IDENTIFYING CAPACITY BUILDING CLUSTER IMPACT IN THE WEST MIDLANDS

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ABSTRACT

The West Midlands EREBUS capacity building cluster focuses on knowledge transfer in SMEs, with specific themes in Energy, Health Technologies and Finance via KTP (6), CASE (18), Placement (6) and Voucher (3) projects across the themes.

Through the analysis of responses to an assessment questionnaire, reports from and interviews with a number of researchers, academics and industry sponsors engaged in KTP, CASE, and Placement projects we attempt to identify, analyse and assess the impact of these research projects. We adopt the Research Councils UK (RCUK) definition of research impact as 'the demonstrable contribution that excellent research makes to society and the economy'.

In addition to identifying academic impact, we identify evidence of social and economic impact, for example, that it has been taken up and used by policy makers, and practitioners and has led to improvements in services or business. Helpful and un-helpful factors, identified during the execution of the research projects, are also considered.

KEYWORDS: Research Impact, Analysis, Healthcare, Finance, Energy

1. INTRODUCTION

EREBUS (Engaging REearch for BUSiness transformation is a Capacity Building Cluster (CBC) collaboration between Aston University Business School (ABS), Warwick University Business School (WBS) and the University of Birmingham (UoB). The cluster has focused on knowledge transfer in SMEs, with specific themes in Energy, Health Technologies and Finance via KTP, CASE, Placement and Voucher projects across the themes. The findings in this paper are based on a study of the outcomes from 4 KTP, 5 CASE, and 3 placement projects that have been undertaken over the last 3 years.

The Research Councils UK (RCUK) definition of research impact is 'the demonstrable contribution that excellent research makes to society and the economy' (http://www.esrc.ac.uk/funding-and-guidance/tools-and-resources/impact-toolkit/devel.) and

embraces all the diverse ways that research-related skills benefit individuals, organisations and nations. These include:

- fostering global economic performance, and specifically the economic competitiveness of the United Kingdom
- increasing the effectiveness of public services and policy
- enhancing quality of life, health and creative output.

A key aspect of this definition of research impact is that impact must be demonstrable and by and large outside of the immediate academic environment. It is not enough just to focus on activities and outputs that promote research impact, such as staging a conference or publishing a report. It is necessary to provide evidence of research impact, for example, that it has been taken up and used by policy makers and practitioners and has led to improvements in services or business and other non-academic organizations whatever sector it might be.

The impact of social science research can be categorised as:

- **Instrumental**: influencing the development of policy, practice or service provision, shaping legislation and altering behaviour
- **Conceptual**: contributing to the understanding of policy issues and reframing debates
- **Capacity building**: through technical and personal skill development.

Impact helps to demonstrate that social science is important – that it is worth investing in and worth using (James and Williams, 2011). There are a number of key factors that are vital for generating impact. These include:

- established networks and relationships with research users
- involving users at all stages of the research, including working with user stakeholder and participatory groups
- well-planned public engagement and knowledge exchange strategies, including the use of product strategies which tailor evidence to the needs of users
- good understanding of policy/ practice contexts e.g. through use of policy maps
- understand and target barriers to and enablers of change
- portfolios of research activity that build up reputations with research users
- excellent infrastructure, leadership and management support
- where appropriate, the involvement of intermediaries and knowledge brokers as translators, amplifiers and network providers.

Impact works best when pre-existing networks and relationships with research users can be tapped into (ESRC 2012). This should be a two-way process: research findings inform the development of policy and practice, which then informs further research. Such relationships can lead to high-impact opportunities, for example:

- Research assignments on behalf of user organisations
- Providing formal advice directly to policy makers and practitioners
- Producing briefing papers or guidance for the implementation of legislation.

The environment in which research messages are communicated has a bearing on any potential impact. Also building ongoing relationships with research users will ensure that research is timed to coincide with the development of relevant policy issues will stand a better chance of making an impact. The extent to which research content fits with the context in which it is disseminated has a bearing on its capacity to generate impact.

Our study of the outcomes of the various KTP, CASE, and Placement projects uses the preceding interpretation of research impact as its basis for analysis.

2. METHODOLOGY

We have generated our findings by reviewing four sources of input data:

- available formal and informal written reports for the KTP, CASE, and Placement projects undertaken

- responses to a questionnaire sent to all academic, student and industrial partner participants in the KTP, Case and Placement projects
- transcriptions of face to face interviews with a number of students, academics and industrial sponsors in the KTP and CASE projects
- three focus groups held with projects based in each of the three themes.

