

# CREATING AND EXPLOITING A DIGITAL SPACE FOR SOCIAL INNOVATION

Digital technologies fulfil several functions with regard to social innovations. They are enablers of social innovation and civic action, but they also create a new (digital) space for social innovation. Through these mechanisms, digital social innovations are evolving into a cross-cutting phenomenon driving social change in a wide variety of areas.

*Matthias Weber*

---

## WHAT IS DIFFERENT ABOUT **DIGITAL SOCIAL INNOVATION**?

Digital social innovation (DSI) is a comparatively new phenomenon that has grown in significance in particular with the introduction of digital platforms and social networks. It is enabled by digital technologies under the four headlines of open data, open hardware, open networks and open knowledge. According to the EU-funded DSI project (digitalsocial.eu), digital social innovation can be defined as:

*“(a) type of social and collaborative innovation in which innovators, users and communities collaborate using digital technologies to co-create knowledge and solutions for a wide range of social needs and at a scale and speed that was unimaginable before the rise of the Internet” [1]*

This definition stresses the socio-technical nature of DSI, i.e. new forms of social practice and organisation are made possible by the close interaction of the social and the technical. Other related concepts, such as civic technology, social technology or ICT-enabled social innovation, may overlap with digital social innovation, but they tend to stress other features. The notion of civic technology, for instance, emphasises the potential to strengthen democracy, by enabling greater participation in government and assisting government in delivering citizen-centric public services.

The network effects associated with digital networks and platforms mean that the utility of a network grows with each new node that is added to the network. They help overcome one of the most important barriers to the generalisation and institutionalisation of social innovation, namely the lack of a self-reinforcing mechanism driving forward the processes of

scaling and widespread uptake of social innovations in society. Whereas many technological innovations benefit from economies of scale, i.e. cost digression with growing output, such a powerful driver of innovation and scaling dynamics is missing in the case of social innovations [2]. Network effects may at least partly compensate for this deficit, even if they are fully effective only beyond a critical network size.

The new social practices and their scaling are enabled by four specific characteristics of open digital systems, namely open knowledge, open data, open hardware and open networks. This technological infrastructure has given rise to the creation of a variety of ecologies and applications on which DSI builds. Outstanding among these in terms of their enabling role for DSI are social media and social networks for information and knowledge exchange, and crowd-based instruments for the sourcing and mapping of information and for the financing of DSI. The opportunities offered by open digital systems can be exploited in a wide variety of areas, ranging from mobility, housing and energy supply to learning, health and financial services.

**Digital social innovation differs from other kinds of digital innovation in terms of its (social) purpose and the emphasis on changes in social practices enabled by digital technology.**

Digital *social* innovation differs from other kinds of digital innovation in terms of its (social) purpose and the emphasis

on changes in social practices enabled by digital technology. The dominance of intended social or environmental benefits of DSI contrasts with the focus on profit-orientation and economic benefits that is typical of most other digital innovations.

## KEY FINDINGS AND PATTERNS

According to a stocktaking exercise of the DSI4EU project [3], there were almost 2,000 organisations and over 1,000 projects involved in digital social innovation (DSI) across Europe in 2017, with the highest concentration of activity in Western and Southern Europe. By now, numbers already increased to over 2,200 and 1,400, according to DSI4EU's web tool. These figures, however, should be interpreted with great care because there is no common and standardised definition and methodology for identifying DSI in different countries, and the efforts for identifying DSI vary considerably.

As known also from other surveys on social innovations, many DSI projects are of limited impact and face difficulties to scale and diffuse (which does not mean that all DSI necessarily have to grow beyond local applications!). In any case, here are only few examples of DSI initiatives of larger scale and wider uptake. In spite of network effects, the growth of DSI is hampered by barriers at project and system levels. At system level, for instance, DSI projects and organisations are still poorly connected to each other, both within and across countries and regions, which at the same time is a prerequisite for boosting network effects, enabling knowledge-sharing and, ultimately, generalising DSI. There is a perceived lack of funding and investment in DSI in Europe. Digital skills shortages further hamper the realisation of DSI. This has also been one of the reasons why many civil society organisations and the public sector have adopted DSI rather slowly [4]. And also the ability of citizens to engage with DSI suffers from a lack of digital skills.

