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26 August 2008

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Boselie, J. P. and Dietz, G. and Boon, C. (2005) 'Commonalities and contradictions in research on human resource management and performance.', *Human resource management.*, 15 (3). pp. 67-94.

Further information on publisher's website:

<http://dx.doi.org/10.1111/j.1748-8583.2005.tb00154.x>

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Commonalities and contradictions in research on human resource management and performance.

Forthcoming (2005) – *Human Resource Management Journal*.

By

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Abstract

We present an overview of what we believe to be every empirical research article into the linkages between human resource management and performance published in pre-eminent international refereed journals between 1994 and 2003 (n=104). The analysis covers the design of the study, including the primary level of analysis and the identity of the respondent; the dominant theoretical framework(s) informing the article; how HRM is conceived and operationalised; how performance is conceived and operationalised, and which control and/or contingency variables are incorporated. Finally, the article examines how each study depicts the so-called 'black box' stage between HRM and performance. We report wide disparities in the treatment of these components, but also some welcome commonalities and indicative trends that point toward a gradual convergence on how future research into this complex relationship might usefully be conducted. The findings are compared with previous reviews of the literature. The analysis should illuminate the ongoing debate about the linkages between HRM and performance and prove valuable for future research designs.

Key Words: human resource management (HRM), performance, literature review

Commonalities and contradictions in research on human resource management and performance

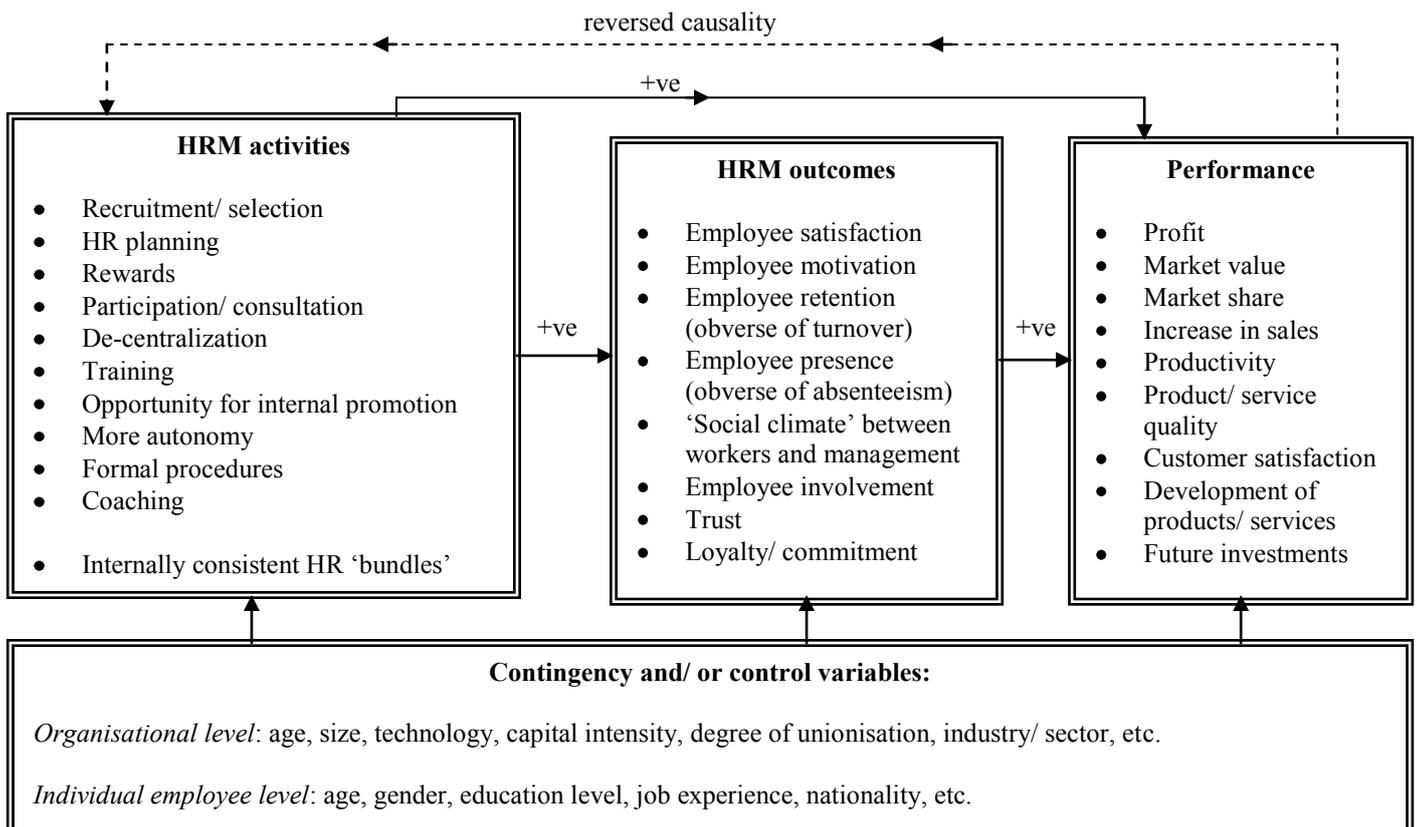
Introduction

The study of human resource management (hereafter HRM) is, in its broadest sense, concerned with the selections that organisations make from among the myriad of policies, practices and structures for managing employees (Sisson, 1990; Boxall and Purcell, 2003). In its more strategic guise, however, HRM is conceptualised in terms of carefully designed combinations of such practices geared toward improving organisational effectiveness and hence better performance outcomes, as with Wright and McMahan's definition (1992: 298): 'the planned HR deployments and activities intended to enable [an organisation] to achieve its goals' (see also Delery and Doty, 1996: 805). This latter conceptualisation is our interest here.

The nature of the interaction between HRM and performance, and particularly the search for conclusive evidence of the decisive positive impact of the former on the latter, is for many the whole subject area's 'Holy Grail'. Yet, despite the substantial empirical evidence that has been amassed worldwide in the ten years since the pioneering studies into this relationship (Arthur, 1994; Guest and Hoque, 1994; Huselid, 1995; Kalleberg and Moody, 1994; MacDuffie, 1995; Snell and Youndt, 1995), a memorable summation of the state of play in 1997 remains apposite. Researchers in the field still require 'a theory about HRM, a theory about performance, and a theory about how they are linked' (Guest, 1997: 263). A review of progress is therefore timely.

Previous 'research on research' articles on HRM have tended to focus on one of two chief concerns. The first has been to examine the theoretical foundations of the study of HRM, with a view to revealing its underlying assumptions and to generating new hypotheses to be tested (e.g. Ferris *et al.*, 1999; Guest, 1997; Wood, 1999). The second concern has been with issues related to methodological validity, such as the research techniques used (e.g. Gerhart, 1999; Gerhart *et al.*, 2000a and 2000b; Rogers and Wright, 1998; Wright *et al.*, 2001b). The starting point for our 'research on research' analysis was to combine objectives from both previous strands - theory and method. We set out to identify how the key concepts involved in the HRM-performance debate have been formulated in empirical studies to date, why these conceptualisations have been favoured over others, and how each component has been operationalised.

Figure 1 HRM activities, HRM outcomes and performance (Paauwe and Richardson, 1997) ⁱ



The representation of the HRM-performance relationship put forward by Paauwe and Richardson (1997) - depicted in Figure 1 - serves as a useful visual representation of the key issues involved. It lays out a comprehensive set of options for each 'box' for researchers to contemplate. From this we derived six research questions for our analysis:

1. How was the study conducted? In particular, what was the primary level of analysis? Who were the respondents?
2. What was the dominant theoretical framework informing the research design?
3. What was the conceptualisation and operationalisation of 'HRM'? In particular, was HRM viewed as a set of unconnected practices, or as a mutually reinforcing 'system'?
4. What was the conceptualisation and operationalisation of 'performance' (i.e. the outcomes of the HRM intervention)?
5. Which external variables were incorporated into the research design, whether as controls or as contingent moderating variables?
6. What was understood to take place in the 'black box' stage between HRM and performance?

The paper is set out as follows. The next section describes our methodology, including a profile of the sample of articles examined. Separate sections then summarise the treatment of each of the six questions in the sample. In the final sections we discuss the implications of our findings for research and practice in linking HRM with performance.

Methodology

To render the task manageable, and to provide a credible guarantee of quality, we restricted our search only to articles that have appeared in pre-eminent, international, refereed journals. This decision meant that we had to exclude valuable work published in books (e.g. Lawler, Mohrman and Ledford, 1995; Appelbaum *et al.*, 2000), reports (e.g. Patterson *et al.*, 1997; Purcell *et al.*, 2003; Watson Wyatt, 2003), unpublished papers and dissertations. This criterion also excluded research published in non-English-language journals with predominantly national readerships.

Following a similar approach used by Wright and Boswell (2002), we focussed on journals with which readers of *Human Resource Management Journal* were likely to be familiar. Hence, our review covered all of the other major international journals known for their explicit HR focus (e.g. *Human Resource Management*, *International Journal of Human Resource Management*, *Personnel Psychology* and *Personnel Review*), and journals where HRM-related articles were more likely to be found, such as the general management journals (e.g. *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Management*, *Journal of Management Studies*, *British Journal of Management*, *Organisation Studies* and *Strategic Management Journal*), and industrial relations journals (e.g. *Industrial Relations*, *British Journal of Industrial Relations*, and *Industrial and Labor Relations Review*). We also included often-cited articles from less explicitly HRM-related journals, such as Kalleberg and Moody (1994) in *American Behavioral Scientist*, and Ichniowski *et al* (1997) in *American Economic Review*. We did not however look through every edition of these latter journals, and other not obviously relevant journals.

We bookended our review with the milestone studies from 1994-95, and the final journal editions of 2003. Only articles that presented *empirical* research were selected. A further criterion was that each study should have reported research into the impact of *multiple* HRM-style practices on some measure of performance, in keeping with our understanding of strategic HRM detailed above and the future research agenda urged by Wright and Boswell (2002). This meant our search did not include 'OB' (organisational behaviour) journals, whose research tends to focus on the impact of *single* HR practices on attitudinal and/or behavioural outcomes. This explains the absence of the likes of the *Journal of Applied Psychology* and the *Journal of Organizational Behavior*. We are not aware of any article published in either of these journals in the time-period that might have complied with our criterion for inclusion. As a final check we compared our eventual sample against the list produced by Mark Huselid (<http://www.markhuselid.com/>) and found no omissions.

In total our overview draws on a comprehensive sample of 104 articles, indicated with an * in the References list. (Due to space limitations, the full list and all of our Analysis Tables can be downloaded from www.tilburguniversity.nl/faculties/fsw/departments/HRS/research/themes/.) The articles were sourced from a wide variety of journals (Appendix 1). We are confident that we have included every

article in the journals searched, and every significant other study (in terms of frequent citations). In terms of both the number of articles reviewed and the time-period covered our review significantly extends those previously produced by Ichniowski *et al* (1996), Guest (1997), Wood (1999), and Wright and Boswell (2002).ⁱⁱ

We went through each edition of the journals online, identified articles from their titles and abstracts that seemed to match our criteria, and divided our initial sample equally between the three authors. In a stepwise approach, each researcher content-analysed their allotted articles according to a pro-forma of broad categories based on our six research questions (see Appendix 2). Upon completion, we met to settle upon a final sample and to resolve any issues of confusion and uncertain classifications in our respective analyses.ⁱⁱⁱ This careful, triangular cross-checking ensured consistency and will have reduced the likelihood of error, but ultimately our analysis is an inherently subjective product of our collective judgement. (Moreover, all errors of interpretation are our own.) Once all the analyses had been completed satisfactorily we collated the findings presented here. For ease of presentation we give only the frequencies for each variable. Throughout, we compare our study with the findings and commentary from these previous reviews.

The structure of the studies.

Much the most common research design was the quantitative survey method. Despite Purcell's (1999) call for more use of qualitative methods to examine this relationship, we found only a few wholly qualitative studies (e.g. Boxall and Steeneveld, 1999; Cheng and Brown, 1998; Gratton *et al.*, 1999; Sheppeck and Millitello, 2000), and even fewer that presented mixed-method results (e.g. Bacon and Blyton, 2001; Truss, 2001).

We classified all articles by the primary level of analysis (see Appendix 2) because different aspects of both HRM and performance are created, and operate, at different levels (e.g. teamworking takes place, by definition, at the group level, but HR planning takes place at the level of the organisation; job satisfaction is an individual-level measure, but profits and turnover apply at the organisational level). Thus, studies would be expected to vary in design, depending upon the level of analysis. 62 studies were conducted at the organisational level, 30 at the establishment level, and 17 at the individual level. We found just one industry-level study (Bailey *et al.*, 2001). We found seven explicitly multi-level studies (Bailey *et al.*, 2001; Gratton *et al.*, 1999; Guest, 2001; Ramsay *et al.*, 2000; Truss, 2001; Tsui *et al.*, 1997; Whitener, 2001).

We also recorded the identity of the respondent(s), noting concerns about the questionable reliability ratings from using single-source respondents, whose perceptions are particularly prone to 'noise' and bias (Gerhart *et al.*, 2000b; Ichniowski *et al.*, 1996; Purcell, 1999). 63 articles used single raters, of which 26 used a single HR respondent, a matter of some consternation to Osterman (1994: 174) who expressed his scepticism about the level of awareness and impartiality of the typical HR manager as to her/his organisation's people management processes (also found by West *et al.*, 2002: 1307). 41 articles used multi-raters (i.e. several respondents per unit of analysis from within a certain sub-population, such as different managers – e.g. Batt, 1999). 32 articles used multi-actors (i.e. respondents from different sub-populations per unit of analysis, such as a manager and an employee representative - e.g. Guest and Peccei, 2001). Gerhart and colleagues' recommendations (2000a) are at least four raters per unit of analysis for HRM indicators, and at least three for performance indicators. Further, several authors recommend selecting respondents according to the research question, hence overall HR effectiveness is best appraised by senior Executives (Wright *et al.*, 2001c), but the effectiveness of individual HR practices is best studied by asking the intended recipients, the employees (Paul and Anantharaman, 2003).

The dominant theoretical framework(s): Table 1 on the website.

Identifying the theoretical framework used by authors for their research provides valuable information on the epistemological and ontological assumptions they have about the subject that they bring with them to their research. These include how the subject is best conceptualised and defined; which relationships are important and worth studying, and how these may be explained in a generalisable sense, as well as what outcomes might be anticipated and hence tested. Moreover, authors' theoretical framework(s) might be expected to require the selection of particular HR practices and performance outcomes, in keeping with any propositions derived from the framework.

