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Innovation accelerators

**DESIGNING EFFECTIVE
ACADEMIA-INDUSTRY COLLABORATION
TO DRIVE KNOWLEDGE AND
TECHNOLOGY DIFFUSION.**

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The problem

For organisations across the public and private sector, universities are a source of new ideas, brokers of new knowledge and a gateway to new possibilities. The right partnership with the right academic expert can be a recipe for impact: a collaboration with the potential to make a profound contribution to industry, the knowledge-based economy and society at large.

Yet the cutting-edge products, pioneering services and advanced working practices so often promised are not guaranteed. To understand how to accelerate innovation we must better understand the impact of collaboration between industry and academia. How should we structure these partnerships, articulate their aims or measure their performance? How can we reduce levels of risk on one hand, and increase levels of confidence and predictability on the other?

Answering these questions poses a challenge, with a range of issues and obstacles. Partnerships often lack control around implementation. They experience knowledge creep and the spillover effect. The data available is inconsistent or incomplete. And the timescales for impact are not consistent or linear, but shaped by the sector, style and culture of the organisations involved.

Through our research with organisations on the benefits of public policy funding, we have been able to identify the factors required to make partnerships truly effective – how to accelerate impact, promote knowledge exchange and drive technology diffusion. Alongside our own partners across industry, we created a listing of the key mechanisms for collaboration and a framework for revaluating the impact of university-industry partnership: [a toolkit for more reliably measuring the contribution we can make together](#).

What we developed

We started by co-creating an initial set of mechanisms for collaboration with our industry partners. These offered clear outlines of partnership aims and activities – including defined inputs and outputs – providing structures for collaboration before, during and after any project.

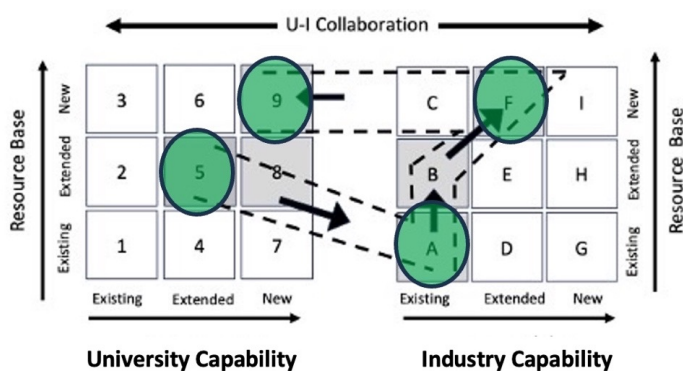
This initial listing was presented to a mixed group of 20+ organisations in April 2024 for feedback and open discussion. The evidence presented at this stage proves that university-industry collaboration can be assessed, offering organisations some reassurance around the risks that partnerships might otherwise present.



Having collated, tested and refined these mechanisms, we then looked to develop a model for assessing the current state of any project, allowing us to therefore chart its progress. The resulting knowledge and impact flow matrix is based on an extended 'Ansoff Matrix' (1957). These measure industry – or university – capability (external aspects like customers, technologies or the business environment) on one axis and the resource base (internal elements like knowledge capital, staff, procedures, infrastructure or services) on the other.

Both are measured on a scale of existing-extended-new. Existing is a neutral starting point: the services or sales an organisation can deliver, or the internal processes which are fit for purpose. Extended capability would offer greater sales or more services externally, or enhanced operations within a unit of the organisation – adding value or delivering efficiencies. Finally, a new capability externally might mean serving different customer and/or offering different services, while a new resource base might involve a fundamental redesign of service offering or a restructure of the organisation.

We can then use these impact matrices side by side to map the benefits of collaboration – showing the transfer from one partner to the other. For instance, a project could see the flow of knowledge or technology from the university (square 5 in the left-hand matrix) to their partner, driving impact in both capability and resource base (from square A to F), which in turn flows back to deliver impact for the university internally and externally (in square 9).



Charting the flow in this way allows both organisations to predict and exploit the opportunities (whether internal or external) of partnership projects in a controlled and sustained manner. This applies to both the theoretical and practical issues around knowledge transfer, offering a framework for accelerating innovation and increasing capability – making an impact perceived as tangible and intangible, objective and subjective, and evaluated using a varied source of data.

Recommendations

The funding that supports collaboration between industry and academic experts increasingly comes with a demand to demonstrate its worth – the organisations and governments want to see a return on their investment. As such, it is ever more important for the academic sector that we can more reliably prove or predict the degree of impact that a partnership delivers.

The toolkit we have developed – the mechanisms for managing collaborative projects and the framework for assessing their outcomes – offer a vital first step in this. The question is, now that we can show the benefits of university-industry partnership, how can we take advantage of this evidence?

We have begun to prove that impact happens much faster when specific key mechanisms are identified and policy templates, such as Knowledge Transfer Partnerships, are employed. What's vital throughout this process is active facilitation – effective collaboration demands collective input and inspired co-creation. In short, good partnership practice makes a tangible difference, delivering both results for the collaborators and returns for investors.

Further Information

This project was led by Professor David Bamford, Chair in Operations Management at Manchester Metropolitan University Business School. He is an experienced industrialist/academic who has published over 250 articles, book chapters and reports, and co-authored three books: *Managing Quality* (2016) and *Essential Guide to Operations Management* (2010 & 2023 editions). Professor Bamford has worked with multiple Higher Education institutions, including Harvard University, University of Edinburgh, Lancaster University and Queens University, Belfast.

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