DSI shows noteworthy spatial distribution patterns. First of all, there is a significantly higher level of DSI activity in cities than in rural areas. Reasons for this are the particular social and environmental challenges arising in cities, the networking opportunities resulting from higher population density and diversity, and the easier access to assets and resources. Major cities like London, Paris, Amsterdam, Barcelona and Berlin are hotspots of DSI.

Second, DSI activity is not evenly distributed across Europe. There is a concentration of activities in Western and Southern Europe, especially the UK, France, Italy, Spain, the Netherlands and Germany. By contrast, there is less activity in Eastern and Northern Europe and particularly little activity in the Baltic and Balkan countries. This is not due to a lack of interest in or need for DSI among citizens, but rather the result of a shortage of resources and skills.

Finally, at a European level, stakeholders in DSI are not very tightly connected, but rather form a patchwork of DSI islands. A recent network analysis has shown that there are some major network nodes across Europe, but the connectivity of stakeholders in DSI is still insufficient to create substantial network effects of European scale [1].

## SOCIAL FUNCTIONS ENABLED BY DSI

The key feature of DSI as compared to conventional social innovation is their technology-driven enabling function for novel interactive or collaborative social practices. With the help of digital technologies, these social practices can be performed at a new quality level and give rise to a corresponding change in important social functions [1]:

- **Collaborative economy:** New practices of collaboration and sharing, which in the past were hampered by comparatively high coordination costs, are now possible through electronic intermediation and instantaneous online interaction.
- **Open democracy:** Digital social media enable the formation and mobilisation of social communities and the creation of new virtual arenas of debate. These can give rise to new forms of democratic participation but also to social practices that could undermine democracies, for instance through amplifying fake news in the echo chambers of confined virtual communities.
- **Open access:** The availability of and access to vast amounts of online data offers new opportunities for new practices of information and knowledge sourcing, but also of pooling and visualising that knowledge.
- **Awareness network:** Access to information and knowledge can be used to enhance transparency, raise awareness in physically distributed social communities, mobilise these communities and stimulate action much quicker than in the past.
- **Funding acceleration and incubation:** Access to information and knowledge also means access to alternative financial and other resources. In conjunction with the awareness-raising function of digital network, new types of social practices can be incentivised.

## SOCIETAL AREAS OF APPLICATION OF DSI

Nowadays, DSI initiatives can make use of a broad range of established and emerging technologies to empower citizens, facilitate collaboration and deliver social impact. They have the potential to transform the way public services are delivered, reduce environmental impacts, and empower citizens to participate in activities that were reserved for experts in the past. So far, DSI has been particularly relevant in the following areas of application [1]:

