Entrepreneurship education in the research-intensive entrepreneurial university

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Abstract. Knowledge commercialisation and commodification are important components of universities’ “Third Mission” to contribute to the development of their home regions by strengthening their engagement with the public, private, and third sectors. Entrepreneurship education programmes have tended to develop in parallel to such “entrepreneurial university” initiatives, rather than in intentional alignment with them. This is reflected in the research literature as well, where the analysis of the “entrepreneurial university” and studies of entrepreneurship education have little overlap. This paper examines the evolution of the entrepreneurship education initiative of a single research-intensive institution—the University of Manchester in the United Kingdom—and the ways in which that initiative have contributed to the broader entrepreneurial and commercial engagement objectives of the university. The Manchester case suggests that research-intensive universities that wish to bring entrepreneurship education and knowledge commercialisation and commodification into effective and beneficial alignment face challenges that require determined strategies to overcome.

1. Introduction

The notion of the entrepreneurial university is the subject of a rapidly expanding literature, with scholarly work accelerating beginning in the 1990s (Henrekson and Rosenberg 2001; Rothaermel, Agung et al. 2007). According to Jacob et al. (2003, p. 1556) an entrepreneurial university is one that has “developed a comprehensive internal system for the commercialisation and commodification of its knowledge.” The commercialisation of university knowledge includes the delivery of custom courses such as executive education, consultancy services, fee-based extension services, contract research, and even new degree programmes designed to capture non-traditional student markets using new teaching approaches, technologies or delivery models (i.e., online education, blended online and traditional teaching, offsite programmes, etc.). Commodification is the effort to catalyse the development of wholly new goods and services from knowledge, innovation and technologies generated from university basic and applied research. Universities promote commodification through knowledge transfer programmes, cooperative research agreements with
industry, patenting, licensing, marketing, and the cultivation of faculty or student start-ups and spin-outs, often in incubators and research parks. Commercialisation and commodification activities are important mechanisms through which universities directly influence national and regional economic development (Etzkowitz, Webster et al. 2000; Nelles and Vorley 2010). They are elements of universities’ broader “Third Mission,” the idea that universities have a general socio-economic and public engagement role to play, specifically in their home regions and with local stakeholders (Arbo and Benneworth 2007; Jongbloed, Enders et al. 2008).

The design and delivery of entrepreneurship education is also attracting much attention from scholars and policy makers (Rizza and Varum ND). In Europe, entrepreneurship education is reinforced as a priority in the European Union’s recent Europe 2020 strategy, which calls on member states to “ensure a supply of science, maths, and engineering graduates and to focus school curricula on creativity, innovation, and entrepreneurship” (European Commission 2010, p. 13). Entrepreneurship education seeks to equip learners with “the knowledge, skills and competencies to exploit opportunities” in an increasingly knowledge-intensive economy (Hynes and Richardson 2007, p. 734). The basic training needed to start a new business is the core of many such programmes, but approaches to risk taking, factors influencing entrepreneurial attitudes, and skills needed to pursue entrepreneurship from within existing businesses—the practice of intrapreneurship or corporate venturing—are also common subjects. Much of the research literature on entrepreneurship education focuses on the impact of different pedagogies on student entrepreneurial outcomes, ways of involving internal and external stakeholders, and alternative institutional homes for teaching programmes (e.g., business schools, schools of social science, university-wide centres, etc.). That is not to argue that traditional students are the sole target of entrepreneurship education programmes. Some are geared to providing training to would-be

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1 Although enterprise education and entrepreneurship education are terms that are often used synonymously in the international literature, they have specific meanings in the context of the UK education system (Gibb 1993). Enterprise education refers to efforts to impart “enterprising” attributes and behaviours (e.g., self-confidence, creativity, resourcefulness) without a particular focus on encouraging the exploitation of for-profit opportunities or new venture formation. A central educational objective of entrepreneurship education is to develop in individuals both the skills and inclination to create a new enterprise or establish a new line of business in an existing firm. The focus of this paper primarily is on entrepreneurship education activities of universities, although the lines between entrepreneurship and enterprise education tend to be blurred in practice. The subject of the case study—the Manchester Enterprise Centre—delivers a mix of entrepreneurship and enterprise education programmes.
entrepreneurs in the universities’ immediate regions as well as academic staff inside the university (Lawton Smith and Bagchi-Sen 2011).

With just a few exceptions, there is almost no overlap in the entrepreneurial university and entrepreneurship education literatures. The topic of entrepreneurship education does not receive a single mention in Rothaermel et al.’s (2007) 101-page taxonomy of the university entrepreneurship literature, a review that examines papers published in leading journals between 1980 and 2005. Although there are several contributions that post-date 2005 (noted below), it is safe to claim that the question of what role entrepreneurship education can play in supporting technology transfer and commercialisation has received very little scholarly attention. Likewise, universities' aims in the commercialisation and commodification of knowledge—in essence, the commercial engagement component of their “Third Mission”—have been only rarely identified by scholars as creating opportunities to leverage or strengthen the delivery of entrepreneurship education.

Scholarship aside, it is doubtless the case that there is a high degree of networking and collaboration among staff implementing the entrepreneurship education and commercial engagement agendas at various institutions. The “entrepreneurial turn” being taken by many universities is a work in progress in which experimentation and learning by doing are the order of the day. That suggests that researchers are lagging practitioners in exploring the interface between commercial engagement and entrepreneurship education.

