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THE CENTRE FOR LABOUR MARKET STUDIES

Learning as Work: Teaching and Learning Processes in the Contemporary Work Organisation

High Performance Management: A Literature Review

Peter Butler, Alan Felstead, David Ashton, Alison Fuller, Tracey Lee, Lorna Unwin & Sally Walters

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ABSTRACT

In recent years there has been widespread discussion concerning the purported shift away from Taylorism towards a new production paradigm premised upon techniques of high-performance management (HPM). This paper argues that in seeking to capture the essence of the phenomenon commentators typically privilege different aspects of the management function. For example, some emphasise the importance of task formulation while others focus heavily on the management of human resources. Drawing on recent work by Bélanger et al. (2002) it is argued that any construct needs to be to be understood as a composite covering three discrete but related spheres: production management, work organisation and employee relations. The paper then moves on to consider the principal theoretical debates surrounding the emergent model; namely, the compatibility of HPM with neo-liberal orthodoxy; the impact of HPM on productivity; and, finally, the implications of HPM vis-à-vis employees. The paper concludes that there is a need for the development of more refined analytical tools and similarly the excavation of data more sensitive to potential sectoral dynamics.

HIGH PERFORMANCE MANAGEMENT:

A LITERATURE REVIEW

INTRODUCTION

The last decade or so has seen a growing interest amongst both academics and practitioners in the alleged emergence of a post-Fordist production paradigm. It is depicted as the fulcrum on which the UK's move towards a knowledge driven economy should turn and is similarly eulogised as one of the ways to address the UK's perennial productivity lag. Any change to the organisation of work has wide ranging micro and macro implications. Unsurprisingly, therefore, the purported transformation has stimulated a plethora of research from a variety of academic disciplines ranging from political economy to ethnographic sociology. This review seeks structure to this somewhat variegated discourse. By invoking a multi-disciplinary perspective, it attempts to offer a succinct and critical summary of the key theoretical debates surrounding new forms of work organisation.

The paper is structured as follows. First, in order to locate and clarify the precise terrain of the phenomenon under review, the conceptualisation of the reconfigured production model is explored. As will become clear, this remains an area of some dissent and indeed controversy. The paper will then review the principal theoretical issues surrounding the emergent paradigm. For analytical purposes, these will be sub-divided in to three research streams: (a) the potential for the consolidation of the new production regime within liberal market economies; (b) issues relating to organisational performance and; (c) the implications of changing organisational practices vis-à-vis employees. As will become evident, at present research in this area is hampered by both insufficient data and inadequate conceptual tools. In the final section, therefore, in line with the intellectual thrust of the CLMS *Learning as Work* project, the synergies and complementaries between the high performance and learning at work literatures are briefly explored.

CONCEPTUAL MATTERS

While in recent years there has been an exponential growth in the column inches devoted to this area, the terrain nevertheless remains impoverished conceptually. As Lloyd and Payne (2004, p. 13) observe, 'not only is there no clear definition of the model, but there is also a fundamental lack of agreement about the specific practices it should and should not incorporate, as well as the meanings that are ascribed to those practices'. Accounts of the evolving model use a wide range of terms, thereby heightening the uncertainty surrounding its underlying tenets. Thus, for example, high performance work systems (Danford et al., 2004); high involvement work systems (Harmon et al., 2003); high commitment management (Baird, 2002) and similar formulations (see Table 1 overleaf) represent not just significant variations in terminology, but attest to large scale conceptual confusion. The significance of this observation extends beyond mere semantics. For example, a focus on high performance work systems suggests a mechanistic route to sales and revenue growth through quality management (QM) techniques such as statistical process control and conformity evaluation. This is the agenda popularised by successive generations of quality gurus *viz.* Crosby, Deming, Feigenbaum, and Duran (cf. Dale, 2003 for a review). Under this formulation, the significant roles are those occupied by senior managers and quality professionals[1]. Conversely high commitment management, given formal theoretical expression via the concept of human resource management (HRM), emphasises the importance of *all* organisational players. Especially from the perspective of resource based HRM, competitive advantage is derived not from the formal organisation and shaping of work *per se*, but the constituent workforce via both functional flexibility and commitment to organisational business plans and goals (cf. Beardwell, 2001, p. 12).

[1] In Deming's accounts, for example, the hourly workforce are very much reactive actors with their role limited to reporting problems to management (Dale, 2003; and see also Belanger et al., 2002, p. 18).

Table 1. The Lexicon of Post-Fordist Production

Terminology	Studies	Dominant Emphasis
High-performance work Systems	Appelbaum et al. (2000) Danford et al. (2004) Farias et al. (1998) Harley (2002) Ramsay et al. (2000) Thompson (2003)	Production management
High-performance work practices	Handel and Gittleman (2004)	
High-performance work organisation	Ashton and Sung (2002) Lloyd and Payne (2004)	
High-involvement work systems	Edwards and Wright (2001) Felstead and Gallie (2002) Harmon et al. (2003)	Work organisation
High-involvement work practices	Fuertes and Sánchez (2003)	
High-performance practices	Goddard (2004)	
High-involvement management	Forth and Millward (2004)	
High-performance employment systems	Brown and Reich (1997)	
High-commitment management	Baird (2002) Whitfield and Poole (1997)	Employee relations

The reality, of course, is that the above formulations represent somewhat artificial divisions and the new paradigm needs to be more holistically and broadly conceptualised. Within this context, recent work by Bélanger et al. (2002) represents a considerable advance providing some much needed conceptual grounding. The strong caveat expressed here is that the emergent format must be understood 'as work in progress' (ibid, p. 31), while the production system responds to significant changes

in the political economy of advanced capitalism. Nevertheless, it is argued that the new model can be viewed as a composite of three now relatively well embedded spheres of the production process: (a) production management; (b) work organisation and; (c) employee relations (ibid, p. 31)[2]. This multi-dimensional conceptualisation adheres with the widespread emphasis on the necessity for so-called 'clusters' or 'bundles' of practice (McDuffie, 1995).

According to Bélanger et al. (ibid) the first dimension, production management, is concerned with aspects of productive flexibility and process standardisation. A key facet here is quality management, which characteristically involves the use of statistical tools to analyse variance from tolerance margins at each stage of the production process, often subsumed within a wider TQM format. A quite distinct second dimension relates to work organisation. Here, it is argued, there has been a trend towards production activities based on knowledge, cognition and abstract labour. The *sine qua non* of this aspect of the new model is teamworking, the medium whereby tacit knowledge shared amongst the work group is developed into explicit knowledge. The practice of sharing skills across traditional demarcations 'is thus a fundamental feature of the emergent model' (ibid, p. 39). The third sphere, 'employment relations', very much underpins the coherence of the former two components given the requirement for a committed, rather than merely compliant workforce (ibid, pp. 42-48). Two significant features emerge. Firstly, Bélanger et al. (ibid) state there is a desire to align and support task flexibility via terms and conditions of employment[3]. This is typically sought by making pay contingent on group performance (Appelbaum, 2002, p. 124). Secondly, HRM professionals are charged with the pursuit of social adhesion and commitment to the new production format and wider organisational goals. This involves 'efforts to fashion employment conditions and the modes of regulation of those conditions in such a way as to elicit the tacit skills of the workers and tie them more closely to the goals of the firm' (Bélanger et al., 2002, p. 44). In other words, the central task becomes the inculcation of a unitary organisational culture, or in Guest's (2002, p. 338) terms, the creation of a social system in support of the technical system.

