

**SKILL NEEDS AND WORKER VOICE IN
HIGH PERFORMANCE WORKPLACES: A
CASE STUDY OF THE DAIRY INDUSTRY**

LITERATURE REVIEW

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SELECTED LITERATURE REVIEW**

**Bill Cochrane, A (Dharma) Dharmalingam, Paul Harris,
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Background: High performance workplaces and the skills debate

This literature review has been prepared as the first stage of a Department of Labour contracted, *Future of Work* study entitled: *Skill needs and worker voice in high performance workplaces: A case study of the dairy industry*. The project is situated at what is widely regarded as one of the cutting edges of future of work research: the adoption of high performance (manufacturing) workplace systems (HPWS). Throughout New Zealand, many leading companies are keenly interested in establishing HPWS environments in order to enhance quality and productivity.

As we elaborate more fully in the body of the review, HPWS arose in the context of the deregulation and globalisation of markets and the dissemination and adoption of information technology that became a feature of the world economy from the late 1970s onwards. It was against this background that firms sought to improve their performance in the face of increased competition within and between nations. However HPWS has not been an uncontested concept, especially given the emphasis that is placed on employee involvement. Thus other key players, including unions, have contributed to the evolution of the idea and its implementation.

This particular study concentrates on dairy manufacturing. That industry is one of the leading exponents of HPWS in New Zealand. The research builds on earlier work, including that which explores the relationship between industry training, workplace productivity, worker voice, and the role of unions (see Cochrane, Law, & Piercy, 2005). As noted there, underpinning our previous research has been a central concern with the ways in which on-the-job union activity, the redesign of work, workers' education and training, and employee involvement at the workplace can come together in order to provide workers with a 'voice' both in their work and in the wider society.

Those central concerns have been carried into this study. Specifically, we are exploring the nature, acquisition, and applications of skills, in a holistic sense, in HPWS environments. The research offers the opportunity to generate a unique, original set of data, insights and understandings that have the potential to contribute directly to New Zealand's economic growth and development through enhanced productivity. Those data, insights and understandings will also have the potential to contribute directly to the achievement of aspects of the Tertiary Education Strategy 2002/07 (TES), in particular Strategy Four: "Develop the skills New Zealanders need for our knowledge society" (Ministry of Education, 2002, pp. 44-50).

Both the TES and related inquiries, such as the Industry Training Review (Office of the Associate Minister of Education [Tertiary Education], 2001a, 2001b), explicitly reflect widespread acceptance in New Zealand of “the importance of workplace learning as a means of enhancing both work performance and the quality of working life” (Ashton & Sung, 2002, p. 1). But perhaps what distinguishes New Zealand most from many similar countries, is the explicit link that is being made in policy documents between the economic and the social:

New Zealand’s continued prosperity and social well-being will rely on the skills and knowledge of its people and how successfully those skills and knowledge are applied to generate economic growth and to secure improved social outcomes. This will require, amongst other things, a good match between the skills demanded in the labour market and those delivered via education and training (TES, p. 44).

The concept of skills is, of course, still proving very difficult to define (Felstead, Gallie, & Green, 2002; Law, 1998). However the holistic sense of lifelong learning that permeates key, contemporary policy documents concerned with the development of New Zealanders’ skills and knowledge and the relationships that are being established between that development and enhanced productivity and economic growth are very consistent with much of the HPWS literature (see, for example, Ashton & Sung, 2002). They are also very consistent with the very powerful notions of *inclusiveness* and *partnership* that are currently so central to almost every aspect of economic and social policy, including employment relations. