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# 'Physics Envy', cognitive legitimacy or practical relevance: dilemmas in the evolution of management research in the UK

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# 'Physics Envy', Cognitive Legitimacy or Practical Relevance:

# Dilemmas in the Evolution of Management Research in the UK.

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## **Abstract:**

We reflect on the key debates and controversies that face business schools and management research. This paper frames the core debates in terms of organisational legitimacy as a lens through which to analyse the rapid rise and development of business schools in the UK. The production of management knowledge straddles the precarious divide between academic rigour and practical relevance. We argue that the conflicting sources of legitimacy could be undermining the international research competitiveness of UK schools and that a far-reaching review of management education and research is necessary.

## Introduction:

A quarter of a century is a landmark occasion and certainly one for celebration. As part of this special issue to celebrate twenty five years of the British Journal of Management we take the opportunity to reflect on the evolution, quality and reputation and research performance of business schools in the UK. We explore this through the lens of legitimacy, arguing that business schools face increasing ambiguity and conflict concerning their legitimate form and function. Specifically, this paper addresses management research and interrogates to what extent the current discipline-based research model is both suitable and sustainable for UK business schools.

There is no shortage of debate and controversy surrounding business schools. Specifically, there is a growing body of literature and commentary that addresses allegations of failure (Bennis and O'Toole, 2005; Bones, 2009), knowledge creation (Chia and Holt, 2008; Tranfield and Starkey, 1998), issues of pedagogy (Antonacopoulou, 2010; Grey, 2004; Jarzabkowski and Whittington, 2008), the history and origins of management education (Grey, 2010; Antunes and Thomas, 2007) as well as ideology, purpose and leadership (Davies and Thomas, 2009; Fragueiro and Thomas, 2011). The waves of financial crises, scandals and controversy have sharpened the focus on business schools and their relationship with management in general. And within universities business schools are valued more for their financial strength than their intellectual scholarship (Bok, 2003), in strategic terms, 'cash cows' for universities (Starkey and Tiratsoo, 2007). Business schools also have been much maligned in the press which implicates management education as a contributory agent in the recent financial crisis. Equally, the financial crisis has intensified debate among scholars about the role and purpose of business schools (see: Currie, Knights and Starkey, 2010). For other authors too, the financial crisis signalled a need to reappraise the role of business schools and the kinds of mangers and management practice they are producing (Podolny, 2009; Starkey and Tempest, 2009). These issues all stand out as core debates connected with the role of business schools. We do not provide coverage of all of these, often highly nuanced, debates here. Instead, and taking stock of these emerging debates, we review the role and purpose of business schools with regard to management research and management education. We employ the term 'physics-envy' coined by Barwise (The Economist, 2007) to describe the dominant theory driven, discipline-based research

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mode found in management research and its currency in establishing management as a legitimate academic discipline.

The business school, as a constituent of the university system, is a relatively recent

## **Emergence and growth of UK business schools**

phenomenon and while we often think of business schools as a broadly American innovation, the inclusion of business and management knowledge as part of higher education began in Europe with various models of trade or vocational commercial schools. However, the initial phases that saw business schools emerge as significant constituents within universities began in the late 1950s and early 1960s. The Ford and Carnegie reports in the US (see: Bennis and O'Toole, 2005) set in place a model for management research and education founded upon rigorous, discipline-led scholarship with a strong focus on analytic models and reductionism. In the UK, a similar landmark event was the publication of Lord Franks' report (1964) which stressed the national importance of improving the quality of management education (Williams, 2010). It was this report that led to the establishment of two university-based business schools in London and Manchester in 1965. Created as semi-autonomous university departments, the two schools were designed with curricula modelled on the provision of US-style MBA programs offered by American elite schools (e.g. Harvard, Chicago, and Massachusetts Institute of Technology), the net effect being: "...the development of business schools towards a research and discipline-led focus with an emphasis on scientific method, research and knowledge creation and a strong focus on graduate education in business" (Antunes and Thomas, 2007, p.384). Engwall and Danell (this issue) chart the development of UK business schools in far greater detail than is possible here (see also: Fragueiro and Thomas, 2011; Williams, 2010).

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A pronounced characteristic of the evolution of management education is its phenomenal expansion, a feature which has made business schools a business in their own right (Starkey and Tiratsoo, 2007). The sheer scale of management education in the UK pays testament to the growth management education has experienced over a relatively short period: For example, for the academic year 1997-8 there were 222,840 students (full-time, part-time and across all degree levels) studying business and management in UK higher education institutions (Higher Education Statistics Agency, 1999), by 2008-9 the sector catered for 330,255 business and management students (Higher Education Statistics Agency, 2010). Furthermore, the latter figure represents nearly 14% of the entire student body for the same period meaning that management and business subjects hold the greatest proportion of students for any higher education subject area [note: the recent publication by the Association of Business Schools on the role of business schools provides in-depth commentary of the growth of the field (see: Cooke and Galt, 2010)]. The scale and continued growth of management education is remarkable and something that has not been paralleled across other academic disciplines. In the period since the Franks report, UK business schools have faced major challenges from both their rapid growth and being accepted as a legitimate interface

between management theory and practice. First, there was the challenge of building

a business school faculty of those who would teach and research the multifaceted

academics. Initially departments were led by academics trained in single discipline

UK schools (for example, economists) or from US doctoral programmes in business;

it would take years before business school faculty began to emerge from UK doctoral

programmes. Leading up to the inception of BAM it was recognised that research

area of management without an adequate supply of business and management

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capacity was limited and management research lacked any overarching coordination to firmly establish management as a discipline. A feature that compounded this problem and stifled the development of the discipline was the lack of research funding. Despite the extraordinary growth of business schools, management academics represented 30-40% of social sciences faculties, yet attracted only 10% of Economic and Social Research Council (ESRC) funding. As McKiernan and Masrani reflect in their history of BAM (2007, p. 2), the discipline of management faced issues of "...Labour supply, funding restrictions and flows, research prominence and exposure, and limited journal outlets created sufficient pressure in the UK system for the formation of a separate national academy of management." The need to establish a national academy (BAM) in 1986 paralleling the US Academy of Management and latterly the Advanced Institute of Management (AIM) as an umbrella research organisation for management funded by the ESRC in 2002 can be seen in the context of a crisis of legitimacy for business schools. This signalled the problem of addressing appropriate unified representation of the field at the national level (McKiernan and Masrani, 2007). The following sections address the concept of legitimacy and the research challenges it poses for business schools.