It is that interface that is the focus of this paper. The method is a case study, specifically the examination of the evolution of the entrepreneurship education initiative of a single research-intensive institution—the University of Manchester in the United Kingdom—and the ways in which that initiative has or has not contributed to the broader entrepreneurial and commercial engagement objectives of the university. The Manchester case suggests that research-intensive universities wishing to bring entrepreneurship education and knowledge commercialisation and commodification into effective and beneficial alignment—that is, in a broader model of the “entrepreneurial university” than characterizes conventional thinking today—face significant challenges that

2 The clarification of the type of university is important. Ways in which entrepreneurship education and commercial engagement can be joined up and mutually leveraged are different for research-intensive versus teaching focused institutions. For example, whether or not staff in entrepreneurship education programmes should engage in significant research as part of a larger entrepreneurship research agenda is likely to be a greater concern in research-intensives than in other kinds of institutions. Likewise, teaching focused institutions will engage with the business sector differently than research-intensive universities with significant capacity to conduct contract research, spin-out companies, and enter into licensing agreements. I thank an anonymous reviewer for pointing this out.
require determined strategies to overcome. At the same time, the potential benefits of mutually leveraging entrepreneurship education and commercial engagement are considerable. Since little can be generalised to other university situations from a single case, the challenges and opportunities identified in this paper should be viewed as hypotheses requiring subsequent research.

The next section summarizes the work of the comparatively few scholars who have sought to conceptualize the link between entrepreneurial education and the entrepreneurial university. The section is followed by the case study, a discussion that draws implications for universities’ efforts to link entrepreneurship education and commercial engagement and for scholars conducting research in this arena, and a brief conclusion.

2. Antecedents

While research on the intersection of entrepreneurship education and the commercial engagement activities of universities’ Third Mission is limited, there are several perspectives in the extant literature that merit discussion as background to the case study. Laukkanen (2000) argues universities should be understood as business “evolutionary machines” within their regions. As such, university officials may take different views of their institutions’ appropriate engagement roles. For example, universities electing to take a **laissez-faire** approach would simply let their research and teaching activities drive any regional economic connections and impacts indirectly and randomly, implying no explicit commercial engagement strategy. Alternatively, a university adopting a **facilitative** model would encourage commercial linkages to university research activities and other assets in order support external economic activity but it would leave new venture creation to external actors and businesses. Finally, a university taking a **generative** approach would seek to directly foster university spin-outs and university-industry linkages for the express purposes of supporting regional venture creation or expansion.

For those many universities wishing to pursue a generative role, finding ways to influence the factors that drive new venture formation—things like environmental push and pull conditions, financial and technological resources, entrepreneurial actors and entrepreneurial teams, and business and product ideas and concepts—is essential. In turn, argues Laukkanen, any effort in the area of entrepreneurship education needs to be designed to contribute to this “business-generative strategy.” In practice, that means much greater attention on tying students into real business contexts (e.g., via internships, project work, guest lectures by business owners, and site visits); orienting programmes around fostering business embryos or concepts; developing business teams and networks; and nurturing problem-solving skills whilst working on real problems with company partners. In essence, entrepreneurship education would entail
building entrepreneurship skills and knowledge in the course of directly influencing regional economic development.

Laukkanen (2000) argues that universities often taken an overly individualistic approach to entrepreneurship education. The individualistic mind-set can be traced to the many theories of new venture creation which tend to emphasize the pivotal role of the lone and courageous entrepreneur, coupled with a predominance of empirical research that attempts to isolate the personal characteristics, traits, and family and professional backgrounds of entrepreneurs. Those theoretical and empirical traditions have strongly influenced many universities to design entrepreneurship education programmes with a mission to produce individual entrepreneurs, that is, “entrepreneurial individuals with high-level action tendencies and learning capabilities” along with appropriate levels of know-what, know-how, know-who (e.g., contacts and networks), and know-why (e.g., entrepreneurial values and goals) (Laukkanen, 2000, p. 29). Consistent with general business education, the programmes tend to prioritise the teaching of generalist skills, concepts, and theories over exposing students to highly specific existing and emerging business contexts, perhaps under the assumption that students will bring knowledge of business, technology, and market contexts with them to campus upon matriculation, especially at the postgraduate level where prior experience may be a nominal pre-requisite for admission. Laukkanen claims this model of entrepreneurship education actually aligns most closely with a laissez-faire view of the university’s commercial engagement role in the sense that, although it is hoped the university will make contributions to job growth and economic development, it is “unusual to include such elements in the operative expectations, targets, and practices” of the entrepreneurship education programmes themselves (2000, p. 31). Thus the most common model of entrepreneurship education is inconsistent with a vision of the university as an actively generative agent in regional economic development.

Laukkanen claims there are several additional inadvertent effects of an individualistic, entrepreneur-as-business-hero, approach. First, it drives away analytically inclined students who are sceptical of their own abilities to arrive at a viable business idea, technology or product but who could be an important part of an entrepreneurial team, or who may have the capability to contribute to corporate entrepreneurship in an existing firm. Second, it places undue emphasis on cultivating the presumed traits of bold and entrepreneurial individuals and neglects the development of basic but perhaps more mundane managerial and technical skills. Third, it assumes too readily that students are capable of translating context-free knowledge and ideas to specific business and market situations. Finally, it over-emphasizes fostering business start-ups whilst
neglecting to teach students how to detect opportunities in existing businesses, to build networks and teams, and to grow existing ventures. Growing companies, as opposed to founding them, typically requires teams of individuals with widely varying skill sets and interests, many of whom would not necessarily consider themselves entrepreneurial per se.