Drawing on Wright and McMahan's (1992) anticipated list of likely theoretical frameworks, we tried to identify for each article which theory seemed to inform the research. However, this proved far from obvious in many of the articles. Theoretical frameworks tended to be presented as part of a general rationale for the study, or they were deployed to explain the study's findings. We found very few studies that had derived from a theory an explicit set of propositions, and then *tested* these in the research design. This is an important distinction to bear in mind with our findings since, rather than confine this part of our analysis to the handful of articles that tested a theory, we counted all *significant mentions* of theories in the text (for a fuller discussion on the nature of theory in organisation and management research see Bacharach, 1989; Sutton and Shaw, 1995).

Given the multi-disciplinary nature of research into HRM an eclectic range of possible focal points for interest, assumptions, conceptualisations, and analytical methods was to be expected. So we interpret as a welcome trend the dominance of contingent frameworks (e.g. HRM in relation to the external environment, or to organisational strategy), and the resource-based view of the firm (cf. Barney, 1991; Wright *et al.*, 2001a). Indeed, in many authors' work there is an overlap between the two. Together, they reflect the central assumptions behind the (positive) conceptualisation of what HRM is and does: namely, that it responds accurately and effectively to the organisation's environment and complements other organisational systems (cf. contingency theory) and that it delivers 'added value' through the strategic development of the organisation's rare, inimitable and non-substitutable internal resources, embodied – literally – in its staff (cf. the resource-based view). Note that organisations' HRM practices are not considered strategic resources since they are easily copied (Wright *et al.*, 1994: 318). Rather, it is the human and social capital held by the organisation's workforce that matters: 'The role that HR practices may play is that of building the human capital pool and stimulating the kinds of human behaviour that actually constitute an advantage' (Boxall and Steeneveld, 1999: 445). With this in mind, the relatively modest presence of employee-focused behavioural theories is a surprising finding, given the presumed centrality to HRM's 'implicit theory' of *employees' direct contribution* to performance (Guest, 1997: 268).

We clustered the various interpretations of high-performance, or high-involvement, work systems together with the so-called 'AMO' theory proposed by Appelbaum *et al* (2000), and by Bailey *et al* (2001) in our sample, since the two are regularly conflated as offering a specific focus to a strategic HRM intervention (see Boxall and Purcell, 2003: 20). The essence of the two models is distilled in the basic equation of the latter:

$$\text{Performance} = f(\text{employees' } \underline{A}\text{bility, } \underline{M}\text{otivation, and } \underline{O}\text{pportunity to participate}).$$

The model argues that organisational interests are best served by an HR system that attends to employees' interests, namely their skill requirements, motivations, and the quality of their job. A preliminary trend analysis of citations for 'AMO' since its emergence in 2000 found 27 incidences (out of its total of 42), more than any other theory during that period. We return to its potential for enhancing our theoretical understanding of HRM in our concluding remarks.

Though these three theories dominate the field, the contributions from less prevalent theoretical frameworks remain essential, both for the alternative perspective and insights they offer (e.g. population ecology, evolutionary economics, job characteristics theory) but also, in the case of new institutionalism so that studies are not conducted in an de-contextualised vacuum (see Boselie *et al.*, 2003), and in the cases of stakeholder approaches and the labour process critique, so that issues related to HRM's *legitimacy* and *ethicality* continue to be articulated and explored (Legge, 2005). Strikingly, we found *no* examples of either transaction cost economics or of agency theory, both anticipated in Wright and MacMahan (1992). In the light of the late Sumantra Ghoshal's (2005) recent attack on the pernicious effects of both in business school teaching this too may be considered a welcome finding.

Concepts of human resource management: Table 2 on the website.

For each article we identified the policies, practices and interventions deemed to constitute 'HRM' in the organisations studied, and how this was operationalised and measured. For the most part, we found HRM understood as a set of 'employee management activities' and we focus on these studies in our analysis

below. However, a few studies viewed HRM as an organisational ‘orientation’ toward managing employees (e.g. Panayotopoulou *et al.*, 2003), and several made an assessment of the effectiveness of the HR function (e.g. Huselid *et al.*, 1997; Richard and Johnson, 2001; Teo, 2002; Wright *et al.*, 2001c).

Still no consensus has emerged on what employee management activities should be in a comprehensive ‘HRM checklist’, since no widely accepted theoretical rationale exists for selecting practices as definitively essential to HRM. Rather than attempt to construct our own list *a priori* (in the manner of Paauwe and Richardson, 1997, in Figure 1 – see also the list produced by Pfeffer, 1998), we allowed ours to emerge in an iterative process during our analysis of the 104 articles.

Employee management activities can be sub-divided into practices, or techniques (Guest *et al.*, 2004). For example, selection (a ‘practice’) can involve psychometric testing, interviews, assessment centres, etc (techniques); contingent pay systems (a ‘practice’) can include profit-sharing, gainsharing, and performance-related pay (techniques). To avoid too great a variety, we opted for categorisation at the ‘practices’ level, which meant assigning particular HR techniques to one of our 26 general categories of practice (Appendix 2). As a consequence, the eclectic findings reported below mask an even richer diversity of possible interpretations of HRM. That said, our particular definition of HRM, and our set of practice-level categories, mean that we depart from some authors’ narrower definitions of HRM as having nothing to do with, for example job design, industrial relations frameworks or quality systems.

The top four, in order, were training and development, contingent pay and reward schemes, performance management (including appraisal), and careful recruitment and selection. These might be seen to reflect the main objectives of most conceptualisations of a ‘strategic’ HRM programme (e.g. Batt, 2002: 587): namely, to identify and recruit strong performers, provide them with the abilities and confidence to work effectively, monitor their progress toward the required performance targets, and reward them well for meeting or exceeding them. Interestingly, some of the often-cited core elements of ‘strategic’ HRM that are also likely to be of benefit to *employees* seem to feature rather less in empirical research, notably good pay, discretion over work tasks, employment security, diversity and work-life balance. Additionally, very few studies examined practices associated with the ‘exit’ phase of the employment relationship (e.g. redundancy management). This remains a neglected area of HRM - perhaps because it is one of the subject’s, and the function’s, ‘darker’ sides (Redman and Wilkinson, 2001). In sum, the dominant impression of authors’ selections for HRM items is of a highly management-centric standpoint.

HR practices or HR systems?

An organisation’s ‘HRM’ can be viewed as a collection of multiple, discrete *practices* with no explicit or discernible link between them, or the more strategically-minded *system* approach views HRM as an integrated and coherent ‘bundle’ of mutually reinforcing practices. Research using the former approach tends to generate an index of possible HR practices, and investigates how many are used by the sample, while the ‘systems’ approach has researchers constructing ‘clusters’ of *inter-related* HR activities, and linking this group *as a synergistic whole* to performance. We used the five methods described by Guest and colleagues (2004) to identify a systems approach, namely a straightforward measure of reliability (e.g. Cronbach’s alpha), factor analysis (e.g. principal component analysis, or confirmatory analysis), cluster analysis, regression analysis with interaction variables, and sequential tree analysis.

58 of the articles applied a ‘practices’ approach (e.g. Guest and Hoque, 1994; Huang, 1997). The remaining 46 articles explicitly corresponded to the systems approach (e.g. Ahmad and Schroeder, 2003; Arthur, 1994; Delaney and Huselid, 1996; Koch and McGrath, 1996; Tsui *et al.*, 1997). On this point, Cappelli and Neumark (2001) made a point of pre-specifying their ‘bundles’ as a way of resisting the temptation to mine the data *post-hoc* in search of bundles, with no theoretical justification for so linking them (see too Van den Berg *et al.*, 1999).

