

Science, Technology and Innovation Studies at the University of Manchester



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Broad trends for subject in UK

- Initial emphasis on science studies and distribution across several types of University
- Over time
 - increased focus on innovation and science policy, move away from science studies
 - entry of more elite Universities (Oxford, Cambridge)
 - subject now institutionalised mainly in UK's most research intensive Universities – Oxbridge, Imperial, UCL, Edinburgh and Manchester
 - also presence of smaller research-focussed universities – Sussex, Lancaster
 - almost all now located in business schools
- High engagement with policymaking

Manchester Pre-History

Date	Event	Aim
1958-65	Early work on innovation eg Carter & Williams <i>Industry & Technical Progress</i>	First awareness of possibility of systematic study
1966	Foundation of Department of Liberal Studies in Science (LSS)	Seeking to produce “rounded” science graduates also educated in science studies
1977	PREST (Policy Research in Engineering, Science & Technology) founded as research arm of LSS	Growing research focus & wish to engage with policy
1990	LSS merged into PREST	Teaching focussed on postgraduates
1996 - 2000	Joint applications with former staff who had moved to UMIST	Awarded national Centre (CRIC) & infrastructure grant for new building
2002-2004	Institutes federate then merge as Manchester Institute of Innovation Research (MIOIR)	Benefits of critical mass – UK’s largest concentration of innovation researchers

Current context

- 2004 saw full merger of Victoria University of Manchester and UMIST
- MIOIR becomes part of merged Manchester Business School in the new University
 - Masters and Doctoral Programmes of PREST and UMIST also merged

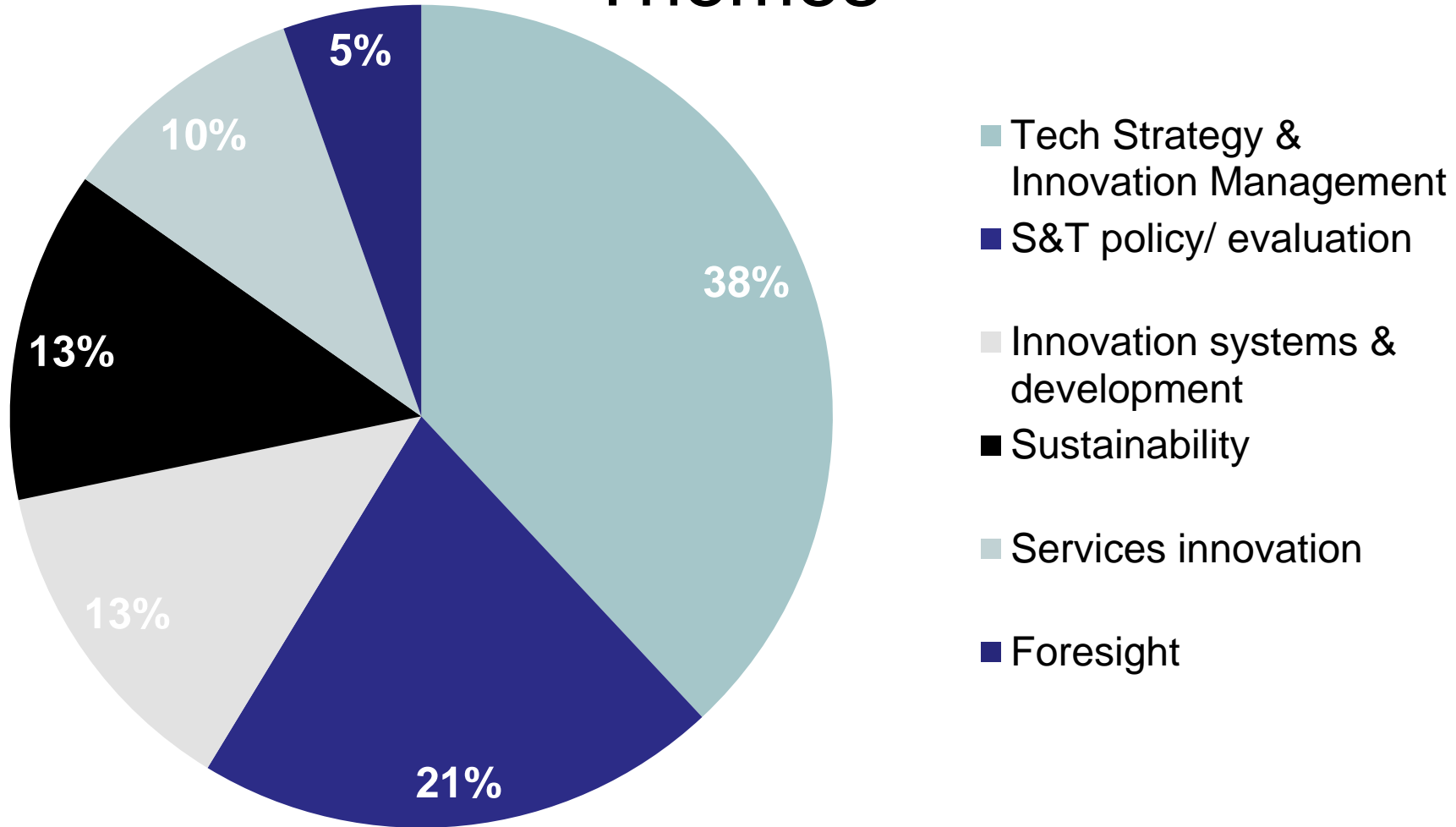
Manchester Institute of Innovation Research today