Context-specific training as advocated by Laukkanen is also endorsed by Hynes and Richardson (2007), who argue that entrepreneurship education programmes represent an opportunity to build valuable networks between faculty, students, and small business owners and local entrepreneurs. The premise is that an effective way for universities to deliver entrepreneurship training is by involving business owners and managers in course design and delivery, which serves to promote a broader internal culture of entrepreneurship among staff, which is then passed on to students through classroom work and hands-on projects. In principle, the benefits of such a model flow in two directions. Educators are able to tap the expertise of local business people and entrepreneurs while also creating a stock of real world business challenges for students to tackle through project or laboratory components of the training curriculum. Regular exposure to local entrepreneurs increases the likelihood of positive demonstration effects, found in some studies to be a key influence on students’ choices to pursue their own entrepreneurial opportunities. In addition, by engaging regularly with students and faculty in entrepreneurship education programmes, business owners, managers, and entrepreneurs learn new concepts and skills themselves. In effect, entrepreneurship education serves a kind of double duty as skills training for students and an institutional mechanism for lifelong learning for local business people. In essence, it is one mode of commercial engagement.

Guenther and Wagner (2008) identify entrepreneurship education as an indirect mechanism for commercializing university knowledge, arguing that universities should develop ways to maximize internal synergies between entrepreneurship education and technology transfer activity. They investigate the entrepreneurship education and direct technology transfer activities of 49 German universities, focusing on the activities of entrepreneurship professorships. They find evidence of active cooperation between such professors and the technology transfer offices of many of the campuses in their sample, with the professor providing advisory services, offering consultation to would-be faculty entrepreneurs, serving in a partial staff role in the technology transfer office, or holding positions in local associations organized to support entrepreneurial activities. They conclude that the position of professor of entrepreneurship, whose numbers are growing across universities in Europe and the United States, is an important binding agent or node in a network that links
technology transfer and the entrepreneurship education sides of the university. Unfortunately, Guenther and Wagner offer no specifics on the prescriptive question of how best to structure the professorships. One would expect that the details of their official duties, departmental home, resources, intellectual backgrounds, and research agendas of such professors would significantly influence their likelihood of advancing both the entrepreneurship education and commercial engagement missions of their campuses.

Each of the above contributions adds valuable insights but what is needed is an appropriate conceptual framework for characterizing and subsequently evaluating competing claims about how best to link entrepreneurship education and the commercial engagement component of the Third Mission, from Laukkanen’s (2000) emphasis on real world business application, to Hynes and Richardson’s (2007) argument for heavy reliance on external networks, to Guenther and Wagner’s (2008) endorsement of entrepreneurship professorships. One option that has some promise is Burns’ (2008) notion of the entrepreneurial architecture of a firm as applied to the higher education context by Nelles and Vorley (2010). Nelles and Vorley do not discuss entrepreneurship education. Rather, their concern is to find a way to bridge a divided literature on university commercial engagement that consists of macro studies of the entrepreneurial university and micro studies of university entrepreneurship but little overlap between the two. Following Burns, they posit that a university’s entrepreneurial architecture consists of five institutional building blocks: structures, like technology transfer offices, incubators, and technology parks; systems, like formal linkages and networks of communication between structures and departmental units; strategies, namely institutional goals as codified in documents and plans as well as formally adopted incentives structures and policies; leadership as characterized by leaders’ qualifications and their orientation toward the Third Mission; and culture, specifically institutional and departmental norms and attitudes toward enterprise and the concept of the entrepreneurial university.

Although Nelles and Vorley do not discuss the place of entrepreneurship education in this scheme, it is not hard to see where it might fit, such as in the systems element as a networking mechanism (à la Hynes and Richardson) or the cultural element through the shaping of norms and practices. For the purposes of this paper, the validity of the specific elements of the entrepreneurial architecture is less important than the concept of architecture as a problem framing device. Nelles and Vorley’s approach is an advance in the literature on university-business engagement in that it looks to construct a general framework for describing and comparing different university models and approaches. Still, there is much work to do to actually carry out those comparisons. At present,
existing research provides mostly provides just a sketch of some of the ways entrepreneurship education may interface with university commercial engagement and the entrepreneurial university very generally. The aim of the case study reported in the next section is to use one research-intensive university’s experience with entrepreneurship education to specify areas of existing and potential alignment between entrepreneurship education and commercial engagement in greater detail and to identify challenges that need to be overcome to leverage the two areas jointly.

The focus is the Manchester Enterprise Centre, now in its thirteenth year of operation in a large research university—the University of Manchester—situated in a region of England with a long history of academic science in service of industrialisation. In Laukkanen’s (2000) framework, it could be argued that the University of Manchester has evolved from a de facto laissez faire approach to a generative approach to its commercial engagement and entrepreneurial activities, although the implementation of its engagement and entrepreneurial aspirations has at times been somewhat haphazard. The mission and programmes of the Manchester Enterprise Centre have both evolved alongside the university’s Third Mission agenda whilst also helping to shape that agenda.

3. The Case

The Manchester Enterprise Centre (MEC) was established as a joint effort of the University of Manchester Institute of Science and Technology (UMIST) and the Victoria University of Manchester (VUM) in March 2000, with the Manchester Metropolitan University and University of Salford participating loosely as collaborating institutions. Together, VUM and UMIST were arguably among the UK’s most “entrepreneurial” universities at the time of MEC’s founding. A review prepared in 2003 identified some 40 spin-off companies between the two campuses (the 40 firms collectively raising over £100 million in start-up funding) and 30 licenses or sales of intellectual property. Both VUM and UMIST had well-established and effective commercialisation offices, a diverse mix of externally facing centres of excellence, and solid record of networking and business engagement (VUM & UMIST 2003). A bibliometric study of university-industry co-publishing

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3 The information and data reported in the case study is based on extensive interviews with staff of the Manchester Enterprise Centre and Manchester Business School as well as a review of the organisation’s original business plan, annual reports, curricula materials, and strategic planning documents. Special thanks to Lynn Sheppard for reading the manuscript with care and offering clarifications, corrections, and suggestions.

