

Institution: University College London

Unit of Assessment: 19 - Business and Management Studies

a. Context

UCL's submission to UoA19 comes from its department of Management Science and Innovation, which was established in 2007. Since its inception, the department has drawn upon its unique position as an entirely new department of management embedded within a world-class university to focus on economic and societal impact as one of the cornerstones of its mission, and in 2009 appointed a director of knowledge exchange (Dr Jong) to oversee these activities. The main non-academic beneficiaries of the department's research include (a) for- and non-profit organisations such as Johnson & Johnson and The Noble Group, (b) policy makers such as the European Commission, the Department for Transport and Network Rail, (c) professionals and professional associations such as ThinkLondon, and (d) innovative and high-growth businesses, including start-ups and spin-offs that are supported by the department. Work on the theory and practice of management science and innovation has benefited these stakeholders through its use as the basis for their development of best practice, better management, and new approaches to solving business and organisational challenges, and through the provision of policy advice.

b. Approach to impact

The department's approach to impact focuses particularly on building relationships with and maximising the benefits of its research upon the key user groups outlined above, through:

1. Transfer of specialist knowledge and expertise to practitioners, via:

- a. Publications in practitioner journals, magazines, newspapers and social media.** Departmental staff are encouraged and incentivised through its inclusion in the department's annual appraisal and promotional review processes to share research findings, not only through top-tier academic journals, but also through outlets directed at professionals. For instance, Prof. De Reyck's work on the European Commission's *Single European Sky* initiative was published in the INFORMS journal *Interfaces* (2008), a practitioner-oriented journal showcasing best practice in operations research. Also, contributions to popular media discourse allow the department to extend its reach and impact to broader practitioner audiences. In a recent example, Dr Tsay's research on how experts use sight over sound to judge music competitions, and the implications for professional judgment, hiring and venture capital investment, was covered in 2013 by the all major television channels and newspapers in the UK, US and Europe, in 43 countries.
- b. Conferences and discussion events organised by the department** provide a forum for staff engagement with practitioners and policy makers. In January 2012, for instance, the department worked with NESTA to organise a conference titled "After the Life Sciences strategy: Managing science-based R&D collaborations", in collaboration with chief strategy officers from some of the UK's leading therapeutic biotechnology firms, attended by more than 85 industry practitioners and representatives of governmental bodies such as the Medical Research Council, the Department for Business Innovation and Skills, and the Technology Strategy Board.
- c. Presentations and practitioner conferences.** Staff are encouraged (with funding) to attend and contribute to practitioner conferences, not only as a means of promoting their research, but also of facilitating dialogue with this important user group, such that we are able to ensure the on-going relevance and utility of our work to them. To those ends, for example, Prof. Kilduff gave a keynote speech at the World Brand Summit in Beijing in June 2011. In October 2012, the department's research on crowd funding was presented at the WOMEX conference, one of the biggest annual events for practitioners in world music, with 2,500 attendees.
- d. Supervision of industry-based student research.** Many of the department's graduate students are required to undertake research based within a host organisation, spending a term working on projects intended to address an organisation's specific problems. These placements not only improve students' experiences, but also constitute an important channel for the development of our network of external partners, and for our transfer of research expertise to those companies.

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e. *Reaching out to alumni* as a means of extending the reach of the department's networks among (and thereby our capacity to deliver benefits to) practitioners. This relatively new strand of the department's approach has so far been developed particularly through the innovative "Bring your boss" programme (instituted in 2013), in which research seminar presentations by distinguished speakers are followed by those speakers' delivery of a practitioner-oriented speech for alumni and their (senior) colleagues.

2. **Applied research and research collaborations:** The benefits of the department's work to for- and non-profit organisations are typically achieved through applied research and consulting, which constitute a key component of the department's approach to impact. Besides publishing in top-tier academic journals, academic staff are also encouraged to work on problems that are directly relevant to business practice, or that involve collaborative efforts with industry partners. *UCL Advances* (centre for entrepreneurship and business interaction) provides dedicated support for these activities, while *UCL Consultants*, who connect UCL experts with organisations that are seeking to resolve specific problems, deals with contracts. Since 2008, academic staff have worked in collaboration with approximately 20 companies and other organisations; in addition to the collaborations described in the case studies, notable examples include:

a. A 2010-2013 project (supported by £1.2 million Technology Strategy Board funding) to help Lonza Biologics and Janssen UK identify successful routes to market for regenerative medicine and new diagnostic platforms for Hepatitis C. The project was led by Dr Jong, based on his research on enabling research collaborations between academia and health care organisations.

b. Prof. De Reyck's 2012-2013 collaboration with the UK Department for Transport and Network Rail, in which he drew on his work on project management and risk management, to improve forecasts of timelines and budgets of major UK infrastructure projects, including Crossrail and HS2. Prof. De Reyck developed specific guidelines that will be included in the next release of the Department of Transport's "Transport Analysis Guidance" (www.dft.gov.uk/webtag).

c. Prof. De Reyck's collaborative 2012-2013 research project with the Noble Group, a global supply chain manager of energy products, to optimize their transshipment operations in Asia, based on his work on large-scale optimisation.

d. Dr Kang's work between 2010 and 2013 with Transport for London (TfL), based on his research on social network analysis, to analyse Oyster card data in order to model people's movements, as a means of supporting TfL to deliver an improved urban transport network.

