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Global Contests in the Production of Business Knowledge:

Regional Centres and Individual Business Schools

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Abstract

Drawing on institutional theory, the global production of business research is analysed by examining the system of written outputs using one of the largest databases of journal papers ever assembled, covering over 65,000 articles produced by more than 54,000 authors from over 8,000 different institutions across the period 1992-2005. We begin by pointing out how the US business schools pioneered the modern institutional system of undertaking and disseminating research that involves the intertwining of and university business schools and journals. While Wharton and Harvard are still the leading universities globally, their crowns are slipping, together with the position of the US generally. We observe the greatest challenges to the existing order as coming from European and Asian institutions that have either copied, or been inspired to innovate by adapting, the US system. London Business School, Erasmus, INSEAD and Tilburg are threatening to topple leading US universities in the undertaking of research, and other European and Asian institutions are close behind. It is argued that international businesses can now go to non-US institutions to find leaders in thought.

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Global Contests in the Production of Business Knowledge

Introduction

Business Schools play a critical role in the production, collation and dissemination of business knowledge through degree programmes, executive education, basic research, and consultancy. In common with all academic institutions, basic research forms a key element of the workload of the typical faculty member in any top business school.[1] The doctoral training that a faculty member receives prior to working is focused on the skills required to produce original knowledge, and newly recruited faculty members in top schools will be required to devote perhaps 30% or more of their time to basic research that lead to some kind of academic publication.[2] This basic research covers the broad spectrum of business activities, some of which will form the basis of new thinking for the classroom and for tools used by corporations (see for instance the evidence from AACSB or Harmon for a critical analysis[3]).

The business school research agenda has been steadily globalising, and the US model has been influential in setting up the norms. Until the mid 1980s, basic management research was deeply embedded in national cultures: US journals initially only published the work of US academics, while outside the US most journals were nationally-focussed, written in the local language, stylised for local consumption, and poorly disseminated internationally.[4] While some of this non-US research was truly influential,[5] in many cases the distinction between scholarship and research was vague, in the way the research was both undertaken and written up. Many pieces were no more than replication and translation of ideas initiated in US Business Schools and contained little that was new.

Since the mid 1980s things have changed. First there have been changes in the context: interactions amongst economies have been rising and international management practices are emerging. Multinational corporations and large domestic firms in non-English speaking countries have adopted English as their second (or even first) business language, and have used US based or trained consultants to introduce US Management Practices.[6] These ideas have been reinforced by the popularity of MBA and executive training courses that utilise US styled teaching cases, text-books, practice oriented books, and international journals with a professional orientation such as *Harvard Business Review, California Management Review, Sloan Management Review* and *Long Range Planning*.

In parallel with these changes in business, US universities started PhD programmes in management that recruited students globally and trained them to high standards. In parallel, US journals began to accept contributions from non-US academics and to be much more widely read internationally. By this and other means, the US ways of performing basic research in management and business spread out over Europe and more recently into Asia.[7] While the first language of the researchers is not always English, this non-US research is typically disseminated through US and other English language journals across the globe, more recently assisted by the spread of the internet.

In this article we set out the current situation for the location of business research by focusing on the written outputs of research programmes. We note that journals are not only significant foci for the dissemination of knowledge, but they also have a role in identifying the research agenda through editorials, invited contributions from leading thinkers and special issues. We take the research community's view of what is a good research output by using weighted citation outputs of published research material, avoiding judgements that result in 'narrow' journal lists. We show that there seems to be a global contest emerging among countries and institutions, and that the driver of the contest is the diffusion of knowledge about research and related research practices caused by the open US system that has increasingly become matched by the innovations of others, especially the Europeans. As a consequence, we suggest it is no longer necessary to be trained in the US to be 'world-class' in the increasingly global world. Moreover, globalisation does not eliminate the need to understand regional specificities for business: non-US schools have begun to exploit their proximity to globally excellent non-US companies and universities to create unique capabilities. We suggest that this challenge to the established US schools and their dominance has been overlooked or under-estimated by several important business commentators.

We also probe what these results mean for companies and students. We suggest that companies can go to a large number of European and Asian schools to source fundamental knowledge, and that the research of many of these schools is every bit as world class as that produced by the top US schools.

Measuring Business Knowledge Production

Research in business schools has characteristics that are similar to that conducted in other social and natural sciences. Individuals and teams examine issues and problems they believe to be important, utilising a variety of techniques ranging from theory building and conceptual modelling to simulation and laboratory experiments, and other kinds of empirical work, including case studies, questionnaires of managers and utilisation of public and private archival data bases. It is widely accepted that such research is not valuable unless it is disseminated through scholarly mechanisms.[8] This dissemination allows knowledge to be shared, and, more important, ideas to be reviewed and challenged by others in a way that identifies what is valid and allows the state of knowledge in the business field to move forward. Dissemination is the condition *sine qua non* for cumulativeness in science: as Newton said, '*If I have seen a little further it is by standing on the shoulders of giants.*'[9]

A key mechanism by which ideas are disseminated is the publication of outputs in scientific journals: they have transparent mechanisms for assessing knowledge based on the peer review system and a board of editors. In contrast, many book publishers have weaker review systems and (in the field of business) some contract authors to publish books before they have been reviewed: there are many magazines that also lack a peer review system. As the field of management has matured, so scientific journals have become more important. Most journals are widely accessible internationally via electronic databases (via university internal websites), and thus much more easily accessible than books. Although other kinds of knowledge diffusion - such as conferences, workshops and web-based non-peer-reviewed outlets such as SSRN - are gaining prestige, these can increasingly be seen as complementing rather than replacing scientific journal outputs.[10]

It is widely agreed among scholars that, at the aggregate level of a large institution or country, the production of knowledge can be measured by looking at scientific outputs in journals.[11] Journals are where the community debates and exchanges ideas. However, which journals should be looked at, and how outputs should be counted are hotly debated topics, for there are several thousand journals even in the narrow field of management. Some cover a wide domain, seeking to move knowledge forward on a broad front, while others are more specialised, targeting specific topics and methods. In general the most prestigious journals cover a breadth

of topics, but this is not always so, and some very prestigious journals are much narrower in scope. Many university deans and promotion committees have a favourite list of 'top quality relevant journals', counting only the outputs of their faculty that are published these journals. This list is used to decide the pay and the future (especially tenure) of faculty.[12] In recent years there has been a trend to define such lists (usually referred to as the list of 'A journals') in a narrow manner and to be very dogmatic about which publications 'count' (and are on the list) and which don't (and thus are not). By their inflexible attitudes, deans and promotion committees risk under-valuing debates in specialised communities, giving scholars incentives to conform to the existing state of science rather than thinking more widely, and imposing unnecessary (and possibly dangerous) limits on any discourse that might challenge existing paradigms.[13] In contrast to this trend, accreditation bodies outside the USA (such as HEFCE in the UK, EQUIS in Europe and the public system of evaluation of universities and research institutes in the Netherlands) have rejected narrow lists as a way of assessing quality, a stance which has gained the support of the scientists undertaking the research. There are many journals with high citation scores (and with giant articles that have moved whole fields of thinking) that are not on these 'A-lists'. Starbuck has looked closely at the operation of the journal system and shown convincingly that in management it is impossible to define the comparative value of knowledge by reference to such simple lists. Even the most prestigious management journals are not perfect in their ability to identify valuable and valid findings, especially when the findings challenge norms, and using only a limited range of journals risks closing off access to (perhaps valuable new) ideas that may appear first in unfashionable titles.[14]

We are keen to avoid a measurement regime whose legitimacy is not clearly aligned with the assessing of research in an un-biased manner.[15] As Durand and McGuire point out, legitimacy is critical in this arena, and bodies such as Deans of Schools - and even trade associations such as AACSB - have potentially conflicting interests.[16] We therefore propose a research assessment method based on citations, which is the 'democratic' vote of the scientific community as evidenced by their propensity to recognise formally and openly the importance of other researchers' work. Our approach is in common with widely accepted practices in other fields: the logic is simple, in that more important articles get cited more often, while those of less importance are cited less, or not cited at all.[17] The research question that drives

our article is:

> *Which countries and institutions are producing influential basic research in management?*

