of the dialogue between these partners enabled us to identify new forms of social citizenship. We have also been able to illustrate where these interdependencies have produced synergetic impacts or more fragmented and polarised outcomes. Country chapters examined these relationships around:

- **Digital government:** how technological reforms to improve existing welfare systems and social protection for digital employees and those looking for work and benefits are progressing
- **Connectivity**: identifying political debates on digital strategies and assessing the implementation of accessible digital infrastructure
- **Digital Inclusion and Skills:** how to give everyone access to digital skills and services considering the opportunities and obstacles this presents.
- **The consequences for social inclusion** in relation to the deficit in digital skills, and how the growth of digital forms of employment have impacted systems of social protection.

The seven countries compared here illustrate very different digital welfare ecosystems and the conditions for exercising social citizenship. Our initial analysis suggests that these range from systems with high levels of synergies between core actors (Norway and Estonia); more stratified (Spain), fragmented (UK) or federalised (Germany) systems; and countries exhibiting elements of hybrid polarisation (Hungary) or uneven and poorly coordinated development (Italy).

A range of factors have impacted on these developments and policies to address the challenges of digitally transforming public services. Using the ecosystems framework we can distinguish between three core sets of actors, operating at different levels from the supra-national to the local. The state is significant in all cases. However, more effective systems have seen stronger state leadership synergising with other actors (Norway and Estonia). In contrast countries that have been lagging behind have been likely to mention the role of EU led interventions shaping this evolution (Hungary and Italy). The plurality of state actors at local and national level is more evident in the UK and Germany, albeit with different consequences on their impact.

In all cases the role of community third sector organisations are cited, but their participation in these developments varies significantly in the extent to which their voices shape the

evolution of inclusive digital systems. Some of the digital inequalities that became more apparent during the covid pandemic had longer historical roots in the evolution of these countries.

Digital public services were catalysed by the need to connect with these communities, in particular during lockdown. This coordination process requires actors in digital ecosystems to interact with the non-digital world "*as different institutions interact with digital ecosystems."* (Kitsing 2022:151). In some cases where the state was unable to coordinate this effectively, citizen groups emerged to address these gaps through digital and non-digital means. These gaps illustrate where digital services were able to address inequalities and where it failed. Well-established indicators of poverty and inequality are highly correlated with digital poverty; the move to digital by default only serves to amplify these inequalities and the weaknesses of digital social citizenship dialogues.

This analysis highlights the extent to which new forms of social citizenship have developed in the dialogue between actors on the evolution of this digital welfare ecosystem. However, the depth and quality of these relationships varied significantly both between and within countries. This impacted on the extent to which the transformation of the digital ecosystem enhanced opportunities to participate in the digital economy and its impact on social protection and social exclusion varied significantly, which is at the heart of policy concern indicated in the EU *2030 Digital Compass* objectives.

The research and policy implications of these findings require us:

- first, to identify more specifically the nature of digital deficits for social citizenship;
- second, the neglected but emerging importance of business dialogues with government and third sector organisation in shaping the inclusiveness of digital welfare ecosystems;
- and third, evaluate the effectiveness of country and EU specific tools to address these gaps in the future.