

Building Better Business Models for the digital economy

Sustainable advantage does not come from new technologies alone, but from better business models that are co-evolved and integrated with those technologies (Chesbrough, 2010). Despite the emerging body of research on business models, we still do not properly understand which business models are best designed or adapted for any chosen technology, and what are the optimal timing and methods for integrating business model thinking into the technological trajectory, or whether (and how best) established business models might need to be fine-tuned – or even completely renewed – to align with new technologies as they emerge. Supported by a £1 million grant from the EPSRC, and with matching funding from Cass Business School, the Mack Centre at Wharton Business School and other sources, Professor Charles Baden-Fuller, Centenary Professor of Cass Business School, City University London is leading an international team of experts to conduct cutting edge, industry-focused research on how business models can be better designed, built and implemented to exploit the transformative potential of digital technologies.

We know that many firms (particularly in the UK economy) are strong in technology, but at the same time weak in understanding the importance of co-designing business models that mobilize that technology (e.g. Herbert et al. - 2012). This lack of understanding is hindering firm profitability and the transformation of the economies for the benefit of consumers and wider society. Three elements – customer identification, value creation and value capture (monetization), together with their linkages, collectively define a business model (Teece - 2010, Day and Moorman - 2010). This ‘bundling’ – the organising and execution of business model design – is vital for successful technology investment (in particular digital investment). And these issues have to be resolved properly - and early in the technology lifecycle: all too often, firms assume that the business model question can be resolved after the technology has solidified into a product or process - but this is invariably too late.

Our project will identify more precisely *why* appropriate business model adoption is key; *what* configurations of organizational practices that sum up to business model choice are suitable for which technologies and markets; *when* in a new technology's trajectory is the optimal moment for solving the business model question; and *how* managers can develop and introduce better business models into their organizations. These questions of *why*, *what*, *when* and *how* are of national economic importance, and vital to many businesses and organisations – both those on the edge of new technologies and in more traditional sectors that just use them.

We have assembled an international research team of senior scientists from leading business schools and social science departments located at City University London, Wharton, Grenoble, ETH Zurich, Sussex, Glasgow and LSE which include Professors Ian (Mac) MacMillan, Rahul Kapoor, Vincent Mangematin, Georg von Krogh, Paul Nightingale, Martin Kretschmer, Mary Morgan and Stefan Haefliger. Their work connecting business model issues to current technological research will be supported by a team of junior researchers located at Cass. This fusion will allow existing research to be exploited and new insights to be created to show how firms can use new technologies to sense opportunities and create and capture value in the future.

The project team will work on conceptual and practical agenda in parallel using a proven research design that we know yields results which are both scientifically robust and practically useful. This design involves building theory and collecting case based evidence at both firm and industry levels to tease out how the three business model elements - sensing, creating and monetizing value - influence and are influenced by linking processes that both create interdependencies and drive performance. The theory elements will build on existing business model related

research (such as Teece - 1986, McGrath and MacMillan - 2000, Amit and Zott - 2001, Baden-Fuller and Morgan - 2010, Casadesus-Masanell and Ricart - 2010, Kapoor and Lee - 2012), and link it to deeper philosophical thinking on the nature of models and how they are used in social science (Morgan, 2012).

The empirical work will involve undertaking sector studies to examine the co-evolution of technology and business models across important economic sectors (such as software, digital entertainment, pharmaceuticals and satellites). From this and other sources we will document more than 50 cases of successful (and less successful) business model design and execution. Some of these cases will explore the 'messy' elements of how firms go about introducing business model thinking (such as comparing Google's and Yahoo's development paths) to identify more precisely the factors that determine success and failure in different new technology environments. Other cases will catalogue examples of established business model designs in different contexts, tracing their economic consequences, and harvesting hints and possibilities for future endeavours. We expect our first cases to be available quite soon.

We will build longer-term capacity along the whole spectrum of the research community to ensure better understanding and integration of the business model agenda into that of technology development. A major element of our work will be an annual week-long research training workshop to engage with UK researchers involved in RCUK digital and other technology programmes, and their international counterparts. These seminars will allow for the active dissemination of latest thinking and development of leading ideas among juniors and seniors from across the business model and technology research communities. The project will also devise some greater in-depth training on conceptual and empirical tools for groups of junior researchers - utilizing the resources of Cass and our partners.

We will engage with executives in established technology companies by running sector specific seminars and workshops tailored to specific firm needs, as well as making our cases and related tool kits widely available. We will work closely with existing communities to spread understanding among new start-ups and emerging firms, utilizing the support of the Cass Entrepreneurship Fund, a £10 million venture capital pool.

We will also liaise with the City of London financial community and with UK and EU policy makers, running high level seminars (typically one day) to address important strategic issues. We already know that boards of directors, policy advisors and financial institutions influence business model choice – these communities need to understand how the business model agenda has to interact with technology development if the firms are to be profitable and society to get the best from new technological developments.

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The Team:

- **Prof. Charles Baden Fuller: Principal Investigator (PI):** Centenary Professor of Strategy, Cass Business School, Senior Fellow, Wharton School of Business, Elected Fellow Strategic Management Society. Cass Business School is ranked number 2 in the world by FT for its strategy teaching and it is also highly regarded for its leading edge research. In 2010 he edited the Long Range Planning special issue on business models, a major work in this field.
- **Prof. Paul Nightingale: Principal Co-investigator (Co-PI):** Deputy Director of SPRU, the Science Policy Research Unit, at the University of Sussex
- **Prof. Kretschmer: Co-investigator:** Director Centre for Copyright and New Business Models in the Creative Economy (CREATe) at the University of Glasgow (£5m RCUK hub)
- **Prof. Mary Morgan: Co-investigator** Professor London School of Economics; Fellow; Fellow and Council member of British Academy, expert on the topic of models in social science and science.
- **Dr Stefan Haefliger: Co-investigator** Cass Business School and ETH Zurich.
- **Prof. Jennifer Whyte:** Reading University, Director of the Design Innovation Research Centre
- **Stephen Newbury:** Consultant CEO of Oxford Innovation Intelligence Group

International Partners

- **MACK Institute for Innovation Management, Wharton School, U. Pennsylvania.**
- **Prof. George Day,** Director of MACK centre, G.T. Boisi Professor of Marketing, Wharton School, Univ. Pennsylvania
- **Prof. Ian (Mac) MacMillan,** Dhirubhai Ambani Professor of Innovation and Entrepreneurship, Wharton School
- **Prof Rahul Kapoor,** Wharton School
- **Prof. Vincent Mangematin,** Grenoble Ecole de Management.
- **Prof Georg von Krogh,** Chair of Strategic Management and Innovation, ETH Zurich

Board of Advisors:

- **Prof. Brian Collins (Chair),** UCL, Head of DE Advisory Board, EPSRC
- **John Pool,** visiting Professor Cass Business School: Former CEO of Proteus, currently founder and chairman of ACS
- **Bob Garratt,** Visting Professor Cass Business School, advisor to many boards of directors of FTSE 100 companies

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- **Cass Business School,** City University London, £300,000 approx
- **Mack Center for Technological Innovation,** Wharton Business School
- **SPRU,** Science Policy Research Unit, Sussex University,
- **CREATe,** RCUK Centre for Copyright and New Business Models in the Creative Economy, Glasgow University
- **London School of Economics**