[2] Clearly the above construct is very much orientated towards manufacturing. While there is no *a priori* reason to exclude the application of the new model from the service sector there remains a dearth of data actually exploring its applicability.

[3] Selective recruitment and training are notable facets of this omitted by Bélanger et al.

Bélanger et al.'s conceptualisation, based as it is upon three interrelated principles, exposes the difficulty of seeking to capture the contours of this complex phenomenon via a single phrase. As noted, Danford et al.'s (2004) notion of high performance work systems implies a distinctly mechanistic approach downplaying the role of human agency. Harmon et al.'s (2003) phraseology of high involvement work systems is sensitive to the dimension of work organisation, capturing the need for there to be enhanced opportunities for employees to make decisions, exercise discretion and mobilise tacit knowledge, but again complementary HR issues are eclipsed. Conversely, the term high commitment management (Whitfield and Poole, 1997) is sensitive to the latter sphere, the elision here, however, concerns facets of production management and work organisation. For these reasons in this review the phrase high performance management (HPM)[4] is utilised as an all encompassing term, providing a broader and more generic conception of the terrain than the above terminologies; in essence a composite embracing Bélanger et al.'s three dimensions[5]. So armed with both conceptual clarity, and indeed a powerful analytical tool, we move on to consider the principal theoretical debates surrounding the phenomenon.

HPM: THE POTENTIAL FOR CONSOLIDATION WITHIN LIBERAL MARKET ECONOMIES

A large body of literature has existed for some years extolling the virtues of HPM. An oversight within much of the output, however, is the presupposition that the prospects for successful implementation can be taken at face value regardless of the macro-political and economic landscape. This charge applies not just to the more prescriptive accounts but similarly to much of the academic literature[6]. In recent years, however, a more thoughtful stream of work has emerged less inclined to reify HPM into a phenomenon independent of context. Intellectually this body of work has its

[4] It is accepted nevertheless that this terminology is also potentially problematic and value laden. Pil and MacDuffie (1996, p. 423) argue that to label new practices 'high performance' can be misleading in the absence of clear empirical evidence of their actual link to performance outcomes.

[5] Interestingly Belanger et al. adeptly sidestep the problems associated with capturing such a complex phenomenon via a shorthand expression and simply refer variously to 'the new production model', 'the emergent model' and the 'post-Fordist production model'. Also notable in this respect is the paper by Edwards et al. (2002). Clearly aware of a potential banana skin they simply allude to 'new forms of work organisation' (NFWO).

[6] Amongst the worst offenders are Appelbaum et al. (2000). In one of the few texts devoted specifically to issues relating to HPM, wider regulatory and institutional issues are dismissed in three short paragraphs (p. 233).

provenance in a particular strand of comparative political economy – the institutionalist approach – as enunciated by commentators such as Whitley, Lane, and perhaps most eloquently by Hall and Soskice (2001). The essence of this position is that the macro-institutional framework within which firms operate serves to influence and restrict available business strategies. According to Hollingsworth and Boyer (1997, p. 2) the key institutional structures or 'social system of production' comprise: the industrial relations system; the system of training of workers and managers; the internal structure of corporate firms; the structured relationship between firms in the same industry and their suppliers; the financial markets of a society; and the structure of the state and its policies.

Characteristically the UK (alongside the US[7]) is regarded as a paradigmatic example of a liberal market economy (LME). Orthodox institutionalist accounts indicate the presence of pervasive pressures militating against long-term planning within this mode of capitalism. Typically, two principal 'market failure' arguments are advanced. The first is that the development of equity markets, dominated by large institutional players such as pension and mutual funds, encourages a short-term approach to both capital investment and the development of human resources. It is argued that because HPM involves high short-run costs it is a difficult strategy for many firms to pursue, particularly in the face of competition from cost minimising firms following a 'low-road' approach to competition (Konzelmann and Forrant, 2000, p. 6). This can be seen as undermining the ability of organisations to implement and maintain the bundles of practices subsumed within HPM. Within the context of such 'destructive markets' (ibid) organisations often prefer to 'shrink or transact their way to profit' (Pfeffer cited in Keep, 2000, p. 11) undermining, for example, job security, a facet generally regarded as central to the employee relations sphere of HPM (Forth and Millward, 2004; but see also Harley, 2002, p. 43, whose findings question this latter assumption). The tying of senior managerial structures of reward to the performance of equities consolidates the process[8] (Pfeffer cited in Keep, 2000, p. 12). Secondly, it is argued that the absence of institutions to regulate training and development across firms and sectors encourages a similar mindset of short-termism. Companies are

[7] Given the similarities in institutional context we draw also upon North American debates in this summary.

[8] Armour et al. (2002) note there is a strong link between the performance of UK firms (both in terms of accounting measures and share price) and executive compensation paid in subsequent years.

fearful of investing in their employees' human capital for fear of poaching by competitors. Better to recruit 'oven ready' employees than incur costs through externalities. It is a short leap from this kind of analysis to posit a path dependency, whereby the institutional embeddedness of firms in LMEs generally is depicted as rendering any shift to HPM at best problematic.

Such structurally inspired determinism very much represents the dominant discourse within many accounts. For Thompson (2003) the key to the successful implementation of HPM is reciprocity. That is, in return for employee participation in the micro-management of work and expanded responsibilities, employers should undertake commitment and trust building measures in the employment relationship (ibid, p. 363). The call is for 'investment in human capital through training, enhanced career structures, job stability and performance and skill based reward measures' (ibid). The potential for the realisation of this vision, however, is difficult to achieve within the constraints of contemporary neo-liberalism. Strong reservations are expressed with regard to the sustainability of the putative model under current modes of corporate governance, specifically short-term stock market pressures and the resultant pursuit of shareholder value. The overall prognosis is one of pessimism with Britain destined to remain 'considerably short of even the minimum conditions of a high-skilled ecosystem' (ibid, p. 368).

Bélanger et al. (2002) similarly view the 'dominant neo-liberal discourse' as problematic for the emergent model and the overall tenor of this account offers limited scope for optimism. Echoing Thompson, the implicit message is again one of the need for reciprocity between capital and labour. Hence, much of the account is bedecked in the lexicon of neo-corporatism with references peppered throughout to social compromise, social pacts, a new social contract, and multipartite consultation. At the core of this account is the principal theme that the social infrastructure necessary to mediate and respond to the inherent tensions within the new model has yet to emerge. While this is far from impossible, the creation of such infrastructure is seen to be especially problematic within LMEs and the renewal of collective representation (ibid, p. 65) is seen as pivotal:

> Simply put, the stabilization of the 'high performance' model depends on the emergence of a degree of autonomous employee power, this latter being predicated on a renewal of existing union power resources (ibid, p. 51).