The matter of which HR practices should be bundled together to form an HRM ‘system’ appears unresolved, as well (Lepak and Snell, 2002). No accepted theory exists that might classify different practices into ‘obligatory’ and ‘optional’, ‘hygiene’ factors and ‘motivators’. Cappelli (1995) makes this point about the purpose of contingent pay: is it a ‘control’ or a ‘motivator’? Is job flexibility evidence of a ‘utilitarian instrumentalist’ approach, or a ‘developmental humanist’ HRM strategy, as with Delery and Doty’s (1996) ‘market’ versus ‘internal’ models respectively? Nor is there agreement on whether those

organisational practices designed to manage workplace conflict (e.g. due process and grievance arrangements) are ‘positive’ HRM interventions in terms of ensuring procedural justice, or indications of a kind of ‘anti-HRM’, ‘old-fashioned’ approach to managing employees. The very different focal points for the different models further illustrate the malleability of the concept.^{iv} As a consequence, no two systems are identical (e.g. the eight-item lists produced by Delery and Doty, 1996, and by Ichniowski *et al.*, 1997 share only four).

Until consensus is achieved on conceptual matters, and perhaps even then, it would seem that HRM can consist of whatever researchers wish, or perhaps what their samples and data sets, dictate. However, to our mind, this elasticity underscores the importance of researchers deriving their operationalisation of HRM from *a* theoretical framework – or at least acknowledging how and why their operationalisation takes the form that it does (on this see Guest, 1997). The studies by Arthur (1994) and Bailey *et al* (2001) are good examples of HRM items specifically selected to reflect the central tenets of the authors’ theoretical framework.

Measuring HR practices.

In measuring HRM, it is vital to distinguish between policies and practices (Wright and Boswell, 2002: 263). The former is the organisation’s stated intentions regarding its various ‘employee management activities’, whereas the latter are the actual, functioning, observable activities, as experienced by employees. As Van den Berg and colleagues note (1999: 302), ‘an organisation may have an abundance of written policies concerning [HRM], and top management may even believe it is practised, but these policies and beliefs are meaningless until the individual perceives them as something important to her or his organisational well-being’. Thus, researchers need to make sure that they do not confuse the two. Measuring functioning HR practices, meanwhile, goes *some* way to addressing Legge’s (2005) famous juxtaposition of HRM ‘rhetoric’ with organisational ‘reality’.

An HRM practice can be measured in three different ways: by its *presence* (i.e. a dichotomous scale for whether it is actually in effect, ‘yes’ or ‘no’), by its *coverage* (i.e. a continuous scale for the proportion of the workforce covered by it), or by its *intensity* (i.e. a continuous scale for the degree to which an individual employee is exposed to the practice or policy). The overwhelming majority relied only on measures of presence. These are readily attainable and comparatively easy to analyse, but managers and employee representatives often disagree considerably on the presence or otherwise of workplace practices, let alone their effectiveness (Ichniowski *et al.* 1996). Huselid’s study (1995) and Guest *et al* (2003) are rare examples of use of coverage measures. We found rather fewer measures reflecting intensity, an exception being Truss (2001: 1135) who asked employees whether, for example, they received *sufficient* training to do their job. We found little attention paid to the *quality of the implementation* of HRM as a necessary condition for its effectiveness. Although a handful of studies have now examined the role of the HR function itself in terms of leadership and change delivery, the role of the immediate line manager or supervisor in the actual enactment process (Purcell *et al.*, 2003) is an underdeveloped area.

Concepts of performance/ outcomes: Table 3 on the website.

Guest (1997) argues that it is more sensible to use the term ‘outcomes’ instead of ‘performance’ *per se*, as the former reflects better the broad range of dependent variables used in studies. We draw a distinction, adapted from Dyer and Reeves (1995), between:

1. Financial outcomes (e.g. profits; sales; market share; Tobin’s q; GRATE)
2. Organisational outcomes (e.g. output measures such as productivity; quality; efficiencies)
3. HR-related outcomes (e.g. attitudinal and behavioural impacts among employees, such as satisfaction, commitment, and intention to quit)

A tacit recognition in many studies is that financial measures are the best indicators of organisational success and sustainability, even the *only* indicators worth considering, given their value for company Executives, shareholders and ‘the market’ (Ichniowski *et al.*, 1996). We found financial measures in exactly half of the articles, with profits being the most common followed by various measures for sales.

Guest (1997) and several others have raised persuasive doubts about the problem of ‘causal distance’ between an HRM input and such outputs based on financial performance. Put simply, so many other

variables and ‘events’, both internal and external to organisations, can and do intervene that this direct linkage rather strains credibility.^v Use of more ‘proximal’ outcome indicators, particularly those over which the workforce might enjoy some influence, is both theoretically more plausible (given how HRM seeks to enhance employees’ direct contribution to performance), and methodologically easier to link. Of these organisational and HR-related outcomes, productivity^{vi} proved the most popular outcome variable overall (e.g. Chang and Chen, 2002; Huselid, 1995; Ichniowski and Shaw, 1999; Kato and Morishima, 2002). Another common output measure was product or service quality (e.g. MacDuffie, 1995; Jayaram *et al.*, 1999). A frustration is that there can be no uniform definition or standard measure of either productivity or quality, since what constitutes either varies among different sectors. However, while some commentators’ dismay at being consequently unable to compare outcomes across studies is a valid observation, it is also surely unresolvable. Looked at another way, the use of industry-specific dependent variables provides researchers and practitioners alike with targeted outcome results for particular industries.

A simple but important caveat should be attached to investigations into productivity and quality improvements through HR investments in employees, which is that the improved outcomes may come at the expense of an increase in unit labour costs, effectively canceling out the benefits gained (Cappelli and Neumark, 2001). It is prudent therefore for researchers to gauge the extent of this potential side-effect in their selection of measures. We found only a handful of studies other than Cappelli and Neumark’s that explicitly used the impact on unit labour costs as an outcome measure (e.g. Cooke, 1994; Guest, 2001).

Oddly, given how HRM’s impact on performance is typically depicted as being refracted through changes in employee attitudes and behaviours, measures of employees’ experience proved somewhat rare (26 in total). The most popular indicators were hard measures such as employee turnover or quit rates (e.g. Batt, 2002; Huang, 1997; Shaw *et al.*, 1998) and absenteeism (e.g. Lowe *et al.*, 1997). Subjective attitudinal indicators included job satisfaction (e.g. Guest, 1999; Hoque, 1999), commitment (e.g. Tsui *et al.*, 1997), and trust-in-management (e.g. Whitener, 2001). These are all positive employee outcomes, yet important studies have looked into possible negative effects of HRM on employees. Ramsay and colleagues’ study (2000) measured employees’ stress levels and perceptions of work intensification. White *et al* (2003) examined certain HR practices’ impact on ‘job-home spillover’, a form of work-life balance. Godard (2001b: 789) found that moderate take-up of ‘HRM-style’ practices had positive outcomes for employees, but intensive adoption heightened stress levels. MacDuffie (1995: 218) also acknowledged concerns that ‘flexible production’ equated to ‘management by stress’, but with no measure for the pace of work his study could not address the distinction directly.

Outcomes from the perspective of stakeholders other than shareholders and managers proved rather less prevalent. In particular, given HRM’s supposed business-driven focus, it was surprising to find outcomes from *customers’* point of view very much a minority concern, featuring in just two articles (Gelade and Ivery, 2003; Rogg *et al.*, 2001) – though this may be due to difficulties in securing access to such data. Other relevant stakeholders barely registered, particularly works council representatives and trade unions (exceptions include Bacon and Blyton, 2001; Guest and Peccei, 2001).