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## **Business schools and the need for legitimacy**

Business schools are fairly recent incumbents in the sphere of academe and have grown at an extremely rapid rate, some examples holding as many staff as an entire university faculty. Despite this impressive level of growth, business schools have attracted wide criticism with critics located within business schools and the broad academic community, management practitioners, the press and media. For each of these stakeholders, business schools are not regarded as fully legitimate organisations. This is problematic given that "Legitimacy is a generalized perception

or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Legitimacy enables organisations to appear appropriate and desirable, and consequently increase the likelihood of securing resources (Parsons, 1960). It also conveys a platform for how organisations are understood, meaning they are not only worthy in the Parsonian sense, but are trustworthy on the basis that there is a rationale explaining what the organisation is doing and why (Jepperson, 1991). Consequently, any gap in the social construction of organisational legitimacy could have negative effects: "A legitimacy deficit may mean that an organisation is susceptible to claims that it is negligent, irrational or (at least in its current form) unnecessary." (Sillince and Brown, 2009, p. 1830). Rather than an all-out legitimacy deficit, the criticisms of business schools signal more that there are areas of ambiguity, conflict and uncertainty around their legitimate form. Where there are conflicting sources of legitimacy, there is amplified scope for innovative responses where organisations and individuals shape their institutional environment (Zucker, 1987, p. 451): "...organisations may seek legitimation of their activities through active control or shaping of the institutional environment (Pfeffer and Salancik, 1978, chpt. 8; Dowling and Pfeffer, 1976) in order to gain access to societal resources, thus ensuring their long-term survival (Scott and Meyer 1983)." These institutional entrepreneurs engage in actively shaping 'the rules of the game' to change the institutional order: For example, Czarniawska (2009) has argued that the role of institutional entrepreneurs was essential in the development of the London School of Economics who safeguarded and maintained capital and social resources to ensure its survival.

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Among business schools we argue that there are key sources of legitimacy which act as reference points to structure themselves and their relationships within the organisational field (Fiegenbaum and Thomas, 1995; Porac, Thomas and Baden-Fuller, 2011). The interface between the organisational field and the global population of business schools provides material and cognitive cues for legitimate action. However, as our introductory paragraphs explained, there is tension about the legitimate role and purpose of business schools.

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To help identifiy sources of legitimacy for business schools we examine their history and development alongside key reference points and relationships within their field. We extend Antunes and Thomas' (2007) social constructivist perspective on the evolution of business schools to include sources of legitimacy in each phase of development:

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Table 1 here

The multiple sources of legitimacy begin to explain contrasting organisational responses by business schools to their institutional setting. For example, national differences between business schools, the emergence of strategic groups among both business schools (Thomas and Li, 2009) and MBA programmes (Segev, Raveh and Farjoun, 1999) indicate some of the organisational efforts to gain legitimacy in order to secure resources and their long term survival. The capability of business schools to shape what *is*, and processes of *being*, legitimate are deeply entrenched in their history and evolution as part of the university system. A legacy of the '3<sup>rd</sup> generation' (as characterised in Table 1) is the core activity of research production and the legitimating performance measures that stem from this including citation

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measures, international ranking, national audits and accreditation standards. This is in stark contrast to the 1<sup>st</sup> generation schools seen in the first row of table 1, where business schools provided administrative and commercial training for the thenemerging occupational class of managers.

Why is legitimacy important to business schools? First, an organisation must have (or appear to have) legitimacy for its long-term survival. The evolution of the business school illustrates how, in order to integrate and survive as part of the university system, an intense and rigorous approach to management education was adopted. But, as Schoemaker (2008) stresses, the paradigm 'with its strong focus on analytic models and reductionism is not well suited to handle the ambiguity and high rate of change facing many industries today'. Secondly, there are ramifications for performance. There is growing evidence that university research serves increasingly as a commodity product, which is disjointed from the liberal pursuit of knowledge, a principle on which universities were founded (Willmott, 1995), and from the needs of managers to solve management problems. Indeed, the extent to which business schools compete for the highest rankings, the best cadre of students and faculty, the greatest number of citations in the highest impact journals and secure the largest possible slice of research funding suggests that schools exist in an era of 'hyper-competition' (Starkey and Tiratsoo, 2007). This presents a serious problem of maintaining organisational legitimacy. On the one hand business schools are to provide rigorous and scientific understanding of management to satisfy the needs of academe, while on the other to provide relevant findings from research and improve management skills through teaching. It is this juxtaposition that is central to our questioning whether the 'physics envy' approach to management research is desirable and sustainable for UK business schools. In the following sections we

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comment on the UK landscape of management research and emphasise the competing sources of legitimacy from practical relevance and academic rigour. Finally, we examine the implications for UK business schools of systematic accreditation and rankings. We suggest that national systems of ranking and performance assessment may impede – rather than enhance - the performance of UK schools as internationally competitive business schools.

## The UK Landscape of Management Research:

In the spirit of Lord Franks report (and the Carnegie and Ford reports in the US), the development of a scientific, rigorous mode of enquiry and academic peer-review would raise the bar for standards in management research. At the same time, this would position business schools as the primary location for management knowledge production and would bolster their legitimacy as constituents in universities and providers of management education. The shift that saw business schools emerge within the university system in combination with a growing demand for business courses poses fundamental questions about the processes of knowledge production across the management discipline. In Tranfield and Starkey's (1998: 343) terms, much of this debate revolves around two issues, *its fragmentation and its applied nature*. The issue of fragmentation suggests that while management education is 'a broad church', there are underlying fissures between constituents. Management research includes an array of *ideologies and values* which incorporates "a wide range of ontological and epistemological views, leading to vigorous and ongoing debate within the research community" (Tranfield and Starkey, 1998, p. 347).

