

Sustainable development: Innovations in business

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Editor



eISBN 978-83-8211-084-5

<https://doi.org/10.18559/978-83-8211-084-5>

PUEB PRESS



POZNAŃ UNIVERSITY
OF ECONOMICS
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Poznań 2021



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NETWORK AS AN INNOVATION: SOCIAL INNOVATION— THE CASE OF THE HOSPITAL HELP INITIATIVE DURING COVID-19 PANDEMIC



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Abstract: In the chapter, the network innovation is defined in two ways: as networking innovation model and as networking that is the result of innovation. Strategic entities in building relationships for these two approaches are described. Particular emphasis is put on analysis of social innovation process, including six stages, i.e., inspiration, proposition, prototypes, testing, scaling and system change. This process was implemented by Poznań University of Economics and Business Knowledge Transfer Company LTD, while creating The Hospital Help Initiative (WsparcieDlaSzpitala.pl) during Covid-19 pandemic. The aim of the chapter is to diagnose network innovations on the basis of The Hospital Help Initiative (WsparcieDlaSzpitala.pl) coordinated by Poznań University of Economics and Business Knowledge Transfer Company LTD. The case study method was used to show how social needs appeared, how adequate solution was smartly developed by a group of professionals, how the Relationship Team successfully adopted the technology, and finally how the organization model was tested and scaled. This kind of network innovation may stimulate system change in the future.

Keywords: network innovation, relations in network economy, social innovation, The Hospital Help Initiative.

2.1. Introduction

Network and innovation could be related in at least two ways. In the first, innovation could be created and implemented as the result of networking (networking innovation model), in the second, networking could be the result of innovation. However, these two approaches interpenetrate each other, especially in building relationships among the entities involved. The same entities could support the innovation process in an organization, and may support building relationships within network.

Network as an innovation is based on configuration, which focuses on innermost workings of an enterprise and its business system (Keeley, Walters, Pikkell, & Quinn, 2013). The company cooperates in the network with other firms or surprising collaborators to develop new offerings that drive a shift from business as usual. These innovations mean that a firm can capitalize on its own strengths while harnessing the capabilities and assets of others. Network innovations also help executives to share risk in developing new offers and ventures. These collaborations can be brief or enduring, and they can be formed between close allies or even staunch competitors, which gives a new perspective on competitiveness. The main means of building a network include alliances, collaboration, franchising, open innovations, secondary markets and mergers or acquisitions. The aim of the chapter is to diagnose network innovations on the basis of The Hospital Help Initiative (WsparcieDlaSzpitala.pl) coordinated by Poznań University of Economics and Business Knowledge Transfer Company LTD.

2.2. Entities and their relationships in the networks

The idea of networking innovation model relates to the second Schumpeter's mark (hypothesis), which focuses on supporting the innovation processes in small and medium enterprises, because the big ones are developed enough to conduct their own R&D efforts. Innovations are no longer "just" seen as a process, involving various functions. The process is explained rather by the participation of a number of different institutions. Here cooperating companies (including suppliers) and customers with varying degrees of intensity are involved continuously in the various phases of the overall activity, while public R&D facilities and (business) external R&D facilities are included only at certain stages in the innovation process (Figure 2.1).

In the course of the development of new technologies and knowledge, companies become increasingly dependent on external knowledge and external technology; this knowledge and technologies can be either publicly accessible or be privately owned by other companies, individuals or research institutions. Furthermore, external knowledge and external technologies are available either in a codified or personal, and published or undisclosed form.