A final point on performance measures: very many of the studies had to rely on managers’ perceptual estimates. Although Wall *et al* (2004) found that subjective self-reports compared favourably with ‘objective’^{vii} measures in terms of reliability, the potential for social desirability bias (presenting one’s employer in a positive light) is nevertheless strong (see Gerhart *et al.*, 2000b), while assessments asking for a comparison relative to the organisation’s rivals introduce yet more possibility of error. Objective performance data, though more difficult to secure, is preferable to subjective judgement calls from respondents.

Contingent/control variables: Table 4 on the website.

The context within which organisations operate - both ‘internal’ and ‘external’ (Hendry and Pettigrew, 1990) - holds critical information for researchers attempting to isolate the impact on performance of HRM *specifically*, rather than other candidates. Without the careful incorporation into research designs of pertinent contingency variables as moderators, and appropriate controls, authors may report results that might either be explained away by the influence of these factors or, worse, may fail to hold once certain variables are added to the analysis. In his overview, Wood (1999) further stresses the importance of

contingencies in terms of testing the importance of various HRM ‘fits’: with the organisation’s environment, with its strategy, with its other systems, and internally as an HR system. Space does not permit a detailed breakdown of all of the controls and contingencies found in the 104 articles, since selections are in part dependent on the type of research being carried out, with the context and level of analysis especially influential. We summarise here key findings to highlight candidates that might get overlooked.

Controls serve to isolate the impact of the main independent variable (i.e. typically, though not always, in these articles, ‘HRM’). Some research projects include certain controls by their very design (e.g. single-country studies effectively controlling for institutional frameworks and labour market pressures – e.g. Ngo *et al.*, 1998). Others must be built in. We found organisation size (typically defined by the number of employees) and age used to offset the often-observed impact of economies of scale and HR experience enjoyed by large and established resource-rich firms. In this respect, size in particular does matter (controlled for in 64 studies); age less so (25 studies). ‘Trade union influence’ featured in 32 studies. We also found the type of industry or sector controlled for in multiple-sector studies (e.g. Kalleberg and Moody, 1994; Chandler and McEvoy, 2000), while several single-industry studies controlled for *intra*-industry segments (e.g. Appleyard and Brown, 2001; Batt, 2002) and highly specific variables reflecting different sectors’ idiosyncratic character, such as Sherer’s (1995) study of US law firms controlling for those based in New York City. As well as helping bolster methodological rigour, such details offer due sensitivity to context, which adds nuance and flavour to studies. Individual-level studies tended to control for a standard range of appropriate personal characteristics such as age, gender, tenure, and educational attainment.

As to contingency influences, 21 studies made explicit use of moderating interaction effects to test hypotheses about certain variables’ impact on the relationship between the main independent and dependent variables. A striking finding for the notion of HRM as a strategic contribution is that only a few articles used strategy as a moderator of the relationship between HRM and performance (e.g. Arthur, 1994; Hoque, 1999; Huselid, 1995; Lee and Miller, 1999). That said, these relatively low figures may reflect the methodological difficulties of categorising accurately different business strategies (Wood, 1999), of organisations’ strategies changing over time (Ferris *et al.*, 1999), and of prevailing typologies (cf. Schuler and Jackson, 1987; Miles and Snow, 1984) no longer being considered suitable.

Linking HRM and performance: Table 5 on the website.

Between the input (i.e. some form of HRM intervention) and output (i.e. some indicator of performance) - moderated possibly by intervening variables (e.g. degree of institutionalism - Boselie *et al.*, 2003) - lies *what HRM does* to improve performance, *how*, and *why*. This stage is popularly referred to as the ‘black box’: so-called because we know little of what happens in this stage, and hence its contents remain somewhat mysterious (see Wright and Gardner, 2003). Our analysis of the 104 articles confirms the impression that the ‘linking mechanisms’ between HRM and performance (Wood, 1999: 408), and the *mediating* effects of key variables (Batt, 2002: 587), are largely disregarded. Indeed, while we found plenty of acknowledgements of the existence of the ‘black box’, and some speculation as to its possible contents, few studies tried to look inside. It is surprisingly rare to find a detailed exposition of the conceptual model being used to link HRM with performance, still less a diagram. In most cases the possible content of the ‘black box’ has to be inferred from the brief descriptions of the research design, extrapolated from the methodology, or gleaned from the reported statistical analysis. To ascertain whether a study dealt explicitly with the ‘black box’ we looked *in the Tables of findings* for the presence of identifiable mediating effects, evidenced by such methods as stepwise analysis, structural equation modelling and hierarchical linear modelling.

We found 20 examples, including Ahmad and Schroeder (2003 - commitment); Gelade and Ivery (2003 - climate); Park *et al* (2003 - increases in employees’ skills and attitudes, and motivation); Rogg *et al* (2001 - climate); and van den Berg *et al* (1999 - morale and then employee involvement). Overall, then, ‘black box’ studies conceptualise *employees’ perceptions and experience* as the primary mediating variable, and the ‘signalling’ effects of HRM are understood to forge a psychological contract between the employer and employees that shapes these perceptions and experience (Wright and Boswell, 2002: 261; Ostroff and Bowen, 2000). We welcome this model as it has the merit of restoring to a central position the effects that HRM has on an organisation’s staff – something for which this predominantly

positivist and functionalistic literature is often accused of neglecting. In other words, understanding how to secure a mutually beneficial ‘employee-organisation fit’ is the enduring challenge for HRM researchers and practitioners alike (Boxall and Steeneveld, 1999: 460).

Limitations of this study

The first limitation is that this overview, while covering 104 major articles, cannot claim to be a *definitive* review of *every* study published in this field between 1994 and 2003, given our self-imposed restrictions on the sample. An associated limitation is that we had to stop our search at some stage at either end. A number of important articles pre-date our starting point (e.g. Krackhardt *et al.*, 1981), and new articles continue to appear (e.g. the special edition of *Industrial Relations*, 2004: 43:1; Datta *et al.*, 2005; Den Hartog and Verbarg, 2004).

Secondly, this study is necessarily descriptive by nature. The twin issues of which conceptualisations are ‘best’, and which research designs are ‘more appropriate’, are not resolved here - if such judgments can be made, or even are desirable. However, we do suggest some implications of our findings in the section that follows.

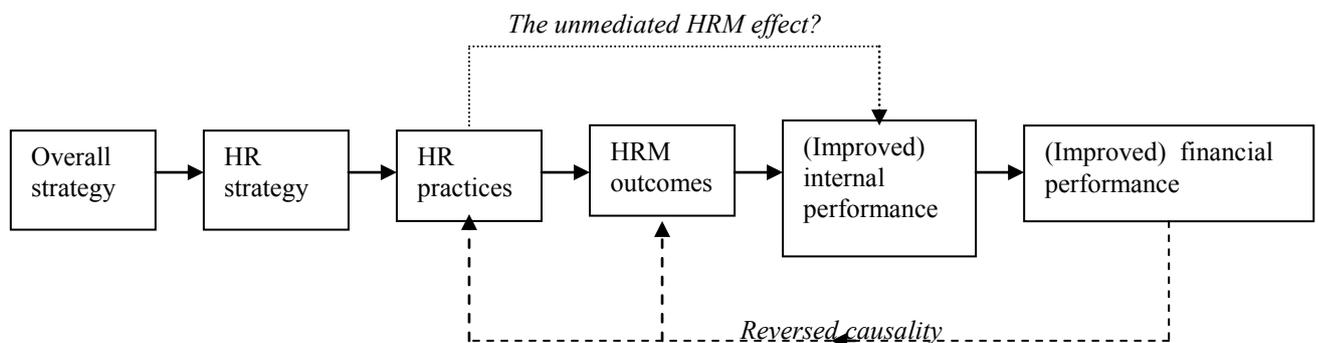
Finally, we have not had the space to address in sufficient detail the sceptical analyses of the HRM-performance literature from scholars from the ‘critical management’/ post-modernist tradition (e.g. Legge, 2005), though again we offer some brief comment in our conclusion.