This account accords strongly with the conclusion of Hillard and McIntyre (cited in Lloyd, 2000, p. 6) that 'without a supportive industrial relations framework in place HPWO [high performance work organisation] has only succeeded in a limited number of places'. Developing this theme Bélanger and his colleagues argue that it is only through a renewal in union strength that the trade-offs, reciprocity in Thompson's (2003) terms, necessary for stability are likely to emerge. Unfortunately, however, the wellsprings are not in evidence. Initiatives such as the government's partnership programme[9] are tentative experimentations rather than interventions likely to redress the inadequate power resources of organised labour. In view of the secular decline in trade union fortunes[10], allied to the limited appetite for significant state intervention, the ultimate message derived here is that the UK's transformation to a high performance economy is based on shaky foundations.

In a variation on this theme, Brown and Reich (1997) travel a well worn course plotting the interactions between organisational strategy and the national macro-economic and institutional environment in the USA and Japan.[11]. Echoing Thompson (2003) the tenor is again overtly structuralist, the core thesis being an account of how institutional structures constrain and shape organisational strategy. It is argued that while in Japan the micro-macro structures are suitably aligned for the consolidation and development of HPM, in the US the linkages lack such coherence. Particularly problematic for US organisations seeking to implement techniques of HPM are low rates of investment, an inadequate education system, and high immigration that 'support and require the growth of less-skilled low-wage jobs'. There are, however, significant problems with this account. While these factors might make a low-skill, low value-added-route intuitively attractive to capital, how this translates more

[9] This initiative seeks to both stimulate a joint approach to solving business problems and implement change through consultation. At its heart is the recognition of both management and employee responsibilities. While normally found within a trade union context it is not restricted to such settings.
[10] The proportion of union members in workplaces with 25 or more employees was 65% in 1980; by 1998 it was down to 36% (Cully et al. 1999, p. 235).
[11] Well worn because these countries are characteristically depicted as exemplars of liberal market and coordinated market economies (CMEs) and thus form the principal axis of many comparative discussions.

fundamentally into a totalising force that somehow 'determines the path individual companies *must* travel' (ibid, p. 779, emphasis added) is not adequately explored.

Perhaps the most consistent championing of the institutionalist agenda specifically within the UK has been that afforded by the ESRC - funded Centre on Skills, Knowledge and Organisational Performance research unit (SKOPE). Since its inception in October 1998 the core mantra has been that the lack of institutional support in the UK is a limiting factor with regard to the creation of a knowledge driven economy (Keep, 2000), and more specifically, the take up of HPM. The usual culprits are cited: lack of institutionalised voice; job insecurity; stock market pressures; and the absence of significant labour market regulation (cf. for example, Keep and Payne, 2002; Lloyd, 2000, p. 26). Similarly, those policy levers actually in place are characteristically described in unreservedly vitriolic terms. For example, the current crop of government interventions is dismissed sardonically as 'a mish –mash of miscellaneous initiatives' (Keep and Payne (2002, p. 11). Echoing Bélanger et al. (2002) the DTI's Partnership Fund is singled out for particularly vehement criticism.

The SKOPE output *is* distinct, however, in that it usefully re-focuses the debate by advocating the necessity for a broader repertoire of both demand *and* supply side interventions. Specifically with regard to the former it is argued that merger and acquisition, and thus the purchase of market share and cost base reduction advantages, potentially offer a surer route to success than the HPM (Keep, 2000, p. 8). This gives lie to the futility of simply imposing stand-alone supply side solutions such as promoting more training and qualifications. The pattern of domestic demand within the UK is similarly viewed as problematic. Keep (ibid) has argued that anything up to 70% of the population can afford to buy only standardised low-cost goods and services. The corollary is a clear path dependency whereby 'sectors and firms are locked into producing relatively standardised, or at best mass customised goods and services'. Keep (ibid) argues that work organisation and job design thus tend to favour regimented routinised jobs with limited discretion' (ibid, p. 9). The UK's ongoing productivity gap is hence depicted as a manifestation of *both* demand and supply side failures (Keep and Payne, 2002, pp. 8-9).

If the strength of the SKOPE output is its focus on the articulation and synergies between demand and supply side imperatives, it is far weaker in terms of viable and realistic policy prescription. The recent tendency here has been to look to the coordinated market economies of Nordic Europe for inspiration. Payne (2004) devotes a whole paper to the Finnish Workplace Development Programme on the basis that this is 'often regarded as a form of public policy intervention *par excellence'* (ibid, p. 1). However, its tone is pessimistic, concluding that 'even *if* policy makers in LMEs could be persuaded to launch similar initiatives [given the institutional deficiencies] it would be rather like trying to push a train up-hill with the brakes on' (emphasis in original). The brutality of the metaphor underlies a distinct fatalism in recent SKOPE output. Indeed, so insurmountable are the pressures mitigating against HPM perceived, that Lloyd and Payne (2004, p. 15) have advocated that academics 'let go' of this theme and instead shift the terrain to one of seeking to improve the 'quality of work for the majority of the population' (ibid, p. 16).

Such an intellectual shift, however, of course begs further questions. Have we not passed this way before under the Quality of Working Life (QWL) agenda that proved a somewhat ephemeral phenomenon in the 1970s? Why might we now expect a re-packaged brand under the agenda of the 'better job' (ibid) to carry greater resonance with employers? To be sure, Lloyd and Payne (ibid, p. 16) ultimately put out a rallying call for 'root and branch institutional transformation. However, unhelpfully the reader is left to speculate as to the catalyst that will unleash the 'radical capitalist remodelling' (ibid, p. 18) advocated.

In any event, the SKOPE prognosis is vulnerable to empirical assault given that it sits uneasily with emergent data suggesting significant penetration of HPM into LMEs. Reviewing the US data, Appelbaum et al. (2000, pp. 8-11) conclude that the expansion of such practices 'has been quite rapid in recent years'. Similarly within a UK context, drawing on WERS98 data, Forth and Millward (2004, p. 101) confirm that HPM is now 'far from being a rare or insignificant phenomenon', with management practices fitting under the rubric generally becoming more prevalent. Under the logic of the SKOPE analysis, ongoing deregulation, for example of financial markets, would suggest a decline not a growth in the use of such practices. To be sure, there are problems with the above 'snap-shot' data. Not least, it tells us

little about the problems organisations face in *maintaining* potentially fragile HPM initiatives in situations where the macro-context is unsupportive; *viz.* issues of longevity are not tracked[12]. At the very least, however, the above findings suggest that the structural pressures frequently alluded to may be less determinate in their implications for the dissemination of HPM than the more absolutist institutional accounts, reviewed above, would indicate.

It must also be noted that the UK is not quite the paragon of neo-liberal orthodoxy assumed in some accounts. Armour et al. (2002, p. 30) make the very valid point that the UK system of corporate governance 'is more complex and variegated than a straightforward emphasis on the shareholder value norm would suggest'. Highlighting this theme, it is demonstrated that there is significant regulation that is potentially complementary and supportive of the fledgling model. Thus, for example, under the Private Finance Initiative regulations applying to the NHS (the UK's largest employer) trade unions are entitled to interview and submit reports on short-listed bidders with a view to weeding out companies with inadequate investment in staff (ibid, p. 22). Utilities regulation provides another case in point. Here the imposition of guaranteed customer service standards by the regulator means that if there is a short-term imperative to cut costs, there is a limit as to how far these can be permitted to undermine standards (ibid, p. 22). To these points must be added the various obligations now owed to employees enunciated within European legislation, not least, the Acquired Rights Directive that provides workers with important job security rights when the ownership of business is transferred (ibid, p. 15). Taken together these interventions serve to qualify the 'shareholder primacy norm' in particular instances and settings.

