

Institution: University of Derby
Unit of Assessment: Business and Management Studies
a. Context

Our research users and forms of impact vary considerably, reflecting the diverse range of research conducted in the unit. While our strategy for impact measurement remains to be further developed, we are satisfied with the activity that we have managed to achieve in the assessment period, particularly whilst almost 100% of our researchers still carry significant teaching responsibilities.

We have impacted upon internationally renowned organisations (**Garza-Reyes - Rolls Royce; Centre for Supply Chain Improvement (CSCI) – DHL; Longbottom - A large UK financial organisation**). The development of improved process through the **CSCI's** work on process improvement, and the implementation of Radio Frequency Identification (RFID) are notable illustrations of impact. Further, the dissemination of this work through international practitioner conferences and events has also increased its reach.

Contributions to improved environmental sustainability through our various low-carbon projects are also significant. To illustrate, researchers (**Baranova, Conway, Jones, Paterson**) are building on the findings and recommendations of their recent report in relation to achieving a low carbon economy and the associated socio-economic transformational change required within Derby and Derbyshire. This is a growing area and one that we feel has potential to gather additional reach and significance. We have drawn public and private organisations into this work leading to knowledge transfer in relation to sustainable low carbon operations.

Regional and national public sector departments and organisations continue to be a key research user group for us, through organisational change, and evaluation projects (for example, *Derby City Council*). These have led to changed approaches to the management of resources, which has improved service delivery. **Lynch**, and **Wond's** evaluation research for various initiatives have also led to changes in practice (for example, **Lynch** delivered impact evidence to *Sporting Futures* which led to the Derby 5k and 10k running events being continued and being enhanced to include elite wheelchair entrants).

We have also left a significant impact footprint on organisations by the dissemination of, and support for, research by professional learners. The development of resources to enhance professional practice and influence CPD, through practitioner development in areas including entrepreneurial learning, change management ('Leading Manager' programme for instance), and systems thinking (**Franco, Smith**) has been significant (as evidenced in REF3b). As a consequence, there are numerous examples of improved effectiveness of workplace practices within organisations of all sizes through the Business Impact Study (final stage of our MBA programme), where professional students are supported by research active academics to make sizeable impact within their organisations. There are many examples of over £400K for those organisations involved in this engagement, **Leonard** for instance made £11m of improvements in *Rolls Royce*)

b. Approach to impact

While our strategic approach to impact underwent refinement in the period of assessment; impact has been generated organically through our researchers. However, through our extensive engagement activity and employer-focused philosophy (underpinned by an employer engagement strategy) we have sought to work with organisations to develop 'real world' partnerships between researchers and research users. We have engaged with key research users through (1) relationship building, (2) positive reputation, (3) successful funding applications, and (4) conference presentations.

1. Relationship Building: We proactively develop relationships with users through networking and sector leads within the school, for instance, a 0.8FTE business engagement lead exists (**Crighton**), as well as through the activities of **West, Roberts** and **Carlier**. This has led to growing relationships with national and regional organisations such as *Institute of Directors (East Midlands and National)*, *CMI*, *Derby County Football Club*, *Marketing Derby*, *EPM Technology*, and *UK Sport*. **Wond** acts as public sector engagement lead, engaging organisations (e.g. *Derbyshire Constabulary*, *Derbyshire Fire and Rescue Service*) in her research on innovation in the public

Impact template (REF3a)

sector; recently this has included cross-pollination of practice between services in Derby and Manchester.

2. Positive Reputation: In many cases research users have approached academics/Centres of Excellence on the basis of their positive reputation. To demonstrate, *Lim* and the **Centre for Supply Chain Improvement (CSCI)** have engaged with numerous national and international organisations. Through **CSCI's** outstanding reputation in RFID they have been approached by a number of companies to develop RFID products and perform consultancy for RFID adoption¹. *Severn Trent Water* for instance has approached the Centre for a project to develop an RFID safety toll for excavators to prevent site accidents. Working with *Freeway FDR Ltd*, the Centre has jointly developed an RFID-enabled bicycle safety tool to promote cyclist safety on the road by means of giving alerts to truck drivers of an approaching bicycle especially at the blind spots. Building on from Lynch's earlier research with Sporting Futures, she has been approached to conduct an evaluation of the 2014 10k and 3k runs.

3. Funding success: Our engagement with research projects has helped us to engage further afield. For example, **CSCI** was awarded an EPSRC £65,000 funded 2-year project with 3 industrial partners contributing to the evaluation of the artificial intelligence model proposed. The success of this project has meant the research has been extended into promoting a green logistics system. Further examples from the Centre include leading consortium bidding for EU projects in the area of RFID and relevant modern technologies, and have been successful with two EU projects - Smart City Project "CITADEL on the Move" and AdvIOT. AdvIOT is funded for 4 years by EU FP7 Marie Curie Actions (€450k) across 8 universities worldwide. The aim is to develop novel RFID- and WSN-based green IOT devices with sustainable and renewable materials, by using additive manufacturing methods), for different applications such as in healthcare, disaster prevention, and intelligent transportation.

4. Conference presentations: We have engaged extensively with academic and practitioner audiences through national and international conference presentations. For example, in July 2013, **CSCI** hosted the 12th International Conference on Business Innovation and Technology Management. This brought together researchers and business, showcasing several case studies of what companies have done to achieve sustainability². We have also presented at a range of business (*Bevitt, Gilbert, Lees, Crighton*), finance (*Johal* - British Accounting and Finance Association) and organisational psychology (*Hanson*) conferences nationally and internationally, disseminating our research and reaching research users.