Discussion

Our review of 104 major studies of the HRM-performance relationship reveals a number of hidden assumptions harboured by most conceptual models and much of the empirical research. As well as those pertaining to the nature of each variable (discussed above), we would highlight the following concerns.

There are several issues surrounding causality. The common, though often only implicit, assumption in both the theoretical and empirical literatures is of a relatively smooth sequential progress as depicted in Figure 2.

Figure 2. The standard causal model for the relationship between HRM and performance.



The first assumption in this model is that the organisation’s strategic objectives either proscribe the HRM input, or HRM is developed in response to these objectives. Either way, ‘HRM’ follows ‘downstream’ from the overall organisational strategy. Yet this sequence may not always hold true. Indeed, a genuinely strategic HR function would expect to be involved in strategic decision-making, or at least to have ‘HR’ consequences factored in to such decisions. The resource-based view even carries the strong suggestion that HRM strategy be ‘upstream’ of the product market strategy (Wood, 1999: 376). Alas, little is presently known about the impact of HRM on strategic decision-making (see Golden and Ramanujam, 1985; Harris and Ogbonna, 2001).

HRM interventions, derived from an HR strategy, are then understood to give rise to HRM-related outcomes, typically manifested in shifts in employee attitudes and behaviours (as with Figure 1). But as we have seen, how this takes place - if, indeed, it does - remains somewhat neglected in empirical studies. What does seem clear is that the mere presence of such practices is unlikely to be sufficient. The quality of implementation – in terms of effectiveness, procedural justice, etc – is a *vital* determinant of the

success or otherwise of an organisation's HRM programme. Moreover, as Ramsay *et al* (2000), and the handful of other studies documenting the negative consequences of HRM attest, some changes in employees' attitudes and behaviours may not be what the HR strategy intended.

In the model, 'better' employee attitudes and behaviours then contribute to delivering improved internal performance (such as through increased productivity and quality). It may however be the case that HRM influences these organisational outcomes *directly* (the upper arrow in Figure 2), unmediated by any HRM-related outcomes. For example, interventions in training, job design and performance management may improve employees' effectiveness - whether through simply removing task-related obstacles to better performance^{viii} or through enhancing employees' technical knowledge, skills and abilities (KSAs) - while leaving their *HRM-related attitudes and behaviours* unchanged (such as motivation and intention to quit). This illustrates the importance of a 'black box' mediating stage. Indeed, the elegance of the 'AMO' theoretical framework is that it encompasses mediating changes in employees' abilities (A), motivations (M) and opportunities to participate (O). Motivation is the explicitly 'HR-related' mediator here; the other two may be considered 'direct' influences on performance.

From these organisational improvements stem firms' financial reward (e.g. higher sales and profits, growth and improved market value). One recognised problem in this respect is time-lag: the effect of an HRM intervention may not be fully realised for several years (Huselid and Becker, 1996; Kato and Morishima, 2002), and performance may even dip immediately following a change in HRM as the organisation adapts (see Pil and MacDuffie, 1996). Thus, studies measuring HRM and performance at the same time-point are problematic. Indeed, most studies are cross-sectional and tend to offer merely correlations rather than causal inferences. Additionally, most studies overlook the *reverse causality* explanation (the bottom arrow), whereby any significant positive relationship between HRM and financial performance may only be evidence of high-performing, resource-rich organisations proving more willing and able to invest in HRM than low-performing organisations (Hiltrop, 1999). Schneider and colleagues' controversial recent study (2003) has even extended the reverse causality thesis back to employees' attitudes. First, they found 'no consistent patterns' linking market and financial outcomes with either employees' satisfaction with empowerment or job fulfilment, and they argue that these attitudes 'may be too far removed' from such ultimate outcomes for a direct link to be made (2003: 848). But the more important finding is that overall job satisfaction and satisfaction with [job] security appeared to be 'more strongly caused by market and financial performance than the reverse' (2003: 845). In their conclusion they criticise models featuring causal arrows stemming from employee attitudes to performance at the organisational level of analysis as 'at best too simplistic and at worse wrong' (op cit: 846). Longitudinal research designs might solve many of these problems - we found 15 examples in total, including Cappelli and Neumark (2001), and Pil and MacDuffie (1996) - but such designs can also be prone to larger measurement errors (Ichniowski *et al.*, 1996).

These concerns lead us to reiterate our earlier scepticism about the methodological validity of isolating the impact of an organisation's HRM from all the other variables that might part-determine financial success. Moreover, recent corporate scandals (e.g. Enron and WorldCom in the United States; Marconi and Railtrack in the UK; Ahold in The Netherlands; Parmalat in Italy) ought to have engendered scepticism about the veracity of short-term financial performance measures as credible indicators of organisational success. Outcomes other than sales, profits and market value are important in the process of evaluating the ultimate need for almost all organisations, long-term sustainability (Boxall and Purcell, 2003). Indeed, the resource-based view of the firm (Barney, 1991) - found in almost a third of our sample - strongly implies the use of sustainability-oriented outcomes.

Legitimacy is another essential pre-requisite (Paauwe, 2004). Yet, as we have seen, the predominant *shareholder approach* tends not to acknowledge that other constituencies have a direct and often pressing interest in the content of the organisation's HRM program and its overall performance, especially employees. Taking a stakeholder approach (Freeman, 1985), such as the 'balanced scorecard' (Kaplan and Norton, 1992), necessitates a multi-dimensional research framework for HRM, with multiple actors rating multiple indicators of organisational sustainability. So, alongside managerial imperatives, measures for employees' interests (e.g. good working conditions, job satisfaction, commitment, trust, etc); those of customers and suppliers (e.g. satisfaction with product and service quality), and - where present - trade unions (e.g. increased membership and procedural gains) would deepen studies. As Truss' study inside a

division of Hewlett-Packard illustrates vividly, multiple outcome measures from multiple actors often produce ‘seemingly paradoxical and incompatible conclusions’ (Truss, 2001: 1144). Addressing, rather than ignoring, these contradictions is critical for our understanding of this complex relationship to evolve.

Hence, we would reiterate our earlier endorsement of more ‘proximal’ outcome indicators. We see productivity and quality, acting in symbiosis, providing a mediating ‘bridge’ between the often labeled ‘soft’ HRM outcomes (e.g. employee satisfaction, commitment and trust) and ‘hard’ financial outcomes (e.g. sales, profits, ROI). This is important since, as Guest has argued (1997: 269), we should ‘expect the impact of HRM to become progressively weaker as other factors intervene’. Regardless, if HRM is shown to make organisations produce goods or deliver services more effectively this is surely a valuable enough finding, without then seeking tenuous *direct* links with financial performance.

A final reason for focussing more explicitly on employee-derived outcomes comes from Lepak and Snell’s ‘HR architecture’ model (1999). This strongly implies that an organisation’s HRM system may (should?) vary according to the type of employee involved, implying a more targeted focus on those employees whose unique capabilities add value, and are rare. That said, future research projects might differentiate between the HR practices implemented for these ‘core’ and those applied to ‘peripheral’ workers, testing the outcomes for each.