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In consequence, business schools occupy a precarious and controversial position at the interface between academe and management practice where, arguably, the

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needs of neither are met! Crainer and Dearlove (1998, p. 48) caricature this predicament with business schools portrayed as schizophrenic organisations that must demonstrate their capacity as bona fide academic institutions, improve knowledge to provide solutions to management problems and at the same time perform as businesses. To finesse their point, there are two sources of legitimacy with which business schools must interface: First, there is an academic component where, first and foremost, business schools must demonstrate that they have a place in academe. Historically, for business schools, this has followed a 'scientific' model, orientated towards the intensification of knowledge about and theories of management to secure a legitimate position within the university system. This has entailed the activities of scholarly publication and also developing intellectual capacity through doctoral programmes (McKiernan and Masrani, 2007) - hence the term 'physics envy' is particularly salient to describe the emulation of knowledge production by scientific disciplines. Secondly, there is a fundamental question about the purpose of management research; is management research for or about managers? The tensions between theoretical rigour and practical relevance in management research marks a potential conflict between legitimacy providers for business schools. Indeed, Bennis and O'Toole (2005) ask why 'business schools have embraced the scientific model of physicists and economists rather than the professional model of doctors and lawyers.' These positions have clear implications for what constitutes legitimate activities of a business school and, as Ivory et al. (2006) have argued, create conflicting themes in the debate about business schools. It should be acknowledged that the management education model outlined by Lord Franks was intended to provide national business leaders who would become future captains of industry while at the same time attempting to reconcile the tensions

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at the outset of integration with the university system there were concerns that the original model had been 'hijacked' by academics (Whitley, Thomas and Marceau, 1981). The tensions between practical relevance and academic rigour go to the heart of the role and purpose of business schools. As Schoemaker notes (2008, p. 119) business educators have always been prised on the horns of a dilemma pitting academic rigour against practical relevance, notwithstanding Kurt Lewin's astute observation that 'nothing is as practical as a good theory'. Table 2 emphasises the conflict between the broad range of legitimacy providers for business schools.

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# Table 2 here

That is, organisational behaviours corresponding to academic and practical concerns. We use the archetypal criticisms of business schools identified in Ivory et al. (2006) to illustrate the conflicting sources of legitimacy which are framed here as corresponding to a perceived lack of either practical relevance or academic rigour. Table 2 presents some of the point and counter-point positions that have emerged in debates around the role and purpose of business schools. Across the five areas of research, teaching, MBAs, impact for practice and output, it is clear that business schools face some fundamental tensions in their core activities. Although these five areas are very much interlinked components of business schools, our exposition and argument around the dilemmas facing management research in the UK focuses on research and impact for practice. In defence of business schools and stepping back from this caricatured divide, there is evidence to suggest that management research has produced some highly relevant and extensively used theories (cf. Table 5,

AACSB, 2007). We must, however, be careful not to assume that these started life as practicable, as opposed to theoretical, contributions to management in the first place. The fact that some management theories have been adopted in practice does not imply that they were developed to a particular recipe with immediate practical relevance. Indeed, the study by Baldridge, Floyd and Markóczy (2004) argues that academic quality and practical relevance are weakly correlated. Potentially, this suggests there may be greater currency in discussing patterns of knowledge consumption (Gabriel, 2002) as opposed to, for example, discrete measures of practical relevance. Thinking about management knowledge in terms of patterns of consumption helps override the artificial dichotomy of theory versus practice and provides a more organic conceptualisation of the interface between managers and business schools' research outputs. Two possible strategies to help manage the conflicting sources of legitimacy can potentially be found in the consumption and performance measures of management research: First, there is much work to be done to improve the context of research, the engagement with managers and uptake of research through translating findings adequately. Second, the performance measures and mechanisms of business school research need to be critically appraised with regard to whether they demonstrably enhance the state of the management discipline or management practice.

**Business schools and management research** 

The perceived imbalance between theory and practice, or rigour and relevance, in management research remains a persistent challenge to the legitimacy of business schools. However, there are particular themes and strands not often given prominence within current debates and we propose there are areas where inroads can be made into bridging the double hurdles of rigour and relevance. A theme that

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consistently surfaces is the need for practice engagement by management research as a means to span the perceived divide. However, in formulating strategies to address this problem, it is useful to know the scale of the theory-practice divide. Evidence from McGrath (2007, p. 1372) suggests there is a considerable gap between key issues on managers' minds (which she derived from the most frequently asked questions at the 2007 conference "The CEO Agenda" with delegates from more than 100 CEOs of the world's largest firms) and the topics of papers published throughout the 2006 volume of the Academy of Management Journal. As a crude measure, this signals a distant relationship between theory and practice.

Potential solutions to this problem come from practice engaged research and broad reform of the role and purpose of business schools. Examples of some of the approaches to practice engaged research are shown in table 3.

# Table 3 here

The strategies for practice engagement in table 3 indicate the extent of debate that surrounds the practical, as opposed to academic, value of management research. What broadly unites these strategies is what McGrath describes as a shift to building a scholarly understanding of phenomena ahead of building and testing theory. Broad reform of management research is one approach to improving practice engagement. Other commentators suggest that business schools are in need of radical reform to not only address the problem of practice engagement, but to redefine their purpose. Alternative models have been suggested for redefining and strengthening the perceived legitimacy of business schools in the eyes of management practitioners and other stakeholders. For example, 'Agora' – an open

platform for discussion and development (Starkey and Tiratsoo, 2007), schools in the professional model (Bennis and O'Toole, 2005; Khurana, 2007; Khurana and Nohria, 2008; Mintzberg, 2004), or business schools in a societally integrated, public interest model (Ferlie, McGivern and De Moraes, 2010) have been proposed as alternatives to the incumbent scientific-academic model.

