

University-private sector partnerships: assessing long-term collaboration to deliver economic impact in the Northwest of England

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Objectives

Private and public sector working together for mutual benefit is nothing new and in the context of education, this has historically focussed on areas such as employability-related experiences for students, supply-chains for goods and services, and within higher education specifically, the growing need to demonstrate research impact. In this presentation, we explore the impact of private and public-sector working together to deliver regional economic growth through technology transfer.

The objectives of this research stems from a twelve-year collaborative relationship between a higher education institute (HEI) and a private sector, technology value-added reseller (VAR). The authors assess and reflect on this activity, funded through the European Regional Development Fund (ERDF) to help understand the inputs, processes and outcomes of that relationship.

Approach / Methodology

The approach undertaken was firstly to identify the ERDF-funded projects since 2002 that the VAR (Quadra Solutions Ltd) has been a part of, as a private sector partner, with the HEI (Lancaster University's Engineering Department). This is defined as where there is a service level agreement in place and the provision of match-funding is committed-to in that contract. This differs from that of a sub-contractor where the relationship may be better defined as purchaser-supplier and emphasizes the collaborative nature of the relationship being explored. We subsequently identified the 'interventions' in which both the knowledge exchange team (Lancaster Product Development Unit) and Quadra Solutions Ltd had worked with a 'beneficiary' as part of those ERDF initiatives. Retaining confidential information, these interventions were aggregated and basic company information collected in terms of location, size (by turnover) and sector.

Analysis was then undertaken on the results collected as a consequence of that intervention, based on the following economic key performance indicators (KPIs): businesses improving performance; safeguarding of jobs; and the creation of new jobs. Qualitative reflection was carried out to assess wider impacts of the relationship and the development of a model that articulates this way of working. We highlight both the benefits and drawbacks based on extensive experience of providing technology-transfer solutions to SMEs, part-funded by ERDF.

Results

The results show that 93 interventions have been undertaken between Lancaster University's Engineering Department and Quadra Solutions Ltd, in-part funded by ERDF between 2003 and 2015, spanning seven major projects. All of these interventions supported technology transfer by the introduction of a new or enhanced design process within the beneficiary, using the Autodesk family of software. All beneficiaries receiving support were SMEs, complying with national and regional eligibility guidelines as defined by the funding body secretariat. Sectoral breakdown unsurprisingly shows that the vast majority were in the engineering/manufacturing sector, accounting for 94.6% of the total.

Of those SMEs that were assisted, all received increased functionality via the introduction or improvement to design software than that previously being used, demonstrating clear technology transfer. Where data was obtained, this intervention led to the cumulative safeguarding of 102.1 jobs and the creation of 71 jobs.

As noted elsewhere, there is considerable ambiguity in using figures that attempt to provide a unit cost per result, and whilst one can attempt to draw comparison with other initiatives in other areas, this can be problematic due to assumptions made. For the purposes of this investigation, we have benchmarked against ourselves and show that for all cumulative ERDF assistance provided by the Engineering Department, the average job created per intervention is 0.64 and the average job safeguarded is 0.91. For the technology transfer work carried out in partnership with Quadra Solutions Ltd, the figures are 0.76 and 1.10, respectively.

More widely, there are other impacts from joint collaboration with private sector partners that have been created, for the HEI:

- Clear access to the latest in engineering design functionality, informed by globally-operating OEMs spanning many sectors;
- Provision of a match-funding contribution through the time of company representatives contributing towards the objectives of the project;
- Sharing of a networks of users and manufactures in close proximity, with a 'seal-of-approval' for quality of work;
- Local, regional, national and international market intelligence;
- Formalisation in the pursuit of similar objectives;
- Contribution to the state-of-the-art and hence vital commercial-sector input to other future programmes of business support.

The benefits created by such a relationship for private sector partners include:

- Promotion of joint-funding opportunities to potential beneficiaries generating in-house advocates, or 'funding champions';
- Ability to join-up wider business-support allied to technology transfer, which may include time-bound financial incentives, training offers, subscriptions, hardware support and so on.
- Increased knowledge and experience of public-funding processes, regulations and conditions;
- Externally-visible partnerships with a world-ranked university.

Arguably the most important benefits relate to the end-user, which in this case is the beneficiary. The following model outlines a typical journey taken by a beneficiary through the technology acquisition route of intervention.

Additional benefits to the beneficiaries in these cases may include:

- Increased ability to develop new products
- Awareness of how new technology processes can be further exploited, such as through expansion, training, add-ons;
- A route into higher education to explore other research and development opportunities that may exist beyond that of the intervention;

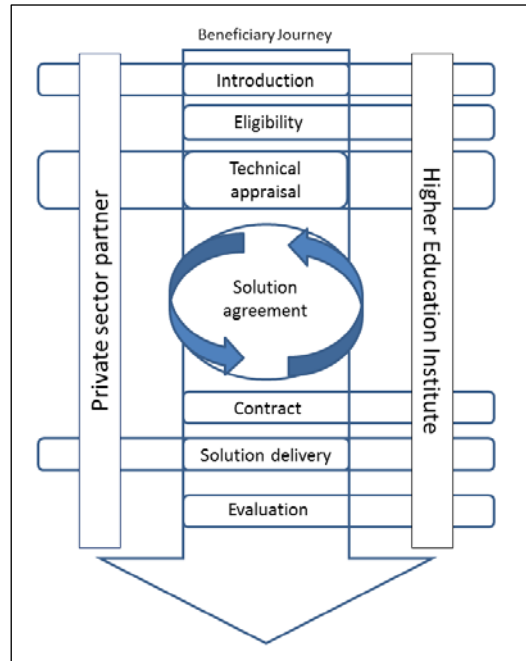


Figure 1: Representing the beneficiary journey through a technology transfer intervention, supported by VAR and HEI.

Implications and Recommendations

The authors fully accept that there are a number of issues with the data collected which include that our assessment methods:

- Only take account of the reported results when/if engaged with the beneficiary. Some beneficiaries become reluctant to undertake evaluation after the assistance has been delivered.
- It does not record the exact time input to each intervention made by either the HEI or the VAR.
- The package of support (or agreed solution) has not been specified and will include some differences, in this case in software, including for example upgrades or new packages.

Notwithstanding some of the limitations outlined above, we have been able to demonstrate that the work carried-out by the partnership of a private sector VAR and an HEI to support SMEs in technology transfer has clear, demonstrable impact, both quantitatively and qualitatively. Such a model can be applied to future initiatives that have technology transfer as a theme within business support.

Areas for development / future research

There are a number of important areas underpinned by this work that would be useful to explore further:

- Sector transference, for example application in other disciplines requiring software, such as for example architecture, construction, chemicals, food and drink, creative.
- Technology transference, for example application of using other technologies beyond software, such as for example, manufacturing hardware.
- Longer-term assessment of the impact to beneficiaries of these interventions, which may include aspects related to innovation culture, new product development or increased capacity for R&D.
- Exploration of opportunities that may be available beyond the intervention provided, by the HEI, such as access to graduates, and the 'completion of the circle'.