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Judging the Quality of Research in Business Schools: The UK as a Case Study

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This article examines how the research quality of management departments and business schools may be assessed. We define the most influential business and management studies journals by their 10-year citation impact. Most of these journals are based in the US. We examine the extent to which UK business schools publish in the most cited journals, and find a surprisingly small presence, even from those business schools classified as 'internationally excellent' by the most recent government-sponsored Research Assessment Exercise (RAE). Comparisons are made with US business schools. We then show that British academics publish mainly in British-based journals. Reasons for this situation and reactions to it are discussed.

Key words—research evaluation, citation analysis, journal influence, Research Assessment Exercise, Business and Management Studies, academic insularity

INTRODUCTION

HOW SHOULD ONE compare the quality of management research in business schools? Similar questions might be asked at the individual level, or about the relative standing of countries. Two broad avenues of attack have been used in the past. In the one, experts in the field (usually departmental chairs), rate other departments. In the other, publicly available data (such as research publications) is used to measure performance. A recent study by Armstrong and Sperry [1] brings together both these methods.

In this paper we concentrate on the assessment of UK business schools. This in itself is unusual, since most published studies delimit their interest to the US. However, the UK case is interesting for another reason. The UK government is very well advanced along the road of gearing central research funding (*c* £650 m per annum) to research performance. All university departments (including business schools/departments) are assessed on a periodic basis: the last Research Assessment Exercise was in 1992; the next will be in 1996. We will refer to these as RAE-92 and RAE-96. In RAE-92 each department was given a grade from 1 (lowest) to 5 (highest), and a formula translated grading into per-capita funding.

With the concentration of resources in a few departments comes a concentration of research (which is one of the government's acknowledged intentions) as the level of funding to departments graded 3 and below makes it difficult to sustain or develop a strong research presence. The indications are that the gearing for RAE-96 will further increase the differential between departments graded 5 and 1.

But it is not just direct funding which matters. A good grading authenticates a department both externally in the eyes of prospective students, industrial collaborators, job applicants, etc., but also in the pecking order within its own university. Finally, the behaviour and

self-definition of individual academics is changed. It is now common for UK academics to talk about 5-rated departments (as if they were a category somehow set apart), 5-rated journals, and even 5-rated researchers.

Although our case study is about UK business schools, the paper should be of interest, perhaps even concern, to academics in any country which is thinking about, or actually *is* setting out on a similar road. The paper also presents the elements of a methodology by which any business school can more informally assess its own performance.

In RAE-92 there were 72 units of assessment (e.g. Business and Management Studies, Economics, Physics, etc.) which were assessed by 62 panels, so that for most disciplines there was a one-to-one match between units and panels. The size of the panels ranged from 5 to 12 people, depending on the size of the discipline, and membership was drawn from senior members of what usually turned out to be well-ranked departments. In particular, very few members were not British, and very few were not academics. Each department made a submission, detailing its research outputs and inputs in the period 1988–1992 according to a fairly rigid format.

The exact modus operandi was left to each panel to decide. The official report on the conduct of RAE-92 [13] describes two diverging case-histories. The Music panel commented that "the statistical information provided ... proved to be of very little use", whereas the Electrical and Electronic Engineering panel made full use of the data in what may be described as a *spreadsheet weighting + subjective adjustment* approach. Nonetheless, the guidelines to panel members did emphasize above all else that publications and other output (e.g. musical scores, software) should "form a major part in the assessment" [14].

RAE is possibly unique among assessments in that accurate, up-to-date, and fairly comprehensive information was available about all units. The panels met a number of times, and were presumably very aware of their responsibilities to those being assessed. We may contrast RAE with a good, but typical, example of the rating method: Armstrong and Sperry [1] used surveys of a large number of experts, each expert having only to make impromptu judgements. We might expect systematic bias to occur in these assessments, favouring historic over recent performance, and favouring larger (and therefore more prominent) institutions.

The UK Research Assessment Exercise, therefore, deserves to be taken seriously as a case study in the process of research assessment.

The picture of management research in the UK which emerged from RAE-92 is that, at its best, it is as good as any in the world. The peer-review panel gave 7 business and management departments a grade 5—which meant that the quality of their research was seen to equate to "attainable levels of international excellence in some sub-areas of activity". A further 5 departments were given grade 4, indicating the possibility of international excellence in some of their work. Thus 33% of management researchers were working in departments where research of 'international excellence' was judged to be taking place.

The concept of international excellence (compared with merely national excellence, or no excellence at all) was the cornerstone of the grading system, but despite its importance no further guidance was given in exactly how to interpret the concept. Panels for different subjects in the RAE-92 were left to interpret it in their own way. One member of the accountancy panel has written:

> "The panel inevitably had to take a pragmatic ('we know it when we see it') view on this subject, but international excellence remains vague and is therefore a difficult concept to apply in the ranking of accounting departments" [15, p. 385].

In contrast to RAE-92, a second, equally recent judgement takes a different view of the quality of research in the UK. In response to concern at the low rate of success of applications for its research grants, the Economic and Social Research Council established a Commission on Management Research, chaired by Professor George Bain, Principal of the London Business School. The Bain Report found that poor quality was the reason for the low level of funding for grant applications, asserting that "Much management research has lacked the rigour and critical reflection more common in other social science disciplines. Studies have

tended to be atheoretical and non-comparative" [2].