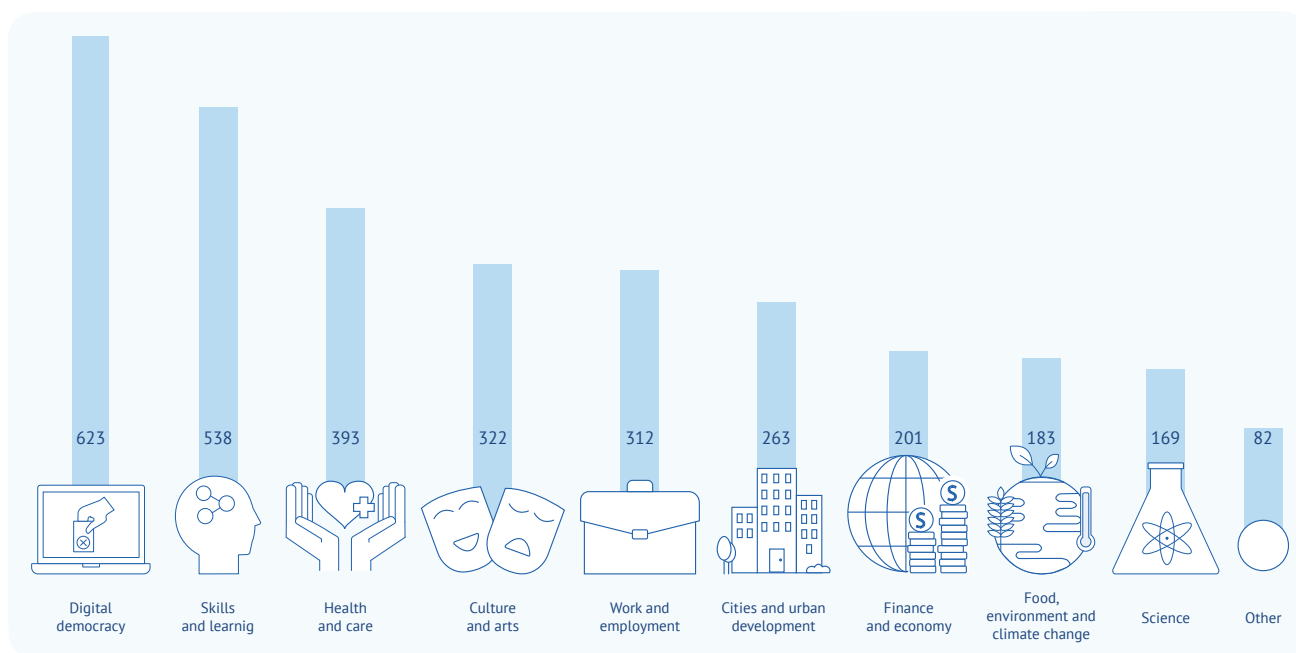
- **Health and care:** Chronic or orphan diseases can be addressed through digitally enabled networks of patients worldwide. Knowledge exchange and mutual learning between people with disabilities is facilitated by DSI.
- **Finance and economy:** DSI can give access to novel forms financial intermediation, including mobile banking and micro-credits.
- **Food, environment and climate change:** New types of local smart grids, but also new mobility solutions based on sharing models or new forms of food supply have the potential to reduce environmental impact.
- **Digital democracy:** Digital fora create new publics and arenas of political debate, giving people easier access to democratic processes of opinion formation.
- **Cities and urban development:** DSI solutions offer easy access to public and social services, for instance in areas like housing, social care, or e-government.
- **Science:** DSI allows involving citizens directly in processes of knowledge creation through citizen science or open user-driven innovation.
- **Skills and learning:** Online services are nowadays available to upgrade skills, share learning experiences and enable peer learning.
- **Culture and arts:** FabLab and maker communities benefit from DSI in order to build decentral production activities and exchange software through an open source model.
- **Work and employment:** Coordination of supply and demand on labour markets – paid or unpaid – is easier and quicker if DSI solutions are used, including voluntary labour or the integration of migrants into work environments.

In order to provide a rough assessment of the relative significance of the areas of society in which DSI are implemented, the figure shows the distribution of areas as provided by the DSI4EU project visualisation tool.

### IMPACTS OF AND BARRIERS TO DSI: TOWARDS A FUTURE AGENDA

This brief overview of DSI has shown that digital technologies can be used pervasively in a wide range of application areas, thus opening up novel opportunities for social innovation. What becomes also apparent is that their potential impacts are ambivalent. Digital technology can be put to social as well as to commercial use, and even well-intended DSI may easily give rise to misuse: examples such as fake news or embedded discrimination call for a responsible and ethical use of DSI.

In spite of high promises and several successful and socially benign examples of DSI, its impact in society has been limited so far. The potential of network effects for scaling DSI has not yet been fully brought to bear. Reasons for the reluctance to engage in DSI reside in the fast pace of innovation and change in digital technologies and thus the high level of uncertainty associated with DSI, which –taken together– make fast learning about their pros and cons a must. Public investment in DSI support infrastructures (e.g. incubators/accelerators, network-building, and training initiatives) could provide peer-learning spaces, facilitate knowledge exchange about good practices and support the



DSI per area of society (data from DSI4EU mapping (June 2019), based on 1456 collaborative DSI projects and 2256 DSI organisations, multiple mentions of affected areas of society possible)

emergence of a wider range of DSI initiatives. These support infrastructures also allow bringing practitioners, funders, policymakers and investors together.