Implications for Practitioners

Empirical studies of HRM do seem to be consolidating attention on certain broad areas of policy (see Table 2), namely careful investment in recruitment and selection; provisions for training and employee development; flexible job designs (particularly in terms of de-centralised decision-making, teamworking and employee participation), performance management and appraisal, and appropriate payment systems including some form of incentive bonus component. These may be akin to Becker and Gerhart’s core, universalistic ‘HR principles’ (1996: 786). However, each element is still ‘contestable terrain’ in the managerial pursuit of ‘employee-organisation fit’: performance management and individualised forms of PRP are particularly contentious policy domains, whose effects on employees are the subject of long-standing controversy (see Townley *et al.*, 2003, and Marsden and Richardson, 1994 respectively). Additionally, in noting the popularity of these HR practices in research designs, we are certainly not advocating the marginalisation of other practices, such as employment security, diversity and work-life balance policies. Though they feature less frequently in research studies, these may have a significant influence on HRM’s impact on performance. In other words, HR professionals, and other managers engaged directly in co-ordinating employees’ efforts, need to reflect upon the totality of effects from their HR system, and should aim to shape all elements toward reconciling the ‘employee-organisation’ fit challenge (i.e. internal ‘fit’).

The second point concerns the question of responsibility for ensuring the delivery of effective outcomes from HR interventions. The HR department might be responsible for the design and evaluation of employee management policy and practices, but in many cases, and certainly many normative models of strategic HRM, implementation is left to direct supervisors and front-line managers (Purcell *et al.*, 2003). For HR professionals, this means that the quality of what Boselie and Paauwe (forthcoming) call ‘HR delivery’ is vital to success: aligning HR strategy with the overall business strategy (‘strategic contribution’), convincing line managers of the value of the organisation’s HR practices (‘personal credibility’), and at the same time co-ordinating the implementation effectively (being an ‘administrative expert’), including proper training, coaching and support for immediate line managers. At the same time, we would stress to practitioners the importance of considering different stakeholders’ interests in organisational strategic decision-making and the design of HR systems, particularly those of employees, lest what organisations intend for their workforce to experience fails to materialise (evidenced by those studies reporting ‘counter-productive’ effects on employees). In an empirical study of changing HR roles, Francis *et al* (2005) argue that in the pursuit of greater strategic influence, there is a risk that the ‘employee champion’ aspect of the HR role may become downgraded and employee well-being marginalised (see too Caldwell, 2003; Renwick, 2003). Our analysis of 104 empirical studies has shown what a ‘balanced scorecard’ perspective for the design of HRM can offer. This might be called the ‘*indirect shareholder approach*’ where, in order to satisfy the needs of the owners, the organisation sets out to satisfy the needs of its employees and customers, as well. Such a re-orientation would also restore to HRM the spirit of Beer and colleagues’ original model (1984).

Conclusion

The primary objective of this paper was to see whether there might be commonalities and widely accepted trends in the theoretical perspectives, conceptualisations and methodologies used in the field of HRM and performance research. Details of our findings are summarised in each of the sections above.

A steady body of empirical evidence has been accumulated since the pioneering studies in the mid-1990s, yet it remains the case that no consistent picture exists on what HRM is, or even what it is supposed to do. Keenoy (1999, cited in Harley and Hardy, 2004) may be reassured that its precise nature, even in the overwhelmingly positivistic research reviewed here, is still contested.

As for its much-vaunted impact on performance, in much - by no means all - of the empirical research HRM in its 'system' form have been found to 'matter' (in a positive sense) for organisational performance (Ichniowski et al., 1996; Guest, 1997). However, because of the sheer variety of methods used for measuring HRM, performance, and the relationship between these two, it is not possible to compare results from different studies. What can be concluded definitively from this collection of studies is still unclear. Moreover, all findings come with serious caveats attached and concessions concerning methodological limitations, whether because potentially decisive variables have been omitted, or causality cannot properly be inferred, most studies being cross-sectional and confined to correlations (see Wood, 1999). The disparity of research designs, and enduring uncertainties, suggest that we - still - need Guest's three theories (1997): for HRM, for performance and for the linking stages between the two.

To this end, we would venture the following propositions on theoretical clarity. We found in our analysis that authors are increasingly blending insights from the 'Big Three' theories – contingency, the resource-based view and 'AMO' – into a formative overall theory of HRM. Bae and Lawler (2000) and Huselid (1995) cite all three; Batt (2002) draws upon AMO & RBV. The three do seem to offer complementary frameworks: AMO's attention to employee's skills, motivations and opportunities to participate acts as a theory for HRM; RBV has as its fundamental starting point a belief in the value of employees' input into performance (i.e. that their input is potentially decisive), while contingency approaches offer a lens on the possible link between these two, emphasising in particular the vital importance of examining the impact of contextual factors from the external environment. Organisational strategy is an obvious candidate here. But greater attention to context also points to researchers needing to be more sensitive to insights drawn from new institutionalism theory (cf. DiMaggio and Powell, 1983; Boselie *et al.*, 2003; Legge, 2005). However, as we have seen, these theories have not been 'translated' into a consensus with regard to the operationalisations of the key variables. They remain only a starting point.

These theories are not the full answer to Guest's quest (1997). We agree with Wright and Boswell (2002) that researchers now need to extend the field's theoretical development beyond these dominant 'macro' approaches to accommodate insights from OB-type 'micro' theories (e.g. expectancy theory, goal setting theory) and hence to explore in much greater depth employee's actual experience of HRM. Here, 'climate' suggests itself as a potentially useful 'black box' (Ostroff and Bowen, 2000). This anticipates the growing use of multi-level methods, which have been advocated powerfully as a method for truly understanding the nature of organisations (Klein and Koslowski, 2000), and the impact of HRM in particular (Ostroff and Bowen, 2000). These would match employee-level antecedents with organisational-level outcomes ('micro' with 'macro'). As we have argued throughout this paper, this would also restore employees' experience of work to the heart of HRM research and practice.

During the course of this review we recognised ourselves in Ferris *et al.*'s self-description (1998: 236): 'simultaneously excited and troubled, frustrated yet optimistic, and encouraged but cautious'. The 'Holy Grail' of decisive proof remains elusive, ten years on. It is hoped that, by summarising the conceptualisations and operationalisations of the different variables in the existing empirical literature, this paper might help break through the dispersion of research approaches, settle on commonalities and 'best practice', and inaugurate a fresh agenda for optimal research designs for the future.

Acknowledgements

The authors would like to thank the editor and the two anonymous reviewers, as well as Tom Redman, for insightful and constructive criticisms of earlier versions of this paper.

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APPENDIX 1: THE JOURNALS AND ARTICLES ANALYSED.

It is noteworthy that explicitly industrial relations journals provided almost a quarter of the sample (24 articles). By contrast general management journals, other than the *Academy of Management Journal*, have carried remarkably few empirical articles on HRM and performance in the last ten years.

Journal	Number of articles
International Journal of HRM	24
Academy of Management Journal	14
British Journal of Industrial Relations	10
Industrial and Labor Relations Review	9
Human Resource Management (US)	8
Industrial Relations	5
Human Resource Management Journal (UK)	4
Journal of Management	4
Journal of Management Studies	3
Organization Studies	3
Journal of Operations Management	2
Personnel Psychology	2
Strategic Management Journal	2
American Behavioral Scientist	1
American Economic Review	
Canadian Journal of Administrative Sciences	
Canadian Journal of Economics	
Entrepreneurship – Theory and Practice	
Group Organization Management	
Human Relations	
Human Resource Development Quarterly	
International Journal of Management	
Journal of International Business Studies	
Management Science	
Managing Service Quality	
Personnel Review	
Sociological Review	

APPENDIX 2: RESEARCHERS' PRO-FORMA FOR CATEGORISING EACH ARTICLE.