How could two such considered views be so divergent? The discrepancy illustrates the need for a systematic approach. We argue that it is first necessary to establish criteria for international excellence and, where possible, methods for measuring it. The futures of individual academics, of departments and of even whole universities can rest upon these judgements as the case of the UK demonstrates. They should therefore be based upon the best available evidence and the way in which this is analysed should be open to inspection.

QUALITY, EXCELLENCE AND INFLUENCE

What does international excellence mean? RAE-92 used peer review by UK-based academics. Alternatively, we could ask peers from outside this country to judge the international excellence of the work. Other methods would be to look at invitations to give papers at international conferences, or to use overseas sales figures of books, or to assess with whom/where overseas academics wish to spend their sabbaticals. However, we suggest that the most reliable indicator of international excellence is the *influence* that a piece of work has on scholars in the field. Influence may be measured by the extent to which work is cited by others, particularly where it is cited by people from other countries. The concept of 'influence' is not the same as 'quality' or 'international excellence', but we argue that there must surely be a strong relationship. Research may have no perceived influence outside its country of origin and still be of the highest quality, but in such cases claims to international excellence must be scrutinized very carefully.

The publication of articles in refereed journals is usually taken as the single most characteristic indicator of research activity ("In general panels gave most weight to academic journal articles" [13, p. 4]), and it will be our focus too. In the body of this paper we examine the publishing patterns of British business school academics. This shows that British academics rarely publish in the most cited international journals in the field, publishing nearly all their work in British-based journals, frequently in those emanating from the same institution as the authors. The pattern of publication shows parochialism and an unwillingness to compete in the international market for ideas. But why should they? It appears that British business schools can establish secure 'international' reputations (as judged by the RAE peer-review panels) by sticking to their own protected home market.

ASSESSING INFLUENCE

We suggest that the international influence of a piece of work produced by a British academic may be gauged by the number of citations that are made to it [7], provided that the citations do not all come from inside the UK. There are two problems with this operationalization of international influence. First, tracing all the citations made to all the works published by all British academics in a given time-frame is infeasible in practice. Second, since the full harvest of citations is not reaped for a number of years following publication, such an analysis is necessarily retrospective, and thus already out of date.

Instead, we propose to use publication in journals (and in particular in the top journals) as a measure of international influence, where 'top' is defined by the historic tendency of such journals to be cited, so that instead of working with actual citations, we work with expected citations. Colman *et al.* [4] chose this route in their analysis of the research performance of UK Psychology departments, although they in fact limited their attention to publications appearing in the top seven European (chiefly British) psychology journals. Some of the advantages of this approach are: having only to inspect a few top journals, and in being able to estimate the expected influence that recent articles will enjoy without having to wait until so proven.

RATING JOURNALS BY CITATIONS

The Institute for Scientific Information (ISI$^{(R)}$) which publishes the Social Science Citation Index (SSCI$^{(R)}$) also publishes an annual digest called Journal Citation Reports (JCR$^{(R)}$), and we have used the 1991 report as the basis of our analyses. Journals in the JCR are ranked within subject areas by their *impact factor*. This is the number of citations a journal receives to articles published in the 2 years prior to the

report (for the 1991 report it is 1989 and 1990) divided by the number of citable items appearing in the journal during 1989 and 1990. Also listed is *citation half-life* which is the number of publication years previous to 1991 that account for 50% of 1991's citations to that journal.

Our candidate list of journals was taken from the JCR categories Management, Business, Business/Finance, Industrial Relations; and a subset of journals classified as Business/ Personnel Management was selected (also classified as Applied Psychology) which were held to be relevant to management. *Human Relations* and the annual *Research in Organizational Behavior* were also added as a result of a co-citation analysis. This is not a case of special pleading: inspecting the journals which our short-list of journals constantly cited, it became clear that these two journals *had* to be included. A more formal argument will be made, following the introduction of the 'centrality index', below. When citations fall below a certain level, SSCI no longer quotes a half-life. We used this as an initial decision criterion to include only those journals which did have a quoted half-life. Our starting list consisted of 82 journals.

Almost all studies which use citations to assess journals use the 2-year impact factor. Notwithstanding its popularity, the impact factor has some drawbacks. It overestimates the ephemeral: for instance, in the 1991 listings *The Economist* comes out top of the Economics journals. It is unduly sensitive to extrinsic problems (e.g. delays in the distribution of a journal). And the appearance of a single, well-cited article that had been well circulated prior to publication (particularly in a small journal) could inflate a journal's importance. Instead, we have constructed our own *10-year impact factor*, which is the number of citations that the average journal article receives over the 10 years 1982–1991 and have used this as our measure of influence.

We should point out that impact factor, whether counted over 2 years or over 10 years, is not the only bibliometric method of determining a journal's importance (see [5, 9,11] for alternatives). Impact factor does, however, have the merit of being readily understandable, and corresponds closely to our intuitive notion of influence.

One problem which besets Business and Management Studies (B&MS) rather more than other areas of study, is knowing where the edge of the discipline lies. A top-ranking sociology journal may exert influence, in the sense defined above, but only within sociology. It may have little influence within B&MS in the related sense of being cited by management journals. We have therefore constructed an index of *centrality*, defined as the percentage of citations a journal receives (to articles published in the period 1982–1991) from the other 81 journals on the candidate list relative to the total number of citations it receives (1982–1991). Roughly speaking, this measures the degree to which a journal's articles are used (by being cited) by management journals relative to its use by other journals. The centrality index for our 82 journals is in Table 1. It must be stressed that the centrality index says nothing about quality, or degree of influence. It only measures the location of a journal's influence (i.e. does such influence that it has pertain to B&MS journals or to other journals?). We are now able to justify the inclusion of *Research in Organizational Behavior* and *Human Relations* in our candidate list of 82 journals: they have a high centrality index, indicating that they are cited by other B&MS journals.