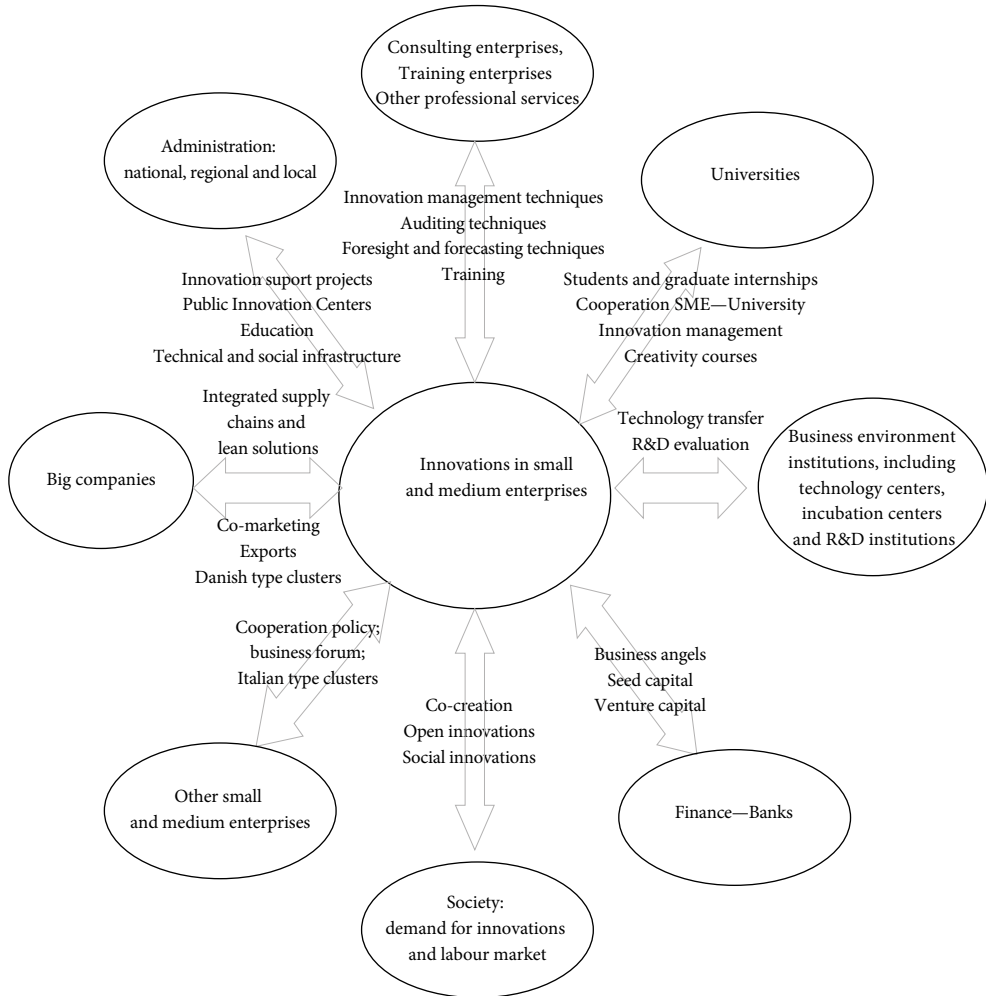


Figure 2.1. Relations in network economy

Source: Own elaboration based on (Koschatzky, Kulicke, & Zenker, 2001, p. 247).

Research and development service providers together with public and private research institutions and, increasingly, training institutions contribute much to building, development and diffusion of existing, publicly available “knowledge and technology pools”. The role of universities as employer and educator of highly skilled workers and researchers especially for R&D needs further consideration (Guerrero, Urbano, & Herrera, 2019). These institutions also provide a partner and/or service provider for external innovation-related activities (especially R&D activities). The company’s internal R&D activities—as part of the innovation process—are available in the company knowledge and existing technologies prerequisite for the

implementation of in-house innovation activities, but also a prerequisite for the use of external sources for innovation. This kind of attitude is described in literature within Triple Helix Model (Etzkowitz & Leydesdorff, 1995, pp. 14–19) and all the derivate ones.