Methods

A digression is necessary to appreciate our solution to the computational challenge. In the fields of business and management, ideas have a long half-life. It is therefore not possible to obtain a clear picture of citation scores for individual articles until some years have passed, but a very good approximation to future citations can be obtained by looking at the current citation rate of the journal in which the piece is published.[18] According to scholars who have used ISI-SSCI, journals listed in the *Journal of Citation Report* constitute a good proxy to analyse the evolution of the field.[19] In our field, most of the citations that occur in business and management are confined to a list of some 149 journals, a figure which (while it is far less than the total journal population) is nevertheless much larger than most business school deans are willing to accept, and also larger than is used, for instance, by the Financial Times and University of Dallas, whose rankings are based on much more limited journal lists. Our approach has therefore been to use the widest definition of business and management journals to obtain a meaningful picture of basic research, and then to weight each university's outputs by the citation score of the journal. This method essentially produces a forecast of likely outcomes: pieces that are likely to be more important will be weighted more highly than those likely to be less significant (but none the less relevant in some domain). One or two journals in the field have rapidly changing citation scores, but in the vast majority of cases scores remain extremely stable, indicating that, while this method of forecasting might need occasional adjustment for micro-level analysis, for our purpose the approach is robust. Our weighting system is also consistent with the findings of scholars in the field of management who have examined such matters retrospectively over long periods.[20]

We collected data for all the articles published in all the journals on the Thompson ISI database from 1992 to 2005, and coded them by institutional affiliation and country. The enabled us to identify 65,480 articles published in 149 journals by 58,418 different authors belonging to 8,040 different institutions worldwide: the scale of this database is probably 10 times larger than has been used in any previously

published ranking exercise. (Details of our methods are explained in the Appendix.)

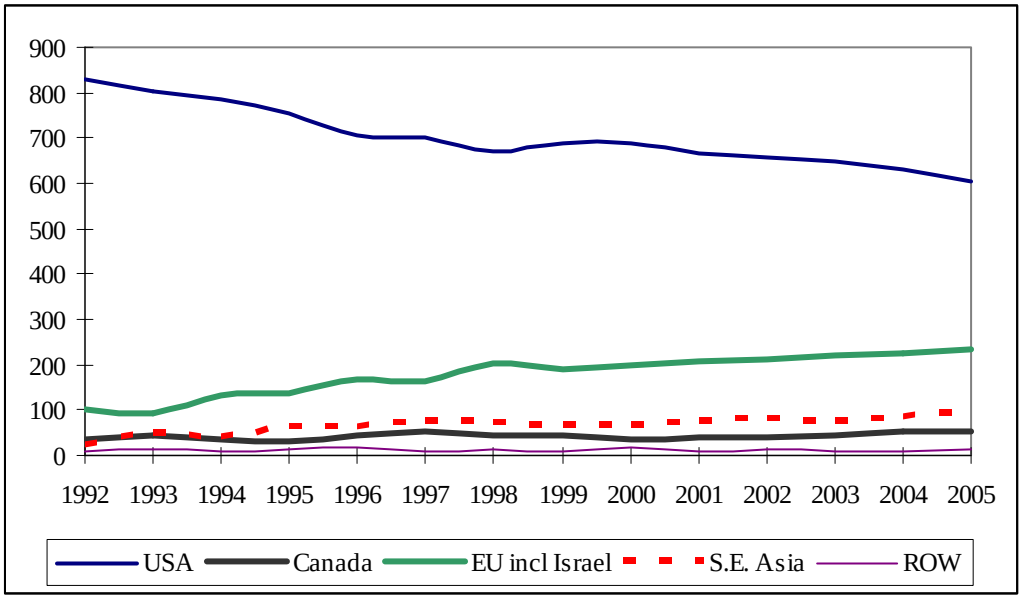
Most ranking tables look backwards, and take averages over several years, giving a very historical view of the location of scholarly output. Work is constantly in the pipeline; research takes time to publish, and most pieces are published at least a year after they are written. We believe that examining the present and using past information to project forward is a preferable method of analysis.

This article focuses on four indicators of performance. We first position our countries and universities based on their outputs in 2005, to provide a relatively recent base line. We next look at how fast things are changing, and in which direction, by examining trends over the previous 14 years (1992-2005), and we report the *Trend* line and the *Standard Error* of the estimate that indicates the reliability of the trend (a higher number meaning a less reliable forecast).[21] Whilst this method of forecasting may seem simple – even crude - as it does not take account of the fact that individual researchers may change institutions, the short time frame of available data and the 'lumpy' nature of research outputs makes any other forecasting method risky. Indeed, because any single year's positional ranking may be subject to outside disturbance and be not properly representative, we also compute the likely position of a school university based on past trends, and report the likely position of the institution last year as the *2006 Forecast*. The difference between 2006 Forecast and the 2005 share, taken together with the Trend, gives some idea of potential errors in the 2005 data, and thus a more accurate feeling for the school's position. Finally, because the volume of research is increasing all the time, we look at world market shares (computed annually), rather than raw counts of articles.

US Dominance and the Challenge from Europe and Asia

We first rank countries. Exhibit 1 and Table 1 show that the US has dominated the world production of research in management, but that this position is being contested. The US market share, 83% in 1992, had dropped to 60.4% by 2005, and is forecast to continue to fall at a rate of 1.5% a year (se 0.135). Based on these extremely stable trends, the USA will account for less than 50% of world output by the end of 2010.

Figure 1: USA vs. Europe, Asia, Canada and Rest of the World



Notes: Share Figures are parts per '000

Table 1: Country Shares at end of text

Where is the challenge located? Canada is avoiding the decline of the USA, but is not contesting, with a share of 5% in 2005 and a negligible rate of growth of less than 0.1% a year. Europe is the major source of competition: its world share has grown from 10.3% in 1992 to 23.5% in 2005 and its rate of growth is 1% (se 0.1). Another growth centre is South East Asia, which had reached a market share of nearly 10% by 2005 and, growing at 0.4% a year, is likely to prove a formidable contestant.

Which countries are the sources of this growth energy? In Europe Great Britain is a very important focus, with a share that has doubled from 4.1% to 8.1% during the period, and a growth rate (at 0.3% a year) that, if sustained, will give it a world share of 10% by 2010. Elsewhere in Europe, the Netherlands represents the second major driving force: with 3.4% of the world share in 2005 and a growth rate of 0.18% a year it will reach a 5% world share by the end of 2010. Germany, France and Spain each have less than 2% of the world market and slower rates of growth.

The challenge from the Far East is strong. Australia has increased its position to 5th in the world. China is, of course, rising in significance, although most current Chinese research comes from the Hong Kong province. Taiwan and Singapore are other important locations, while Korea is also moving up, more slowly. However

despite its wealth, Japan is lagging behind, as if reluctant to accept international standards of research.

The Declining Dominance of US Schools

Is the dominance of a few countries mirrored by the dominance of a few institutions? Surprisingly, this is not the case. Whilst our figures confirm what is well known - that Wharton (University of Pennsylvania) and Harvard are still the world leaders in the production of knowledge in the sphere of management, having held the top two positions in every year since 1992 (with the single exception of 1996) - what is less well appreciated is that their market shares have declined dramatically: while they still lead the world scene, they no longer dominate it. This is not to belittle their impact on knowledge: Wharton alone at one time had 2.2% of the world's output, and still has 1.4% - more than the total output of whole countries such as Spain, Italy and Belgium. But the downward trend is clear, with their share falling by about 0.1% a year (a statistically significant trend). Harvard's share has also fallen across the period, from 1.8% to 1.3%. While its long-term trend is unclear, showing several local peaks, the overall trend over the last 6 years shows a clear decline.

Table 2 tracks the world rankings of the top schools, showing world, US and Rest of World rankings, together with their respective shares and growth rates (in parts per thousand). The cut off point for entry into our table is 0.1% global share (equivalent to the output of about 10 active researchers); we consider that an institution performing below this level cannot be called internationally active in research. The world of management research is concentrated among a minority of the total universe of universities, but the club is quite large. Moreover, within this club the production of research is quite well dispersed among many well known, and some less well known, institutions. Our data suggests that there are slightly more than 200 internationally active research institutions (i.e. only 2.5% of the 8,000 institutions that undertake research) that collectively account for 70% of the world's output.