An alternative view of B&MS is that it is not a single discipline, but a collection of sub-disciplines, grouped, quite often, for administrative or teaching convenience. Under this assumption it would then make sense to draw up lists of journals for all the sub-disciplines separately. Although appealing, there are practical problems with this approach. How are the sub-disciplines to be defined? Do all sub-disciplines deserve the same weight in the form of the number of journals on their list? Where do generalist and specialist journals fit in? Finally, the concept of centrality re-appears, for where is one to end the inclusion of relevant sub-disciplines: with economics, sociology, statistics, public administration, politics, law . . .?

In summary, our approach parallels the conclusions of the UK Higher Education Funding Councils who, reflecting on RAE-92, noted:

> "It has been suggested that this very large unit [B&MS] be subdivided. It is, again, difficult to see a way in which it can be subdivided in a way that would be consistent with organisational structures in the majority of institutions" [13, p. 18].

In this and the next section we *choose* to concentrate on the 20 most cited journals. In doing so we do not mean to imply that publishing in these journals should be a definition of 'international excellence', though we would certainly expect it to be a concomitant of international excellence. A top 20 was selected to maintain focus. However, we later show why our conclusions would be essentially the same under more relaxed assumptions.

To ensure that our top 20 journals (see Table 2) were top B&MS journals rather than top sociology, economics, or sociology journals, say, we adopted a cut-off criterion for the centrality index of 33%. In other words, for a journal to be defined as non-central, fewer than one-third of its citations would have to come from management journals. Below the cut-off point journals were considered to be insufficiently 'management' to justify inclusion in a *management* top-20. Using a cutoff is an example of a non-compensatory measure in that no matter how well a journal scores on the 10-year impact factor it is not considered for inclusion in the top 20 if its centrality index is below 33%. It would, of course, be possible to develop a compensatory measure which combined 10-year impact and centrality, so that a sufficiently good performance on one compensated for the other. The compensatory measure would not then have a simple interpretation, as does 10-year impact.

The cutoff excluded some top-class journals, which might have been included by 10-year impact factor alone. In this category are: *Journal of Monetary Economics*, *Journal of Vocational Behavior*, and *Journal of Labor Economics*. However, it can be seen from Table 1 that they are all well short of the cutoff

Table 1. Centrality of journals to Business & Management Studies. Centrality is calculated as the percentage of its citations that a journal receives from other journals in the list. (Self-citations have not been included.) N.B. centrality says nothing about quality, it only aims to give an idea of how 'management' the journal is

Journal	% citation from listed journals	Journal	% citation from listed journals
J Advertising	71.97	Accounting Review	40.87
J Marketing Research	71.86	Columbia J World Business	39.39
J Accounting & Economics	69.71	J Management Studies	38.89
J Marketing	68.09	Interfaces	38.55
Strategic Management J	67.44	J Portfolio Management	38.20
Academy Management Review	66.73	International J Forecasting	37.80
J Consumer Research	65.77	J Organizational Behavior	37.36
Academy Management Journal	65.23	Human Relations	36.44
J Advertising Research	63.72	R & D Management	35.82
Advances in Consumer Research	62.89	MIS Quarterly	34.40
J Accounting Research	62.29	Decision Sciences	33.83
J Financial Economics	60.90	IEE Trans Eng Man	33.33
Marketing Science	59.90	Long Range Planning	32.94
Admin Science Quarterly	59.83	Organization Dynamics	32.74
Research in Organiz. Behavior	54.97	J Futures Market	31.17
J Banking & Finance	53.75	J Business Ethics	28.99
J Financial & Quant Analysis	52.76	J Occupational Psychology	27.61
J Int Business Studies	52.14	Operations Research	27.03
J Labor Research	51.56	J Applied Behavioral Science	22.22
Organization Studies	51.28	European J Operational Research	21.61
J Finance	50.96	J Money & Credit Banking	20.65
Group & Organization Studies	50.85	J Labor Economics	19.42
J Business Research	50.62	J Monetary Economics	18.56
Industrial Labor Relns Review	49.36	Tech Forecasting Social Change	17.65
J Management	48.46	J Intl Money & Finance	14.92
Financial Management	47.53	Work & Occupations	14.77
Management Science	47.52	J Risk & Insurance	14.71
Omega	46.90	J Industrial Economics	13.27
Sloan Management Review	46.07	J Vocational Behavior	12.99
California Management Review	45.70	Monthly Labor Review	11.93
J Forecasting	45.12	J Human Resources	11.91
J Business	45.04	IMF Staff Papers	11.80
Industrial Relations	44.30	Public Finance	10.17
J Applied Psychology	43.41	National Tax J	8.43
J Operational Research Society	42.59	International Labour Review	7.04
Harvard Business Review	42.02	Br J Industrial Relations	6.31
Personnel Psychology	41.91	Business Lawyer	0
Accounting, Org & Society	41.57	Public Finance Quarterly	0
OB & Buman Decision Processes	41.55	J Environmental Econs & Mangt	0
J Retailing	41.49	Business History	0
Industrial Market Management	41.18	Labor History	0