Author & Year	Level of analysis See Wright & Boswell (2002)	Theoretical Framework See Wright & McMahan (1992)	HRM see Guest et al (2004)	Performance/ outcomes see Dyer & Reeves (1995); Paauwe & Richardson (1997)	Black box? see Guest (1997)	Controls and contingency variables? see Wood (1999); Paauwe & Richardson (1997)	Respondent(s) and sector see Gerhart et al. (2000)
Time period = 1994-2003 only	Industry Company/ firm Establishment/ workplace/ plant/ business unit Group/team Job level Individual employee	Contingency ('fit') RBV Human capital 'AMO'/ HPWS Systems/ QWL Control theory Various employee motivation theories Stakeholder theory/ 'Balanced Scorecard' Institutionalism Resource dependence theory Evolutionary economics Job characteristics Labour process Population ecology	<p>- Systems Evidenced by use of factor analysis, cluster analysis, tree analysis, regression analysis with interaction variables.</p> <p>- Techniques (i.e. a specific form of practice)</p> <p>- Practices = 26 broad categories of practice primary focus level for our analysis.</p> <p align="center"><u>26 HRM practices:</u></p> <ol style="list-style-type: none"> 1. Training & development 2. Contingent pay & rewards (PRP, bonuses, profit sharing, etc) 3. Performance management (also appraisal & performance metrics) 4. Recruitment & selection (also staffing) 5. Team working & collaboration 6. Direct participation (e.g. empowerment, employee involvement, suggestion schemes, etc) 7. 'Good' wages (e.g. high, or above market rate remuneration; also fair pay) 8. Communication & information sharing 9. Internal promotion opportunities & labour market 10. Job design (also job rotation, job enrichment, broad jobs) 11. Autonomy & decentralised decision-making (also self-management) 12. Employment security 13. Benefits packages 	<p>Financial measures</p> <p>Organisational measures (i.e. output - quality & productivity)</p> <p>HR outcomes Behavioural (e.g. turnover, absence) and attitudinal (e.g. trust, commitment, motivation, satisfaction, OCB)</p>	[Did the findings reported in the study contain interaction effects, particularly mediating effects, between the major variables studied?] Check for <i>mediating effects</i> (e.g. stepwise, or hierarchical statistical methods)	<p><u>Controls:</u></p> <p>Sector-level controls (e.g. market conditions, technology)</p> <p>Organisation-level controls (e.g. size, firm age, industry, capital intensity)</p> <p>Individual-level controls (e.g. age, gender, level of education)</p> <p><u>Contingencies</u> Check for moderating effects in the analysis.</p>	<p>Who provided the data for the study?</p> <p>Single rater (e.g. HR manager) vs multiple raters (e.g. different raters per unit of analysis, but not necessarily multi-actor)?</p> <p>Single vs multiple actors (e.g. employee, HR manager, line manager)?</p> <p>Sector in which the study was conducted</p>

			<ul style="list-style-type: none"> 14. Formal procedures (grievances, etc) 15. HR planning (e.g. career planning & succession planning) 16. Financial participation (e.g. employee stock/ share ownership) 17. Symbolic egalitarianism (e.g. single status & harmonisation) 18. Attitude survey 19. Indirect participation (e.g. consultation with trade unions, works councils; consultation committees, voice mechanisms) 20. Diversity & equal opportunities 21. Job analysis 22. Socialisation, induction & social activities 23. Family-friendly policies & work life balance (WLB) 24. Employee exit management (e.g. layoffs, redundancy policy) 25. Professionalisation & effectiveness of the HR function/ department 26. Social responsibility practices 				
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ENDNOTES.

ⁱ Even within this thorough diagrammatic representation, there are significant gaps. These include the absence of employment security, diversity and work-life balance in the 'HR activities' – though these absences may be indicative of changing agendas in HRM since these issues entered the popular consciousness fully after 1997. Other omissions are organisational citizenship behaviour (OCB) from the 'HRM outcomes' box, and 'strategy' from the controls/ contingency variables. Yet to adapt this diagram ourselves we would have compounded the enduring problem in the literature of authors adding new dimensions and content, with little or no theoretical justification for so doing...

ⁱⁱ Briefly summarising each, Ichniowski and colleagues give a broad overview covering articles from 1990-1996 in which they discuss familiar terrain to reviews of this kind: the nature of 'workplace innovations' (i.e. HRM for our purposes), different methodological design issues (e.g. type of study, variables for inclusion, measurement challenges), the nature of HRM 'bundles', and some evidence as to performance. Guest's own overview, mainly covering articles from 1994-1996, examines the theoretical foundations of the research, and deals expansively with the notion of 'fit': external, internal and configurational. He too discusses issues surrounding measurement of both HRM and performance. Wood's analysis is purposefully confined to 15 specially selected empirical papers from 1994-1999 that focused on HR systems, and four different hypotheses on the HRM-performance link: the general relationship between HRM systems and performance, and its moderation by strategy, lean production, and by HRM's integration with the overall organisation. Finally, most recent is Wright and Boswell's review, which focuses on articles published between 1998-2000, but extends on occasion before and after. They blend both methodological and conceptual concerns to categorise their selected papers according to a 2x2 typology of four different types of research, based on level of analysis (individual vs organisational) and the number of HR practices measured (single vs multiple). They then review recent studies in each quadrant, and offer several excellent recommendations for future research designs.

ⁱⁱⁱ For example, should West et al's (2002) use of hospital death rates as a performance indicator be classified under 'quality', or under 'customer satisfaction' (reverse-coded)?

^{iv} In models in which HRM is understood as 'human resource management', the implied focus is exclusively on 'management' processes, and management interventions (i.e. as a means of coordinating tasks and people more efficiently). However, alternative models see HRM as 'high-involvement work practices', with a focus on involving employees more effectively in organisational decision-making. Still other models understand HRM as 'high-commitment management', with its core objective being to generate among employees a psychological bond to the organization. Finally, there are models whose advocates concentrate on 'performance', in which HRM is understood as a set of 'high-performance work practices' offering a means of delivering better outcomes. For additional commentary on this see Wood (1999).

^v Within organisations, variables such as the use of new technology or production methods, marketing campaigns, mergers and acquisitions, public relations catastrophes, short-term calculative moves to boost share price, etc, will all contribute. From beyond the organisation, there are almost innumerable possible influences, often wholly unrelated to the organisation itself, such as the price of oil, random market fluctuations generated by the whims and herd-like behaviours of investors, changes to legislation, even global political conflict (witness the aftermath of September 11th for most major airlines).

^{vi} A 'pure' productivity measure should only capture some measure of output (e.g. units produced) per effort exerted (e.g. employee working hours), or number of employees. However, we found in several studies a 'productivity' measure referring to sales (as in 'sales per employee'). This is problematic since sales levels are affected by non-production factors such as price, marketing and logistics. These are instead implicit financial outcome measures. However, the 'sales per employee' variant was probably used because of data availability.

^{vii} Of course, apparently objective publicly available measures, such as on turnover, may only be indirect and subjective data provided by someone within the participating organisation.

^{viii} Herzberg's (1968) famous motivation experiments were criticised for overlooking this explanation.