Clearly, developing practice engagement is an important remedial step whether it is through how we conduct management research or redefining the role of business schools. However, a crucial sticking point is in the paucity of our synthesis of the voice of practice. The voice of practice is predominately an internally driven monologue within the academic community. The voice of practice is, in essence, lost. Often, benchmarks and metrics for engagement with practice are internally derived and we also rely on proxy measures such as media coverage to signal successful engagement with practitioners. In this scenario, management theory exists inside of business schools and management practice occurs out there in the world of business – two distinctly separate arenas. As the authors have previously argued: "Taken to its logical conclusion, what practice is and where practice happens is often at the disposal of the researcher" (Thomas and Wilson, 2009, p. 678). Without *finding* the voice of practice, the activity of practice engagement is reduced to a bounded process by researchers of devising and solving managerial problems, from which the voice of practice is absent. If we consider this against the sources of organisational legitimacy for business schools there are barriers to moving towards

Of course, business schools like any other institutionalised organisational form are subject to institutionally mediated, and expected legitimate behaviours, which are powerful pressures for continuity rather than change. (See Wilson and McKiernan

practice engaged modes of management research.

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rewards to both faculty and school from publication in A-list, theoretically rigorous journals. In consequence, business schools do not have the facility to switch freely, for example, to a 'professional' model of management education because the associated changes would compromise the legitimacy of the school. This does not detract from the utility these debates bring to the business school debate and helping to improve management education, rather it underlines the strategic importance of engaging in legitimate behaviour. These expected, legitimate behaviours are significant barriers to change found in the systems of homogeneity, standardization and reward that persist in the architecture of accreditation, citation counts and school rankings. Legitimacy is conferred because of their ability to infer a level of scholarly performance against which to measure performance and to compare against other schools. What are the key metrics and measures of performance for business schools and how, if at all, do they confer legitimacy (Barreto and Baden-Fuller, 2006)? Thomas (2007) suggests from a managerial perspective that there should be financial, operational and organisational effectiveness measures of performance. Given financial stability, he argues that the scholarly dimension should include internal measures of faculty, student and teaching quality and external measures of positioning such as reputational rankings (league tables), research rankings and accreditation.

(this issue). Incentives to locate the voice of practice are overpowered by the

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# **Quality control? Rankings, accreditation and business schools.**

An enduring legacy of the Franks report in the UK (and the Carnegie/Ford reports in the US) is the ongoing issue of cognitive legitimacy for management educators. In the process of establishing themselves as constituents of the university system, business schools had to meet the challenge of *gaining cognitive legitimacy through* 

claims of scientific rigour and objectivity (Khurana, 2007, p. 68) and to some extent this challenge is deeply embedded in systems of ranking and accreditation (Wedlin,

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2011). Our intention here is to examine the consequences of various systems of ranking and accreditation for the organisational legitimacy of business schools; there is not the scope to have elicited the politics or procedure of the various rankings.

Research output is a dominant performance metric for business schools. This is the case whether ranking occurs as part of comparisons in the media or national audits of university performance such as the research assessment exercises in the UK. High-profile media rankings in the UK include, for example, the Financial Times and the Times Good University Guide, which incorporates research output along with other measures as a component of their ranking. Other ranking factors used particularly in media rankings such as the FT (Financial Times) Global MBA rankings, include the average increase in salary of alumni, career progress, alumni recommendations, teaching quality and the international mix of staff and students. Research ranking is also conducted at a national level. In the UK the Research Excellence Framework (REF) succeeds the former national Research Assessment Exercise (RAE) as a means of benchmarking the performance of universities and for the future allocation of funding. Wilson and McKiernan (this issue) are able to dissect more comprehensively the problematic nature of national research rankings.

The culture of measurement and benchmarking business school research output leads to a mechanism for allocating resources, both economic and social capital.

The 'commodification' of research (and academic work) introduces quasi-market conditions creating intense pressure to produce the highest quality research (Willmott, 1995). Correspondingly, there is considerable debate about what citation counts actually tell us. Mangematin and Baden-Fuller (2008, p. 120) argue that

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research impact should be measured in terms of citations "which is the 'democratic' vote of the scientific community[...] Our approach is common with widely accepted practices in other fields". However, Wensley (2009) argues that citation measures indicate a cloistered 'academic relevance' to our own discipline rather than academic rigour due to the limited subset of journals that are counted typically so called A-list top rated publication outlets. Further, journals are in turn a subset of management knowledge generated by business schools - it has been argued that much of the seminal work and high impact in management comes from non A-list journal publications (Rynes, 2006; Pfeffer, 2007) and books/monographs. For example, it was through books that Penrose's resource-based view and Porter's competitive strategy models emerged in the field of strategic management. This 'tyranny of the rankings' (Khurana, 2007) poses difficult questions about the purpose of business schools and the effect on management research. That is, there is the potential dilemma between what is expected from management research and what yields economic and social reward for business schools. The danger lies where impact and citation scores become the central criterion for assessment of quality and reward in business schools. Put another way, "[r]ather than genuinely fostering relevant knowledge, the emphasis on ranking seems to be driven by a desire to identify winners and losers in a game of academic prestige" (Adler and Harzing, 2009, p.

There is also a question of conflict or congruence between national and international rankings. For example, does elite status in national ranking performance translate into improved international standing? The University of Texas at Dallas world research ranking includes only one UK business school, London Business School, in the top 100 business schools based on research contribution. (see Table 4)

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Further evidence on this point is provided in the Table 5 below which is derived and adapted from an extensive global survey of the research rankings of business schools based on research publications and citation measures for the period 1992 – 2005 (Mangematin and Baden-Fuller, 2008).