Table 2. The 20 most influential journals. The measure is the average number of citations made to articles appearing in that journal in the 10-year period 1982–1991

Journal	Average citations per article (10 years)
1 Academy Management Review	46.6
2 Academy Management Journal	43.4
3 Admin Science Quarterly	36.1
4 J Financial Economics	35.4
5 J Consumer Research	28.1
6 J Finance	24.7
7 J Applied Psychology	24.2
8 J Marketing	22.7
9 J Marketing Research	22.3
10 Harvard Business Review	20.2
11 J Business	18.7
12 MIS Quarterly	18.6
13 OB & Human Decision Processes	18.0
14 Personnel Psychology	17.1
15 Strategic Management J	16.9
16 J Accounting Research	16.6
17 Management Science	14.8
18 Industrial Labor Relns Review	12.6
19 Sloan Management Review	12.0
20 Accounting Review	10.3
0 Research in Organiz. Behavior	47.5

mark, receiving the vast majority of their citations from non-management journals. Had our analysis been performed for a science discipline, our cut-off criterion would probably have rejected journals such as *Science* and *Nature*, both highly cited, but general. However, the journals we reject by the cut-off clearly do not fulfil this role within the social sciences.

Harvard Business Review and *Sloan Management Review* have more influence that can be gauged by the citations of academics. If we could measure their influence exerted directly over practitioners, a composite rating made from academic and non-academic influence would almost certainly give them a higher ranking than our analysis does. The same may also be said for the *California Management Review*, which was just off our 20 most influential journals (henceforth 'the 20'). These considerations might lead us to re-define our undertaking more precisely as investigating the influence of journals among *academics*.

We have also included the annual publication *Research in Organizational Behavior* as a 21st journal. In some ways it fulfils the function of the Annual Reviews (*Annual Review of Psychology*, *Sociology*, etc.) which are usually classified as journals. It is also cited in JCR as if a journal.

Some readers may be a little surprised to find *Journal of Applied Psychology* (*JAP*) and *Organizational Behavior and Human Decision Processes* (*OBHDP*) in the 20. In defence of their inclusion, we may point to the following:

- The fact that they receive relatively as many of their citations from the listed management journals as *Harvard Business Review* (*c* 42 or 43%), indicates that the articles found in these journals are used by other management journals.
- Moreover, seven of the ten journals which *JAP* most cites are on the above list of management journals, and for *OBHDP* eight of its top ten are on the list. Hence the traffic is two-way: these journals use and are used by other management journals.
- In Coe and Weinstock's [3] study of management chairs' perceptions of journals they note: "Because all of the important journals could not be listed in a manageable questionnaire, respondents were requested to supplement the list with additional journals that would reflect high achievement for management authors. Management chairs mentioned 60 additional journals. The two mentioned most frequently by far were *OBHDP* (22 responses) and *JAP* (21 responses). Comments accompanying these responses indicate extremely high achievement ratings for articles in these journals".
- Two more recent surveys confirm this evaluation. Gomez-Mejia and Balkin [8] surveyed chairpersons of 60 top American business schools, receiving 42 replies; and Extejt and Smith [6] had 562 members of 'behaviorally oriented' divisions of the Academy of Management and the Industrial Relations Research Association rate journals. Both surveys included only 'management' journals, expressly excluding 'business' journals. *JAP* was rated 3rd and 2nd in the two studies, respectively; and *OBHDP* was rated 4th and 3rd in the two studies, respectively.
- Finally, for those who prefer anecdotal to statistical evidence, in the current issue of *JAP* is an article co-authored by Angelo DeNisi, editor of the *Academy of Management Journal* (Robbins and DeNisi, 1994).

It may be argued that centrality is not important and that publications in non-central journals are equally as valid as those in management journals. There is merit in this view, but when a B&MS department is to be assessed we would argue that judgements should be made *primarily* on the influence that publications have within the management and business community of academics. Publications in economics, sociology, psychology, education, law and other disciplinary journals may be of very high quality and will contribute to a management researcher's (department's) reputation, but a management reputation cannot be built primarily on such publications. Academics working within business schools should expect to be assessed *mainly* on their contribution to the management literature, though the ideal would be to be able to publish both within and outside the B&MS discipline.

WHO PUBLISHED IN 'THE 20' JOURNALS DURING 1988–1992?

Having derived a ranking of the 20, we searched for articles (excluding letters, notes, reviews, etc.) which were written by at least one author or co-author having an affiliation to a British institution. Our accounting period is the 5-year span 1988–1992. This is the same period covered by RAE-92. Although submissions to RAE-92 were made in mid 1992, forthcoming articles were allowed in departments' submissions. It follows that most articles published subsequently in 1992 could have been seen by the assessors. Credit for articles having more than one author have been divided pro rata irrespective of order of names, so that something written by three authors, two in one institution, and the other in a different institution would be credited with 2/3 and 1/3, respectively. This is the procedure suggested in the guidelines for RAE-92 [14]. We have chosen to credit the institution of affiliation at the time of publishing, so that authors who move institution do not take the credit with them. This is at odds with the policy that the Higher Education Funding Council for England have explicitly stated for RAE-96. When, for instance, two authors are credited with being at three institutions, again it is the institutions which are credited.