3. **Supporting entrepreneurship and small businesses:** The department engages with and provides support for entrepreneurs through the *New Entrepreneurs Foundation*, and to high-growth businesses through the *Goldman Sachs 10,000 Small Businesses Programme*. The latter is designed for leaders of small businesses with a desire and potential for rapid expansion, for which the department provides practically-focused business and management training and advice. The programme is delivered to cohorts of 30 business leaders at four locations (London, Birmingham, Manchester and Leeds). The department provides the academic and programme leads (Chapman and Lacey-Soymar) for the London programme alongside teaching contributions and curriculum development (Berry, Coleridge, Gokpinar, Parkinson, Pettinger, Todd). The *New Entrepreneurs Foundation* aims to create a new generation of entrepreneurs who will play a role in Britain's future growth and prosperity and create new market-leading businesses. It does this by providing 30 of the UK's brightest, most entrepreneurially young graduates with a one-year structured entrepreneurship programme. The programme was designed and delivered by Dr Chapman, Dr Coleridge and Dr del Palacio. The programme runs on an annual basis from 2012. Additionally, and in line with UCL's Enterprise Strategy to stimulate and support the creation of new enterprises, since 2012 the department has devoted an annual budget of £50,000 to invest in student start-ups arising from our MSc in Technology Entrepreneurship; [text removed for publication]. Several of these have gone on to receive multi-million dollar investments from major US venture capital firms; Vungle, for instance, received \$6.5 million in August 2013.

4. **Training:** The department's provision of executive education and CPD constitutes a significant – and growing – strand of its approach to impact, allowing it to consolidate, extend, and cascade key research insights through a growing network of practitioners, with local, regional and global economic benefits. The department's APM-accredited project management programme, which

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was set up in 2007 and now runs 8 times per year, is a typical example of this activity. The programme attracts over 150 participants per year. The department encourages its staff to participate in these activities through additional payments and teaching relief.

5. Public engagement: Although the department's approach to impact has centred on engagement with practitioners and policy makers, it has recently placed increasing emphasis on the importance of engaging the wider public with the key themes and major findings of its research. This strand of its approach is not yet fully developed, but the department has made some significant progress, particularly by encouraging and supporting media engagement activities. Dr Kang, for example, has actively promoted the dissemination of key findings from his work with TfL by contributing to press articles both within the UK (e.g. BBC) and beyond (e.g. Spiegel and Scientific American). These types of media engagement activity are facilitated by communication experts at the departmental and faculty level.

c. Strategy and plans

We plan, as the department grows, to further expand the impact-generating activities outlined above, in order both to maximise the impacts of recent and on-going projects and to enhance the impact of future research. To that end we plan, for example, to significantly expand our executive education activities, providing new innovation-related programmes in the areas of health, financial and environmental technologies, as well as programmes in leadership, negotiation, innovation, finance, accounting, and operations management. There will also be more alumni events, and a significant expansion of outreach, dissemination and engagement through the various media channels, including social media. Two particular new initiatives, however, will have a dramatic effect on the impact that the department will have on industry, policy makers and society:

1. From 2014, the department will create new applied research centres whose remit will be to ensure that the department's research strategy is in line with the priorities and needs of its key research users. The centres will focus on those areas of research that have the most promise to deliver benefits to non-academic partners. The first of these will be the *Centre for the Management of Complex Systems*, planned for 2014, which will generate knowledge about the management of complex projects and organisations, commensurate with the needs of our research users in areas such as European air traffic control and the London underground system. The department expects to open several such centres over the next five years, where there are clear synergies between the beneficiaries and our research. These centres will offer a forum for more structured engagement with non-academic beneficiaries, and their boards, which will include representatives of industrial and governmental bodies, will be able to play an active role in shaping the department's research agenda. In addition, each of these centres will run monthly seminars and workshops where academics and practitioners will meet.
2. In order to further develop UCL's capacity to inform innovation policy, UCL has announced the creation of a new initiative in *Science, Technology, Engineering and Public Policy (STeAPP)*. This will be configured as a partner department alongside the Department of Management Science and Innovation, to explore and improve the ways academics engage with public decision-making and policy processes. STeAPP draws upon UCL's longstanding tradition of dual commitment to academic excellence and public service, and will benefit from collaborative interactions across the institution, to become an educational ambassador for the UK's excellence at the interfaces between management, public policy, technology and engineering.

d. Relationship to case studies

The submitted case studies underscore the centrality to our approach to impact of collaborative research projects with commercial organisations and policy makers; both demonstrate the potential that such collaborations offer for our research to solve our partners' business and organisational challenges. In both cases, key research findings were published in professional journals as well as academic outlets and presented at practitioner conferences to increase the reach of their impacts by sharing relevant with a wide variety of organisations beyond those for which the new frameworks were developed. The case studies have also been written up for use in our executive education programme as a means of maximising their impact and the range of their beneficiaries.