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Table 5 provides a listing of some of the top 120 schools in their survey (US schools are omitted since around 70% of the top 120 are US based and therefore dominate the rankings) based upon four regions, namely the UK, Canada, Europe and Asia/Australia. Three rankings are given, namely, first, the Mangematin and Baden-Fuller (2008) global rankings; the Research Rankings derived from the Financial Times Global Surveys and, third, the research rankings derived from the University of Texas at Dallas world research rankings survey.

Broadly, the results in Table 5 demonstrate clearly that the globalisation and growth of management education has led to the evolution of high-quality, research oriented schools in Europe, Asia/Australia as well as the US, UK and Canada. More specifically, while research by the leading elite US schools still dominates (but with a slightly declining market share), both European and Asian schools have 'raised their game' relative to UK schools (see Saunders, Wong and Saunders, this issue). And at least three Canadian schools, Toronto, UWO and UBC, are now on a par with the best US state schools. If this evidence reflects the current situation, only a very small number of UK schools (LBS certainly plus a select few) are producing world-class research. More worrying, although the data are not presented here, only about 15 UK schools have any article counts in the UT Dallas survey (and sometimes they

result from the work of one UK renowned scholar such as Buckley, Child or Pettigrew). Therefore, there appears to be little or no correlation between the world class research based on the UT Dallas A-journal rankings and the rankings produced by the RAE 2008 research assessment exercise in the UK.

What does this say about the quality of UK management research? Wensley (2009) suggests that there is continued debate about and questioning of management research in the UK relative to other social science disciplines along the following dimensions:

- the questioning of management as a legitimate, academic discipline compared to, for example, economics.
- the perception of capacity shortages of high quality scholars in many business schools.
- the perception of the lower quality of management research, perhaps because
   of its multi-disciplinary nature, relative to other social science disciplines.

This continuing debate has clearly influenced the difficult relationship between the ESRC and the management education community (Caswill and Wensley, 2007; Wensley, 2009). As noted earlier, individual business schools, the ABS (Association of Business Schools), BAM and others have continually stressed the disparity between research funding for business schools from government sources and the clear student enrolment strength of business schools. Indeed, Caswill and Wensley (2007) catalogue the problematic history between ESRC and UK management researchers including the BAM inspired Bain Commission on Management Research in the 1990's, the subsequent lobbying, and hope, for the

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establishment of a separate Management Research Council to the founding of the much more impact focussed AIM in 2002 (<a href="www.aimresearch.org">www.aimresearch.org</a>).

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Yet the continued and energising influence of AIM on Management Research in UK should be emphasised strongly. The problem with tables such as the UT Dallas and Mangematin/Baden-Fuller rankings is that they are anchored firmly in the A-journal, discipline based analytic model of business school research developed by the US schools following the Ford/Carnegie reports and, therefore, not surprisingly those schools dominate such ranking. Indeed, as Pfeffer and Fong (2002) point out, too often management research in business schools broadly reflects the disciplinary divisions embedded in the structure of our own organisations which, in turn reinforce the incentive structures – 'publish or perish' – for academics and their career.

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However, management is a multi-disciplinary activity. Many of the most important management problems such as sustainability, CSR and risk management have a 'cross-cutting' multi-disciplinary nature. Therefore, for research to have an impact on business it should often be carried out in multi-disciplinary teams with large-scale longitudinal research designs of the type promoted by UK researchers such as the UK Aston studies and the Warwick processual studies anchored by Andrew Pettigrew. In short, we should get rid of the 'physics-based envy' of the discipline-based research model and emphasise the distinctive, and often inductive, nature of UK management research.

In this respect AIM has been significant in generating high quality applied research – sometimes multidisciplinary – and in alleviating the shortage of excellent, skilled researchers in the management field. The challenge for management research is to

engage and translate management research in both the practice and academic domains to achieve legitimacy.

Accompanying business school rankings, accreditation by internationally recognised bodies (AACSB and EQUIS for business schools and AMBA for MBA programmes) also confers a level of quality for each institution (Zammuto, 2008, p. 260): "Business school accreditation is a quality assurance scheme that certifies that accredited schools have the structures and processes in place necessary to meet their stated objectives and continually improve performance. Such quality standards can be used by organisations to differentiate themselves from competitors." This depicts the role of accreditation bodies as legitimacy providers through their capacity to denote appropriate *structures and processes* and also that accreditation is a source of competitive advantage to schools through differentiation from competing schools. At the current date around 20 UK schools are accredited, and legitimated, by AACSB and EQUIS – the two most well—known accreditation agencies. AACSB has around 620 (70% US based) and EQUIS 130 accredited schools globally.

## Conclusion

One of the key questions about management research is whether the discipline-based research model is any longer sustainable or 'fit for purpose'. Rankings are here to stay – whether media or academic driven - and in a hyper-competitive business school world Deans care about their rankings. Given the desire to achieve legitimacy as an academic and management profession there needs to be momentum in balancing the 'purity' of academic research with the practical needs and problems of our management profession. We suggest that there is an urgent need for the twenty-first century equivalent of the 1950's Ford/Carnegie reports and

this should examine business schools, management education and research, and the future. This inevitably will require changes to the arrangement of legitimacy providers (table 1, column 4) to modify and advance the behaviours of business schools. An issue with which BAM and other influential bodies will have to engage is whether this should entail new and additional stakeholders as legitimacy providers or some impetus for change amongst current constituents. Imperatives include, for example, the need to develop research independently and openly with a critical perspective and to bridge the public/private and corporate/not for profit divides in management practice.