The first thing that should strike the reader about the matrix in Table 3 is the white space. During the entire 5-year period under review British business schools published a mere 40 or so article-equivalents in the 20 B&MS journals. Less than 1% of the journal articles appearing in the 20 were British. Most of the business schools which were classified in RAE-92 as 'internationally excellent' have no, or virtually no, presence in these journals. The only exception is London Business School, with about 14 article-equivalents, which far outstrips the rest of the British field. The situation would be even worse were it not for the *Strategic Management Journal* (*SMJ*) which by itself accounts for over one third of the total UK publications in the 20. Excluding *SMJ*, approximately one publication per journal over the 5-year period came from British business schools. Later we shall see why there is such a concentration of British effort in *SMJ*. We conclude that to be judged 'internationally excellent' in RAE-92 there was no need to publish in the 20; nor was publishing in the 20 a guarantee of a successful rating (witness Manchester Business School, with *c* 5 article-equivalents, which was rated 3).

There are two further observations that put this performance into perspective. British institutions that are not business schools were successful in publishing about three-quarters as many articles in B&MS journals as business schools themselves. These figures, in keeping with the Bain report's conclusions, tend to confirm that in Britain business schools are not holding their own against the other social science departments. While we do not have equivalent figures, say for economics, psychology, or sociology, we find it hard to believe that the traffic is two-way, in other words that British business schools publish just as much in the most influential economics journals as British economics departments do.

Another way to view the performance of British business schools is against the performance of the top US business schools. We start by considering a randomly chosen, though certainly not obscure, US business school. Chicago Graduate School of Business came out of the hat. In a recent survey of the per-capita output of American business schools [1] Chicago was ranked 7th. Its performance sets in sharp contrast anything that Britain offers. Perhaps most telling of all is that Chicago publishes in the 20

Table 3. Which UK business schools publish in the 20 most influential journals? Figures are article-equivalents (see text)

	AMR	*AMJ*	*ASQ*	*JFE*	*JCR*	*JF*	*JAP*	*JM*	*JMR*	*HBR*	*JB*	*MISQ*	*OBHDP*	*PP*	*SMJ*	*JAR*	*MS*	*ILRR*	*SMR*	*AR*	*ROB*	Total
London BS				0.83	0.5	2		0.5	0.5	4.83					3.83		1	0.2				14.19
Manchester BS	1		1					0.25							1.67		1					4.92
Imperial															2.5		0.67					3.17
UMIST	1.5						0.83															2.33
Cranfield															2							2
Warwick	1							0.5							0.5							2
Cardiff															1			0.5				1.5
Edinburgh							0.5								1							1.5
Newcastle															1							1
Nottingham																		1				1
Oxford										0.5		0.5										1
Bradford												0.2						0.5				0.7
Loughborough										0.5		0.2										0.7
Aston			0.5																			0.5
Bath															0.5							0.5
Birmingham																		0.5				0.5
Heriot-Watt							0.5															0.5
Kent		0.5																				0.5
St Andrews															0.5							0.5
Strathclyde													0.5									0.5
City								0.25														0.25
Bus Sch Total	3.50	0.50	1.50	0.83	0.50	2.00	1.83	1.50	0.50	5.83	0.00	0.90	0.50	0.00	14.5	0.00	2.67	2.70	0.00	0.00	0.00	39.76
Non-BS	0.50	1.50	0.50	0.00	0.00	0.33	7.50	0.00	0.00	4.33	0.00	0.75	2.08	0.00	2.00	0.00	8.33	1.25	0.00	0.00	1.00	30.08
Chicago		0.50		2.00	6.50	11.0			1.50	0.50	0.50	0.00	2.83	0.00	1.83	0.50	12.5	0.00	2.33	0.00	0.00	43.50

top journals more than the entire corpus of British business schools. Its performance is marked by two further telling characteristics. First, it has a massive presence in just three journals (*Journal of Consumer Research*, *Journal of Finance*, and *Management Science*), which accounts for half of its entire output and two-thirds of its output in the 20. Contributions in journals such as *Journal of Financial Economics*, *OBHDP*, *Sloan Management Review*, and *Strategic Management Journal* (*c* 2 or 3 article-equivalents in each) play a mere supporting role, though they represent an achievement that any British business school would (should) be proud of. The second characteristic, which is not apparent from Table 3, is that there is virtually no tail to Chicago's publications in the management literature. There are only a further 12 article-equivalents in the rest of the 61 journals, and most of these are in journals such as *Operations Research*, or *Marketing Science*, which are only just outside the 20. We can conclude that Chicago concentrates its effort in a limited number of journals; it aims high and achieves high.

The second comparison we make is against the top 20 US business schools (as defined in [1]). In order to be able to machine-process the 18,000 articles in our corpus extracted from the BIDS(R) electronic citation system in this and the following analyses we adopted a slightly different measure than article-equivalents, as used so far. If a business school has its name on an article, it is credited with a full 1. No distinction is made between the number of authors on the paper, or the order of authors. Table 4 shows the counts for the top 20 US schools, and for the top half dozen British schools ('top' judged by this criterion alone). London Business School can justifiably compare itself with the 'just-off-the-top' US business schools; no other British business school comes close. (In passing, INSEAD in Paris scored about the same as LBS).