There are, furthermore, theoretical problems with the SKOPE analysis. The implication of their position is that organisations respond primarily to external institutional conditions with management reduced to a mere cipher of outside influences. This is too simplistic as there may well be countervailing pressures pushing organisations down the HPM route. These may emanate from a paradigm shift in the nature of competition that is focused on the need for customisation and

[12] Panel data of the sort used by the Cambridge Centre for Business Research to monitor the viability of labour-management partnerships would be a welcome addition here (cf. Armour et al. 2002).

variety, rather than product homogenisation (Appelbaum, 2002, p. 131). The desire merely to *maintain* revenue and profit may thus represent an important push factor forcing companies down the HPM route despite a relatively unsupportive institutional environment.

Notwithstanding the above caveats there is, in the final analysis, a significant body of literature problematising the potential for the successful and sustained use of HPM techniques in LMEs. Despite these claims, the column inches devoted to tracing the linkages between HPM and organisational performance has grown significantly in the UK and US in recent years. It is to this literature that we now turn.

HIGH PERFORMANCE MANAGEMENT AND ORGANISATIONAL PERFORMANCE

Within capitalist enterprise the ultimate *raison d'être* underpinning the introduction of HPM is profit maximisation. In recent years, therefore, the underlying assumption that HPM necessarily gives rise to positive improvements in performance has been subject to detailed investigation. This debate is captured in useful meta-analyses that map out this fairly complex terrain. Significant in this respect is recent work by Ashton and Sung (2002, p. 17). Following an exhaustive trawl through some 18 papers, these scholars are unequivocal in stating that:

> First and foremost, stringent scientific research has now established a strong link between the use of human resource practices and enhanced performance across a range of indicators, but especially in productivity and, crucially, profitability. Put plainly, investment in these practices and the skills associated with them pays off on the bottom line.

That HPM has the *potential* to deliver organisationally benign outcomes thus appears to be well settled. Echoing Ashton and Sung's position, Whitfield and Poole (1997, p. 755) have similarly concluded that extant research is 'strongly supportive of the hypothesis that firms adopting the high-performance approach have better outcomes than those which do not' (see Farias et al. 1998 and also Goddard, 2004, pp. 352-355 for a useful dissenting account). However, these bold conclusions come with caveats. As discussed above, fluidity in terminology renders the HPM phenomenon

particularly amorphous. Team working, in particular, is too often presented as an imperfectly defined construct. Thus, as Wood (1999, p. 369) argues 'overall the terrain of debate is more open and muddier than is presumed'.

To the above shortcoming must be added the series of important qualifications made by Whitfield and Poole (1997). Firstly, the perennial issue of the direction of causality needs to be considered. It is possible that the findings reflect that more successful firms use their competitive success as a basis to build more innovative practices. However, we now have the benefit of studies that have utilised a more rigorous longitudinal methodology (cf. Ichniowski and Patterson et al. cited in Ashton and Sung, 2002, p. 19 and also Appelbaum et al., 2000). These studies demonstrate that, at least in these instances, it is the implementation of high performance managerial practices that produce improvements in performance and not vice versa.

A more significant second charge made by Whitfield and Poole (1997) concerns the narrow base on which the existing research has been undertaken. This is dominated by manufacturing, typically organisations competing on the basis of product quality and differentiation as well as price. Building upon this theme, Ashton and Sung (2002, p. 165) have argued 'we still do not know the extent to which HPWP [high performance work practices] are only appropriate for certain types of industry or product market strategy'. Put simply, a more controversial area concerns not links to productivity *per se*, but if HPM yields benefits in *all* settings. In Wood's (1999, p. 368) terms, the debate is whether high-performance systems will *universally* outperform all other systems or whether the optimal system is relative to the circumstances of the firm. Pursuing this theme, Wood (ibid) draws upon Porter's conceptual distinction between two generic approaches, cost minimisation and innovative/quality strategies, as a basis on which to differentiate contexts. Clearly rejecting the universal hypothesis, Schuler and Jackson (cited in Wood, ibid) have articulated the need to link, on the one hand, a Taylorist control approach with cost minimisation, and HPM to a quality-orientated strategy on the other. The interpretation here is clearly best fit rather than best practice. In other words, HPM is a suitable solution only in certain circumstances.

This contingency perspective accords with the view of Edwards et al. (2002, p. 109) whose conclusion is that NFWO [new forms of work organisation] are most

appropriate in technologically advanced settings[13] and 'the more they are applied outside those settings, benefits will be less and costs in terms of training staff, re-structuring management and so on, will be greater' (ibid, p. 46). This is at heart the point made by Farias et al. (1998). Following an exhaustive review of the area, they also conclude that 'little attention has been paid to analysing the cost-benefit ratio of [implementing] HPWS [high performance work systems]. Similarly, Whitfield and Poole (1997, p. 757) suggest that HPM techniques typically involve higher start-up costs and need to yield higher returns to justify their maintenance. Useful data are beginning to emerge. Significant in this respect is recent research by Ashton and Sung (2002, pp. 165-166) who cite a case study organisation that having gone down the HPM route was having second thoughts following costs incurred through staff turnover, changes in company procedures and the need for extensive re-training. They acknowledged that 'it may be that the costs involved are so high that it pays companies operating in low-added markets to remain with the old system'.

Clearly the whole issue concerning the relationship between HPM and organisational performance is a complex one. One of the reasons that teamworking is characteristically lauded is that it facilitates routine intra-cellular maintenance, increasing the time that equipment is actually up and running. It could be argued that 'up-time' is important irrespective of whether plants compete on the basis of cost or quality, particularly given the current trend for low inventory levels and shorter lead times (cf. Appelbaum et al's., 2000, pp. 67-81 account of the US apparel industry). Care is needed here in not conflating two distinct issues. Appelbaum et al. (ibid) conclude that the move to 'high-performance work organization may be easier and more seamless if mass production is not embedded in the industry', but this does not necessarily preclude the possibility of benefits in traditionally Taylorised industries.

A final point that warrants comment is that the precise mechanism by which HPM impacts upon performance remains uncertain. Appelbuam et al (2000, pp. 44-45) argue that it is possible that HPM provides economic gains for firms through a number of routes. First, HPM may reduce the total number of employees required to

[13] This position appears to be at odds, however, with other accounts most notably Appelbaum et al. (2000, pp. 67-81) who provide a graphic account of the gains achieved through HPM in the US apparel industry.

produce a given amount of output. Second, HPM may reduce inventories. Thirdly, the system may reduce the amount of space required thus reducing overhead costs. Fourthly, HPM practices may reduce scrap and waste by 'getting it right first time'. Finally, regardless of whether HPM reduces costs, it may lead to economic gains by increasing revenues through economic rents. This may occur, for example, where HPM allows the firm to produce a more complex product mix. Unfortunately, there is no commonality in the performance indices utilised in the various studies to allow comparison. For example, some commentators include data on unit costs (cf. Betcherman et al. cited in Wood, 1999, pp. 379-380), while others (cf. Kalleberg et al. cited in Wood, 1999, pp. 382-383) focus solely on revenue indicators such as sales, profitability and market share. At present, whether the pay off derived from HPM practices comes from better utilisation of existing resources or cost minimisation remains unresolved. Similarly, what role employees play in this process is unclear. This theme is considered below.