We then analysed this data against the impact generation criteria outlined in the introduction and to understand the communication methods used with target audiences and the data used to evaluate research programmes (e.g. event attendance, individual experiences, event participation); to identify the beneficiaries of the research and how they will / have benefited; to consider the helpful and unhelpful factors in the research programmes; to categorise impact potential (e.g., altering behavior, influencing practice, capacity building) and performance indicators (e.g. conference papers, media articles/features, seminars/workshops, public events).

3. FINDINGS

Our base data has been compiled from a combination of formal reports, questionnaire responses and interview transcriptions from KTP (4), CASE (5), and Placement (5) projects. Contributions come from all the cluster sectors (Health technology, Energy and Finance). For each of the projects providing the data, Table 1 shows the project type, the sector, the collaborators, the title of the project and its duration.

Project	Sector	Collaborators	Project Title	Duration
KTP-2	Finance	Aston Business School & Warwickshire Police Force	Increasing efficiency and effectiveness of within Warwickshire Police - Customer Contact Department	2 years
KTP-4	Health Tech.	Aston Business School & KIMAL plc	Developing an in-home care business to provide home based alternatives to in-hospital services such as renal haemodialysis	2.3 years
KTP-5	Health/ Finance	University of Birmingham & BasLIFT / Prime plc	To produce more robust future business case submissions for health centre capital projects that have a higher chance of approval success	2 years
KTP-6	Health	Aston Business School & Aquarius Action Projects	Developing a business strategy and operational processes in a changing funding environment.	2 years
CASE-1	Health	Aston University & Department of Health	Learning and innovation in the health care technology sector	3 years
CASE-2	Energy	Aston Business School & ENCO Energy	Implementation and operation of small-scale biomass CHP (bCHP) schemes in the UK	2 years
CASE=3	Energy	Aston Business School & Express Energy	Review of renewables market with a focus on technologies required to meet government targets for renewable energy in 2020.	2 years
CASE-4	Finance	Aston Business School & Warwickshire Police Service	Volunteers in the Police: A challenge to theories of civil society and volunteering	2 years
CASE-6	Energy/ Health &	Warwick Business School & Warwick	Critical Realism: An Alternative Perspective on Evaluation Methodology	3 years

	Finance	Science Park		
Placement-2	Finance	Aston Business School & Warwickshire Police Force	Efficiency and Process Improvement	0.5 year
Placement-3	Health	Aston Business School, School of Engineering and Applied Science, & NHS Technology Adoption Centre	Secondment to NHS Technology Adoption Centre, linked to CASE Award *Learning and innovation in the health care technology sector*	1 year
Placement-5	Finance	Birmingham City Council, (in partnership with the Carbon Trust) and University of Birmingham	Cognitive consideration of energy saving proposals and facilities	0.25 year

Table 1: Projects Reviewed

3.1 Communication with Target Audiences

All projects used a combination of e-mail, presentations, informal meetings and workshops as the methods of internal communication and to Host Institution(s). Teleconferencing and Skype was used in some cases.

All projects reached academic audiences through conference attendance and networking, published papers and articles, and in some case via Linkedin. Few projects targeted further research funders but those who did used organized events, presentations, video and Linkedin. Health and Health Technology reported positively in targeting Policy-local, Practitioners and Business via events such as MedilinkWM. Only one research project reported targeting the General Public and used local community forums and a survey. No respondents targeted policy at a national level.

3.2 Categorisation of Potential impact

Influencing policy development was seen has an area of potential impact mainly by projects in the Health theme whereas influencing practice or service provision and altering behavior was seen as an area of potential impact across all themes.

Capacity building through the development of technical and personal skills was seen as an area of potential impact in a number of Health / Health Technology and Energy themes.

3.3 Helpful and Un-helpful Factors Affecting the Research

Theme workshops, reports and questionnaires highlighted the following:

Helpful factors:
- The theme projects provided real issues and challenges for the universities
- Team working, work plans, working to plan and continuous assessment of progress
- The co-operation of industry partners and building close relationships with them
- Brand – association with the university; resource (expertise) availability; knowledge hub
- Industry partners being motivated by business success
- For partners the potential to use additional resources beyond the project team, such as library / information sources of a university

- Project teams and partners knowing each other's success metrics and authentic reasons for being involved in the project.