WHERE THE BRITISH PUBLISH

If British B&MS academics do not publish in the 20, then where do they publish? We again use the same measure as in the last analysis. Furthermore, no distinction was made between articles accredited to business schools and non-business schools—if an article had an author with a British affiliation, then it was counted as a British publication. As before, notes, letters, reviews, and so on were not included in the analysis, only articles. One or two of the journals were not recorded on BIDS throughout the 1988–1992 frame of analysis. For instance, *Journal of Applied Behavioural Science* was only recorded for 1988–1990, and *Advances in Consumer Research* for 1989–1992; and for *Organizational Dynamics* we substituted 1993 for the missing 1992. But since we are primarily concerned with the *proportion* of British articles appearing in each journal, using a slightly different time-frame than the standard 5-year frame should not affect our results unduly.

The results of analysing the 82 journals is shown in Table 5. The journals have been sorted by the proportion of articles thus defined as 'British' appearing in that journal.

The most striking feature of the popular-with-the-British journals is that they *all*, without exception, have a British editor. Though it has become fashionable to talk of some of these journals as European journals, they are written in British English, have British editorial offices, and have British editors (not continental European offices, editors, languages, etc.). Two journals stand out as having an unusual concentration of British authorship, *British Journal of*

Table 4. American and British business schools compared concerning their penetration of the 20 most cited B&MS journals. The measure is the number of such articles on which each business school has appeared as at least one of the author's affiliation. The American business schools have been ordered according to Armstrong and Sperry's per capita research output [1]

		Articles
1	Stanford	46
2	Pennsylvania (Wharton)	119
3	MIT (Sloan)	80
4	Columbia	75
5	Carnegie Mellon (GSIA)	33
6	Rochester (Simon)	25
7	Chicago	69
8	Cornell (Johnson)	22
9	Northwestern (Kellogg)	69
10	UCLA (Anderson)	50
11	Maryland	38
12	Duke (Fuqua)	42
13	Pittsburgh (Katz)	23
14	Dartmouth (Tuck)	39
15	Michigan	53
16	Purdue (Kannert)	44
17	Harvard	134
18	NYU (Stern)	54
19	Texas (Austin)	32
20	Wisconsin	55
1	London BS	23
2	Manchester BS	6
3 =	Imperial	4
3 =	UMIST	4
5 =	Cranfield	3
5 =	Warwick	3

Table 5. Journals ranked by the presence of articles having at least one author with a British affiliation. N.B. The asterisked journals have a British editor, the dotted ones have a British co-editor

	British (co)authors	Total articles	% British
*Br J Industrial Relations	71	102	69.61
*Business History	73	113	64.60
*J Operational Research Society	196	539	36.36
*J Management Studies	56	156	35.90
*R & D Management	41	123	33.33
*J Occupational Psychology	34	109	31.19
*Long Range Planning	111	401	27.68
*J Forecasting	41	150	27.33
*Omega	61	273	22.34
*Accounting, Org & Society	33	165	20.00
*J Industrial Economics	25	144	17.36
*International J Forecasting	32	189	16.93
*Human Relations	48	308	15.58
*Organization Studies	36	243	14.81
•European J Operational Res	87	991	8.78
J Intl Money & Finance	16	183	8.74
J Int Business Studies	16	185	8.65
•Strategic Management J	19	230	8.26
*J Organizational Behavior	11	141	7.80
Public Finance	10	130	7.69
International Labour Review	14	187	7.49
Industrial Market Management	15	212	7.08
J Banking & Finance	20	284	7.04
IEEE Trans Eng Man	7	133	5.26
Harvard Business Review	12	256	4.69
J Accounting & Economics	15	334	4.49
Columbia J World Business	7	158	4.43
Public Finance Quarterly	6	144	4.17
Academy Management Review	5	129	3.88
Industrial Relations	11	284	3.87
J Advertising Research	8	210	3.81
J Money & Credit Banking	6	174	3.45
Labor History	4	118	3.39
J Monetary Economics	6	188	3.19
Marketing Science	4	128	3.13
J Advertising	10	331	3.02
Work & Occupations	3	103	2.91
Management Science	13	493	2.64
Research in Org. Behavior	1	40	2.50
Admin Science Quarterly	3	121	2.48
J Marketing	3	122	2.46
Industrial Labor Relns Review	5	211	2.37
J Retailing	2	85	2.35
MIS Quarterly	3	137	2.19
J Labor Economics	3	139	2.16
J Applied Psychology	9	427	2.11
Interfaces	6	288	2.08
Tech Forecasting Social Change	5	244	2.05
J Business Ethics	10	503	1.99
Operations Research	9	471	1.91
OB & Human Decision Processes	4	239	1.67
J Business Research	4	242	1.65
J Human Resources	2	124	1.61
Academy Management Journal	2	138	1.45
California Management Review	2	147	1.36
J Applied Behavioral Science	1	75	1.33
J Finance	4	307	1.30
J Labor Relations	2	155	1.29
J Risk & Insurance	2	157	1.27
J Financial Economics	2	191	1.05
National Tax J	2	193	1.04
J Environmental Econs & Mangt	2	199	1.01
J Vocational Behavior	2	204	0.98
J Consumer Research	2	215	0.93
Sloan Management Review	1	117	0.85
J Futures Market	2	239	0.84
J Portfolio Management	2	263	0.76
IMF Staff Papers	1	142	0.70
Financial Management	1	144	0.69
Group & Organization Studies	1	146	0.68
J Marketing Research	1	153	0.65

continued

Table 5.—*Continued*

	British (co)authors	Total articles	% British
J Financial & Quant Analysis	1	176	0.57
Advances in Consumer Research	2	540	0.37
Decision Sciences	1	282	0.35
Business Lawyer	1	335	0.30
J Business	0	128	0.00
Accounting Review	0	172	0.00
J Accounting Research	0	108	0.00
J Management	0	155	0.00
Organization Dynamics	0	115	0.00
Personnel Psychology	0	135	0.00
Monthly Labor Review	0	312	0.00

Industrial Relations and *Business History* (both about two-thirds). The next 12 British journals show a gradual diminution of British concentration, but after *Organization Studies* (ranked 14th with 14.8% British) there is another relatively large step down to *European Journal of Operational Research* (*EJOR*) (8.8%). The significance of this discontinuity is that *EJOR* shares the editorship between one British and two continental Europeans.