The sustainability-oriented innovation intermediaries that can be defined as “organizations that assist firms in the eco-innovation process by providing external impulse, motivation, advice and other specific support often by acting as an agent or broker between two or more parties” (Kanda, Clausen, Hjelm, & Bienkowska, 2015, p. 3) are interesting entities in the network. The systematic literature review revealed several pathways by which innovation intermediaries can encourage sustainability. Above all, Kilelu, Klerkx, Leeuwis, and Hall (2011) and Hannon, Skea, and Rhodes (2014) identified a set of key functions of energy innovation intermediaries in the United Kingdom. The functions included demand articulation (scanning for information/opportunities, foresight through strategic planning, diagnosis through needs/knowledge gap assessment), network building (gate keeping through filtering/selecting collaborators, match making through forming partnerships/market connections), capacity building (organizational development through incubation/support services, training and competence building through management/technical skills/certifications), innovation process management (mediating and arbitrating), knowledge brokering (matching knowledge demand and supply), and institutional support (boundary work between science and practice, institutional change through advocacy, regulation change, and attitudes/practices change). In the context of sustainability-oriented innovation intermediaries, one or more actors within the intermediary would focus on incorporating sustainability principles into these functions in order to encourage and support the creation of businesses and technologies that can act as niche experiments and/or change the regime subsystems (Romanowski & Gnusowski, 2019).

The impact of collaborative relationship extends to the innovation context (Shin, Park & Park, 2019). To create value through sustainable innovation, identification of business models and clear understanding of an innovation network is required (Boons & Lüdeke-Freund, 2013). An innovation network is composed of various innovation actors who are either direct or indirect participant of business model. A sustainable innovation market is dependent on the interaction among these participants, and scholars emphasized the need of collaboration-based partnership activities for a successful marketing of sustainable innovation (Boons & Lüdeke-Freund, 2013; Doganova & Eyquem-Renault, 2009).

For example, Lin, Tan, and Geng (2013) noted that that sustainable product innovation decisions should strategically incorporate collective knowledge about market demand characteristics. A high level of market demand knowledge can provide specific research and development (R&D) quality, which leads to distinct

innovation and, ultimately, higher firm performance. Similarly, Kushwaha, and Sharma (2016) emphasized the need for a green supply chain management initiative as it can bolster higher firm performance in the long run. For a connected network to collectively achieve environmental compliance and improve firm performance, a clear understanding of the orientation and depth of partnership is required. These kinds of relationships are necessary to implement social innovation.

2.3. Process of social innovation

Social innovation is not defined univocally, however in this chapter SI will be treated as “change in social relations, involving new ways of doing, organizing, knowing and framing” (Haxeltine et al., 2016). The problems discussed within the subject of social innovations focus on four issues: 1) related to defining social innovations as a list of activities for social problems, 2) related to introducing new solutions in solving social problems, 3) related to the lack of an organizational model for non-profit and NGOs (in the case of enterprises we would talk about a business model), and 4) the benefits of introducing innovative solutions in the social sphere, with particular emphasis on long-term results, also known as impacts, or impacts, which are a systemic change caused by successfully implemented social innovation (Lawrence, Dover, & Gallagher, 2015).

The process of developing social innovations, hereinafter referred to as the process of social innovations, is similar to the assumptions of modern innovation processes. It includes six steps: inspiration, proposition, prototypes, testing, scaling and system change (Figure 2.2).