Unhelpful factors:
- Project team changes and 'getting the right people' to manage the project teams
- A lack of understanding of the working of universities
- Differing expectations of industry and the university, such as response timescales
- Inefficiencies of multi-disciplinary team working
- Changes in government policy and restructuring in partner organisations during projects
- Changes in the membership of project teams.

3.4 Beneficiaries, Outcomes and Impact of the Research

Table 2 below sets out to summarise this briefly on a project by project basis and is based on a combination of report, questionnaire, focus groups and interview data obtained.

Project	Beneficiaries	Outcomes	Impact Areas
KTP-2	Warwickshire Police and its staff	New capabilities & knowledge documenting behavior, improved IT skills	Influencing practice & service provision
	University	Organisational savings Improved professional network and a test bed for innovation	Significant financial savings exceeding projections Service provision. Capacity building
KTP-4	Kinmal and its staff University	New cost model trialed successfully and training of sales Manager in its use Strengthening business relationships and professional skills development for the student	Influencing practice & service provision Capacity building
KTP-5	Prime and its staff	Company performance, efficiency & competitiveness Development of robust data set and database for property portfolio Staff training	Six figure additional sales with 50% profit contribution Influencing practice & service provision
	University	Better understanding of the SME commercial sector Improve teaching capability in generic areas(leadership,culture, performance)	Practice Practice Service provision
KTP-6	Aquarius and its staff	Improve d culture, brand identity and tendering processes Financial performance improvement in service delivery contracts	Influencing practice & service provision Achieved figures over 3 times those forecast
	University	Student personal development and academic paper publications. Input into to ongoing research programmes (sub-cultures, strategic flexibility, stakeholder orientations)	Capacity building
CASE-1	NHS / Dept. of Health	Improved inter organizational innovation of medical devices between industry and the NHS Identification of barriers to effective innovation and how it can be facilitated	Inform policy and agenda Policy relevant insights
	University	Collaboration with SME medical	Capacity building

Project	Beneficiaries	Outcomes	Impact Areas
		device companies	
		Researcher/academic benefits from novel context	
CASE-2	ENCO	Use of the project development and risk analysis tool developed by the student for their existing and future projects	Influencing practice & service provision
	West Midlands based suppliers	An association with the bioenergy expertise in Aston	Capacity building
		Supply of components / sub-assemblies for the CHP plant and equipment (commercialisation of bioenergy systems)	Capacity building
	University	Strengthening their expertise in the field of bioenergy systems analysis, the Student (PhD award / personal development)	Capacity building
CASE-3	Express Energy & Bioenergy / Waste Management Companies University	A methodology to optimize fuels procurement for projects and a better understanding of the market	Influencing practice & service provision
		Strengthening their expertise in the field of bioenergy systems analysis. Research enhance knowledge and experience	Capacity building
CASE-4	Warwickshire and West Mercia Police	Improving their knowledge of retention aiding volunteer management and improved organizational efficiency	Influencing practice & service provision
	Local Communities	Volunteer retention helps relationship building between police and local residents	
	University	Improved professional networks	Capacity building
Placement-2	Warwickshire Police	Development of process maps showing the stage by stage flow of engagement between the public and police	Policy development
	University	Willingness of Warwickshire Police to engage in a subsequent KTP	Capacity building
Placement-3	NHS/Department of Health	Building capability, development of teams and individuals, benchmarking.	Policy and Practice
	University	Networking and data collection skills. PhD material	Capacity building
Placement-5	The BES project	A composite referencing framework indicating the breadth of concepts other local authorities use when considering engagement	Capacity building
	Local authorities	A copy of their own 'map' to use it to consider priorities in presenting evidence to political decision makers	Influencing policy development
	University	Student enhancing research and presentation skills	Capacity building

Table 2: Project Outcomes and Impact

3.5 Student Ambassadors of Knowledge Transfer

A distinct advantage for the students who have engaged with the EREBUS cluster is their developmental role of university knowledge transfer ambassadors with private, public and not for profit sector organizations. Business partners have consistently praised the work and the depth of rigour that the students have applied to the university business partnership. Evidence of their success has been presented at national KTP poster competition events, where two students and their business partners were awarded regional prizes. Examples of praise from the organizations who have hosted CASE award and placement students include: Workforce engagement informing the design of a model that improved efficiency in a call centre (Warwickshire Police); Development of an innovation survey to inform organizational redesign (Birmingham City Council); Gaining knowledge on commissioning for social impact bonds related to mental health therapy that prevents children being taken into care (My Time), and interviews with ex-offenders to gain user involvement knowledge for a private organization who run a prison (Amey).