These first 15 popular-with-the-British journals account for nearly three quarters of British publications in the list of 82 journals. *Strategic Management Journal*, which was in the 20, and which, it will be remembered, accounted for nearly half of our presence in the 20, also has a British co-editor.

The story is very simple: the British tend to publish in British journals, and the more British the journals are (especially if their titles include the word 'British'), the more they publish in them. When the editor is American and the journal is held in an American institution the British tend to publish in trace amounts. When the situation is somewhere in between (e.g. editorship shared between a British and non-British editor, as with *EJOR* or *SMJ*), the rate of publication is also somewhere in between. From the figures in Table 5 it is a very lawful relationship.

But local publishing is taken to a degree beyond even this. When we examine which institutions publish in which journals we find that there is a marked tendency for academics to publish in journals which are held in-house. It seems that British academics do not like to put airmail stickers on their submissions; they do not even like to put postage stamps on them if they can get away with it!

We are now in a position to pick up the thread of the alternative approach mentioned earlier: that we should examine clusters of sub-disciplines, rather than B&MS as a whole. Based on Starbuck's 2-year citation impact analysis [11], Starkey [12] identifies the 5 leading journals in a number of disciplines cognate with management (economics, sociology, applied psychology, finance & accounting, industrial relations, public administration, and marketing). British journals are almost never included in the top 5s. Consequently, since we have seen from Table 5 that British academics tend not to publish in US journals, we can conclude that British academics would have approximately the same low showing in each of the clusters. Our findings would be essentially unchanged.

The centrality index in Table 1 together with the information in Table 5 allow us to make some controversial observations. First, consider *Business History* which was classified by SSCI as 'Business' yet it received NO citations from the other 81 B&MS journals, and by that criterion it does not qualify as a B&MS journal; also it seems to have rather too many British authors writing for it to qualify as an international journal. (An alternative interpretation is that Britain has such a concentration of excellence in this area that it dominates the journal.) We have debarred *The Economic Journal* from entry into our list on less telling evidence than this (*The Economic Journal* at least has some citations made to it from management journals—*c* 4%, and judged by its impact factor it is unquestionably an excellent economics journal), so to be consistent *Business History* should be dropped from the 82.

Similar questions may be raised about *British Journal of Industrial Relations* (*BJIR*). The majority of its publications are by authors with British affiliations. These articles are rarely cited by the most influential management journals. This suggests strongly that, whatever the quality

of its articles, *BJIR* fails to wield much influence beyond the UK and countries with strong historical ties with the UK. Why is this? One of the best known authors in the field of industrial relations, Professor George Strauss of the University of California, Berkeley, has written glowingly of the 'Golden Age' of British industrial relations research, adding that "British research is more exciting than ours" [10]. Is it that *BJIR* is influential but not cited, or that the most influential British work is produced in books or international conference papers? More likely it is that industrial relations is seen by British authors as culturally-specific, with little international audience. Discussions with some of the most respected people in the field have shown that most of them expect to publish infrequently outside British-based journals and some have never sought to do so. This would account for Strauss' comment that "British scholars seem much more aware of US research than we are of theirs" [10, p. 273]. Even those with the most international outlook tend to see publication in Australian or European journals, or papers at international conferences, as sufficient evidence of international influence.

We have no problems with the other popular-with-the-British journals' claims to international status. In each case well over half the authors are not British.

DISCUSSION

Our intention in ranking journals has been to demonstrate (i) which are management journals (Table 1), and (ii) which are the *influential* management journals (Table 2). It is not our intention to suggest, as some have read into our work, that B&MS academics should publish only in the upper half of the list in Table 1. Each person and each institution will obviously have a different idea of the portfolio of publications that it strives to achieve: the balance between management and non-management journals; and the risks, in terms of rejections, it wishes to contemplate for the returns of publishing in the top 20. However, in order to make such judgements, researchers and institutions must first be clear on the question of whether it is other B&MS researchers who will read and cite their work, and to what degree, or whether it will be primarily economists, psychologists, educationalists, or sociologists who will read and cite their work.

There are different ways of reading our results. One is to question their validity. It could be argued that the use of citations is fundamentally flawed in that the method is biased towards the US, with its large academic community, which both produces and consumes a much greater volume of research than any other country. Further bias comes from the nature of academic life in the US with a tenure and promotion system which ensures that Americans overwhelmingly cite other Americans. Others reject the dominant research paradigm in the US, with its emphasis on quantitative and theoretical work.