We have provided support for researchers to consider impact through training sessions on the central 'Academic Practice' programme. Each year the University organises a conference of key workshops to help refine bid-writing skills, this will continue in 2013/14 under the organisation of the Learning Enhancement and Innovation department. The Faculty Research Manager has also supported researchers to consider impact through one-to-one training. We also have further development sessions planned to support researchers to maximise impact from current and future work.

c. Strategy and plans

In 2011, the Business School Strategic Plan ensured broader reach and greater significance for research activity, in both the development and dissemination of high quality research and the infrastructure that supports it. The strategy remains focused on applied, problem-based research and greater impact is to be achieved by the following activities:

1. We will form academic and industrial consortium to target critical mass funding and increase impact, particularly in the area of regeneration. We are engaging strongly with industry currently but recognise that through better engagement in academic partnerships we will be able to achieve increased chances of success on significant research projects. For example *Moon* and *Lynch's* research work with two other regional universities will provide *D2N2 Local Enterprise Partnership* with an evidence-based platform on which to develop its plans for innovation activity and investment. Crucially, this will provide a baseline against which to measure the impact of D2N2's Strategy for Growth interventions and will be used to develop innovation policy in the region. Other examples include the research by *Jones* and *Woodside* on low carbon strategy (*Jones*, a strategic

¹ For example see: <http://www.supplychainstandard.com/Articles/Article.aspx?liArticleID=4443>).

² <http://www.thisisderbyshire.co.uk/Global-challenges-solutions-technology-addressed/story-19395384-detail/story.html#axzz2hzPxZDTC>

Impact template (REF3a)

level investigation of emerging carbon reduction opportunities within the County). DBS researchers **Lim** and **Carlier** also are actively involved in the *Engineering Supply Chain Solutions* project (delivered by the Universities of Aston, Cranfield and Derby, with funding from ERDF, *Derby City Council* and the Regional Growth Fund). **Wiltshier's** tourism research, in conjunction with Clarke at the University of Pannonia, continues to meet the regeneration needs of the local community.

2. We will increase our presence at international research events and conferences. We will look to extend our reach through improved attendance at international conferences, congruent with our aims to increase research confidence within the school (REF5). Our ECR's and researchers in CSCI are already internationally accomplished and we will look to inspire researchers not yet engaging internationally through peer support (the same can be said about generating journal outputs with greater impact). This will generate impact through dissemination of our work to the external community.

3. We will work closely with professional bodies, their networks, and at other regional organisations and networks. As a result we will connect our research with practitioners. We will continue to network to connect with research users and showcase our strengths, where we have done so previously we have seen repeat research opportunities and positive reputation. For example, researchers from **CSCI** are working closely with the *Chartered Institute of Logistics and Transport* (CILT) to showcase expertise and research, and understand challenges from those in the sector. (see report in 'Focus', journal of Chartered Institute of Logistics and Transport, volume 15, number 10, October 2013). **Carlier, Delight**, and **Bevitt** are working with HR leaders to share findings and insights. **Wiesehofer-Climpson** is working with local arts organisations and the Schools of Computing and Art & Design to research the use of 'gamification' to increase audience engagement and loyalty.

4. We will mobilise and equip researchers with skills and support to delivery and measure impact. This is an immediate priority for us and will be delivered through: (1) Clear process and guidance for researchers on 'Evidencing Impact'; (2) Channels for disseminating research'; (3) Development activity to maximise and evaluate impact (see REF5); (4) Building research leadership. We will continue to build specific expertise in distinctive approaches to evaluation through **Lynch, Martinez-Covarrubias, Longbottom** and **Wond**, and collaborate on research projects and bids with the *International Centre for Guidance Studies (iCeGS)* at the University of Derby, who have a strong track record in evaluation-based projects.

d. Relationship to case studies

Our employer-informed approach is evident in both case studies. There were no impact strategies in place for the research that occurred in either of the case studies (it occurred organically), but through the proposed strategy and plans (in part c.) we will continue to build greater evidence for impact.

Through our work in entrepreneurial learning we were able to benefit hundreds of organisations (including micro, and SMEs) and regional initiatives. Further, working with regional enterprise partnerships (Enterprising Derbyshire) and initiatives we were able to enhance practice, leading to improved-take-up of services (as 3b Enterprise Case Study). In particular, our research enhanced cultural understanding of the issue and phenomena shaping individuals' internal processes to entrepreneurship. We were also able to challenge conventional wisdom in relation to cohort enterprise education (whereas traditionally a one-to-one support approach existed, **CEM** found a cohort approach was more successful). Changed practice toward approaching mid-career entrepreneurs driven by **Carswell, Rae's** and later **CEM's** research was also valuable, and led ineffective practices toward approaching mid-career entrepreneurs to cease in many regional enterprise initiatives. Furthermore, repeat work came about from further successes. Sound relationship building also led to opportunities for engagement, these relationships still exist between the school, research users, and University of Derby Corporate that now owns this enterprise agenda and business-to-business engagement. Also, evident in the case is our ability to successfully respond to tenders, and engage with research users in this way.

In relation to the knowledge management and organisational change case study, this work engaged research users through dissemination of research via conferences, and engagement with numerous public and private organisations to conduct research.