# **Bibliography:**

- AACSB (2007). 'Final Report of the AACSB International: Impact of Research'. p. 51.
- Adler, N. J. and A.-W. Harzing (2009). 'When Knowledge Wins: Transcending the Sense and Nonsense of Academic Rankings'. *Academy of Management Learning & Education*. pp. 72-95. Academy of Management.
- Antonacopoulou, E. P. (2010). 'Making the Business School More 'Critical': Reflexive Critique Based on Phronesis as a Foundation for Impact', *British Journal of Management*, **21**, pp. s6-s25.
- Antunes, D. and H. Thomas (2007). 'The Competitive (Dis)Advantages of European Business Schools', *Long Range Planning*, **40**, pp. 382-404.
- Baldridge, D. C., S. W. Floyd and L. Markóczy (2004). 'Are managers from Mars and academicians from venus? Toward an understanding of the relationship between academic quality and practical relevance', *Strategic Management Journal*, **25**, pp. 1063-74.
- Barreto, I. and C. Baden-Fuller (2006). 'To Conform or To Perform? Mimetic Behaviour, Legitimacy-Based Groups and Performance Consequences\*', *Journal Of Management Studies*, **43**, pp. 1559-81.
- Bennis, W. G. and J. O'Toole (2005). 'How Business Schools Lost Their Way', Harvard Business Review, 83, pp. 96-104.
- Bok, D. C. (2003). *Universities in the marketplace : the commercialization of higher education*, Princeton University Press, Princeton, N.J.; Oxford.
- Bones, C. (2009). 'A Crisis of Confidence?'. The Economist. London.
- Caswill, C. and R. Wensley (2007). 'Doors and Boundaries: A Recent History of the Relationship between Research and Practice in UK Organizational and Management Research', *Business History*, **49**, pp. 293-320.
- Chia, R. and R. Holt (2008). 'The Nature of Knowledge in Business Schools', *Academy of Management Learning & Education*, **7**, pp. 471-86.
- Cooke, A. and V. Galt (2010). 'The Impact of Business Schools in the UK'. The Association of Business Schools.
- Crainer, S. and D. Dearlove (1998). *Gravy training : inside the world's top business schools,* Capstone, Oxford.
- Currie, G., D. Knights and K. Starkey (2010). 'Introduction: A Post-crisis Critical Reflection on Business Schools', *British Journal of Management*, **21**, pp. s1-s5
- Czarniawska, B. (2009). 'Emerging Institutions: Pyramids or Anthills?', *Organization Studies*, **30**, pp. 423-41.
- Davies, J. and H. Thomas (2009). 'What do Business School Deans Do? Insights from a UK Study', *Management Decision*, **47**, pp. 1396 419.
- Dowling, J. and J. Pfeffer (1976). 'Organizational Legitimacy', *Pacific Soliological Review*, **18**, pp. 122-36.
- Ferlie, E., G. McGivern and A. De Moraes (2010). 'Developing a Public Interest School of Management', *British Journal of Management*, **21**, pp. s60-s70.
- Fiegenbaum, A. and H. Thomas (1995). 'Strategic groups as reference groups: Theory, modeling and empirical examination of industry and competitive strategy', *Strategic Management Journal*, **16**, pp. 461-76.
- Fragueiro, F. and H. Thomas (2011). Strategic Leadership in the Business School: Keeping One Step Ahead Cambridge University Press.
- Franks Report (1964). 'British Business Schools'. London: The Institute of Management.

- Gabriel, Y. (2002). 'Essai: On Paragrammatic Uses of Organizational Theory A Provocation', *Organization Studies*, **23**, pp. 133-51.
- Grey, C. (2004). 'Reinventing Business Schools: The Contribution of Critical Management Education', *Academy of Management Learning & Education*, **3**, pp. 178-86.
- Grey, C. (2010). 'Organizing Studies: Publications, Politics and Polemic', *Organization Studies*, **31**, pp. 677-94.
- Higher Education Statistics Agency (1999). 'Table 2e All HE Students by Subject of Study, Domicile and Gender 1997/98'. In: HESA (ed.).
- Higher Education Statistics Agency (2010). 'Table 2e All HE students by level of study, mode of study, subject of study(#1), domicile and gender 2008/09'.
- Ivory, C., P. Miskell, H. Shipton, A. White, K. Moeslein and A. Neely (2006). *UK business schools : historical contexts and future scenarios : summary report from an EBK/AIM Management Research Forum, AIM Research, London.*
- Jarzabkowski, P. and R. Whittington (2008). 'Directions for a Troubled Discipline: Strategy Research, Teaching, and Practice--Introduction to the Dialog', *Journal of Management Inquiry,* **17**, pp. 266-68.
- Jepperson, R. L. (1991). 'Institutions, institutional effects, and institutionalism.'. In: W. W. Powell and P. J. DiMaggio (eds.), *The New institutionalism in organizational analysis.* pp. 143-63. Chicago; London: University of Chicago Press.
- Khurana, R. (2007). From higher aims to hired hands: the social transformation of American business schools and the unfulfilled promise of management as a profession, Princeton University Press, Princeton.
- Khurana, R. and N. Nohria (2008). 'It's Time to Make Management a True PROFESSION'. *Harvard Business Review.October* pp. 70-77. Harvard Business School Publication Corp.
- Mangematin, V. and C. Baden-Fuller (2008). 'Global Contests in the Production of Business Knowledge: Regional Centres and Individual Business Schools', *Long Range Planning*, **41**, pp. 117-39.
- McGrath, R. G. (2007). 'No longer a stepchild: How the management field can come into its own', *Academy of Management Journal*, **50**, pp. 1365-78.
- McKiernan, P. and S. Masrani (2007). 'The History of the British Academy of Management'. British Academy of Management, <a href="http://www.bam.ac.uk/uploadedfiles/pdf/bam\_history.pdf">http://www.bam.ac.uk/uploadedfiles/pdf/bam\_history.pdf</a>.
- Mintzberg, H. (2004). Managers Not MBAs, Pearson Education, London.
- Parsons, T. (1960). Structure and process in modem societies., Free Press, Glencoe, IL.
- Pfeffer, J. (2007). 'A Modest Proposal: How We Might Change the Process and Product of Managerial Research', *Academy of Management Journal*, **50**, pp. 1334-45.
- Pfeffer, J. and C. T. Fong (2002). 'The End of Business Schools? Less Success than Meets the Eye.', *Academy of Management Learning and Education,* **1**, pp. 78-
- Pfeffer, J. and G. R. Salancik (1978). *The External Control of Organizations: A Resource Dependence Perspective.*, Harper and Row, New York.
- Pfeffer, J. and R. I. Sutton (2006). 'Evidence-Based Management'. *Harvard Business Review.* pp. 63-74. Harvard Business School Publication Corp.