HIGH PERFORMANCE MANAGEMENT: THE IMPACT ON EMPLOYEES

In contrast to the burgeoning research on organisational outcomes there is far less systematic data regarding employee experiences of HPM. However, since the relationship between HPM and organisational goals is moderated by the agency of employees, there is a need to 're-focus attention on the worker' Guest, (2002, p.335). It is possible to advance at least two rationales why this is a legitimate and important area of enquiry. The first builds upon the above account relating to organisational performance and in particular the insights that studies of worker behaviour can bring. In the words of Appelbaum et al. (2000, p. 110):

> Studying workers' attitudes and experiences with workplace practices can help researchers get inside the black box between inputs and outputs in the production process. It can improve our understanding of the ways in which HPWS [high performance work systems] are related to performance.

Similarly, of course, exploration of employee perceptions and behaviour is important because improving the quality of work for the majority of the population represents a laudable goal in its own right. Secondly, it has been suggested that techniques of

HPM can alleviate declining real wages and growing inequality (Appelbaum et al., 2000). An understanding of employee outcomes is, therefore, important for reasons of social justice and the creation of a fairer society. The above themes may be reformulated more precisely into the following research questions. First, are the alleged productivity gains of HPM realised through work intensification, or conversely, mutually beneficial alterations to practices and procedures? Second, what is the impact of HPM on employee pay? It is to the first of these that we now turn.

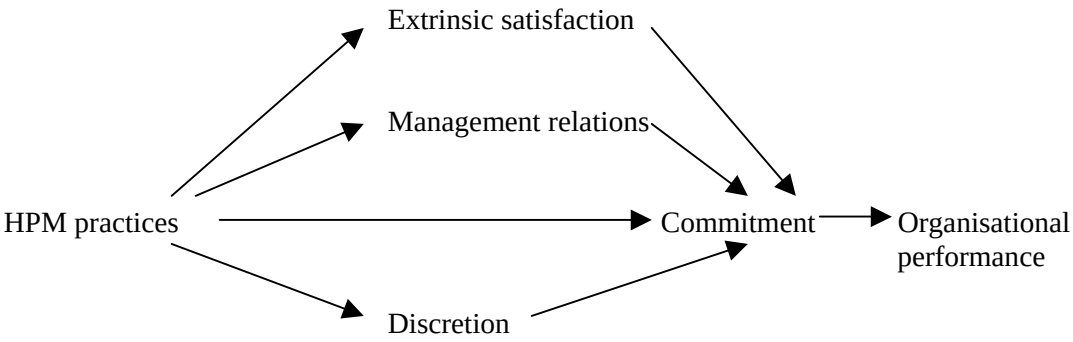
High Performance Management: Harder or Smarter Work?

The direct intellectual antecedent of HPM was the quality movement (QM) of the late 1980s associated with Japanese-models of lean production. Much of the sociological literature here can be allotted to one of two broad streams: optimistic accounts (e.g. Piore and Sabel, 1984) and exploitation theorists (e.g. Sewell and Wilkinson, 1992); (1992). The HPM debate has for the most part followed this now well-entrenched tradition. Thus, as with quality management, HPM remains an 'essentially contested concept' (Edwards and Wright, 2001, p. 570). On the one hand, proponents of HPM point to benefits for employees in terms of a rhetoric of empowerment and increased intrinsic rewards. Much, but not all, of this literature is contained within prescriptive accounts (see for example CIPD, 2004). From a very different intellectual tradition, the work intensification thesis conceptualises HPM simply as a managerial ruse intended to extract greater effort from employees. This position, significantly informed by labour process theory, is in essence an inversion of the above unitary eulogy. There is, however, common ground between these competing claims. This is that techniques of HPM are likely to contribute to enhanced organisational performance mediated by worker outcomes. What is disputed, however, is the chain of causation. Drawing heavily on Ramsay et al. (2000) it is possible to summarise the dominant strands of this theoretical debate schematically as follows:

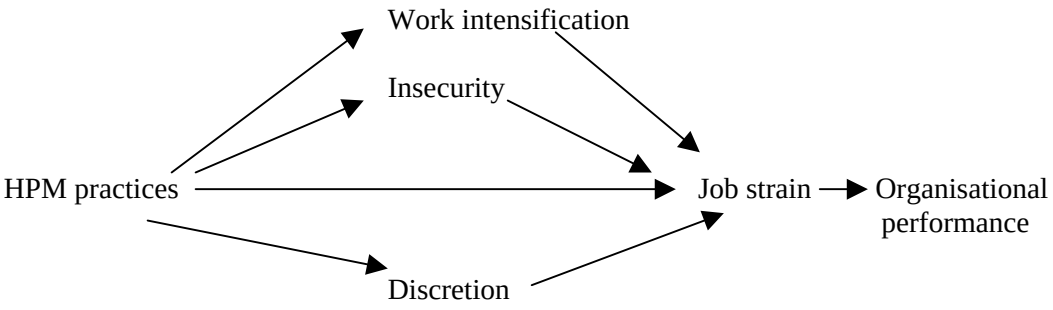
Figure 1. HPM and the Impact on Employees

Adapted from Ramsay et al. (2000, p. 506)

(a) The Optimistic Model



(b) The Exploitation Model



Under the optimistic model the impact of HPM is wholly benign. Employees' experiences of work are enhanced and the outcomes are thus beneficial to both capital and labour. Increased task discretion and autonomy engender behavioural traits reflected in the state of the psychological contract manifest in enhanced commitment that, in turn, feeds into performance gains. As noted, the exploitation position likewise, and 'somewhat ironically' (Edwards 2001, p. 5), assumes a positive association between HPM and performance gains. However, the distinction is that any benefits take the form of minor gains in discretion, granted as a means of securing compliance with managerial aims. Such advances are far outweighed by work intensification, insecurity and stress (Ramsay et al. 2000, p. 505). Stress arises because of the added responsibility associated with the new production mode allied to

increased pressure within the working environment due to the absence of buffers within lean production formats.

Unfortunately, there are only a handful of studies that have collected systematic data informing this debate. One of the most cited accounts in support of the optimistic model is that provided by Appelbaum et al. (2000). This study investigated *inter alia* the effects of HPM in three manufacturing sectors: steel, clothing and medical products with data collated from around 4000 workers. HPM was associated with positive performance gains and evidence was found linking various HPM practices to job satisfaction. The results did, however, vary markedly by industry. Nevertheless, the study provided scant support for the notion that HPM gives rise to work related stress:

> In general, our findings suggest that the opportunity for substantive participation is generally related to lower, not higher levels of job stressors. In particular, workers who have autonomy over task level decisions and those who are more likely to communicate with people outside their work groups appear to have lower levels of job stressors (ibid, p. 198).