Resource constraints are another factor hampering the generalisation of DSI. Private and public funders are often called upon to support social innovation, but the digital sector in particular has been very ingenious in devising new financial and business models, and in mobilising funding. DSI initiatives would benefit from policies and regulations to facilitate access to alternative financing models and to support the uptake of open source solutions in order to advance DSI.

Mapping exercises have shown that DSI initiatives need to strengthen their cooperation at the European level in order to be able to benefit from network effects and strengthen their position vis-à-vis incumbent players in the main application areas. DSI initiatives could benefit from cooperation with established civil society organisations and their pre-existing European structures and networks, in order to enhance the prevailing bottom-up start-up culture of DSI by embedding it in a stable and supportive institutional environment. Research is still needed on the complementary role of DSI in innovation ecologies of different application areas in order to better understand how sustainable models of DSI could look like, and what conditions are needed to enable their scaling and replication of DSI.

However, the future of DSI is likely to be rich in surprises, because the development of an enabling digital infrastructure for DSI still continues. We can observe a number of novel opportunities that may give rise to new forms of DSI. Distributed ledger technology (better known as blockchain) can reduce the costs and time of trustworthy interactions, up to the point of making existing intermediation functions obsolete. Digital identities, tracing the origins of products

**The future of DSI is likely to be rich in surprises, because the development of an enabling digital infrastructure for DSI still continues.**

and new forms of access to financial services are just some examples of DSI enabled by blockchain-based solutions. Artificial intelligence is yet another technological development that may give rise to new DSI. Predictive 'big data' analytics can be used for social purposes as much as for commercial ends, and chatbots can help migrants to navigate in their new host countries. The functionalities of social media and social networks are likely to be enhanced in the future by way of virtual or augmented reality devices, and there is no reason why they should not be put to use for social purposes. Observing and monitoring of these novel developments in DSI, and learning about their potentials and risks, will be crucial for the timely definition of framework conditions and incentive structures to help accelerate the scaling and adoption of DSI.

## REFERENCES

- [1] Bria, F./ Gascó, M./ Baeck, P./ Halpin, H./ Almirall, E./ Kresin, F. (2015): Growing a Digital Social Innovation Ecosystem for Europe. Final Report of DSI project. European Commission: Brussels.
- [2] Rehfeld, D./ Schartinger, D./ Weber, M./ Rhomberg, W. (2018): Ready for Take-off? Processes of Social Innovation. In: Howaldt, J./ Kaletka, C./ Schröder, A./ Zirngiebl, M. (Eds.): Atlas of Social Innovation. New Practices for a Better Future. TU Dortmund University, Sozialforschungsstelle, pp. 82 - 84.
- [3] Stokes, M./ Baeck, P./ Baker, T. (2017): What Next for Digital Social Innovation? Realising the potential of people and technology to tackle social challenges. Report of DSI4EU project. European Commission: Brussels.
- [4] Misuraca, G./ Kucsera, C./ Lippardini, F./ Voigt, C./ Radescu, R. (2016): ICT-Enabled Social Innovation to support the Implementation of the Social Investment Package. Mapping and Analysis of ICT-enabled Social Innovation initiatives promoting social investment in integrated approaches to the provision of social services. IESI Knowledge Map 2015. JRC Science for Policy Report. EUR 27838 EN. European Commission, Joint Research Centre: Sevilla.
- [5] Holtgrewe, U./ Kroop, S./ Schwarz-Wölzl, M. (2017): Digital Social Innovation. In: Domanski, D./ Kaletka, C. (Eds.): Exploring the Research Landscape of Social Innovation. A deliverable of the project Social Innovation Community (SIC). TU Dortmund University, Sozialforschungsstelle Dortmund pp. 44-64.