- Interdisciplinary approach to Innovation & science dynamics/policy/management. Mix of investigator-driven, strategic & demand-driven research
- Strong commitment to engagement with policy and business
- Centre within Manchester Business School but also recognised at University level
 - 10 full professors (including 2 part-time) + 3 emeritus
 - 10 other lecturing staff
 - 6 senior Research Fellows
 - 19 other research staff postdoc or higher
- Portfolio of 58 current research grants and contracts worth c. £6 million (¥756,374,258)

Doctoral Programme

- Structured path within MBS programme – number 1 in world in Financial Times business school rankings
- Key features
 - 40 currently registered
 - Current and recent from 38 countries
 - (13% UK, 23% EU, 34% Asia, 9% Middle East, 11% America)
 - 2 supervisors
 - Fee-paying but many have scholarships
 - Strong teaching element in first year
 - Annual upgrades with clear exit gateway at end of year 1
 - Involvement in research projects and teaching assistantships

Themes



Key success factors

- Rigorous admission procedures
- Detailed requirements for monitoring progress and providing support
- Strong collective intellectual life
 - Self organised doctoral seminar, Annual School doctoral conference, Poster day
 - Membership of EU-SPRI - Summer schools, Circulation (eg 4 months in another EU lab)
 - Expectation of conference presentation & publication in refereed journals

Masters Programme - Innovation Management and Entrepreneurship

- 120 credits taught courses, 60 credits supervised research dissertation over 11 months
- Interdisciplinary and multi-level perspective
 - Management, economics, and societal perspectives, firm level and policy level, individual and organisational perspectives
- Skills development: research, group working, problem solving, writing and presenting, working for live company projects (MBS careers programme)

Curriculum

- Core
 - Financial Appraisal and Investment Economics; High Technology Entrepreneurship; Innovation Management; Innovation and the Knowledge Economy; and Research Methods
- Options
 - Business Creation and Development; Case Studies in Technology Strategy and Innovation Management; Developing Enterprising Individuals; Industrial Leadership and Innovation; Innovation and Market Strategy; New Entrepreneurial Ventures; Regional, National and Global Dimensions of Science, Technology and Innovation; Service Innovation; Sustainable Innovation Management; and Water and Sanitation Planning and Policy in Developing Countries

The Students

- Multi-disciplinary cohort
 - science, engineering, technology, social science and management
 - Fresh graduates and post-experience, from all around the world
- All interested in change, all stretching themselves outside familiar disciplinary boundaries, many want to start their own venture either now or later
- Statistics (2010 cohort)
 - 556 applications: 84 enrolled
 - Male : Female: 56% : 44%
 - Age range: 21 - 50
 - No of nationalities: 25

Outcomes – short-term

- 95% in employment after 6 months
 - Average starting salary £28,869 pa
(¥3,640,253)
- Previous year cohort employment destinations included:
 - Consultancies (eg SQW Consulting, PwC, Heywood)
 - Industry and technology-based international companies (eg Technopolis Group, ICI, Unilever, CSC, Rolls Royce, Arena)
 - Public sector (agencies, technology transfer) (eg UNIDO, TNO)
 - Banks (JP Morgan, Goldman Sachs)
 - Entrepreneurial start-ups
 - Further research/academia

Outcomes long-term

- Alumni (staff & students) in influential jobs in government, industry, academia etc
 - 3 Vice-Chancellors, several Directors of major business schools, Deputy Ministers and Director-Generals in ministries, senior corporate positions, at least one FTSE company founded, editorships of international journals, radio, TV
 - Basis of our own staff

Conclusions

- Science, Technology and Innovation Studies strongly institutionalised in the UK
- After 50 years Manchester remains fully committed to the subject
- Concern that student demand shifting locus too much from science policy issues to innovation and entrepreneurship
 - Mismatch with balance of research project portfolio
 - We need both
- Economic crisis has taken innovation debate to the top of the policy agenda as politicians search for new growth strategies

Links

- Details of MSc
 - <http://www.mbs.ac.uk/programmes/masters/courses/inno-manage-entrepreneurship/index.aspx>
- Details of MIOIR
 - <http://research.mbs.ac.uk/innovation/>
- Manchester merger
 - Georghiou, L. (2009) Strategy to Join the Elite: Merger and the 2015 Agenda at the University of Manchester, in McKelvey, M. and Holmen, M., *Learning to Compete in European Universities – from Social Institution to Knowledge Business*, Edward Elgar: Cheltenham, pp48-65