


Rural digital transformation: Fostering economic growth by access to services

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Myriam Martin, Michel Ehrenhard, Davide Guariento, Carlos Corrales and Yasin Sahhar, delve into rural digital transformation, especially fostering economic growth by access to services as evidenced by the dRural project

Digital transformation and the digitalisation of services provide tremendous opportunities and potential benefits for citizens in rural areas. Digital technologies can make rural communities more attractive, smarter and more sustainable by helping to tackle the challenges of isolation and improve access to crucial services.

Notably, these technologies can transform rural ecosystems by a) allowing citizens to participate in a broader digital landscape and access services more easily and sustainably,

b) providing data-driven insights that can enhance decision-making, optimise practices, and improve environmental performance, and c) digital technologies unlocking new opportunities to innovate business models within value chains, fostering stronger connections between producers and consumers in novel ways.

These developments will also help make rural areas more appealing to younger generations. For this purpose, the dRural project aims to contribute to and accelerate rural digital transformation, benefiting citizens, policymakers, and businesses alike.

Digitalisation of services

The dRural project has developed an IT meta-platform solution by combining regional needs and requirements with state-of-the-art technologies. The dRural platform is based on FIWOO background technology and features. This platform aims to be the core of the digital transformation of the regions, providing a set of innovative modules. FIWOO, based on FIWARE Generic Enablers, is a set of Open-Source services which work together and provide the functionalities of a Smart Platform, as well as guarantee the interoperability of the solutions created thanks to the NGSI standard.

On top of those modules, FIWOO created a No Code platform allowing non-technical users to create new Smart Solutions. The platform can be used for different smart domains, including smart cities, smart agrifood, water management and tourism, among others. Thus, FIWOO provides different key innovative modules requested for the development and composition of the services in rural regions, like big data, artificial

intelligence, the internet-of-things agents and brokers, all surrounded by an Open API based on MIMS requirements, allowing third parties to generate new solutions based on all these powerful modules.

Apart from FIWOO, the dRural platform integrates another technical module: the dRural marketplace. Based on an open-source solution from the e-commerce provider Saleor, it is provided entirely free and open source to help with advertising, marketing, and delivering all services.

The dRural platform provides access to goods, services, and employment and education opportunities that were previously more difficult to access or even unavailable for residents of rural areas. In the long term, digitalisation can reduce the gap between large urban centres and rural communities, making it easier for individuals to choose where to live based on personal preferences rather than the availability of jobs and services.

Business creation

The social impact of business is increasingly being studied under a magnifying glass. Entrepreneurs' creation of value for the entire society is acquiring more attention than the economic success of the business itself. This is particularly true in rural areas, where social challenges are often key constraints to the economic success of local businesses. Here, the conjunction of these two aims, social impact and economic returns, must go hand in hand to address the needs of a decreasing and ageing population.

The dRural project, establishing a team of experts in ecosystem development, governance, business model and impact called the Business Transformation Team, closely supports rural entrepreneurs first to analyse the local challenges and define business models that are tailored to their region's needs and sustainable over a long term period. This resulted in over 25 "technologically complex" and "highly regionally impactful" services to be developed and deployed in the dRural platforms adopted in over 11 European regions. These services target various local needs, ranging from booking and coordinating healthcare appointments amongst patients and professionals to shared mobility or smart farming solutions.

Ecosystems and bottom-up hybrid ⁽¹⁾ governance

Good governance – the structure, process, and methods for collective decision-making – is essential to create impact over time at various ecosystem levels. In dRural, we experienced the utmost importance of continuous alignment between individual and collective perspectives, not to mention a high level of flexibility. Governance is not merely something that takes place momentarily. Instead, governing is a continuous endeavour between collaborating parties. Against this background, substantial effort was invested in continuously finding and creating synergy between various interests, visions, and purposes to create a collective sense of agreement for collaboration.

Substantial improvement in knowledge sharing and platform development was reached by facilitating learning across different sectors and regions. Ecosystem-building exercises were used to expand the ecosystem of players involved by validating, replicating, and refining previous insights. Also, the use of cascade funding attracted eight additional regions, i.e., the -Gradiška- Republic of Srpska- (Bosnia- Herzegovina), La Rioja (Spain), Etoloakarnania (Greece), Pomurje (Slovenia), Somme Numérique (France), Oswiecim (PO), Castelo Branco (Portugal), and Rožnov pod Radhoštěm (Czech Republic).

Integrating platforms: Lessons learned

1. The benefits of the integration of platforms are obvious as it increases utilities. For the consumers they have a one-stop-shop that saves transaction costs and increases efficiency. However, the drawbacks of providing the interface are exposed not only due to the expectations from rural stakeholders, not familiar with technology development, but also with the need to align the different approaches.
2. Lack of knowledge and experience regarding business models related to platforms and their economic sustainability from the side of rural entrepreneurs. Such weakness can result in ineffective market launches and unprecise revenue models that can negatively impact the chances of success over the medium term. Training activities, and bilateral meetings between business model experts and local entrepreneurs drastically improve the quality and precision of the sustainability strategies, while providing important confidence to the entrepreneurs.
3. Fragmented rural ecosystems where key stakeholders may share or oppose worldviews. A smoothly running collaboration starts by taking stock of and finding synergy between their stakes and interests. Each party needs to clearly define challenges, vision, and objectives, followed by explicating what one gives and takes. By doing so, parties can create shared worldviews and set common goals that help the regions achieve sustainable governance. Successful and sustainable collaboration thus stems from finding the right synergy between visible and invisible needs, beliefs, and values.

Reference

1. Reypens, C., Lievens, A., & Blazevic, V. (2021). Hybrid Orchestration in Multi-stakeholder Innovation Networks: Practices of mobilizing multiple, diverse stakeholders across organizational boundaries. *Organization Studies*, 42(1), 61-83. <https://doi.org/10.1177/0170840619868268>

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