Such findings were echoed in Harmon et al's (2003) study in the US health care sector. The research was based upon 112,000 employee responses in 146 separate medical centres. The results indicated a correlation between HPM and lower costs (e.g. employee turnover and leaves of absence) with the relationship mediated by employee satisfaction prompting the comment that, 'HIWS [high involvement work systems] may be justified both on humanistic and financial terms (ibid, p. 401)[14]. Similarly, but more guardedly, in a study into eighty manufacturing firms Patterson et al. (2004) concluded that 'integrated manufacturing'[15] was associated with employee empowerment.

[14] It warrants comment that this paper suffers from certain methodological shortcomings. Not least, the HIWS 'construct items' appear overly abstract in that they relate to perceptions rather than concrete practices. Characteristic statements that employees were asked to respond to included: 'conditions in my job allow me to be as productive as I could be'; and 'employees are rewarded for providing high-quality products and services to customers'. It is difficult to see how such obtuse prompts can be used to define and measure the extent of the independent variable *viz.* HIWS. No direct questions were asked about the coverage of specific practices e.g. team working etc.

[15] It could be argued that this is conceptually distinct to HPM in that Patterson's five initiatives comprising 'integrated manufacturing' did not include a 'soft' HR dimension.

Taken together these data sets provide support for David Guest's (2002, p. 354) assertion that 'there is consistent evidence that workers respond positively to practices associated with what is described as a high performance work system'. Having said that, there is an emergent body of contrary case study evidence. Danford et al.'s (2004) study of 'JetCo', a manufacturer of aero engines, is a case in point. By the start of the research the company had introduced a range of high performance working practices. The most significant of these was flexible labour deployment through cellular working allied to business improvement initiatives such as a quality and process improvement campaign. For manual workers, the introduction of team working did not give rise to greater skill flexibility and autonomy, but rather the re-shaping of existing forms of flexibility 'into more functionally and spatially focussed types of work organisation' (ibid, p. 13). One corollary was resentment over the loss of job variation. Similarly, for non-manual engineering workers, the creation of project teams led to apparent tensions as specialists in a particular discipline became spatially isolated from each other. Experiences of business improvement practices were similarly overwhelmingly negative. The dominant view was that managers tended to treat employee suggestions in an 'ad hoc manner', with 'few [managers] displaying the necessary trust to take employee suggestions seriously' (ibid, p. 15). In sum, team working and business improvement practices did not significantly empower employees as the optimistic model suggests, rather they served to rationalise labour utilisation decreasing discretion and job satisfaction.

These findings are in line with McKinlay and Taylor's (1996) study of a greenfield micro-electronics plant, 'Pyramid'. Following a period of increased price competition a range of innovatory managerial practices were put in place. Most notably teams were charged with self-policing absenteeism and time-keeping. A core feature was the introduction of a system of peer review whereby team members rated one another on ten dimensions of individual behaviour and attitudes. Describing this process McKinlay and Taylor (ibid, p. 291) note that these dimensions ranged from assimilation into the teamworking culture to assessments of an individual's conscientiousness and readiness to innovate. At the monthly meetings, the relative scores of all permanent employees were displayed and subject to extensive discussion. Borrowing from Foucault's concept of the panopticon – Bentham's design principle based on a circular building with a central observation tower – it is suggested that

potentially under such a regime ‘every prisoner becomes a warder and every warder a prisoner’ (ibid, p. 282), in effect a ‘total institution’ in ‘which surveillance is constant, immutable and inescapable’ (ibid).

Unsurprisingly, under this scenario, the outcome was an increase in workers’ stress with employees feeling intimidated and drained of confidence. Similarly, the data points to periods of immense work intensification with teams forced to shift between work stations in an attempt to compensate for successive droughts and surges in components.

Similar sets of themes are in evidence in Brown’s (1999) study of Clotheco, an Australian apparel manufacturer that likewise introduced a set of new working practices. Central components were team working, staff development and training, and extended consultation. Following the move away from the traditional Taylorised form of work organisation common to this industry, a range of responsibilities was devolved to the newly created teams including the planning of work and task allocation. The outcome was increased speed of production (ibid, p. 250), i.e. work intensification as peer pressure was again used to impose collective discipline on team members via the creation of team based bonuses. Echoing McKinlay and Taylor’s above reference to the Foucauldian panopticon, Brown’s damning conclusion is that such ‘methods are not designed so that management “squeezes” more work out of employees; rather, this task is handed over to workers themselves’ (ibid, p. 253).

When we are presented with two sets of accounts so obviously at odds with each other clearly something is amiss. This should sensitise us to the need for a more discriminating analysis than that found within the above dichotomous modelling (Figure. 1) that ultimately oversimplifies a variegated collection of employee experiences. As Edwards and Wright (2001, p. 570) argue, ‘polarizing the issue between critics and supporters is not helpful’. This chimes with an increasing body of literature indicating that HPM is likely to give rise to more complex outcomes for employees than those suggested above. For example, utilising the 1998 Workplace Employee Relations Survey (WERS98), Ramsay et al. (2000) found that, on the one hand, the data pointed to some association between HPM and higher job discretion and commitment. However, on the other, job strain was also reported. These findings

accord with those of Goddard (2004). Using data from a telephone survey of 508 Canadian labour force participants, eight different 'alternative work practices' were seen to be positively associated with belongingness, empowerment, task involvement and job satisfaction – but similarly role stress. Still more ambiguously, Harley (2002) reports findings based upon the Australian Workplace Industrial Relations Survey 1995 (AWIRS95). Following Ramsay et al. (2000) the core research question was whether HPM is associated with positive or negative employee responses. Regressions suggested that very few of the HPM practices were associated either way with discretion, job satisfaction or stress. These findings prompted Harley to conclude that, 'to pit it bluntly, HPWS [high performance work system] practices do not appear to make much difference to employees either way' (ibid, p. 431).

This latter body of literature confirms Edwards and Wright's (2001, p. 569) assertion that the links between HPM and employee outcomes represent a 'shifting and variable complex whole', which cannot be reduced to employee enhancing or damaging effects. While theoretically our understanding of this state of affairs remains in its infancy some credible hypotheses warrant brief consideration. For Edwards (2001, p. 3) one key to explanation lies in understanding the balance between the need for creativity and control within the contemporary workplace under the new production paradigm. Thus, 'the fundamental tension is between work design which provides responsibility and autonomy and that which calls for predictable work outcomes based on defined tasks and monitoring (ibid).