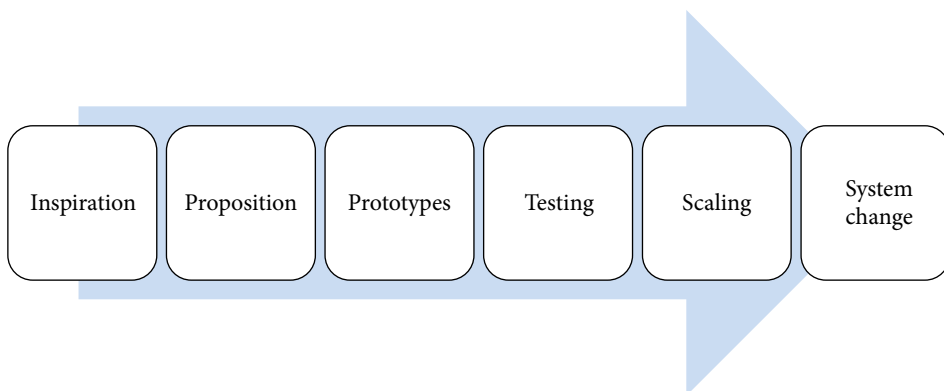


Figure 2.2. Social innovation process

Source: Own elaboration based on (Murray, Caulier-Grice, & Mulgan, 2010).

The first stage, “inspiration”, is related to social needs, but also to broadly understood social problems. The source of inspiration can be unexpected changes such as catastrophes and natural disasters, pandemic, wars and economic crises. Other sources of new inspiration include environmental pollution, over-exploitation of natural resources and demographic changes such as aging of the society, epidemics and poverty, or combating religious, racial and gender intolerance and inequality. The second stage, “propositions”, is the multiplication of ideas about how to deal with the identified social problem. Ideas can come from many sources, including citizens and consumers of services, the local community, employees of organizations and members of community organizations. The generation of ideas takes place using innovative methods, such as: brainstorming, the Delphi method, the opinions of experts or derived from studying “best practices”.

The third stage “prototypes” is where ideas are tested and assessed during their implementation in pilot projects. As a result, feedback is obtained as to their purposefulness and usefulness, and to what extent they can be accepted by future users. It should be remembered that every idea, even a sensational one, is developed with use of the “trial and error” principle. The fourth phase, “testing”, focuses on developed and tested ideas that have passed successfully completed pilot projects (Romanowski, 2019). It happens that some of the ideas seem interesting to fade over time and become unprofitable. Hence, it is advisable to use the methods of innovation evaluation. Innovative ideas that have successfully passed the prototyping stage should be further developed, and related business models should be improved. These models should include financial and legal side of the project in order to ensure the stability of the enterprise or social organization implementing the social innovation.

The fifth step, “scaling”, is the diffusion of innovation among groups and communities interested in change. This is most often done through the development of social organizations and enterprises with socio-economic values. The sixth stage, “system change”, is about putting new ways of thinking and acting into practice. They concern values, strategies, business models, regulations, data and infrastructure, and the creation of new organizations (business, private, civic, non-profit). Systemic changes are social innovations that have contributed to changes in the existing educational, health and information systems and influenced new and better behavior of people.

This procedure was implemented by Poznań University of Economics and Business Knowledge Transfer Company LTD while creating The Hospital Help Initiative (WsparcieDlaSzpitala.pl). A social innovation was stimulated by Covid-19 pandemic and fast actions were needed to support healthcare system in Poland in 2020.

2.4. Case study: the hospital help initiative (WsparcieDlaSzpitala.pl)

2.4.1. The emergence of a pandemic and the problem of uncoordinated help

During the first wave of the Covid-19 in Poland, in March 2020, there were significant deficiencies in the provision of personal protective equipment and food products to Polish hospitals. From day one, the assistance from citizens and enterprises was broad but uncoordinated and chaotic. There was no two-way communication about the real needs and no secure solutions for providing support to hospitals.

The widespread willingness to support hospitals fighting the pandemic, by purchasing and delivering missing products, was a very positive social phenomenon. Unfortunately, private individuals calling hospitals with questions about current needs disrupted the work of medical staff. Moreover, the self-delivery of products to the hospital posed the risk of a rapid and uncontrolled spread of the pandemic.

A group of scientists from the Poznań University of Economics and Business was also involved in helping hospitals. In the first week of the pandemic, they experienced problems caused by a lack of coordination of activities. The team's workshop discussion on March 13th 2020, led to a decision to start work on an IT system that would transform uncoordinated, chaotic help provided to hospitals by residents and companies into an effective social support system for health care. The architecture of the future system was yet to be defined.