In addition the cohort of EREBUS students have been active as a social group and vocal attendees of the research methods and business themed events that have been hosted for themselves, and the business community, three times a year by the Universities of Aston, Birmingham and Warwick. EREBUS students have also offered a willing representation on the management team so that their views are heard and acted upon. In this sense the EREBUS students have shown impact in instrumental conceptual and capacity building ways.

3.6 Cluster level management

At a cluster management level the EREBUS capacity building cluster has experienced positive emergent properties. It has helped build links between the universities involved; for instance 4 multi-million pound collaborative grants applications have been submitted as a direct result of this work (1 funded and 2 currently under consideration) and many smaller ones have also been submitted; relationships at a personal and inter-organisational level have also strengthened. Numerous events with industry and universities, which would not have been previously possible, have been delivered gaining attention from trade bodies, press and non-university organisations (public, private and third sector). We have seen the transfer of methods and best practice between sectors, seen a critical mass of new associates and students trained to a high level, and had academics linking far more closely to the needs of non-university organisations which has helped with related activities such as generating Research Assessment Framework (REF) impact case studies, generating other co-funded related projects and generating a positive reputation amongst the West Midlands non-university community.

The positive legacy of these cluster-led activities is likely to last for decades as those newly trained people, academics and industrial supervisors build on their strengthened networks throughout their careers.

The downside to the cluster, if any, has been that they are unprecedented and so the administrative process for the cluster behind the projects have had to play catch-up with the individual projects as they were awarded. This has been a steep learning curve for the universities involved, but as these are now established we encourage further such awards to be made.

In respect to impact - whilst each individual project has made impact to the organisations directly involved in them, overall the cluster claims to have made a national impact featuring strongly in the Greater Birmingham and Solihull Local Economic Partnerships (GBSLEP) discussions, in CBI debates (Cridland, 2012), in Sir Andrew Witty's Review of Universities and Growth to the Department of Business, Industry and Skills (BIS) (Witty, Forthcoming, 2013), in HERA reports (HERA, 2009) to BIS and Birmingham Chambers of Commerce (CBI West Midlands, 2009) correspondence, and featuring in BBC news. We believe these national level impacts would have been far less likely to occur if the projects had been awarded individually outside of a cluster.

4. CONCLUDING REMARKS

The aim of the work presented here has been to try and identify, analyse and assess the impact, defined as 'the demonstrable contribution that excellent research makes to society and the economy',

of KTP, CASE, and Placement research projects across themes in Energy, Health /Health Technologies and Finance in the West Midlands EREBUS capacity building cluster.

We have identified that research teams, in the majority of cases, communicate with their target audiences, as might be expected, via a combination of e-mail, presentations, informal meetings, workshops teleconferencing and Skype. There was limited evidence of the use of social media (Linkedin) and only Health and Health Technology reported positively in directly targeting Policy-local, Practitioners and Business via industry forums (e.g. MedilinkWM). Interestingly few projects targeted further funders of research but those who did used organized events, presentations, video and Linkedin.

Whilst team working, work plans, working to plan and continuous assessment of progress was seen as being a helpful factor to project delivery, our analysis of the data provided showed no significant evidence of formal project management techniques being applied. This is a cause for some concern given the duration, complexity and monetary value of some of the projects.

There is clear evidence that the main area of impact for the universities concerned is that of capacity building in terms of technology, skills and the development of networks in the industrial SME community. For industrial partners a positive impact on practices and service delivery is clearly in evidence together with financial performance gains as a result of both KTP and CASE projects. Governmental organisations such as the police, NHS and Local authority participants also reported benefits from the project outcomes facilitating the influencing of policy development. Key positive contributors to impact generation are likely to be:

- Formal Project Management and Impact Generation plans from the outset
- Proactive relationship building with industrial partners and an understanding of each other's success metrics
- Use of a wide range of target audience communication methods including social media and relevant industry sector forums and events
- Maintaining the continuity of project management team and industrial partner contacts whenever possible.

We believe these principles to be true at a project management level and at a cluster management level.

ACKNOWLEDGEMENTS

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