- Pfeffer, J. and R. I. Sutton (2007). 'Suppose We Took Evidence-Based Management Seriously: Implications for Reading and Writing Management', *Academy of Management Learning & Education*, **6**, pp. 153-55.
- Podolny, J. M. (2009). 'The Buck Stops (and Starts) at Business School'. *Harvard Business Review.* pp. 62-67. Harvard Business School Publication Corp.
- Porac, J. F., H. Thomas and C. Baden-Fuller (2011). 'Competitive Groups as Cognitive Communities: The Case of Scottish Knitwear Manufacturers Revisited.', *Journal Of Management Studies*. Classic, May, pp 646-664
- Rousseau, D. M. (2006). '2005 presidential address Is there such a thing as "evidence-based management"?', *Academy of Management Review,* **31**, pp. 256-69.
- Rousseau, D. M. and S. McCarthy (2007). 'Educating Managers From an Evidence-Based Perspective'. *Academy of Management Learning & Education*. pp. 84-101. Academy of Management.
- Rynes, S. L. (2006). "Getting on board" with AMJ: Balancing quality and innovation in the review process', *Academy of Management Journal*, **49**, pp. 1097-102.(?) 1102?
- Schoemaker, P. J. H. (2008). 'The Future Challenges of Business: Rethinking Management Education', *California Management Review*, **50**, pp. 119-39.
- Segev, E., A. Raveh and M. Farjoun (1999). 'Conceptual maps of the leading MBA programs in the United States: core courses, concentration areas, and the ranking of the school', *Strategic Management Journal*, **20**, pp. 549-65.
- Sillince, J. A. A. and A. D. Brown (2009). 'Multiple organizational identities and legitimacy: The rhetoric of police websites', *Human Relations*, **62**, pp. 1829-56.
- Starkey, K. and S. Tempest (2009). 'From Crisis to Purpose', *Journal of Management Development*, **28**, pp. 700-10.
- Starkey, K. and N. Tiratsoo (2007). *The business school and the bottom line,* Cambridge University Press, Cambridge.
- Suchman, M. C. (1995). 'Managing Legitimacy: Strategic and Institutional Approaches', *The Academy of Management Review,* **20**, pp. 571-610.
- The Economist (2007). 'Practically Irrelevant?'. *Economist.com.* 28th August ed. London.
- Thomas, H. (2007). 'Business School Strategy and the Metrics for Success '.
  Journal of Management Development, 26, 1, pp 33-42 (reprinted in Global Focus, EFMD, 2009 pp 36-39)
- Thomas, H. and X. Li (2009). 'Mapping globally branded business schools: a strategic positioning analysis', *Management Decision*, **47**, pp. 1420-40.
- Thomas, H. and A. Wilson (2009). 'An analysis of the environment and competitive dynamics of management research', *Journal of Management Development*, **28**, pp. 668-84.
- Tranfield, D. and K. Starkey (1998). 'The Nature, Social Organization and Promotion of Management Research: Towards Policy', *British Journal of Management*, **9**, pp. 341-53.
- University of Dallas at Texas (2011). 'World Wide Rankings UTD Top 100 Business School Research Rankings'.
- Van de Ven, A. and P. Johnson (2006). 'Knowledge for Theory and Practice', Academy of Management Review, **31**, pp. 802-21.
- Van de Ven, A. H. (2007). Engaged scholarship: a guide for organizational and social research, Oxford University Press, Oxford.

- Wedlin, L. (2011). 'Going global: Rankings as rhetorical devices to construct an international field of management education', *Management Learning*, **42**, pp. 199-218.
- Wensley, R. (2009). 'Research in UK Business Schools or Management Research in the UK?', *Journal of Management Development*, **28**, pp. 718-27.
- Whitley, R., A. B. Thomas and J. F. Marceau (1981). *Masters of business: the making of a new elite?*, London: Tavistock, 1981 (1984 [printing]).
- Williams, A. P. O. (2010). *The history of UK business and management education,* Emerald, Bingley.
- Willmott, H. (1995). 'Managing the Academics: Commodification and Control in the Development of University Education in the U.K', *Human Relations*, **48**, pp. 993-1027.
- Zammuto, R. (2008). 'Accreditation and the Globalization of Business', *Academy of Management Learning & Education*, **7**, pp. 256-68.
- Zucker, L. G. (1987). 'Institutional Theories of Organization', *Annual Review of Sociology*, **13**, pp. 443-64.