Table 2 Institutional shares and trends at end of text

Looking within the data, we see some clear trends that indicate the decreasing global impact of US schools. Compared with 1992, most US schools have stood still,

a few have slipped down the rankings at a significant rate, while the market shares only two of the top 40 US schools (Maryland and Emory) have risen at a statistically significant rate, and even then at less than 0.03% a year (0.3 parts per thousand).

In contrast, there are four rising stars from Europe that are contesting the US universities' domination: London Business School (UK), INSEAD (France), Erasmus Rotterdam and Tilburg (both the Netherlands). Based on their current position and forecasted positions, their individual market shares are around 0.8% (8 points per thousand), all of which are rising by between 0.03 and 0.05% a year, and the trends look extremely robust. This means that, by 2010, some (if not all) of these four could reach the 1% market shares of the world's top 10 institutions. Slightly further down the list (but still in the top 50) are three Canadian institutions, two Asian schools and another British school all of which have strong growth rates: Toronto, British Columbia and Western Ontario in Canada, Nottingham (UK), and the National University of Singapore and Australia's University of New South Wales, all of which are doing well by US standards, but have some way to go before they can challenge the leaders. It is worth noting a few major discrepancies between the actual position for 2005 and our 2006 forecast positions, on account of variable year to year research outputs at the institutional level, which mean that some schools are not listed in the top 50 that perhaps should be there: these include the Chinese University of Hong Kong (big gap between actual 3.10 and forecast figure of 4.58 parts per thousand) and Warwick University (registering actual and forecast figures of 2.38 and 4.04). Further down the list, there are also some quite well known universities whose management schools do not even make it into the top list because they are unable to meet our minimum requirement of 0.1% world share for 2005, sometimes because their output fluctuates too much from year to year.[22]

The table also compares our results with those produced by two other often-quoted rankings – from the Financial Times and the University of Dallas. Both of these rely on relatively narrow lists of journals that are strongly oriented towards US authors. The result of this narrowness can be clearly seen from the tables. Their rankings of the leading US institutions follow closely with each other, and with our results, but both systems are significantly adrift from our results when measuring the performance of non-US schools. In fact these rankings significantly underestimate their performance, and we suggest that these errors are serious, and give a misleading impression of the real academic achievements of schools outside North America in

the field of basic scientific research.

Drivers of Change

What has driven these changes? To understand the answer to this question, we need to go back in time. The field of research in management as we know it today did not exist in the 1960s, when the US model of the scientific production of knowledge in the field of management first emerged, following an influential report from Gordon and Howell.[23] They declared that management research was in dire straights, noting there were only 24 US schools giving about 100 PhDs a year in the 1950s, and that much research was anecdotal and not scientific by the standards of that time. This report triggered massive funding, starting in the 1960s, directed at improving the research training of US academics in business schools and shifting research towards Social Science methodology (see AACSB 2007 report). As a result the number of PhDs and programmes grew, and a clear style of training and research working emerged at the top schools, based on formal course work, with examinations as well as the production of theses and academic articles. New journals were founded to publish scientifically rigorous work, typically with editors that were serious 'heavy league' scholars from the same schools that ran the PhD programmes. These journals' boards, and those involved in the PhD programmes in the top institutions, changed only slowly over time, demonstrating the power of the newly established norms.

The US model also extended into teaching methods, with the adoption of standardised courses and curriculum for undergraduate business studies and postgraduate professionally oriented qualifications (typically MBA). The standardisation was reinforced by tenure systems that emphasised PhD qualifications and research effectiveness, by accreditation bodies such as AACSB and by the departmental academic peer review system adopted by many major US universities.

The policies of US national institutions and top US universities were clearly critical in leading to the US domination of the world of management research into the 1990s, and still have important influence today. But why is the research now so widely dispersed among institutions, and what has caused the recent strong growth from outside the US? It is important to realise that, from the first, the top US schools such as University of Pennsylvania have operated an 'open door' system. They trained far more doctoral students than they could hope to use, and in many cases they

have implemented a policy of increasing their genetic pool of faculty by not hiring their own graduates, but rather going to other leading schools in a purposeful cross-fertilisation exercise. This cross fertilisation was further reinforced by the arduous tenure system, that meant that top schools were not only pushing out PhDs but also junior faculty (who had received further research training) allowing other US institutions to hire good researchers. These practices made it hard for any single US institution to monopolise the production of research. The data reinforces the sense that competition has been fierce between the top US institutions, and has not resulted in any single player or small group achieving dominance: rather excellence has been spread among more than 100 universities (see Table 2).

The exceptional welcoming policy of the top US schools also helped other countries learn the US system. Top US universities were happy to train non-US scholars, and often gave them scholarships for PhD study. While some remained in the USA, many went back to their home countries, taking with them not just the skills of undertaking research but also knowledge of the US training programmes and US systems that supported basic research. At the same time, some major European Schools (particularly London Business School and INSEAD) made a policy of hiring US trained faculty (both Americans interested in travel and returning second generation nationals) and paying the higher salaries demanded by these US graduates (which could often be more than double what was offered to those with local doctorates). Clearly, such policies further contributed to the diffusion of the dominant US design.

The generosity of the US system was not enough, in itself, to change entrenched national practices and attitudes in Asia and Europe: local institutions had to change too. In Europe, the UK and the Netherlands have used national policies to foster internationally oriented research, each undertaking regular national audits to assess the state of research and publicise the results. In both counties, money has been tied to results, giving universities a very strong incentive to change and adopt more internationally oriented research systems. In the UK, the policies were introduced with a struggle, but were quickly adjusted to give very substantial incentives to those universities that performed well internationally, amounting to as much as $50,000 per faculty member per year. National policies in countries such as Australia and Singapore have also shifted to foster international level of research. In contrast, despite their large economic endowments, countries like France, Germany, Spain,

Italy and Japan are moving more slowly, because the ethos of universities involved in management teaching in these countries still does not favour internationally benchmarked research.

It is important to realize that the national policies of the UK and the Netherlands also encouraged a new form of competition, which challenged the dominant international paradigm. Some schools in these countries, while recognising the superiority of the US system, did not hire US trained faculty on the same scale as London Business School or INSEAD, but rather sought to form alliances with US schools. Senior US faculty visited their institutions, which then copied the US training systems and promotion systems selectively, often modifying them to fit local needs and on occasions to create improvements. Institutions such as the Economic and Social Research Council in the UK and KNAW (the Royal Netherlands Academy of Arts and Sciences) have provided additional support for this line of development. This differential but parallel track seems to have been extremely successful in the case of UK institutions such as Nottingham and Warwick and the Dutch Universities of Erasmus and Tilburg. These schools have a much smaller resource base than the top US schools, and have approached the basic research paradigm with a greater sense of eclecticism, and valued a wider range of methods. In turn, some of these methods have been adopted completely by the US mainstream (for instance the work of Pettigrew from Warwick University on the processes of management).

Discussion

We have noted how, in the mid-20th century, the US established a new paradigm for research with massive institutional support, resulting in their domination of the world research scene in management in the 1980s and 1990s. Our analysis shows that, measured by the research outputs in scientific journals, US dominance has been slipping, and that its market share seems likely to halve between 1990 and 2010. Meanwhile a number of European and Asian countries have emerged that are engaged in the basic research endeavour, and are producing outputs at an international level that contest those from the US. We now discuss how we can stand back and better understand what is happening by looking at previous research on industry evolution.

The two parallel development paths of emulation and adaptation of the dominant US paradigm in the Business Research industry parallels the classic models

of industry development that have been observed in other industries.[24] Industry Life Cycle theorists argue that industries display successive well defined development phases. The initial phase is characterised by a few institutions that define the norms and set the product standards. In the academic research industry, the norms were around knowledge production and diffusion, PhD programs and journals were created, and a community emerged with strong professional attitudes. The next phase of industry development typically involves the diffusion of the model and the emergence of a dominant design.[25] This diffusion occurred within the US and Canada (as the data clearly shows) and was promoted by the open institutional arrangements of the top US research schools and reinforced by AACSB. At this time, the model began to diffuse internationally, with the appearance of two European Schools (London Business School and INSEAD) that copied the US model.[26]

The theorists argue that in the final phase, as an industry matures, the global dominant standard ceases to be just copied, and diffusion is accompanied by significant local adaptations. This is also the period when new business models emerge to challenge the traditional order. The academic setting of business schools can now, we suggest, be seen as being in this third phase. Just as businesses are becoming more global in scope, but also more sophisticated in adapting to local needs, so too are business schools and the education agenda they undertake. A new class of global businesses and managers are emerging that need top ranked universities that are closer to the markets they serve.