4 Victoria University of Manchester was served by Manchester Innovation Ltd. (MIL), which at the time of MEC’s founding was processing about 80 disclosures per year. UMIST Ventures Ltd. (UVL) acted as UMIST’s commercialisation agent and support
ranked the Victoria University of Manchester among the top five co-publishing universities in the UK over the 1995-2000 period, with 120 industrial partners identified, including AstraZeneca, Glaxo Wellcome, SmithKline Beecham, ICI, AEA Technology, and Unilever (Calvert and Patel 2003).

A £3 million Science Enterprise Challenge (SEC) grant provided the start-up support for MEC, originally named the Manchester Science and Enterprise Centre (MSEC), reflecting its initial mandate to establish an entrepreneurship education agenda targeted on the science and engineering disciplines. The UK Department for Business Innovation and Skills states that the purpose of the Science Enterprise Challenge was to establish “a network of centres in UK universities, specialising in the teaching and practice of commercialisation and entrepreneurialism in the field of science and technology.” MEC was one of twelve centres created with the first round of SEC spending; a second round of funding added a thirteenth centre in 2001, bringing the total number of universities involved in the programme to 39, given collaborative efforts among institutions. After 2001, the SEC programme was absorbed as an initiative of the Higher Education Innovation Fund (HEIF). SEC and related HEIF-supported initiatives in entrepreneurship education are part of the broader effort to promote an “enterprise culture” in the UK, an agenda developed by the Thatcher government in the 1980s as a solution to high unemployment arising from a campaign to tackle a running deficit and accumulating national debt by eliminating significant public spending, deregulating selected sectors, curbing union power, and encouraging private investment by cutting taxes and reducing regulatory red tape (Della-Giusta and King 2006). Enterprise has been advanced in various ways by subsequent governments ever since (Hannon 2007).

MEC moved quickly to develop a set of internally accredited undergraduate and graduate courses aimed at assisting students to refine their own ideas for new marketable technologies or services and to develop the beginnings of related new ventures, a kind of “how to” approach to entrepreneurship education. From the very beginning, the core of MEC’s programme has been a one-year university-wide Master of Enterprise (MEnt), which students pursue from a specific disciplinary home under the teaching and guidance of MEC staff. The MEnt admitted its first cohort in fall 2001 and currently educates around fifteen students per year. Despite its nominally small size, MEC considers the MEnt as central to its mission because the degree’s design and content embodies MEC’s philosophy of enterprise teaching as cultivating the

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service. MIL and UVL were combined to form one intellectual property office following the merger of the two universities.

nascent entrepreneur from business idea to business creation. MEC describes its mission as “taking students from undergraduate level to entrepreneurial proficiency” (MSEC 2000b, p. 6). MEC routinely carves off or modifies MEnt modules to serve audiences with different interests and foci, whether at the undergraduate, graduate, or executive education levels.

While no undergraduate enterprise degree programmes are currently offered at Manchester, undergraduates may take up to 20 MEC-delivered enterprise-related credits per year under the guidelines of their individual schools or departments, either as required or optional study units. Many of MEC’s undergraduate offerings are designed to help the physical and life sciences, computer science, and engineering disciplines meet a need for entrepreneurship content demanded by their own external accrediting bodies. Those disciplines thus represent a reasonably stable source of demand for MEC’s programmes, although there is nothing to prevent individual disciplines and schools from meeting their accreditation requirements through in-house teaching. Another source of demand for MEC is the significant number of non-business students who value access to courses on entrepreneurship themes, especially if they are tailored in ways that align with their chosen fields, something MEC emphasizes in its course design and teaching model.

MEC also contributes electives to a Master of Science (MSc) in Innovation, Management and Entrepreneurship which is intended for students who have no immediate desire to start a business but who wish to know more about entrepreneurship, often as part of plans to pursue a PhD in innovation management. Other MEC programmes include a postgraduate Diploma in Enterprise Management as a mandatory element of the Engineering Doctorate and as a part-time executive education option; an enterprise pathway for an MSc in International Fashion Retailing; and an MSc in Biotechnology and Enterprise offered in the Faculty of Life Sciences. The mix of MEC’s teaching is broad but it is the approximately 1,000 University of Manchester undergraduates taking

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6 An analogy to medical training is articulated in MEC’s founding business plan (MSEC 2000b, p. 6): “The Centre will follow the form of the successful model of medical training, which depends upon a structured relationship between a medical school and its associated teaching hospitals. This approach encompasses the worlds of the academic and the practitioner, allowing both to fulfill their respective duties with mutual benefit. Through problem based learning and mentored experience, students will learn the facts and how to apply them. The Centre will operate in conjunction with the business incubators of its Partners and Collaborators, forming the ‘teaching hospital’ part of the model. The defining feature of this model is the way it amalgamates and interlocks education and training, taking students from undergraduate level to entrepreneurial proficiency.”
MEC courses each year who are particularly important: they provide the fee transfer income that forms the largest share of the Centre’s financial support.

In fall 2004, UMIST and the Victoria University of Manchester merged to form the current University of Manchester (UM). MEC was situated in the new university’s Faculty of Engineering and Physical Sciences until early 2008, when its home shifted to the Manchester Business School (MBS) by mutual agreement of the University, MBS and MEC. Administratively, MEC now resides in one of MBS’s four academic divisions—the Division of Innovation, Management and Policy (IMP)—and MEC’s governance is aided by an advisory board consisting of the director of MBS (the chair of the board), the Head of the IMP Division, representatives of the university’s four faculties, UM’s Vice President for Economic Development and Innovation, and UM’s Vice President for Research and Engagement (in an ex officio capacity). Therefore, MEC is line managed at the sub-school level but the advisory board provides a mechanism for addressing its historically university-wide remit.