One solution to the above dilemma has been a shift away from command-and-control towards more indirect methods of tracking employee performance; that is, 'a change in the means of control' (ibid) not a move away from all forms of control. Edwards (ibid, p. 16-17) argues that it is the failure to understand this fine distinction that renders the optimistic model, which contrasts traditional instruction with alleged autonomy and empowerment, intellectually flawed. Under new forms of work organisation the control system is based upon outcomes, not specific instructions to detail. Enter Michael Edward's (1979) bureaucratic control. Via the techniques of HRM, risks and responsibilities are internalised in the sense that employees are held responsible for their own actions (Edwards, 2001, p. 23). Thus, task discretion does not mean the lifting of organisational controls, rather the widespread use of HRM as

opposed to more direct methods of control. This is one means of reconciling the 'puzzle'. The contradictions are tapping into different aspects of a given worker's experiences arising from the multi-dimensional nature of HPM as identified by Bélanger and his colleagues. That is, increased responsibility (autonomy) arising from changes in work organisation, but also greater stress as risks are internalised via performance management and other employee relations techniques.

Looked at another way, 'tactical responsibility' (Edwards, 2002, p. 36) is enlarged as workers have greater autonomy in the planning of tasks. However, there is equally a centralisation of strategic control via the use of techniques of HRM and 'hard' production targets. Thus, what often emerges is 'controlled participation' rather than true empowerment:

> In instances where employees have been entrusted with increased discretion it has not been accompanied with a relaxation in management control. Control remains as pervasive as ever, albeit organised in a different and sometimes more distant and immediate manner. To this extent work has been re-organized, but within a context where the various elements of worker empowerment and management control have been reconfigured and recomposed. It has not been the case that empowerment has displaced management controls: it is not a story of either/or, but both/and (ibid, p. 21).

A similarly thoughtful account is offered by Appelbaum (2002) whose line has softened somewhat in the intervening years following the publication of *Manufacturing Advantage*[16]. In terms of employee outcomes her previously positive gloss has been replaced with a more contrite approach. Thus, in a recent review of the terrain Appelbaum has concluded, 'it is difficult to draw definitive conclusions from survey evidence about what HPWSs [high performance work systems] do for workers…In short, the jury is still out' (Appelbaum, 2002, p. 148). Such equivocation, however, has the merit of setting the scene for some illuminating theoretical insights. One of Appelbaum's core arguments is that ambiguity in outcomes arises from the necessity for the implementation of bundles of practices.

[16] Appelbaum (2002, p. 29) now concedes that the sample of firms and workers used in the study may not have been representative, and 'so the results may not generalize'. This sits somewhat uneasily with the earlier claim that, 'the three industries in our study are broadly representative of the technologies and the workforces found in a wide range of manufacturing industries (Appelbaum et al. 2000, p. 20).

That is, 'the tendency for firms to introduce clusters of complementary practices without specific regard for the effects of these practices on workers' (ibid, 2002, p. 134). Recall again our conceptualisation of HPM as involving three interrelated principles: (a) production management; (b) work organisation, and; (c) employee relations. Hence, while at one level Appelbaum argues that HPM generally increases worker autonomy in task assignments, it is conceded this increased discretion may occur in tandem with a loss of control over the pace of work e.g. as inventory buffers are reduced. Such elimination of buffers may serve to increase the intensity of work and thus induce stress. Put another way, changes in production management and work organisation may pull in opposite directions, at least in terms of employee outcomes, because ultimately these practices are put in place to meet the concerns of management rather than the needs of workers.

High Performance Management and Pay

While there is a growing sociological literature evaluating the impact of organisational reform on employees' daily work experiences, it is only relatively recently that researchers have turned their attention to the more objective area of pay. Drawing on extant economic theory there are solid grounds for again expecting a complex set of outcomes. (For an account of the principal conceptual frameworks see Appelbaum et al., 2000, pp. 204-210; Forth and Millward, 2004, pp. 100-101 and Handel and Levine, 2004, pp. 3-10). The central tenet of human capital theory, for example, is that workers with higher skills receive enhanced compensation. If one outcome of HPM is increased job discretion, the resultant polyvalency requires employees to posses a wider range of skills allowing wages to be bid up. Similarly, the efficiency wage argument suggests that higher wages will be a concomitant of the introduction of HPM as we might expect wage premiums to be introduced as a means of offsetting higher turnover, recruitment and training costs. On the other hand, it is possible to develop a coherent argument that the introduction of HPM will be associated with a neutral or negative impact on wage levels. Under compensating wage differentials, employees accept reduced pay in exchange for the greater intrinsic rewards offered by HPM. Similarly, the impact of HPM on wages may be neutral if

productivity increases are offset by increased costs, for example, those relating to staff development and more sophisticated HR paraphernalia.

So much for theory, but what insights are provided by the empirical data? Within a UK context the most significant research to data addressing this theme is Forth and Millward's (2004) study based on WERS98 data. This explored the relationship between nine techniques of HPM (grouped into three categories) and the pay of individual workers. The independent variables were: task practices (e.g. teams and quality circles); individual supports (e.g. briefing groups and HR training) and organisational supports (e.g. internal promotion and job security). Testing the impact of such bundles of practices organisations were categorised as traditional (low on all three of the HPM dimensions), mixed (organisations that score high on one or two dimensions) and high (firms scoring high on all three dimensions). The key finding was that employees in the latter high-involvement workplaces were paid an average premium of around 8% over otherwise comparable employees adopting a more traditional approach. The authors thus argue that the results demonstrate a link between the use of HPM and pay levels (ibid, p. 114). However, they wisely concede the difficulty of imputing a causal relationship due to the cross-sectional nature of the data. That is, it is conceivable that the direction of causality runs in reverse with better pay attracting higher-skilled employees enhancing management's ability to introduce HPM practices.

Pace Forth and Millward, an analysis of the wider data does not seem to suggest that HPM has a significantly beneficial impact on wage levels. To distil the evidence we can call upon the work of Handel and Levine (2004) who have usefully surveyed the terrain in an exhaustive meta-analysis. This work summarises data from two principal sources; (a) nationally representative data sets, and; (b) industry, firm and establishment studies. In total, 21 papers are reviewed. The conclusion is that the majority of studies indicate no significant effect of HPM on wages. Furthermore, it is suggested that, 'even when effects of new workplace practices on wages are statistically significant, they tend to be small and their causal status clouded by the possibility of selection effects' (ibid, p. 39). In any event, the estimates are found to be well below those associated with the union wage premium. Such a finding, therefore, offers limited support to the popular thesis that HPM represents a new

employment paradigm, one that that can increase the wages of less skilled workers and so reverse the growing wage inequality of the last 20 years. In the words of Handel and Levine (ibid) the new model,

> does not appear to generate a wage premium comparable to unionisation (Freeman and Medoff, 1984) and therefore seems limited as a substitute for that long-declining model of employment in the area of compensation.

Furthermore, as Handel and Gittleman (2004, p. 72) contest, even if HPM were found to increase wages, 'the relationship between that wage effect and overall inequality is *a priori* indeterminate'. The findings thus caution strongly against the promise that techniques of HPM will necessarily deliver mutual gains in terms of both individual and wider societal outcomes. It does warrant comment, however, that there are certain methodological flaws in Handel and Gittleman's work. This arises again due to conceptual imprecision with many of the studies clearly omitting the employee relations dimension of HPM. To cite one example, in a study by Osterman (2000) the independent variables utilised were, job rotation, quality circles, self-managed teams, and TQM amongst core employees. These span only the first two dimensions of Bélanger et al's conceptualisation, namely production management and work organisation. Conversely, also included in the meta-analysis, is the aforementioned study by Forth and Millward (2004) that builds in a very strong and discrete employee relations dimension around the techniques of internal promotion, job security guarantees, ESOP programmes, profit sharing and performance based pay. Ultimately, there must again be concern as to whether the studies are actually comparing like with like.

