



How Datafication Affects the Welfare State and Social Solidarity

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Abstract

This commentary discusses the main implications of the datafication of welfare services, particularly from the perspective of Finland, on the basis of research conducted in the past five years in the field of public service media, welfare state values and data inequalities. I argue that we should not only look at the practical level of digital tools and data-driven services, but should also think more profoundly about how these technologies shape society, particularly with regard to the sense of solidarity, social justice, and equality.

Keywords

Datafication, welfare state, AI, solidarity

In the past two decades the Nordic countries have invested heavily in the digitalization of their welfare services. As argued by Andreassen et al. (2021), this rapid digitalization “enhances the already ongoing process of datafication, namely turning ever increasing aspects of our identities, practices and societal structures into data”. The Nordic welfare states have traditionally collected vast amounts of data from their citizens, and this relationship has, in general, been based on a high level of trust from those citizens. It can be argued that datafication risks changing this relationship by introducing digital technologies and automation to the process in ways that may create new vulnerabilities and inequalities through logics of data sharing.

In this brief commentary I discuss the main implications of the digitalization and datafication of welfare services, particularly from the perspective of Finland, on the basis of research conducted in the past five years in the field of public service media, welfare state values and data inequalities. The observations made throughout these years resonate with many other studies on digitalization of public service (Broomfield & Reutter, 2022; Ruckenstein & Schüll, 2017). In the big picture we can see the rapid digitalization and datafication of the public sector accelerated by the Covid-19 pandemic. While these systems are created to ease the workload of practitioners, they bring in new logics in decision-making and potentially create new kinds of vulnerabilities and distance between the state and citizens.

Here, digitalization refers to the process of transforming various public services to a digital format – in other words, the mediation and operation of public welfare services through

digital interfaces and applications. This means, for example, delivering welfare services through websites, digital formats, and particular platforms built for these services instead of through face-to-face encounters. Digitalization has also led to the datafication of public services (Reutter, 2022). Datafication refers to the ways in which data can be collected from digital interfaces and platforms and be used to further design new data-driven, automated services with AI.

Trials and Errors

In the past two decades Finland has invested heavily in digitalization at both the national and local levels of administration. Digitalization and data-driven services are considered essential to improving the flexibility and cost-efficiency of public service. In Finland, digitalization has been adopted in areas of health care, social services, security services, and in elections and political participation (e.g., e-voting, e-democracy, and e-participation; Osifo, 2018). Finland has been considered successful in this digital transformation, similarly to other Nordic countries that have been proactive in digitalizing their welfare services. Whereas most Nordic countries have established an independent advisory authority to guide digital strategies in public service, Finland still lacks such an institution.

The use of digital services and automation is also guided through legislation (together with the EU's General Data Protection Regulation) in most Nordic countries, at least to some degree (Paasikivi et al., 2022). Finland introduced a general law on automated decision-making in public service in May 2023. According to this act, officials are not allowed to use machine-learning artificial technologies in automated decision-making. Instead, the use of automation is limited to predefined rule-based tasks that are considered simple enough not to have to involve case-by-case discretion and interpretation. This regulation emerged after two governmental agencies, the tax office and social insurance institution (KELA), had implemented automation in their services without legal consultation.

As digitalization and automation is rapidly being adopted into public services there are a number of concerns that have risen about these new forms and practices of administration.

One recent example from Finland is Apotti, a patient database system that seeks to improve data and information sharing across the health sector in the Helsinki area. Since its launch, Apotti has been widely criticized for being extremely difficult and time-consuming to use. According to a survey among health professionals, it has become both slower and more difficult to find information than before (Nousiainen, 2022; Arnberg, 2022; Hellstén & Salmi, 2021). There have been several mistakes in medical prescriptions, and in 2022 over 600 doctors demanded that Apotti be withdrawn. Thus, instead of alleviating workloads, Apotti seems to have complicated tasks and created potentially dangerous situations due to errors in decision-making.