MEC currently has a staff of twelve, including a non-academic executive director, five professional and administrative staff (two of whom also teach), six lecturers with teaching-focused appointments, one lecturer with a research and teaching appointment, and several very loosely affiliated research-focused faculty members. Although its teaching-focused faculty are expected to conduct some research or knowledge transfer as part of their duties and for their own professional advancement, MEC does not have a significant academic research programme. Its non-teaching activities mainly consist of holding yearly on-campus venture competitions, hosting an annual conference on entrepreneurship designed for graduate students in all fields, and undertaking a variety of informal networking and partnering activities with stakeholders on and off campus.

3.1 Evolution

MEC has transitioned from its inception as grant-funded entity without an on-going revenue stream and facing the need to develop programmes from the ground up to a successful teaching centre fuelled by a stable source of student fee income, a share of HEIF funding, and occasional project grants and contracts. MEC has put considerable effort into developing its suite of course offerings, which are tailored to deliver a logical sequence of entrepreneurship education content. Unlike some university entrepreneurship centres, MEC is not

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7 Staff members in teaching-focused appointments at UM are expected to spend 20 per cent of their time in research and creative activity, as compared to 40 per cent for traditional academic appointments. In addition, it is usually assumed that the research and creative activity of teaching-focused staff will address teaching philosophy, pedagogy, and methods, and/or knowledge transfer.
simply an umbrella and broker for entrepreneurship-related courses around the
campus. MEC contributes to the mission of its parent entity—the Manchester
Business School—by providing a vehicle for the extension of business and
management teaching into non-business fields in the university, at least with
respect to entrepreneurship-related content, and by spearheading MBS’ teaching
contribution to the larger university’s strategic goal of enhancing enterprise.
Organisationally, MEC stands as an entrepreneurship education partner
alongside the university’s technology commercialisation infrastructure and
portfolio of scholarly research in entrepreneurship conducted by individual
faculty members. What such partnerships mean in practice remains a work in
progress, however.

The evolution of entrepreneurship education at Manchester diverged
somewhat from the plans and rhetoric expressed by the university partners at
MEC’s founding, when a vision of MEC with a broad remit that extended
tangibly into the commercialisation arena was laid out. At its launch event,
UMIST Chancellor Professor Sir Roland Smith declared that the centre would
be “an enabling body—promoting the learning and practice of enterprise and the
exploitation of our intellectual property” and that the aim was “to create an
internationally renowned centre of excellence [in] Manchester, to study and
understand enterprise and to stimulate entrepreneurial activity so that the region
will be known throughout the world as a centre for technology transfer at the
forefront of knowledge” (MSEC 2000a, p. 1-2). The centre’s first business plan
called for it to establish entrepreneurship education programmes for both
students and would-be academic entrepreneurs (professors and staff researchers,
particularly bench scientists with the greatest potential to generate innovations
and technologies with commercial potential), professional training programmes
for aspiring entrepreneurs in the area business community, and a scholarly
research agenda around enterprise (MSEC 2000b). The latter would be led by a
professor of entrepreneurship based in the centre. In fact, an entrepreneurship
professor appointment that brought an internationally renowned
entrepreneurship scholar to the university was made shortly before launch.
MEC was off to a fast start.

Operationalising specific connections between MEC and the
commercialisation activities of the university proved easier said than done,
however, as did developing a corpus of entrepreneurship research. Certainly
MEC was loosely affiliated with the separate technology commercialisation
offices of Victoria University of Manchester and UMIST before the universities
merged and is now so affiliated with the University of Manchester Innovation
Group, UMI³, the I-cubed moniker referencing the university’s goals to inspire,
invent, and innovate. UMI³ is a consortium and centralized professional support
services provider to the merged university’s incubator organisation (University Manchester Incubator Centre, or UMIC) and intellectual property commercialisation office (University of Manchester Intellectual Property, or UMIP). UMI3 was established in late 2011 to better integrate the efforts of UMIC and UMIP around the broader agenda of commercialisation and technology transfer. UMI3’s major integrative strategy is an Enterprise Forum, which aims to “unite the external community, whose interests lie in entrepreneurship and innovation, with the University’s academic/research community through a series of workshops, seminars and events.”

The Enterprise Forum sounds much like an activity MEC might have been expected to undertake as it was conceived in 2000. At present, MEC does not have a significant commercial engagement effort, in part because of uncertainty about what role it is best suited to play in the Business School and broader campus.

In the area of research, MEC has articulated a set of broad themes it sees as important to advancing its work. However, because there is no longer a professor of entrepreneurship appointed in MEC, and because the majority of MEC staff hold teaching-focused appointments, the Centre does not have the resources and expertise currently to pursue a goal of becoming an internationally renowned centre in the study of entrepreneurship.

3.2 A Shift in Focus

There are several reasons why MEC’s focus shifted ever more heavily into on-campus undergraduate and post-graduate teaching and away from the kinds of commercial engagement activities epitomised by UMI3’s Enterprise Forum or research in entrepreneurship as conceived in its original business plan. Those reasons provide insights into why entrepreneurship education, entrepreneurship research, and “entrepreneurial university” functions (commercialisation and commodification activities) remain as silos on many university campuses despite the calls of scholars and policy makers for greater integration (e.g., Guenther and Wagner 2008; PACEC 2009). In turn, they suggest ways those silos might be broken down if universities committed themselves to doing so.