A second response is one which acknowledges US excellence, but argues that academics in Britain and Europe produce work of equal or greater merit. Some want to carve a distinctively British or European model, oriented to local concerns and rooted in their own research traditions. They do not want to be forced into an academic mould whose superiority they question. They wish to promote a thriving counter-culture to the dominant American culture. One should therefore be pleased that Britain can support a dozen or more international journals. According to this interpretation Britain plays the role of the Apple Macintosh (small but innovative), while the US plays the role of the IBM PC (large, dominant enough to bias the market, but boring).

The third way to see these results is that the British are simply insular publishers. They have a protected home market which cosily shields them from the rigours of competing in the big market of ideas—the United States. Where ideas cross the Atlantic it is mostly a one-way traffic from West to East. The British cite US journals frequently, but the reverse is not true. This should not surprise us, for the US market for ideas in the field of business and management research is much larger, more competitive and much longer established than the British. Consequently, if a librarian in the back of beyond were to subscribe to one management journal, it would almost certainly be *Administrative Science Quarterly* rather than *Organization Studies*; it would be *Harvard Business Review* rather than *Long Range Planning*; *Academy of Management Journal* rather than *British Journal of Management*. Similarly, if an academic in a far flung

corner of the world were to have his/her article accepted for publication in one of these journals, which would he/she choose? Again, it would almost certainly be the US one. The reality is that to publish in US journals (and in particular their most cited journals) is to reach a wider international audience than publishing elsewhere.

There is undoubtedly something in all of these views. Citation counts are not infallible: cited articles are not always good articles, and good articles do not always get cited. Different subareas of B&MS have different propensities to cite, which again may bias the statistics. In support of the second view, Britain has a cultural heritage which is distinct from that in the US, and its management journals are an expression of such. On the other hand, the British have cause for concern. There are too many gaps in Table 4. Canada, with half Britain's population, publishes about the same amount as the UK in the 82 journals examined. Although being North American they clearly have an advantage over British authors in their proximity to the US, they do not enjoy Britain's privileged access to its home-market of journals.

CONCLUSIONS

What can be done to help countries such as Britain to make a greater impact upon the world stage? Some of the answers lie in measures to improve the quality of management research; recruitment of more staff with experience of the US and other countries; and greater efforts to attract, and work with, visiting staff who already publish in the influential journals.

At another level action could quickly be taken to increase international influence. The first step is clearly to make sure the influential journals are stocked in libraries, and to read them. Most importantly many more of the best academics should consciously seek to publish in these journals and resist the temptation to send articles to home-country journals because they are seen to be 'safer'. This step, we envisage, would set in train a virtuous circle. More non-American academics would be seen to be influencing international ideas and research agendas. This could only be good for any culturally distinct approach, in that it would draw more attention to the journals in which the non-Americans publish, and thereby increase their constituency of submitters, readers, and citers, and so increase their actual and measured influence too. Coming under greater scrutiny would further raise the quality of scholarship of those authors willing to take this route, which would increase their chances of publishing in the most influential journals, and so on.

Secondly we suggest that more people try to develop a greater comparative aspect or international relevance to their work, particularly at an early stage in its conception, which would enable them to more easily engage with the international debates in their area.

Finally, we hope that those people responsible for judging B&MS research (e.g. members of the panel in the RAE-96 exercise) read this and are persuaded that an important criterion in determining excellence is a person's (department's) proven influence upon the world academic community, as shown by publication in the most influential management journals. In communicating this message, the people who make these judgements have the power to change the publishing habits of academics, and consequently help establish the virtuous circle spoken of above.

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REFERENCES

1. Armstrong SJ and Sperry T (1994) The Ombudsman: business school prestige—research versus teaching. *Interfaces* **24**, No. 2, 13–22.
2. Building partnerships: enhancing the quality of management research. The Report of the Commission on Management Research, ESRC (1994).
3. Coe R and Weinstock I (1984) Evaluating the management journals—a second look. *Acad. Mgmt J.* **27**, 660–666.
4. Colman AM, Garner AB and Jolly S (1992) Research performance of United Kingdom university psychology departments. *Stud. Higher Educ.* **17**, 97–103.
5. Everett JE and Pecotich A (1991) A combined log-linear/MDS model for mapping journals by citation analysis. *J. Am. Soc. Inform. Sci.* **42**, 405–413.

6. Extejt M and Smith JE (1990) The behavioral sciences and management: an evaluation of the relevant journals. *J. Mgmt* **16,** 539–551.
7. Garfield E (1972) Citation analysis as a tool in journal evaluation. *Science* **178,** 471–479.
8. Gomez-Mejia LR and Balkin DB (1992) Determinants of faculty pay: an agency theory perseptive. *Acad. Mgmt J.* **35,** 921–955.
9. Liebowitz SJ and Palmer JC (1984) Assessing the relative impacts of economic journals. *J. Econ. Literat.* **22,** 77–88.
10. Strauss G and Feuille P (1978) I.R. research: a critical analysis. *Ind. Relat.* **17,** 259–277.
11. Starbuck W (1992) Estimates of the impacts of business-related journals. New York University, U.S.A.
12. Starkey K (1993) Quality in management research? School of Management and Finance, University of Nottingham, U.K.
13. Universities Funding Council (1993) A report for the Universities Funding Council on the conduct of the 1992 Research Assessment Exercise. UFC, Bristol.
14. Universities Funding Council (1992) Circular 5/92: Research Assessment Exercise 1992. UFC, Bristol.
15. Whittington G (1993) The 1992 Research Assessment Exercise. *Br. Account. Rev.* **25,** 383–395.

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