Table 1: Evolution of business schools and associated legitimacy providers

Different beliefs about management education but mainly vocational trade-type models focussing on commercial and administrative practice  2nd Generation (Early C.20th – 1970s)  Strategic reference points established in countries – U.S. model is key reference point. Imitative behaviour at a local/ national level.  The image and identity of a  Different beliefs about adout adoption across countries  Influence of culture, regulations, country characteristics, and languages evident at local and national level  Size of schools tends to be nationally determined  The identification of national role models and a dominant industry recipe means that differences exist among the key drivers of:  Strategic reference point. Imitative behaviour at a local/ national level.  The image and identity of a  Strategic reference point. Imitative behaviour at a local/ national level.  The image and identity of a  Strategic reference point adoption across countries  Influence of culture, regulations, country characteristics, and languages evident at local and national level  Size of schools tends to be nationally determined  The identification of national adominant industry recipe means that differences exist among the key drivers of:  Strategic reference points established in countries  Universities  National Governments  Universities  Stratego roganisations  Institutionalised managerial systems e.g. accounting practices  National sevel  Size of schools tends to be national lavel  Size of schools tends to be national	Generation & Time Period	Behavioural Characteristics	Implications	Legitimacy Providers
2 <sup>nd</sup> Generation (Early C.20 <sup>th</sup> – 1970s)  Strategic reference points established in countries – U.S. model is key reference point. Imitative behaviour at a local/ national level.  The image and identity of a  Strategic reference point ational role models and a dominant industry recipe means that differences exist among the key drivers of:  • National Governments • Universities • 'Feeder' disciplines (economics, psychology)	1 <sup>st</sup> Generation (C.19 <sup>th</sup> – Early	Different knowledge structures, frames of reference and cognitive maps.  Different beliefs about management education but mainly vocational trade-type models focussing on commercial and administrative	market boundaries vary across countries  Differential rates of growth and adoption across countries  Influence of culture, regulations, country characteristics, and languages evident at local and national level  Size of schools tends to be nationally	managerial employment by industrialists, entrepreneurial individuals and the state to cope with larger organisations Institutionalised managerial systems e.g. accounting
becomes clear. Institutionalising processes.  International mindset  Innovation  Knowledge	(Early C.20 <sup>th</sup> –	points established in countries – U.S. model is key reference point. Imitative behaviour at a local/ national level. The image and identity of a business school becomes clear. Institutionalising	The identification of national role models and a dominant industry recipe means that differences exist among the key drivers of:  • Governance • Funding and endowment • International mindset • Innovation • Knowledge	Governments  Universities  'Feeder' disciplines (economics,
transmission Corporate linkages  3 <sup>rd</sup> Generation (1970s – present)  transmission  transmission  Stransmission  Torporate linkages  Issues of image and reputation and citations become important  transmission  Torporate linkages  Fesearch ranking and citations  Globalised	(1970s –	established –	Corporate     linkages  Issues of image and reputation	

design/role model		performance
is evident.	Social capital is	measures and
	built-up long-term	rankings
Reputational		National
structures and	Rankings and	performance
clear identities	league tables	measures
formed.	become indicators	<ul> <li>International</li> </ul>
	of success	accreditation
Internationalising		bodies
processes.	International	200.00
'	alliances form to	
Organisational	enhance	
adaptation and	reputations of	
interpretation.	leading schools in	
	the U.S. and	
Benchmarking	Europe.	
processes	_ = = = = = = = = = = = = = = = = = = =	
9.000000	(2.2.2.)	

Source: Adapted from Antunes and Thomas, (2007)

**Table 2: Conflicting Sources of Legitimacy for Business Schools** 

	Line at Breatist Belower	Landa of Anadomia Birano
Research	Business school research is too abstract and irrelevant to the needs of practicing managers. It does not attempt to solve current managerial problems.	Not enough business school research is grounded in the methodological rigour of the social sciences, it is often too case based and discursive.
Teaching	Business school teaching is too theoretical, and not sufficiently focused on problems that managers actually face.	Business school teaching is too 'customer focused' and not sufficiently distant from, and critical of, management practice.
MBAs	MBAs, and business degrees generally, do not produce well rounded managers with leadership qualities.	MBAs are, or for a long time were, seen as a passport to career progression and greater earning power. The business school is seen as a 'finishing school'.
Impact for practice	Business education has made almost no impression on practicing managers, and has failed to impact business performance.	Business schools are partly culpable for recent corporate scandals, and therefore have had a negative impact on business performance.
Output	Many of those taking degrees in management are unlikely to get much benefit from their studies. Their degrees do not prepare them for future careers.	Firms simply cannot rely on the University sector to supply the training/education that their managers need. They do not challenge students intellectually to develop creative, imaginative thinking skills.

(Adapted from table 1 in Ivory et al., 2006, p. 7)

**Table 3: Strategies for Practice Engagement** 

Strategies for Practice Engagement	Example Literatures
Evidence-based research	(Pfeffer and Sutton, 2006,
	2007;Rousseau, 2006;Rousseau and
	McCarthy, 2007)
Pragmatism	(Starkey and Tempest, 2009)
Translation	(Wensley, 2009)
Engaged Scholarship	(Van de Ven and Johnson, 2006; Van de
	Ven, 2007)

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Field Code Changed

Table 4. University of Texas Top 100 Business Schools on Research Contribution 2005-2009 by Country.

Country:	Count of Business School in Top 100
USA	72
Canada	9
China	5
Singapore	4
The Netherlands	3
France	2
Australia	2
Denmark	1
United Kingdom	1
Germany	1
	100

(Adapted from: University of Dallas at Texas, 2011)

Table 5: Selected regions from the top 120 schools worldwide<sup>1</sup>

Schools	Global Production Survey, (Mangematin and Baden- Fuller) World Rank (2005) [Data 1992 – 2005]	Financial Times Research Ranking (2006)	UT Dallas Research Ranking (2006)
UK			
London Business School*	17	11	24
Manchester	36	73	-
Nottingham	42	73	-
Oxford	57	51	-
Cambridge	105	51	-
Warwick	106	81	-
LSE	110	-	-
Cranfield	118	86	-
City	120	86	-
Canada			
Toronto	29	23	37
Univ of British Columbia	33	35	39
Univ of Western Ontario	37	23	50
HEC Montreal	63	-	-
Concordia	67	-	-
Alberta	77	-	78
Simon Fraser	101	-	94
<u>Europe</u>			
Erasmus	18	81	80
Insead	25	11	14
Tilburg	27	-	55
Louvain	61	-	-
Groningen	65	-	-
Maastricht	79	-	-
Ghent	84	-	-
Copenhagen	93	-	-
Eindhoven	114	-	-
Bocconi	117	73	-
Amsterdam	124	-	-
Asia/Australia			
HKUST (HK)	44	-	29
NUS (SG)	46	70	52
AGSM (Australia)	49	51	70
Chinese Univ Hong Kong	74	-	-
City Univ Hong Kong	80	-	98
SMU (SG)	85	-	-
Nanyang (SG)	104	73	74

<sup>&</sup>lt;sup>1</sup> USA omitted as 82/120/68 schools are US schools

Source: Adapted from Mangematin and Baden-Fuller (2008)