Among the most important reasons is that MEC has been shaped profoundly by an overriding objective to secure a base level of funding to sustain its activities. Universities and business schools sometimes develop entrepreneurship education programmes as one among several strategic responses to a shifting fiscal and political environment (Laukkanen 2000). Universities are being called upon to demonstrate their contributions to job creation while at the same time facing a need to broaden their revenue sources. Cultivating entrepreneurs is one way to meet both needs, along with efforts in

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8 See http://www.umi3.co.uk/enterprise.htm.
the areas of commercialisation and commodification (Jacob, Lundqvist et al. 2003). Although that may be part of the story behind the decisions of UMIST and Victoria University to create MEC, initially the two partner universities relied heavily on a national government initiative because it promised substantial external resources. That obviated the need to dedicate significant initial internal funding; they needed only provide indirect support in facilities and services. The national government’s intention was that universities receiving SEC support would find a way to achieve financial sustainability for enterprise programmes. The universities, in turn, viewed achieving financial sustainability as one of MEC’s chief concerns.

MEC set out to achieve resource sustainability in two ways: by remaining flexible and responsive to other national enterprise-related initiatives that presented opportunities to win more grants and by prioritizing on-campus accredited undergraduate and post-graduate courses and modules that would generate stable tuition fee or fee-transfer income. That had two important implications. On the one hand, MEC sometimes involved itself in initiatives that were not well-aligned with the entrepreneurship agenda laid out in its founding, in part to tap grant revenue and in part to maintain its involvement in general university efforts around entrepreneurship and commercial engagement. On the other hand, MEC was anxious to protect the quality of its educational programmes since they drove the most secure revenue source. That inevitably meant that it could not always commit fully to special projects. For a small organisation, pursuing special projects grant by grant and building new education programmes do not always dovetail with one another; new grant-funded initiatives often require the devotion of staff effort to meeting implementation and performance monitoring requirements that detract from, rather than leverage or enrich, teaching programmes.

Initially, from the perspective of survival, it made some sense for the organisation to couple opportunism in grantsmanship with a focus on establishing and protecting a flow of tuition revenue. However, as the number of students on its teaching programmes expanded, MEC naturally shifted its resources and energy toward satisfying and growing that student demand. In turn, that reduced the organisation’s incentive to develop a more comprehensive strategy for linking entrepreneurship education, entrepreneurship research, and commercial engagement. Gradually concerns over such linkages receded into the background, especially as other university entities such as UMIP and UMIC formalized and expanded their functions. A general approach to entrepreneurship education and the entrepreneurial university as a division of labour among organisations focused in different spheres—the seeds of a silo
approach, in essence—found its origins in the default financial model the partner universities chose to adopt for MEC from the start.

Yet, in some sense, the financial considerations around the formation of an entrepreneurship education agenda at Manchester are only an indicator of a more fundamental issue. When UMIST and Victoria University joined forces to pursue SEC funding to establish an enterprise centre, certainly they embraced the view that building entrepreneurship education into their missions had inherent value. However, the imperative of responding to the SEC programme also effectively substituted for a need to develop an independent university-level entrepreneurship education strategy from first principles. For reasons noted above, in subsequent years, MEC, along with a shifting mix of university partners, applied for and received a series of grants to implement selected initiatives driven by the UK government’s enterprise agenda. Under those circumstances, MEC’s strategic perspective was naturally oriented toward meeting the goals of national funding agencies rather than any explicit internal university strategy. In fact, it would be fair to say that there really has been no explicit university strategy for entrepreneurship education at Manchester beyond MEC, and MEC itself is ultimately a creature of a very general central government vision of the role and importance of enterprise in higher education. It is notable that in the University of Manchester’s 2011/12 strategic planning document, entrepreneurship and enterprise skills training is mentioned very briefly, but it is in reference to the Manchester Leadership Programme rather than MEC (UM 2011, p. 10).

After the merger, the new university had to bring together two sets of technology commercialisation and technology transfer functions, first in UMIP and UMIC, and then in UMI3 as a consortium of those two entities. It was recognized that clarifying MEC’s position and role within the university’s broader Third Mission agenda could have considerable value. MEC’s relocation to within Manchester Business School (MBS) reflected MBS’ general aspirations in entrepreneurship and business engagement, and was certainly consistent with the prevailing trend in Europe and the United States to situate entrepreneurship education in business schools. MBS inherited MEC’s well-established teaching programmes but also its sense of uncertainty about how best to contribute in the areas of entrepreneurship research and commercial engagement. Since the new business school itself had not yet developed a specific strategy for how it wished to incorporate entrepreneurship education into its existing curricula or how enterprise might form part of its own external engagement and research missions, it has looked to MEC to help shape that strategy. That appears to make sense on its face, since entrepreneurship constitutes MEC’s expertise. Yet MEC’s evolution in terms of mission,
structure and staffing means that it is not in a strong position to shape a wider business school agenda.

To some members of faculty in Manchester Business School, which aspires to be a world leader in research and also aggressively engage with entrepreneurs and corporate leaders, especially in greater Manchester and northern England, MEC’s central mission of on-campus interdisciplinary teaching is perceived as somewhat pedestrian, a version of “business-light” or “mini-MBA” education. For its part, MEC believes it is satisfying, on the behalf of the business school, an important university-level strategic goal of embedding entrepreneurship in the Manchester student experience. The result is a kind of impasse; each organisation’s view of how best to strengthen and expand the school’s entrepreneurship and engagement activities differs significantly. It is easiest to see this by considering how MEC’s activities have evolved with respect to the two traditional missions of the modern research university: teaching and research.

3.3 MEC and Enterprise Teaching

MEC’s original teaching mission was to strengthen an understanding of entrepreneurship, and to encourage entrepreneurial behaviour, among students in the science and engineering disciplines. Much as Hynes and Richardson (2007) suggest, initially it sought to do that by identifying and recruiting mentors from among entrepreneurs in the region and tapping professors and lecturers from among its partner universities (MSEC 2000b). Opportunities to teach courses, workshops, and seminars were also seen as a potential means of drawing in external stakeholders like small business owners and specialist real-world experts in technology transfer, finance, and business strategy. The Centre’s professor of entrepreneurship was also expected to deliver entrepreneurship teaching.