Whilst our data are not presented in this manner, our reading of the world of research indicates a parallel trend. Managerial knowledge has been expanded, business problems have become more complex and research agendas more sophisticated and more specialised. Universities and academic institutions are specialising and developing excellence in local niches, such as the management of public bodies, of local innovation clusters or of sustainable development. The ways in which different notions are adapted to different contexts and implemented in different firms require researchers and teachers to match generic knowledge and in-depth information onto local contexts. In a similar manner, geographic specificities encourage the emergence of research programmes which bridge cultural gaps and adapt knowledge production to specific contexts. In parallel, there is a rise in the number of journals that deal with international problems, that publish studies using non-US and, increasingly, multi-country data, and that recognise new non-US based

methods. Finally, we note that the rise of the internet has opened up the possibility of a new system of research taking hold in the next decade or so: new ways of undertaking peer reviews are emerging along with new ways of conducting research.

The reader should recognise the limitations of our research. Journal citation counts are just one way by which academics 'vote' on the value of research outputs, and new databases (such as Google Scholar) are emerging that permit a more comprehensive counting procedure. Of course knowledge is far more than the production of journal outputs, and at best we are tracing a proxy for research activity. We leave it to others to undertake a more comprehensive analysis of the global institutions involved in the production of knowledge. We also caution that our data may understate the real shifts. Just as changes in industry sales and market share are proxies for changing company health in the corporate sector, so too changes in journal output and market shares are signalling the rise of non-US schools into the arena of top quality research. The change in the structure of outputs, we argue, may signal a much more fundamental change in the way that research is carried out. And, in this case just as in other industries, changing in outputs may lag rather than lead true competitive positions. There are long lags in the system of producing research, and if conferences of today signal publications for tomorrow, the frequency with which non-US scholars capture a significant share of top US and international conference papers and prizes reinforces our suggestion that fundamental changes are taking place.

Relevance to Businesses

What are businesses to make of this? How does basic research help them? It is widely recognised that basic research does not translate easily into current practice, and whether we are talking of physics, life sciences, economics or management, there is a always a gap between laboratory and application. This translation problem has given rise to much soul searching in business schools and the journal community. There is a challenge to translate knowledge in research into the knowledge for the classroom, and there is an even bigger challenge in making journals accessible to practitioners when their ideas may have the potential for immediate application (see for instance AACSB, 2007).

There are 4 top quality academic journals in our list which have as their objective *both* originality in what is published *and* accessibility for the practitioner audience: *Harvard Business Review, Sloan Management Review, California*

Management Review and *Long Range Planning.*[27] We have not engaged in a 'practice' survey to verify whether the claim of accessibility to the wide audience is achieved, and we fully recognise that much of practice relevance is published outside these journals. However, these journals have clear policies of targeting the dual audience that are recognised within academia, and they rank well in the academic stakes as being among the top 20% of all journals in terms of citation scores (see Appendix). They are also used in the classroom to communicate the latest ideas and supplement standard texts, and their high download numbers give evidence that they are widely read by consultants and thinkers in management practice. They provide a conduit for communication between academic and managerial communities. These outlets specialise in describing situations that managers encounter in their working lives, and elaborate new theories and new frames that they may find useful and which have validated using scientific methods.

We note in passing that three of these publications are oriented largely towards the US, having nearly 90% of their contributions from North America (see Table 3). The internationalisation of these journals seems to be proceeding at a slower pace than the mainstream. By contrast, *Long Range Planning* has a more balanced international input, with many contributions from Europe and Asia, and often reports on non-US contexts with new framing that is highly relevant to international executives and policy makers.

Table 3: Author Location in Practice Oriented Academic Journals

Author location	Harvard Bus. Rev.		California Mgt. Review		Sloan Mgt. Rev.		Long Range Plan.		Total	
USA+ Canada	1062	(88%)	359	(84%)	397	(75%)	204	(34%)	2022	(73%)
Europe	123	(10%)	50	(12%)	115	(22%)	342	(56%)	630	(23%)
Asia	20	(2%)	11	(2%)	14	(3%)	56	(9%)	101	(4%)
Others	3		5	(1%)	2		5	(1%)	15	
Total	1208		425		528		607		2768	

Conclusions

This article has examined the results of the intertwining between two key groups of institutions that organise scientific research in the field of management. One group

(mainly university departments) is dedicated to the production of knowledge and is where scholars work; the other is where they exchange of ideas, and is dedicated to the discussion of research results and the definition-recognition of the research agenda. The latter group is centrally defined by journals and their editorial boards and review networks. Our analysis (based on a weighted count of publications in journals that are likely to be cited by future generations of researchers) shows how this intertwining has been changing over recent years, with particular reference to the institutions that produce knowledge.

US universities have established the field of basic research in management as we know it today, and US scholars have been deeply involved in professional associations, journal creation and journal management. Their central position both enhances their reputation and has been self-reinforcing. Our analysis of the journal outputs of research programmes of the last 13 years suggests that, although the US is still the leading management research nation, its position is declining steadily, and other regions are emerging. There is particular strength in Canada, the UK, Netherlands, Australia and selective parts of Asia.

Our data also shows that this is not an industry dominated by one or two institutions, but rather research is concentrated among perhaps a few hundred universities and research institutes world-wide. In this set, the US universities have quite stable positions (defined by market share of journal outputs) with respect to each other, but not with respect to non-US institutions. Some European and Asian institutions are emerging rapidly as important actors, and creating new regional centres, with new data, new methods and new ideas. This is creating a new conversation among the research community, and new opportunities for scholars involved in teaching and research.

Our findings have important implications for policy makers and businesses. Our data suggest that European and Asian students, businesses and policy makers need no longer travel to the US for dialogue with groups of the best academics: in fact many top quality research institutions now lie outside the US. While have identified some of the more prominent and established institutions in our lists, of course we recognise that there are top thinkers and excellent researchers at other institutions not listed here.

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Appendix

Methods

Our database includes 65,480 articles published in 149 journals by 58,418 different authors around the world between 1992 and 2005. The journals (see table below) were selected on the basis that they were listed in Thompson's Journal Citation Reports (JCR) in the fields of *Business, Business – Finance, Management and Public Administration,* and more than half of the journals we identified belong to more than one category (mean 1.6). Two publications were excluded: *Fortune Magazine* (which is not a peer reviewed academic publication) and *Betriebswirtzschaft* (which does not have English text, and is therefore not easily accessible to scholars world-wide). Because the JCR lists all the major journals in the broad field of management, along with about 80% of all other journals of any significance, our coverage of scientific journal papers is probably over 90%.

For each journal we identify all papers and their authors, together with all the authors' institutional affiliations. If a journal was not in the list for a particular year, we did not count the articles published in that journal in that year. No institution can score more than once per paper, and each listed institution is given equal merit. (Checking a sub-sample revealed that partial weighting made no significant difference to the results.) Institutions are classified by parent organisation (typically a university, a research institution or even a firm), and we identified more than 8,040 such organisations world wide. This method means that institutions with several departments producing management research (such as London School of Economics or Erasmus University Rotterdam) are identified as single entities. We also assigned institutions to countries (assigning the only multicountry institution - INSEAD -to France).

We weight each journal entry by the Thomson Citation Score for the relevant journal in the relevant year (with the most recent weights listed in the table below). Our weighting system means that a piece in a prestigous journal (which is more likely to make a significant scientific impact) is counted more heavily than one published in a minor journal, which has less chance of making an impact. The table shows that most prestiguous journals as having a JCR score of between 1.0 and 4.0, almost 10

times that of minor journals.

The final result gives a picture of the publication outputs for each institution (or country) for each year on this weighted basis. We checked the whole of our results by removing the weighting system, and found - as we expected - a close correlation between the lists. We have also checked to see if different author weightings would cause the results to differ much, and they did not.