2.4.2. Dynamic development of the IT system thanks to the cooperation and... luck

The opportunity for scientists to establish valuable cooperation appeared a day later. On March 14th 2020, the owner of the IT company Clorce from Poznań published a post on Facebook that he was ready to finance his programmers' work in creating a solution that would help in the fight against the pandemic. On the same day, both teams remotely connected to discuss the system's possibilities of organizing bottom-up aid. Time was critical. If it was to fulfill its role, the system had to be built as quickly as possible.

While creating the future system's assumptions, a team of scientists and programmers determined that its crucial functionality must help hospitals report their needs, donors to declare their help, and coordinators to collect and deliver. This way, the public support would be more accurate and consistent with hospital needs. However, the time needed to build a system from scratch was still the problem.

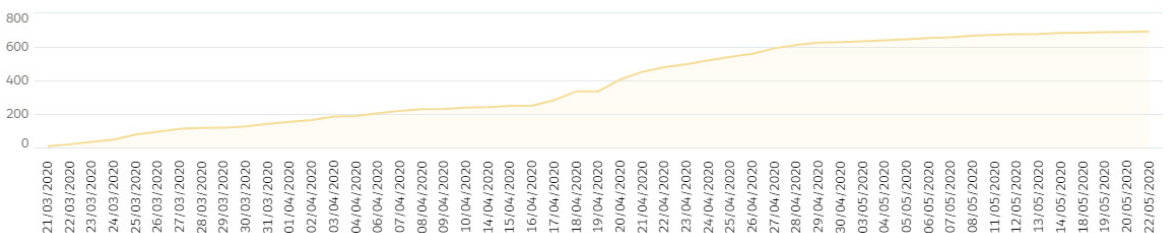
On March 16th 2020, a key message for the project appeared on the Salesforce website. As part of the “No Cost COVID-19 Care Response Solution”, the company declared it would provide free access to technology for care management teams responding to the coronavirus pandemic. The pool of free licenses, worth EUR 1 mln per month, was obtained in just two days thanks to the direct contact between the university rector and the company’s vice president. The possibility of using the Salesforce architecture significantly accelerated the work of programmers. A working version of the system was launched on March 20th 2020, after five days and nights of continuous coding by a team of 12 programmers.

2.4.3. The role of the Relationship Team in a successful technology adoption

Working on creating a system to organize bottom-up aid was part of the task. Equally important was the acquisition and training of future system users—hospitals, coordinators, and donors. In this regard, 15 socially engaged volunteers who, together with a team of 8 scientists, contacted medical institutions and searched for local coordinators, became invaluable help.

The nature of the work of team members varied depending on the target group. The task of the people taking care of hospitals was to convince the facility to use the platform and teach the procedures for entering the needs into the system and marking the delivered products. The task of those taking care of coordinators was to find people who could take care of a given hospital by organizing collections and delivering the necessary products, which required specific personal skills and predispositions.

The pace of acquiring hospitals into the system was swift. Within 21 days from launching the system, 244 hospitals used it (25% of all hospitals in Poland). In the peak weeks of May, 397 hospitals and 297 nursing homes were in the system.