MEC struggled with the model early on. Although area entrepreneurs and external stakeholders were often willing to offer workshops or individual lectures on a one-off basis, few were interested in the kind of sustained relationship necessary to effectively staff repeated teaching offerings in a broad but carefully sequenced curriculum. The quality of the teaching of the externals was also mixed; students often reviewed the course deliveries poorly. Here MEC’s imperative to establish stable tuition fee income via accredited courses came heavily into play. The organisation had to assure the delivery of reasonably fixed, high quality content on a routine basis if partnering disciplines were to trust it as an “outsourcing” option for their entrepreneurship training needs. The value of relying more heavily on internal instructors whose deliveries would strengthen with repeated offerings of the same material, an approach that also minimized the transactions costs of delivering sequences of
courses within the academic calendar, became evident. However, many university faculty members with research expertise in entrepreneurship are most comfortable teaching about entrepreneurship in historical, theoretical, and conceptual terms and are not particularly well suited to delivering courses in the “how to” of vetting ideas and creating new ventures. Moreover, those faculty members conducting research about entrepreneurship are typically based in the business and social sciences disciplines. Only a few possess the cases, examples, and practical experiences to readily connect with students in engineering, physical sciences, and life sciences whose interests in entrepreneurship fundamentally are instrumental rather than substantive.

MEC’s response was to cultivate its own corps of instructors. It set up an Enterprise Fellowship Programme that provided funding for graduate students to attend classes in the Master of Enterprise programme; take university-offered short courses in teaching skills, pedagogy, technologies; and generally participate in the activities of the Centre. Upon completion of the programme, participants were given the opportunity to apply for lectureships in MEC. In fact, several former and current MEC staff members were Enterprise Fellows. In this way, MEC was able to build stable teaching capacity tailored to its particular model of entrepreneurship education. That worked well in the context of its teaching-focused mission and financial model, but it also distanced the organisation from both research and commercial engagement as traditionally conceived in the university. It meant also that the majority of its members of staff do not have a strong academic research background or orientation, that there are only loose ties between researchers elsewhere in the university and MEC, and that external stakeholders like small firm owners or entrepreneurs are not core to the bulk of MEC’s teaching. On the other hand, permanent lecturers with a teaching focus often draw in external experts as guests and small firms as project cases, creating scope for the kinds of synergistic learning advocated by many entrepreneurship education scholars (Smith, Collins et al. 2006).

3.4 MEC and Entrepreneurship Research

As noted above, MEC’s founding mission called for it to be a centre of excellence in the study of entrepreneurship. This dimension of its activities was expected to be shaped and led by its appointed professor of entrepreneurship, who was a noted scholar in the characteristics and behaviours of entrepreneurs. Yet efforts to build a research programme never materialised in a significant way, in large measure because the scholarly agenda of the entrepreneurship professor did not align with the practical teaching mission of the Centre. The source of the problem might be traced to differences in perspectives and personalities among the individuals involved. Certainly that was part of the issue. However, building a scholarly research agenda that draws advantage
from the undertaking of practical entrepreneurship teaching is not an obvious task. Shane and Venkataraman (2000, p. 218) define entrepreneurship research as “the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited.” They stress that entrepreneurship as an area of enquiry is neither simply a research setting—the study of small firms, new firms, or new firm founders—nor a teaching application. This notion of entrepreneurship research is quite distinct from the kind of scholarship that would seem to align with an entrepreneurship education organisation, namely research on approaches to, and impacts of, entrepreneurship teaching (e.g., Lee, Chang et al. 2005; Matlay 2005; Fayolle, Gailly et al. 2006; Matlay 2006b; Oosterbeek, van Praag et al. 2010; von Graevenitz, Harhoff et al. 2010). On the other hand, one could envision ways that the teaching of entrepreneurship might serve as a laboratory for scholars inclined to study entrepreneurial behaviour, entrepreneurial opportunity capture, and other foci of traditional entrepreneurship research.

3.5 A Crossroads

As of this writing, MEC and MBS have reached a strategic crossroads. There is clearly a need to reconsider from first principles the role of entrepreneurship in the school, alongside the larger question of where the business school can best contribute to the university’s commercial engagement agenda. Laying out an entrepreneurship strategy for the school that firmly embeds entrepreneurship education—which is effectively what MEC currently represents—would not seem an impossible task. Indeed, there would appear to be many opportunities to align entrepreneurship education in ways that both draw on and leverage the school’s activities in traditional management teaching, business research, and external engagement. However, the experience at Manchester suggests the challenge may be greater than it first appears. The expertise and background of MEC’s enterprise teaching staff are, in many ways, considerably different than those of traditional business school faculty; the research activities that MEC might best undertake are not self-evident and attempts to chart a course in scholarship have stalled once already; and the best ways MEC might link to the university’s commercial engagement and technology transfer missions remain to be worked out. The picture is one of considerable strength on which to build, but much building remains to be done.

4. Discussion

What are the major lessons one can draw from the Manchester case regarding the prospect of fruitfully aligning entrepreneurship education and the commercial engagement component of universities’ Third Mission? In posing this question, the presumption is that the Manchester experience is at least
somewhat emblematic of the evolution of enterprise and Third Mission initiatives at other universities.