Note on Impact Factors

Impact factors are calculated each year by Thomson Scientific and are published six months later in the JCR. To see how they are calculated, we give an example for the JCR Impact factors for 2005. If:

A = the number of times articles published in the chosen journal in the two years 2003 and 2004 were cited in the all 1700 indexed journals (regardless of field) in the Thomson database during the year 2005;and

B = the number of 'citable items' (that is proper articles, not editorials and letters-to-the-Editor) published in the chosen journal in the two years 2003 and 2004;

The 2005 JCR impact factor = A/B

The appendix Table presents the list of journals with their JCR categories, ranked by their 2005 Impact Factor (IF2005), as well as the total number of citations received by each journal (TC2005). Major journals and interdisciplinary journals receive the highest number of citations, as the knowledge they disseminate is generic enough to spill over on other disciplines.

Appendix Table at end of text

Table 1: Country Shares

Country	1992 Share	2005 Share	Forecast Share 2006	Growth Rate	S. Error
USA	830	605.7	603.0	- 15.17	1.35
UK	41.4	80.7	96.7	3.20	0.77
Canada	35.2	50.8	44.7	0.68	0.40
Netherlands	7.2	33.8	32.1	1.82	0.20
Australia	5.7	25.7	25.0	1.16	0.25
Pr China	2.4	21.0	27.4	1.26	0.31
France	9.5	19.9	20.9	0.69	0.14
Germany	4.0	17.8	16.4	1.03	0.12
Spain	5.5	13.1	11.5	0.80	0.11
Taiwan	1.4	13.0	6.7	0.54	0.13
Singapore	0.6	11.6	9.8	0.72	0.11
South Korea	2.5	10.0	9.1	0.38	0.12
Belgium	7.9	9.1	6.1	0.19	0.12
Sweden	0.8	9.0	11.2	0.53	0.12
Italy	3.6	8.4	11.6	0.51	0.11
Israel	10.6	7.7	9.9	- 0.11	0.20
New Zealand	2.1	7.6	6.3	0.29	0.12
Switzerland	2.1	7.1	5.8	0.37	0.07
Denmark	2.3	5.7	5.7	0.34	0.06
Japan	2.8	5.0	5.4	- 0.03	0.14
Norway	0.9	4.8	5.4	0.24	0.07
Finland	4.4	4.4	4.8	0.13	0.07
Austria	0.5	4.3	2.9	0.21	0.05
Turkey	0.2	3.3	2.4	0.20	0.03
Greece	0.8	2.9	2.0	0.08	0.08
India	3.0	2.4	1.8	- 0.13	0.08
Ireland	0.8	2.0	1.6	0.01	0.05
Brazil	0.1	1.9	1.8	0.10	0.04
Portugal	1.2	1.8	2.0	0.09	0.05
Chile	1.2	1.0	0.9	- 0.02	0.04

Share Figures are parts per '000
Growth rates and Forecasts are based on trend data from 1992 to 2005

Table 2 The World's Top Schools

SCHOOL	World Rank 2005	US Rank 2005	RoW Rank	Share 2005	Growth 92 - 05	Forecast 2006	Std Error	Forecast Rank 2006	FT Rank 2006	Dallas Rank 2006
USA - Univ. Penn	1	1		14.05	- 0.66	13.50	0.20	2	2	1
USA - Harvard Univ.	2	2		13.81	0.13	19.83	0.34	1	1	3
USA - Univ. Michigan Ann Arbor	3	3		11.75	- 0.53	10.25	0.15	5	14=	9
USA - Stanford Univ.	4	4		10.92	0.00	11.42	0.20	4	4	11
USA - Duke Univ.	5	5		10.75	0.16	9.49	0.10	7	7	5
USA - New York Univ.	6	6		10.70	0.12	12.49	0.17	3	8=	2
USA - Natl Bur Econ Res	7	7		10.62	- 0.30	8.97	0.20	10		
USA - Univ. Texas Austiin	8	8		9.77	- 0.69	7.06	0.22	23	19	10
USA - Univ. Chicago	9	9		9.72	0.01	8.93	0.17	13	3	4
USA - Northwestern Univ.	10	10		9.26	- 0.49	7.55	0.13	20	13	12
USA - Univ. Maryland Coll. Pk	11	11		9.25	0.23	8.95	0.10	11	5=	7
USA - Univ. Minnesota	12	12		9.25	- 0.24	7.69	0.14	18	23=	16
USA - Univ. So Calif	13	13		8.91	- 0.10	8.94	0.12	12	20=	15
USA - Texas A&M Univ.	14	14		8.87	- 0.14	6.27	0.09	29	37=	44
USA - Indiana Univ.	15	15		8.71	- 0.41	6.19	0.18	31	37=	23
USA - Columbia Univ., NY	16	16		8.54	- 0.30	9.38	0.11	8	5=	8
UK - London Business Sch	17		1	8.29	0.39	8.48	0.18	16	11=	24
Netherlands - Univ. Erasmus	18		2	8.26	0.49	7.40	0.07	22	81=	80
USA - M.I.T.	19	17		8.10	- 0.14	9.53	0.18	6	14=	6
USA - Univ. Calif Los Angeles	20	18		8.02	0.09	9.32	0.15	9	17	13
USA - Arizona State Univ. Tempe	21	19		8.01	- 0.12	5.90	0.10	34	35=	33
USA - Cornell Univ.	22	20		7.78	0.03	8.11	0.19	17	23=	34
USA - Univ. Calif Berkeley	23	21		7.43	- 0.41	6.53	0.20	28	8=	31
USA - Penn State Univ.	24	22		7.24	- 0.16	7.44	0.14	21	23=	17
France - INSEAD inc Singapore	25		3	6.66	0.32	8.66	0.08	14	11=	14
USA - Ohio State Univ.	26	23		6.64	- 0.20	5.55	0.09	36	31=	25
Netherlands - Univ. Tilburg	27		4	6.16	0.45	6.89	0.05	25		55
USA - Univ. Illinois Urbana	28	24		5.96	- 0.56	4.85	0.22	42	31=	21
Canada - Univ. Toronto	29		5	5.87	0.28	6.03	0.10	32	23=	37
USA - Carnegie Mellon Univ.	30	25		5.82	- 0.10	5.80	0.14	35	31=	27
USA - Michigan State Univ.	31	26		5.57	0.21	8.57	0.09	15	31=	18
USA - Univ. Washington	32	27		5.56	0.14	7.61	0.17	19	20=	22
Canada - Univ. Brit. Columbia	33		6	5.41	- 0.12	3.59	0.11	63	35=	39
USA - Emory Univ.	34	28		5.38	0.31	6.61	0.09	27	20=	20
USA - Rutgers State Univ.	35	29		5.23	0.05	6.03	0.13	33		67
UK - Univ. Manchester	36		7	5.16	0.15	5.28	0.13	38	73=	
Canada - Univ. West'n Ontario	37		8	5.02	0.11	4.58	0.09	48	23=	50
USA - Georgia State Univ.	38	30		4.93	- 0.06	5.04	0.08	40		48
USA - Univ. Wisconsin - Madison	39	31		4.75	0.06	6.23	0.13	30	37=	32
USA - Univ. South Carolina	40	32		4.74	- 0.45	2.39	0.14	102	45=	46
USA - CUNY Bernard M Baruch	41	33		4.73	0.08	3.83	0.07	57		57=
UK - Univ. Nottingham	42		9	4.69	0.30	4.74	0.05	45	73=	
USA - Univ. Florida	43	34		4.67	- 0.11	4.80	0.11	44		28
P R China - Hong Kong U.S.T.	44		10	4.61	0.19	6.94	0.16	24		29
USA - Univ. Virginia	45	35		4.60	0.08	5.01	0.11	41	51=	76=
Singapore - Natl Univ. Singapore	46		11	4.59	0.30	5.48	0.09	37	70	52
USA - Georgia Inst. of Tech.	47	36		4.48	0.14	3.62	0.08	62	58=	59
USA - Yale Univ.	48	37		4.44	- 0.05	4.35	0.12	51	23=	42
Australia - N.S.W AGSM	49		12	4.41	0.16	3.88	0.06	56	51=	70
USA - Boston College	50	38		4.40	- 0.12	3.06	0.11	80	47=	47
USA - Miami Univ.	51	39		4.33	0.16	4.83	0.08	43	58=	45
USA - Boston Univ.	52	40		4.28	0.03	4.41	0.07	50	47=	49
USA - Univ. Connecticut	53	41		4.19	0.02	4.32	0.07	52		60
USA - UNC at Chapel Hill	54	42		4.18	- 0.04	6.71	0.14	26	23=	19
USA - Univ. Arizona Tucson Eller	55	43		4.15	- 0.29	2.91	0.11	83	47=	57=