This example illustrates the overall discrepancy between technology development and day-to-day work in public services, as well as what happens when systems are not developed in congruence with experts in the field and when the projects are too big and too ambitious (Osifo, 2018). Apotti was developed by the US-based technology company Epic. The development work was done in cooperation with health experts; however, the system functions only inconsistently. In some areas it has been reported to operate without major defects, whereas in others, for example in patient information searches and prescriptions, it has caused serious problems. As Andersson et al. (2022) show in their case study on a robot process automation in social care services in Sweden, participation in digital development work often involves uneven negotiations in ways that lead the limited elements of the imple-

mented technology (coding) to dominate the process; thus “the work and the service are re-designed to fit the limitations of the technology, not the other way around” (Andersson et al., 2022, p. 2).

While the aim of digital tools is to accelerate decision-making, many of the problems arise because digital systems are often too limited to include complex cases. They can also be too myriad or black-boxed in ways that lead experts to fail to understand or to supervise the reasoning behind these systems’ automated decision-making. The latter point refers to the new demands that digital technologies and datafication are imposing on public service workers, who are typically not trained to understand automated technologies. This is particularly problematic when it comes to detecting ambiguous or incorrect decisions.

For example, migration management in Finland is increasing automation in order to speed up decision-making on residence and work permits. Yet, these systems have made mistakes on the basis of changes in applicants’ marital status and enforced accelerated deportations. The implementation of this automated system can lead to children being separated from their parents or put individuals in life-threatening situations. Clearly, complicated life situations require consideration of the overall context, an area in which automated systems struggle to perform. Moreover, the diminished role of human-centred approaches limits opportunities to address mistakes and gain a deeper understanding of complex situations. In our interviews with officials who develop these services, it was illustrative that the main problem appeared to be the limits of data sharing between different databases rather than the risks of wrong decisions or concern over citizens’ well-being. These interviews revealed a strong belief in digital technologies and their safety.

Commercial Logics

While digital technologies are introducing new tools to handle cases, they are also changing the logics of public service. As argued by data justice scholars, design and programming are always intertwined with particular values and ideologies that find their way into those designs (see Constanza-Chock, 2020; Boulamwini & Gebru, 2018; Dencik et al., 2018). Datafication has intensified the entanglement of public and private digital infrastructures, since these systems are usually designed by private technology companies. They introduce, albeit sometimes inadvertently, logics that are not developed with public service in mind, but rather to serve commercial interests (data as capital and access of third-party data brokers).

While the private sector often has the necessary technological expertise, there is a clear need for better development of digital technology expertise in the public realm. Some good experiences from the past, such as the digitalization of the public service media YLE, might serve as an example. The designers in YLE have praised the opportunities to work with good resources, and particularly within a clear value frame that is often lacking in the private sector (Nikunen, 2023).

While data gathering by governments in the Nordic countries has been traditionally accepted by the citizens as part of the welfare state, citizens have become more concerned about their data when it is gathered through technological tools, via digital platforms and bots. Automated technologies appear more unreliable and connected to commercial digital networks. In Finland, concerns over data leakages were realized when sensitive patient data was leaked from Vastaamo, a privately run psychotherapy centre (Kortesoja, 2022). While Vastaamo was a private company, such leakages have been reported in the field of education, health, banking and tourism, involving both public and private sectors. This also reflects the ways in which information infrastructure in welfare states is increasingly part of networked

platform economy. In our study, citizens have expressed concern over how their data is being used, particularly because they are uncertain where it goes and whether it is being shared with unknown third parties (Hokka, 2022). In order to gain citizens' trust, the use of data and AI in the public sector needs to be as transparent as possible (Bryson & Winfield, 2017; Kuziemski & Misuraca, 2020).