First, one unintended legacy of the Science Enterprise Challenge initiative and follow-on programmes that supported the development of entrepreneurship education in the UK may have been to slow the development of tangible, self-driven university-level strategies for entrepreneurship. Rumelt (2011) defines the “kernel” of good strategy as consisting of a diagnosis that characterizes a challenge or opportunity, a guiding policy that frames general principles for selecting actions to address the challenge or capture the opportunity, and a set of consistent and coordinated actions. A strategy does not necessarily require a strategic plan as conventionally understood, but it should be articulated in clear and explicit terms both if it is to serve as a guide to policy and action as well as be subjected to evaluation, reconsideration, and adjustment. By this standard, there was some strategic thinking that guided the development of MEC (in its original business plan, annual report updates, and strategic plans) but there was very little strategy for how MEC was to be situated in the larger Third Mission agenda of the university. In other words, there was a plan that facilitated the winning of SEC grant funds and provided criteria for performance and evaluation of MEC as an organisation, but that plan was shaped by government in large measure. Likewise, within the Manchester Business School, a school-level strategy for the field of entrepreneurship remains to be defined. For example, entrepreneurship teaching of the kind MEC delivers does not figure explicitly in MBS’ current strategic plan. Thus, the Manchester case may be an example of the challenge of firmly embedding an initiative catalysed with external resources into a broader institutional strategy. Certainly the pattern of research and other kinds of centres languishing or disappearing after external funding is exhausted is common in academia. MEC has avoided that fate, a testimony to its resourcefulness and the general campus and business school commitments to its programmes. However, MEC also needs to nest itself in strategies for entrepreneurship and engagement that are specified at levels beyond its control, namely MBS and the university. Those strategies are still under development.

Second, the question of the sustainability of entrepreneurship education programmes on university campuses is itself complicated. MEC regards itself as self-sustaining; in essence, a success story when juxtaposed against several other similar centres established around the UK with SEC funds which are now defunct. However, from the perspective of the University of Manchester, the bulk of MEC’s revenue is a transfer. Students mostly in sciences and engineering disciplines take MEC courses and a portion of their fees accrue back to MEC. The kinds of programmes that might draw external fees into the
campus, things like executive education or fundraising to solicit corporate
donations or contributions, are a very small part of MEC’s activities, in large
measure because MEC must concentrate on generating fee income transfers. In
some sense, then, MEC’s focus on general entrepreneurship teaching in
traditional classroom settings is the university’s entrepreneurship education
strategy. A different model for MEC, one that involved greater involvement in
research and engagement, would necessitate either the university or business
school providing the necessary funding to justify the diversion of MEC staff
effort from mainline on-campus teaching. Again, the issue comes back to how
the entrepreneurship and commercial engagement missions are defined above
the level of MEC itself.

Third, calls in the scholarly literature for the involvement of high level local
entrepreneurs and business people as teachers in entrepreneurship education
courses ignore the challenge such a model poses for operating comprehensive
entrepreneurship education curricula in a cost-effective way on a routine basis.
Likewise, the notion that entrepreneurship education programmes can draw
mostly on traditional university faculty members across multiple disciplines to
offer courses is overly optimistic. Establishing long-term relationships with
external instructors can be very difficult, especially when those instructors are
working in highly fluid and unstable industries, as entrepreneurs tend to be.
Traditional university faculty often lack the experience and background to
deliver the heavily practice-based teaching common to entrepreneurship
education. Manchester’s cultivation of its own teaching staff is one solution. It
is a model that needs to be compared to those of other universities to determine
if it is the best solution.

Fourth, the proper role of scholarly research in entrepreneurship education
remains unclear. The problem can be traced to issues of expertise and
substantive focus. Regarding expertise, the best entrepreneurship education
teachers may not be those with the disciplinary training and professional interest
to develop and maintain a scholarly research agenda around entrepreneurship.
Regarding substance, the kinds of insights that the practice of entrepreneurship
education might yield for the understanding of entrepreneurship are not self-
evident. The solution may be to assume that the research agenda of
entrepreneurship educators should be focused on the pedagogies and
technologies of entrepreneurship teaching. On the other hand, there may be
more significant opportunities to align entrepreneurship teaching,
entrepreneurship research, and research about the entrepreneurial university than
initially appears. For example, entrepreneurship educators work very closely
with students and sometimes faculty who are would-be entrepreneurs. Viewing
the undertaking of entrepreneurship teaching itself as a unique laboratory setting
for understanding entrepreneurship would grant organisations like MEC an important role in contributing observational data to support research on the behaviour, inclinations, and approaches of specific classes of entrepreneurs, namely students and university staff. Organisations like MEC would have the potential to make specific kinds of research contributions on the substance of entrepreneurship and the Third Mission, a vision that broadens the research scope of specialised entrepreneurship educators modestly beyond the study of alternative learning models and pedagogy. Clearly, more thinking is needed on the potential synergies among different areas of entrepreneurship and entrepreneurship education research, but there may be more opportunities to mutually leverage the entrepreneurship teaching and research agendas of entrepreneurial universities than first meets the eye.

5. Conclusion
Many research-intensive universities are seeking to develop proactive commercialisation, commodification, and commercial engagement strategies to replace ad hoc efforts driven by the individual initiatives of researchers and their networks. Together, commercialisation and commodification may be seen as selected components of universities’ broader “Third Mission” to contribute to the development of their home regions by strengthening their engagement with the public, private, and third sectors. Entrepreneurship education programmes have tended to develop in parallel to such “entrepreneurial university” initiatives, rather than in intentional alignment with them. This is reflected in the research literature as well, where the analysis of the entrepreneurial university and studies of entrepreneurship education have almost no overlap. Drawing on a case study of the University of Manchester, this paper identifies several issues related to resources, research emphasis and expertise, and pedagogical approach that must be addressed to properly integrate entrepreneurship education and entrepreneurial university strategies. Since findings are based on a single case, the issues identified constitute hypotheses worthy of further study.

6. References