In sum, it is evident that overall the precise impact of HPM on employees remains somewhat enigmatic. What should be born in mind, however, is that the research ultimately pulls upon a diverse set of organisations in a myriad of settings within with which HPM may be more or less compatible. Similarly, and more fundamentally, it will be recalled that various commentators question the very suitability of the HPM paradigm within neo-liberal settings. Taking such factors in account, and with research still in its infancy, the degree of ambiguity is perhaps unsurprising.

CONCLUDING REMARKS

A core theme that emerges from the above discussion is that while significant advances have being made in our state of knowledge, the whole area nevertheless remains in a state of flux. This underpins the need for both better data and the development of more refined conceptual tools. With regard to the former, there remains far too little case study data. Thus, it is difficult to build up a textured picture exploring the impact of HPM on a sector-by-sector basis. Still less information is available away from manufacturing to test the applicability of the new model in service sector settings. In terms of conceptual deficiencies, it is our contention that that there are synergies to be realised by integrating the workplace learning literature into that pertaining to HPM. Indeed, this is the intellectual leitmotif for the CLMS *Learning as Work* project. Hitherto these significant literatures have been treated as discrete entities each operating within the confines of their own theoretical boundaries and dilemmas.

Within the learning literature a sea change has occurred in recent years with the workplace increasingly legitimised as a site of *bone fide* learning. This stands as an important corrective to the traditional privileging of formal educational provision over more informal processes. One corollary to this has been the development of a range of conceptual tools that may be utilised to enrich and indeed perhaps revitalise some of the debates reviewed.

Three brief examples will suffice to demonstrate the point. Firstly, at the heart of most conceptions of HPM lies the phenomenon of teamworking. In terms of employee outcomes considerable emphasis has been placed on issues of autonomy and flexibility. Consequently, for the most part, the debate has become somewhat narrowly centred on topics relating to the potential for de-skilling and work intensification[17]. Ultimately, however, we might expect a wider ranging and more complex set of issue to be played out, given that change here has been depicted as ‘messy, experimental and uncertain’ (Bélanger et al. 2002, p. 62).

[17] There are notable exceptions. For example, as discussed earlier, McKinlay and Taylor (1996) have explored social aspects through Focault’s concept of the panopticon.

The learning at work literature provides a potentially rich source of heuristic devices that may be utilised to enhance current conceptions and thus further informed discussion. Fuller and Unwin's (2002) conceptual framework that distinguishes between 'expansive' and 'restrictive' learning environments is a case in point. This was originally developed as a tool for analysing features of the organisational and skill formation context that influence the extent and quality of employee learning. It is, however, directly relevant to the team working phenomenon and provides a useful framework for capturing a more rounded picture of the lived experience of employees in terms of the barriers and opportunities opened up. For example, drawing on this approach an *expansive* team-working regime might include *inter alia*: the presence of opportunities to extend identity through boundary crossing; a vision for career progression; the ability for workers to participate in on and off-the-job learning activities; admittance to extended job roles; and access to qualifications. The use of such a schema could be imported to stimulate a wider ranging consideration of the impact of teamworking than the current focus on narrow task based technical matters.

Secondly, the workplace learning literature may be used to provide sensitising concepts through which to inform the discussion regarding the potentially equivocal nature of employee outcomes. This could usefully build upon the work of Edwards and Appelbaum reviewed above. It will be recalled that one of Edward's arguments is that increased autonomy comes at the expense of greater stress as employees are exposed to the vicissitudes of the market via bureaucratic controls such as performance related pay. The learning at work literature similarly hints that under HPM advances in an individual's stock of human capital may incur related but undesirable costs. Here Skule's (2004) notion of 'learning conducive work environments' is worth reflecting upon. Such settings are:

> situated in demanding environments where customers, suppliers, owners and professional communities place tough demands on the standards of work, thus stimulating learning and innovation...The learning intensity of each job is affected by the degree of exposure to these external pressures, which in turn, depends on how work is organised…Broadly speaking post-Taylorist organisations, with transparent boundaries are exposing more employees to the external environment…

The logic of Skule's analysis is that gains in employee learning are accompanied and indeed triggered by more proximate external pressures. This suggests that there may well be a potential tension with enhanced learning opportunities accompanied by stress as the insulation between employees and the business environment is stripped away. This is an area hitherto overlooked within the mainstream HPM literature.

Finally, and most significantly in terms of public policy, the learning at work literature can make a potential contribution to the productivity debate. As discussed, the perceived wisdom is that HPM can positively impact upon the bottom line. At present, however, the purported link is poorly understood and under theorised. In Becker and Gehart's terms (1997, p. 2), there is very little research that 'peels back the onion'. A common assumption often made is that HPM increases the level and utilisation of skill. While this represents a plausible hypothesis, there has been surprisingly little research seeking to disentangle the causal connection. There is, however, *prima facie* support for such a proposition. For example, within a UK context Whitfield's (2000) findings indicate that organisations possessing comprehensive bundles of new work practices are more likely to have higher training than those only possessing some elements. Similar findings were also found in a US study by Osterman (1995), at least with regard to core workers. Of course, training does not *ipso facto* gives rise to enhanced skill. More significant therefore is work by Felstead and Gallie (2002) that, drawing on the 2001 UK Skills Survey, confirmed a strong association between the utilisation of HPM and the level of skill exercised by employees. Approaching the terrain from the opposite direction Skule (2004) has identified the rewarding of proficiency, management support for learning and greater task responsibility, all obvious HPM proxies, as central components of 'learning conducive work'. These latter studies, placing the focus away from formalised training[18], lend articulation to an increasingly influential body of opinion that HPM achieves productivity gains by effectively tapping into the stock of knowledge that workers accumulate over time. That is, the crucial mediating factor is the mobilisation of tacit knowledge (see Bélanger et al, 2002 for a summary). At present, however, scholars lack the necessary conceptual and methodological tools to test this

[18] Interesting findings in this regard are also contained in the 2004 NIACE survey demonstrating activities more closely associated with the workplace such as doing the job, engaging in self reflection, and being shown things were seen to provide the most helpful insights into how to work better (Aldridge et al. 2004).

proposition. The first problem that researchers must overcome in the development of a theoretical model is the detection and capturing of the tacit. Here, there is again a potential role for the learning at work literature, which is currently closely pursuing the problem of isolating tacit knowledge, not least through the work of Michael Eraut and colleagues (see for example Eraut, 2000). Advances have been made in approaches to knowledge elicitation via the utilisation of mediating objects such as pictures or drawings. Indeed, photo elicitation techniques have been successfully utilised in previous research (see Felstead, Jewson and Walters, 2004).

Taken together such examples demonstrate our central contention that there are immense theoretical and methodological synergies to be realised in combining the HPM and learning at work literature. The current ESRC sponsored project, drawing liberally, but selectively from both, is well placed to undertake this task.

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