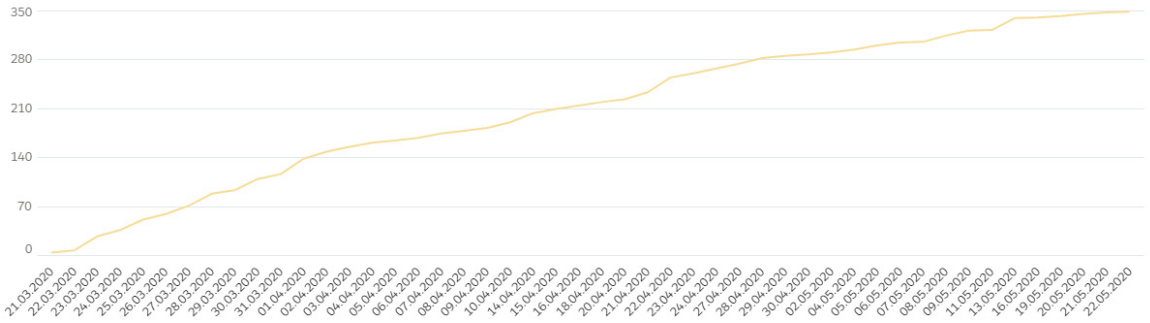


* verified, registered and trained

Figure 2.3. Increase in the number of health care facilities in the system*

Source: Own elaboration.

The dynamic of registering local coordinators in the system was similar, although their verification and training took longer than that of hospitals. Twenty-one days after the system launch, 201 local coordinators were registered. By the end of May, this number had risen to 357 people from all over Poland.



* verified, registered and trained

Figure 2.4. Increase in the number of local coordinators in the system*

Source: Own elaboration.

Local coordinators were crucial for the WsparcieDlaSzpitala.pl system. They are responsible for organizing collections and ongoing cooperation with the hospital or nursing home. In larger cities, such as Poznań, Gdańsk, or Bydgoszcz, there were many more of them than hospitals, while in smaller towns, it was challenging to find a person ready to undertake such duty. Relationships Team members often interacted with local NGOs and journalists and then collectively, using social media, encouraged the local community to take on this role.

2.4.4. The way of cooperation with the media in promoting social innovation

Another essential task from day one was to promote the idea of the system in the media. The vast majority of media information on support for hospitals during the pandemic concerned aid actions related to sewing masks or donating meals to medics. The development of the IT system was, for obvious reasons, less attractive for journalists.

Support from companies and institutions was very helpful in promoting the project. Patronage from the Polish Hospital Federation and the Ombudsman and financial support from a group of recognizable companies allowed building the project's credibility. Moreover, media monitoring companies' free provision of services allowed for ongoing tracking of promotional activities' effects.

In the first wave of the pandemic, many aid projects tried to get the media's attention. Journalists expected news with large numbers on the products collected and handed over to hospitals. It was more difficult for an IT system that facilitated helping to get media attention. A group of friendly journalists proved to be very helpful here, understanding the project's idea and contacting journalists from other editorial offices, informing them about the created system and its usefulness. As a result of the active cooperation of a small media team with journalists, from mid-March to mid-May information about the system appeared in 1,393 publications, effectively reaching 7 million recipients.

The graphic tool offered by Tableau Software also became a beneficial tool in popularizing the system. With the support of the company's employees, a team of scientists prepared a set of interactive maps that showed hospitals' needs in real-time. Thanks to this solution, companies and individuals could easily understand the real needs of the health service.