USA - Indiana Purdue Indianapolis	56	44		4.04	- 0.01	5.18	0.08	39	41=	30
UK - Oxford Univ.	57		13	3.91	0.21	4.49	0.06	49	51=	
USA - Univ. Georgia Terry	58	45		3.85	- 0.22	3.83	0.10	58	62=	73
USA - Univ. Pittsburgh	59	46		3.80	- 0.07	3.66	0.10	61	47=	40
USA - Univ. Calif Irvine	60	47		3.78	- 0.07	3.39	0.10	66	18	36
Belgium - Catholic Louvain	61		14	3.77	0.11	3.10	0.08	79		
USA - Univ. Notre Dame	62	48		3.68	0.18	4.71	0.08	46	37=	38
Canada - Univ. M'treal & HEC	63		15	3.65	0.11	3.68	0.04	60		
USA - Louisiana State Univ.	64	49		3.33	- 0.31	1.39	0.11	171		
Netherlands – Gronigen Univ.	65		16	3.32	0.15	3.38	0.03	67		
USA - Dartmouth College	66	50		3.30	0.12	4.04	0.08	55	8=	41
Canada - Concordia Univ.	67		17	3.24	0.07	2.09	0.05	119		
USA - Vanderbilt Univ.	68	51		3.23	- 0.05	2.72	0.09	91	51=	71=
USA - Univ. Arkansas Fayetteville	69	52		3.22	- 0.06	1.73	0.09	145		88
USA - George Washington Univ.	70	53		3.21	0.08	3.25	0.07	74	62=	65
USA - Washington Univ.	71	54		3.21	0.15	4.24	0.05	53	16	
USA - SUNY Buffalo	72	55		3.20	0.04	2.40	0.10	101		86=
USA - Case Western Res. Univ.	73	56		3.18	- 0.03	3.50	0.06	64	58=	54
P R China - Chinese Univ. H.K.	74		18	3.10	0.18	4.58	0.09	47		78=
UK - Ctr Econ Policy Res	75		19	3.10	0.10	2.75	0.10	89		
USA - Fed Reserve Bank	76	57		3.04	- 0.22	3.27	0.19	73		
Canada - Univ. Alberta	77		20	3.00	0.01	2.93	0.08	81		78=
USA - Syracuse Univ.	78	58		2.99	- 0.10	2.10	0.06	118		
Netherlands - Maastricht	79		21	2.98	0.26	3.42	0.05	65		
P R China. - City Univ. H. Kong	80		22	2.97	0.20	3.73	0.06	59		98
USA - Florida State Univ.	81	59		2.96	0.03	3.21	0.05	75		91=
Australia - Univ. Melbourne	82		23	2.95	0.22	3.32	0.05	68	73=	
USA - Univ. Nebraska Lincoln	83	60		2.94	0.05	2.09	0.04	120		
Belgium. - Univ. Ghent	84		24	2.92	0.07	1.62	0.05	151		
Singapore - Management U.	85		25	2.92	0.15	1.57	0.04	157		
USA - Univ. Iowa	86	61		2.92	- 0.20	1.93	0.05	132	41=	53
USA - Univ. Oklahoma	87	62		2.88	- 0.01	3.10	0.07	78		71=
USA - Univ. Colorado at Boulder	88	63		2.79	- 0.44	1.26	0.12	183		66
USA - Temple Univ.	89	64		2.77	- 0.04	2.48	0.06	97	81=	84
USA - Princeton Univ.	90	65		2.69	0.01	1.99	0.09	128		
USA - Univ. Illinois	91	66		2.67	- 0.16	2.55	0.06	95		
USA - WORLD BANK	92	67		2.66	- 0.66	1.44	0.21	167		
Denmark - Univ. Copenhagen	93		26	2.65	0.13	2.43	0.03	99		
USA - Virginia Polytech Inst	94	68		2.61	- 0.16	2.88	0.07	84		95
USA - Int Monetary Fund	95	69		2.59	- 0.01	1.61	0.08	152		
USA - Rensselaer Polytech. Inst.	96	70		2.57	0.11	2.21	0.05	109		
USA – Babson Coll.	97	71		2.57	0.18	2.76	0.06	88	81=	
USA - Tulane Univ.	98	72		2.56	0.06	2.85	0.03	86	62=	56
USA - Univ. Houston	99	73		2.45	- 0.16	2.30	0.08	106		74=
USA - Univ. T'ssee Knoxville	100	74		2.44	0.03	2.24	0.06	108		
Canada - Simon Fraser Univ.	101		27	2.43	0.02	1.77	0.05	139		94
USA - Texas San Antonio	102	75		2.43	0.09	1.78	0.03	138		
USA - Univ. Kentucky	103	76		2.43	0.08	3.30	0.09	71		89=
Singapore - Nanyang Tech	104		28	2.43	0.15	2.30	0.03	107	73=	74=
UK - Univ. Cambridge	105		29	2.39	0.12	3.30	0.06	70	51=	
UK - Univ. Warwick	106		30	2.38	0.13	4.04	0.07	54	81=	
Australia - Univ. Queensland	107		31	2.35	0.11	2.19	0.05	110		
USA - Drexel Univ.	108	77		2.34	0.06	1.99	0.03	129		
Canada - McGill Univ.	109		32	2.31	- 0.10	1.94	0.07	130	45=	63
UK - Univ. London L.S.E.	110		33	2.22	0.01	2.66	0.05	92		
USA – S. Methodist Univ.	111	78		2.22	- 0.13	2.48	0.09	96	62=	62
USA - Univ. Cent Florida	112	79		2.22	0.23	3.29	0.05	72		
USA - Univ. S. Florida	113	80		2.20	0.09	2.12	0.04	116		
Netherlands - Eindhoven	114		34	2.19	0.12	1.72	0.03	147		
USA - Univ. Mississippi	115	81		2.19	0.09	1.89	0.05	134		
USA - Univ. Calif Davis	116	82		2.19	0.04	2.38	0.08	103	30	69

