Triple helix approaches to digitalisation support in rural areas

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THE TRIPLE HELIX

This quick-win strategy focuses on the role of partnerships between government, industry and universities in fostering digitalization support for SMEs. Universities have often been viewed as a secondary partner to government and industry in supporting regional innovation, with a perceived inward focus on teaching and research. However, the Triple Helix Model of Innovation (Leydesdorff and Etzkowitz 1996) emphasises the importance of interactions between all three sectors to bring about economic and social development.

Silicon Valley in California is an often-cited example of how universities, such as Stanford University, can work effectively with government and industry to create science parks and clusters. In this example, the government provided land and favourable tax conditions, the university access to skilled postgraduates, knowledge and technology, and businesses the means of production. The Silicon Valley model may not be an option for many rural populated areas but there are other beneficial forms of government-university-industry collaboration that can be explored. These include government support (such as funding and grants -) for businesses to engage with universities in collaborative research, consultancy, and student-based projects.

ACCELERATE THE ADOPTION OF DIGITAL TECHNOLOGY

SMEs in rural areas are likely to be slower in adopting digital technology than their urban counterparts. The slower diffusion of broadband infrastructure in rural areas has led to a rural- urban divide in internet connectivity and use. SMEs in rural areas are likely be smaller and concentrated in traditional sectors, such as agriculture, food production and basic manufacturing, which affect their propensity to engage in innovation.

The relatively 'thin' nature of business support infrastructure in rural areas means there is potential for local universities to play a prominent role in supporting SMEs. Universities can face barriers, however, when attempting to provide digitalisation support to SMEs. They are large organisations that often lack a clear point of entry. They may be perceived as out-of-touch with "real world" issues, and can sometimes struggle to articulate their offer in non-academic language. By working in partnership with government, universities can be supported to foster university-industry linkages through mechanisms such as funding and other financial incentives. Government partners can provide marketing routes and help to broker relationships with SMEs. In return, SMEs have an opportunity to access the technology and facilities of universities, and the knowledge of academics and students, which can accelerate their adoption of digital technology.

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KEY MESSAGE

- Universities are increasingly recognised, alongside government and industry, as key drivers of innovation in a region. Universities support business innovation and growth through activities such as incubation and knowledge exchange.
- Rural SMEs are likely to be slower in adopting digital technology, and rural areas often have an under-representation of intermediaries able to offer digitalisation support. Universities in rural areas therefore have the potential to play a prominent role in innovation support to SMEs.
- While each partner – government, industry and universities – plays an important role in driving innovation and economic development, it is the interactions between the partners that make the difference..

UoL4.0 Challenge, University of Lincoln, UK

UoL4.0 Challenge is a challenge-based learning initiative that was first introduced at the University of Lincoln's Business School in 2018. The project aims to: (i) identify Industry 4.0 solutions to local business challenges and (ii) support students to engage with local businesses and develop their employability skills. Local organisations are invited to put forward operational challenges and, over the course of a semester, the students work in teams to explore how these could be solved using digital technology. They apply analytical tools learned in their Operations Management module and present their recommended solutions to the SMEs at a poster exhibition.

The project has fostered university-industry linkages with more than 25 local organisations, primarily from rural areas. They have valued the opportunity to engage with students who offer fresh insights on their operations. The project has had a strong impact on knowledge exchange; at least half of participating organisations have implemented solutions put forward by the students. It has led to the creation of graduate jobs, with a growing UoL4.0 alumni working for participating organisations or offered internships.

The success of UoL4.0 Challenge is partly a result of collaboration between local government, the University of Lincoln, and the local SME sector. The University has worked with Lincolnshire County Council's business support service to market UoL4.0 Challenge to local businesses. Lincolnshire County Council has advised the University on how to market the service using direct language that appeals directly to SMEs. In return, students taking part in UoL4.0 Challenge have put forward recommendations about the kind of digitalisation support that Lincolnshire County Council should be offering to SMEs. This has led Lincolnshire County Council to commission short video and Augmented Reality training for SMEs, believed to be the first local authority in the UK to do so. The Triple Helix Model of partnership working has led to knowledge exchange that has benefitted local government and the university, and driven digital innovation outcomes for rural businesses.

For examples and testimonials from UoL4.0 Challenge, click here!

RECOMMENDATIONS

- Universities can offer a variety of opportunities for knowledge exchange, such as student-based projects, collaborative research, and consultancy. These can provide access to the latest technology and a valuable source of digitalisation support for SMEs in rural areas.
- However, universities can face barriers to working with SMEs. As large organisations they can be difficult to navigate, and their business support offer is not always marketed in clear language.
- Local government and intermediary organisations can maximise the potential of universities to drive digitalisation in their regions by working alongside them to facilitate linkages to SMEs. Mechanisms include provision of funding, and support with brokering business relationships.
- If you work for a local government or intermediary organisation that is seeking to support digitalisation in your region, reach out to your university partners! There may be many new and exciting opportunities for knowledge exchange that can promote technology adoption among local SMEs and drive innovation within the region.

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