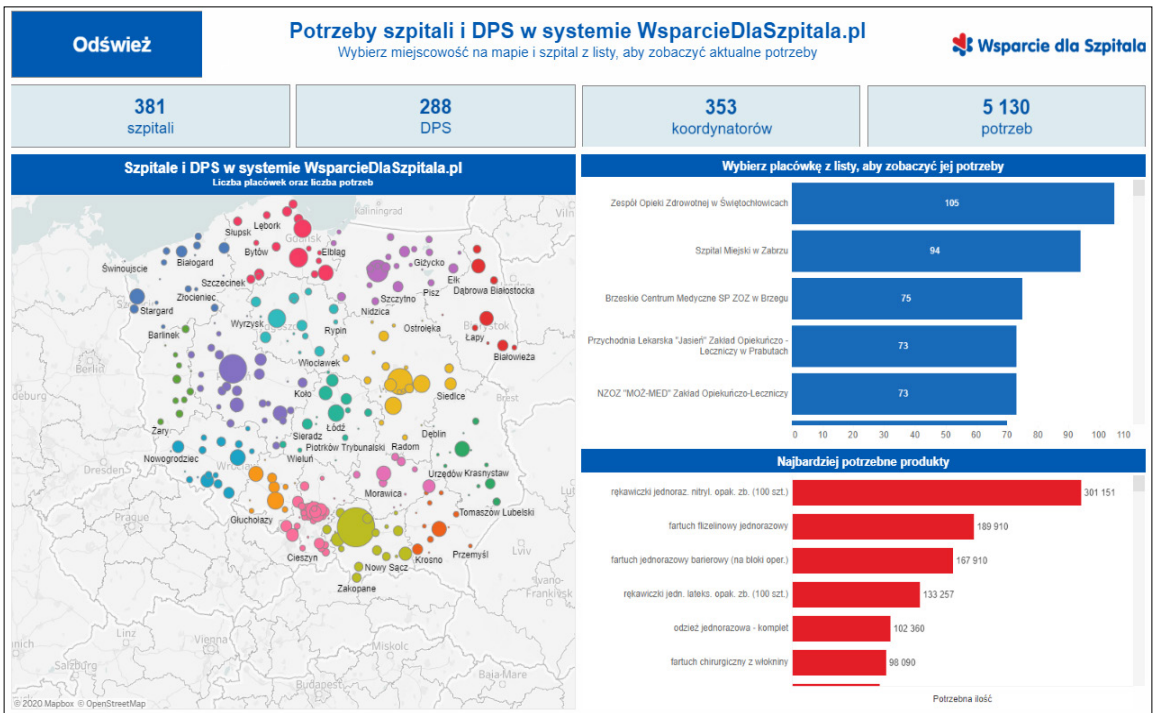


Figure 2.5. Map of hospitals and nursing homes needs by Tableau Software

Source: Own elaboration.

2.4.5. Scaling from *WsparcieDlaSzpitala.pl* in Poland to *Helpmed.in.ua* in Ukraine

The created system played an important role in Poland's first wave of the pandemic, organizing and dynamizing many aid activities. Between May and June 2020, there were signals from Ukraine that they would also need a similar system. The Polish Challenge Fund announced almost at the same time, provided an excellent opportunity for this.

The essence of the 6-month project implemented by the Poznań University of Economics Knowledge Transfer Company and Hi-Tech Office Ukraine was to gather previous experiences, train partners on the Ukrainian side, build a local version of the system and implement selected hospitals and a group of local coordinators, accompanied by a local information campaign.

Twenty hospitals from 5 Ukrainian cities and leading patient organizations joined the project. Based on the local needs analysis, the Ukrainian version of the civic support system was registered and developed. Series of webinars were implemented and executed. Awareness campaign led to interest and engagement of the state institutions (including the Ministry of Health, Ministry of Digital Transformation and the Chief State Sanitary Doctor) and local business.

The experience gained from the two countries proved the legitimacy of creating an advanced platform coordinating bottom-up aid and building an ecosystem of donors, coordinators, and institutions in need of help. Such a combination organizes the helping process and makes it more effective and safer. There is a need to create an open-source solution covering various assistance types (beyond a pandemic situation and hospitals).

The described case study is a good example of social innovation. The New solution responds to current social problem (chaotic situations of deliveries in hospitals during Covid-19 pandemic as an inspiration), is based on current network of experts to create and test the prototype (propositions, prototype and testing), and finally is used in neighbour country for scaling, which leads to system change. In fact, the described study of *The Hospital Help Initiative* covers at least three types of innovations, i.e., network, structure and channel as an innovation, and is an example of multidimensional innovation process.

Questions / tasks

1. What was the significance of the adopted division of work in the team for the project's success?
2. What qualities should the local collection coordinator have?

3. At what moments in the development of the system did the ability to network proved to be critical?
4. Is this innovation easy to scale?
5. How may this kind of innovation stimulate “system change” after Covid-19 pandemic?

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