Italy - Bocconi Univ.	117		35	2.18	0.21	2.74	0.04	90	73=	
UK - Univ. Cranfield	118		36	2.11	0.09	1.92	0.05	133	86=	
Israel - Hebrew Univ. Jerusalem	119		37	2.11	0.01	2.61	0.10	94		96=
UK - City Univ.	120		38	2.11	0.08	1.79	0.03	137	86=	
USA - SUNY Binghamton	121	83		2.09	0.07	2.02	0.07	125		
Canada - York Univ.	122		39	2.07	0.07	2.06	0.04	123	41=	76=
South Korea - Yonsei Univ.	123		40	2.06	0.06	1.00	0.03	216		
Netherlands - Amsterdam	124		41	2.05	0.09	2.14	0.06	114		
USA - Univ. Dayton	125	84		2.00	0.08	1.27	0.03	182		
USA - Univ. N Carolina	126	85		1.94	0.01	1.58	0.06	156		
Australia - Monash Univ.	127		42	1.94	0.10	2.00	0.04	126		
USA - Oklahoma State Univ.	128	86		1.92	- 0.10	1.15	0.06	195		
USA - Georgetown Univ.	129	87		1.92	- 0.06	2.81	0.10	87	73=	
New Zealand - Univ. Auckland	130		43	1.91	0.09	2.10	0.06	117		
Australia - Univ. Sydney	131		44	1.90	0.11	1.77	0.04	140		
USA - Univ. Wisconsin - M'kee	132	88		1.86	- 0.04	1.57	0.04	158		96=
USA - Texas Christian Univ.	133	89		1.85	0.07	1.43	0.03	168		
Germany - Univ. Mannheim	134		45	1.83	0.10	1.77	0.05	142		
New Zealand - Univ. Victoria	135		46	1.83	0.05	1.25	0.04	184		
UK - Univ. Lancaster	136		47	1.82	0.09	2.16	0.05	113	86=	
USA - Bentley Coll	137	90		1.82	0.08	1.65	0.03	150		
USA - Univ. Illinois at Chicago	138	91		1.81	0.05	2.92	0.05	82		
USA - Univ. Missouri - Columbia	139	92		1.81	- 0.06	2.14	0.06	115		100
USA - Univ. Memphis	140	93		1.80	0.11	2.05	0.07	124		
Sweden - Stockholm Sch Econ	141		48	1.79	0.08	2.33	0.05	104		
Finland - Univ. Helsinki	142		49	1.79	0.13	2.18	0.04	111		
Austria - Univ. Vienna	143		50	1.79	0.10	1.51	0.03	161		
USA - Iowa State Univ.	144	94		1.77	0.04	2.31	0.05	105		
USA - George Mason Univ.	145	95		1.74	0.06	1.99	0.05	127		
France - HEC	146		51	1.73	0.02	1.03	0.04	209	89	81
Canada - Univ. Calgary	147		52	1.72	0.02	1.81	0.06	136		86=
USA - Northeastern Univ.	148	96		1.72	0.09	2.44	0.07	98		
USA - Univ. Colorado Denver	149	97		1.71	0.03	1.21	0.06	191		
USA - Univ. Utah	150	98		1.71	0.06	3.20	0.11	76		51
USA - Texas Tech Univ.	151	99		1.70	- 0.19	0.86	0.08	241		
Netherlands - Univ. Twente	152		53	1.69	0.07	1.05	0.02	206		
USA - Rice Univ.	153	100		1.68	0.15	3.32	0.06	69	41=	64
UK - Univ. Aston	154		54	1.67	0.12	1.69	0.02	149		
USA - Univ. Oregon	155	101		1.62	0.04	2.08	0.06	122		82
P R China. - H. Kong Polytech	156		55	1.60	0.22	3.12	0.05	77		91=
USA - North Carolina State Univ.	157	102		1.59	- 0.01	1.77	0.04	141		
Switzerland - Univ. St Gallen	158		56	1.54	0.07	1.06	0.03	204		
Canada - Univ. Waterloo	159		57	1.53	0.00	0.96	0.05	224		
Germany - Max Planck Jena	160		58	1.50	0.05	0.54	0.02	274		
UK. - Univ. De Montfort	161		59	1.50	0.10	1.43	0.03	169		
USA - Univ. Delaware	162	103		1.44	0.03	2.18	0.07	112		89=
UK - Univ. Strathclyde	163		60	1.41	0.14	2.63	0.05	93		
USA - Texas Richardson	164	104		1.39	0.01	1.20	0.06	192		
USA - Wichta State Univ.	165	105		1.36	0.06	0.87	0.03	240		
France - Univ. Toulouse	166		61	1.36	0.06	1.51	0.04	162		
USA - Wayne State Univ.	167	106		1.36	- 0.04	1.23	0.06	187		
South Korea - Seoul National	168		62	1.35	0.13	1.74	0.03	144		
UK - Univ. Birmingham	169		63	1.34	0.07	1.71	0.04	148	96	
USA - Florida Atlantic Univ.	170	107		1.33	- 0.01	1.27	0.06	181		
USA – St Louis Univ.	171	108		1.33	0.04	1.07	0.03	202		26
USA - Brigham Young Univ.	172	109		1.33	0.12	2.85	0.06	85		61
P R China - Univ. Hong Kong	173		64	1.32	0.14	2.09	0.03	121		
USA - San Diego State Univ.	174	110		1.31	0.04	1.28	0.03	179		
Australia - Griffith Univ.	175		65	1.30	0.10	1.39	0.02	170		
USA - Univ. Rochester	176	111		1.30	- 0.21	1.60	0.09	153	62=	43
Norway - Univ. Bergen	177		66	1.29	0.06	1.45	0.04	166		

USA - Univ. Texas Dallas	178	112		1.27	- 0.13	0.39	0.06	288		35
Spain - Univ. Carlos III Madrid	179		67	1.26	0.08	1.22	0.03	189		
USA - Washington State Univ.	180	113		1.22	0.00	2.42	0.09	100		85
USA - New Mexico State Univ.	181	114		1.20	0.06	1.00	0.03	217		
UK - Univ. Reading	182		68	1.20	0.06	1.31	0.04	177		
Taiwan - Natl Chiao Tung Univ.	183		69	1.20	0.05	0.73	0.02	251		
P R China - Univ. Beijing	184		70	1.19	0.09	1.02	0.03	210		
UK - Univ. Bath	185		71	1.19	0.06	1.51	0.03	160	58=	
USA - Univ. Hawaii	186	115		1.19	- 0.14	0.63	0.08	266		
South Korea - Korea Univ.	187		72	1.19	0.07	1.29	0.04	178		
USA - Wake Forest Univ.	188	116		1.18	0.10	1.93	0.03	131	51=	99
Denmark - Univ. Aarhus	189		73	1.18	0.10	1.37	0.02	173		
USA - DePaul Univ.	189	117		1.18	0.03	0.94	0.03	229		
USA - Baylor Univ.	191	118		1.18	0.04	1.00	0.03	218		
Switzerland - Zurich	192		74	1.17	0.07	0.77	0.02	246		
UK - Univ. Leeds	193		75	1.17	0.03	1.73	0.06	146	73=	
USA - Univ. Kansas	194	119		1.16	0.02	1.81	0.05	135		
Canada - Wilfrid Laurier Univ.	195		76	1.16	0.05	1.11	0.02	197		
Canada - Univ. Manitoba	196		77	1.16	0.03	0.92	0.03	231		
USA - Univ. Akron	197	120		1.16	- 0.10	0.51	0.06	279		
UK - Univ. Loughborough	198		78	1.15	0.06	1.01	0.02	213		
USA - Univ. Calif Riverside	199	121		1.15	- 0.08	0.95	0.06	225		83
Netherlands - Free Univ. A'rdam	200		79	1.14	0.08	1.75	0.04	143		
Israel - Tel Aviv Univ.	201		80	1.13	- 0.25	1.23	0.11	188		
UK - Univ. Leicester	202		81	1.12	0.06	0.99	0.02	219		
Ireland - Univ. Coll Dublin	203		82	1.10	0.04	0.79	0.03	244	91	
USA - Florida Inst of Technology	204	122		1.09	- 0.16	0.96	0.05	222		
USA - Univ. Calif Santa Barbara	205	123		1.09	0.05	1.07	0.03	203		
UK - Univ. Sussex	206		83	1.09	0.00	1.48	0.07	165		
Canada - Univ. Quebec	207		84	1.06	0.02	0.97	0.03	220		
USA - Clemson Univ.	208	124		1.06	- 0.23	0.17	0.06	297		
Sweden - Lund Univ.	209		85	1.03	0.10	1.33	0.03	176		
USA - IBM	210	125		1.02	- 0.05	0.75	0.04	248		
Australia - Natl Univ.	211		86	1.02	- 0.04	0.91	0.05	233		
Netherlands - Univ. Tech Delft	212		87	1.01	0.04	0.97	0.02	221		
USA - Old Dominion Univ.	213	126		1.00	0.01	0.88	0.02	238		
Italy – Univ. Bologna	214		88	1.00	0.06	1.01	0.02	211		

All data are citation weighted counts of Journal Publication Share Figures are parts per '000

The Forecast for 2006 is based on trend data from 1992 to 2005
The Forecast rank inevitably misses some data, as it takes into account institutions not listed here,
Several schools in the FT Global MBA ranking are not in our list but we preserve their ranking numbers
In the Dallas list we have tried to allocate all schools but there are a few omissions due to ambiguity in the correspondence between schools and universities