Infrastructure of Social Sorting

Besides blurring the boundaries of private and public, datafication challenges the value of universalism that is at the heart of Nordic welfare states. Data-driven systems are based on individualized logics of personalization and algorithmic sorting. We still have very little knowledge about how this is playing out in the long run in the Nordic welfare context, where states strive to protect equality through law. There is a concern that the logics of datafication, automated social sorting, and the customisation of services will eventually widen inequalities and increase social fragmentation. While data-driven systems seek to customize services to provide better, more personalized services, data profiling and the sharing of data across institutions can potentially harm already vulnerable groups, as studies from the United States point out (Gangadharan, 2012; Eubanks, 2018). In the research around various marginal groups it has become evident that these groups face increased accumulative surveillance and categorization because they are often dependent on a variety of public services, now digitalized. Our study in Finland on undocumented migrants and the unemployed highlights the sense of being constantly evaluated as lower class, unreliable, or otherwise excluded through forced categorizations due to social status (Nikunen et al., 2022; Talvitie-Lamberg et al., 2022). There is an underlining fear of how and where personal data might leak, potentially affecting an individual's position in the job market or their chances of fair treatment before the law.

Thus, the personalization and customization of services does not automatically translate into better, more nuanced services. Although this may be the case with citizens who are well-off and digitally savvy, people in vulnerable situations or with weak digital skills may suffer from deeper inequalities and accumulative surveillance.

Mark Andrejevic (2020) quite convincingly argues that the personalization and social categorization of public services *infrastructurally* adds to the fragmentation of society and weakens the sense of being in this together.

Disappearing Human Contact

According to a recent Eurostat (2021) report, the percentage of people using the internet to interact with public authorities in Finland has grown from 68% in 2011 to 89% in 2021; this is well above the EU average (47%). This is often presented as a sign of the success of digitalization. However, the percentage is high not only because this is what people choose to do, but because they have no choice. In a highly digitalized society, attempting to make use of public services without the internet or any other digital tools can be challenging. Our case studies show, for example, that many elderly continue to use in-person services and old technologies, papers and printers; however, locating services beyond digital realm takes a lot of effort and time (Lehtinen, 2023). In addition, access to digital tools is an economic issue. Not everyone can afford the new laptops and mobile phones that are required for the apps to run. It is not difficult to understand how these experiences and struggles add to the sense of being a second-class citizen.

The possibility to interact with a human being is also a matter of human dignity. In life situations when people are faced with serious difficulties, the ability to discuss the situation with another human being bears significance. People in our study talked about this as a matter of being recognized as a worthy human being. It seems compelling that this is something that needs to be specifically justified.

I argue that we should not only look at the practical level of digital tools and data-driven services, but we should think more profoundly about how these technologies shape society. The rapid phasing-in of digitalization in public services across society affects not only citizens' capacity to interact with the public sector, but more profoundly the sense of social solidarity. We should not forget that social solidarity – the basis of a welfare society – is built around the sense of being recognized as a valuable member of society (Fraser, 2008; Honneth, 1995). Ideas of interaction, cooperation and participation are central to enhancing social solidarity (Nikunen, 2019). When digital tools replace human interaction and it becomes increasingly difficult to understand, influence, or complain about automated decisions, the grounds for social solidarity – interaction, cooperation, and participation – are undermined. This is not simply a question of adequate, efficient services. It comes down to understanding the value of the social fabric and humanity that constitute the foundation of a well-functioning welfare society.

While it can be argued that previous practices may have been slower, somewhat inefficient, and too general to cater to contemporary society, human encounters and interaction, as well as accessibility in terms of understanding and pointing out mistakes, were more integrated in the former processes, in contrast to decisions produced through datafied automation. Social solidarity is a historical Nordic achievement that requires constant support and openness from societal and institutional resources and practices. The digital platform environment is prone to data leakages and intertwined with commercial tech companies' designs in ways that undermine public trust in these systems. Furthermore, we are yet to understand how the infrastructural design of categorizing and sorting may affect the sense of solidarity among citizens in the long run.

In their coining of the term the *data welfare state*, Andreassen et al. (2021) have suggested that an ideal data welfare state should be built on four pillars: non-bias, decommodification, data diversity, and sustainability and transparency. These pillars aim at guarding the welfare state's values from the commercialized, fragmenting logics of datafication. We should in addition discuss to what extent there is a need to digitalize and datafy everything. What are the already existing systems that can be maintained, and most importantly, how do we ensure human-centric services and alternatives that acknowledge human dignity?

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