Appendix Table: Journals Ranked by Impact Factor in 2005

JOURNALS	IF2005	TC2005	JCR Categories
Mis Quart	4.978	2395	Information science and library science, Management
Acad Manage Rev	4.254	6387	Business, Management
J Marketing	4.132	5307	Business
Market Sci	3.788	1724	Business
Admin Sci Quart	2.719	5906	Business, Management
J Market Res - Chicago	2.611	4495	Business
J Finan	2.549	8235	Business - finance
J Finan Econ	2.385	5404	Business - finance, Economics
Hum Resource Manage	2.378	1167	Industrial relations & labor, Management
Acad Manage J	2.2	6944	Business, Management
J Consum Res	2.161	4356	Business
J Risk Uncertainty	2.1	880	Business - finance, Economics
Organ Sci	1.989	3142	Management
Strategic Manage	1.897	6137	Business, Management
Rev Financ Stud	1.893	1984	Business - finance
J Account Econ	1.877	1413	Business - finance, Economics
J Bus Venturing	1.846	1279	Business
Res Policy	1.835	2470	Management, Planning and development
Leadership Quarterly	1.75	794	Psychology - applied, Management
Account Rev	1.69	1256	Business – finance
Manage Sci	1.669	8367	Management
J Account Res	1.635	1343	Business - finance
J Inform Technol	1.543	347	Information science and library science, Management
J Manage	1.535	2562	Business, Management
J Environ Econ Manage	1.529	1714	Business, Economics, Environemental Studies
Inform Management	1.524	1230	Information science and library science, Management
J Acad Mark Sci	1.485	1336	Business
J Public Adm Res Theory	1.451	416	Public Administration
Financ Stoch	1.429	397	Business - finance
J Manage Inform Syst	1.406	1167	Information science and library science, Management
Harvard Business	1.404	4475	Business, Management
Governance	1.349	294	Public Administration
Math Financ	1.345	672	Business - finance
J Manage Stud - Oxford	1.326	1622	Business, Management
Acad Manage Exec	1.319	930	Business, Management
Organization	1.28	507	Management
Organ Stud	1.278	1187	Management
Organ Behav Hum Decision Proc	1.275	3482	Psychology applied, Management, Psychology social
World Bank Econ Rev	1.27	577	Business - finance, Economics, Planning & dev't
J Int Bus Stud	1.25	1788	Business, Management
Int J Res Mark	1.222	592	Business
Entrep Reg Dev	1.174	318	Economics, Management
J Public Policy Marketing	1.158	395	Business, Public Administration
Int J Electron Commer	1.143	292	Business, Information science and library science
New Technol Work Employ	1.129	123	Ergonomics Management
J Financ Intermed	1.118	278	Business - finance
Int J Manag Rev	1.111	74	Business, Management
Organ Res Methods	1.103	277	Business, Management
Public Admin Rev	1.099	1197	Public Administration
J Organ Behav Manage	1.074	220	Psychology - applied, Management
Decision Sci	1.055	1325	Management
Long Range Plann	1.054	595	Business, Management, Planning and development
Calif Manage Rev	1.018	1274	Business, Management
J Finan Quant Anal	1.00	1027	Business - finance, Economics
J Money Credit Banking	0.98	1128	Business - finance
Finan Manage	0.976	471	Business - finance
J Financ Mark	0.974	176	Business - finance

Manage Learning	0.952	246	Management
Public Admin	0.924	580	Public Administration
J Prod Innovat Manage	0.917	867	Business, Management
J World Bus	0.895	279	Business
J Retail	0.894	1037	Business
J Corp Financ	0.883	221	Business - finance
Account Organ Soc	0.871	701	Business – finance
Ieee Trans Eng Manage	0.864	623	Business, Management
Psychol Market	0.857	553	Business, Psychology - applied
J Policy Anal Manag	0.855	596	Public Administration
Brit J Manage	0.855	420	Business, Management
Nat Tax J	0.84	777	Business - finance, Economics
J Econ Manage Strategy	0.84	360	Economics, Management
Hum Relat	0.817	2140	Management, Social sciences - interdiscipinary
Technol Forecast Soc Change	0.811	532	Business, Planning and development
J Bus	0.792	1575	Business
Bus Ethics Q	0.778	313	Business, Management
J Manage Inquiry	0.778	218	Management
Ind Market Manag	0.763	697	Business, Management
Contemp Account Res	0.759	401	Business
Bus Hist	0.755	133	Business, History of social sciences
Int J Forecasting	0.753	642	Management, Planning and development
World Econ	0.746	400	Business - finance, Economics, International relations
J Adver Res	0.743	847	Business, communication
Mit Sloan Manage Rev	0.719	173	Business, Management
Organ Dyn	0.712	566	Business, Psychology - applied, Management
Admin Soc	0.7	238	Public Administration
Group Decis Negotiation	0.696	189	Management, Social sciences - interdiscipinary
J Bus Res	0.694	1267	Business
J Small Bus Management	0.661	454	Management
Omega - Int J Manage Sci	0.648	704	Management
J Bus Ethics	0.636	1735	Business, Ethics
Int J Service Ind Management	0.635	320	Management
Group Organ Manage	0.622	467	Psychology - applied, Management
Int J Selection Assessment	0.618	252	Psychology - applied, Management
Amer Rev Public Adm	0.615	120	Public Administration
J Oper Res Soc	0.603	1941	Management
Int J Oper Prod Manage	0.597	1038	Management
J Bus Psychol	0.574	252	Business, Psychology - applied
Auditing - J Pract Theor	0.562	176	Business – finance
Tourism Manage	0.56	520	Environmental Studies, Management
J Forecasting	0.552	468	Management, Planning and development
J Ind Econ	0.551	957	Business - finance, Economics
Financ Anal J	0.542	547	Business - finance
J Bank Finan	0.531	1142	Business - finance, Economics
Interfaces	0.524	686	Management
R D Manage	0.506	417	Business, Management
J Int Money Finan	0.505	699	Business - finance
J Bus Tech Commun	0.5	70	Business, communication
J Prod Anal	0.492	420	Business, Economics, Soc sciences – math methods
J Advertising	0.491	642	Business, communication
Amer Bus Law J	0.481	110	Business, Law
J Real Estate Financ Econ	0.473	345	Business - finance, Economics, Urban studies
J Consum Aff	0.465	251	Business
J Portfolio Manage	0.464	331	Business - finance
Environ Plan C - Gov Policy	0.462	280	Environmental Studies, Public Administration
Mark Lett	0.448	301	Business
Adv Strat M	0.444	120	Business, Management
J Int Marketing	0.429	209	Business
Rev Industrial Organ	0.388	255	Economics, Management
Res Technol Manage	0.385	274	Business, Management

Syst Dynam Rev	0.379	185	Management, Social sciences - math methods
Syst Res Behav Sci	0.375	115	Management, Social sciences - interdiscipinary
Int Mark Rev	0.364	282	Business
Aust J Publ Adm	0.338	187	Public Administration
J Risk Ins	0.328	238	Business - finance, Economics
Syst Pract Action Res	0.327	57	Management
J Futures Markets	0.317	351	Business - finance
J Organ Change Manage	0.307	269	Management
Serv Ind J	0.303	213	Management
Bus Hist Rev	0.276	175	Business, History of social sciences
Int J Market Res	0.269	57	Business
Public Interest	0.268	220	Public Administration, Social issues
Emerg Mark Financ Trade	0.259	16	Business - finance
Total Qual Manag Bus Excell	0.253	434	Management
Negotiation J	0.245	132	Management, Social sciences - interdiscipinary
Int J Technol Manage	0.24	337	Management
Int J Financ Econ	0.234	112	Business - finance
Int Rev Adm Sci	0.211	122	Public Administration
Geneva Pap Risk Insur - Iss Pr	0.192	36	Business - finance, Economics
Can J Adm Sci	0.191	96	Business, Management
Financ A Uver	0.173	36	Business - finance
Int J Manpower	0.171	131	Management
Admin Soc Work	0.146	137	Public Administration, Social work
Public Pers Manage	0.119	167	Industrial relations & labor, Public Administration
Can Publ Admin	0.067	69	Public Administration
Advan Consum Res	0.031	727	Business
Journals Once Included But Now Excluded			
Human Resource Manag'nt Rev			Psychology - applied, Management
J Collect Neg Pub Sec			Industrial relations & labor, Public Admin., Manag'nt
J Finan Serv Res			Business - finance
J Market Res Soc			Business
Russ East Eur Financ Trade			Business, International relations

Notes:
IF 2005: Impact Factor for 2005
TC2005: Total citations for the journal in 2005
Source: Thompson ISI

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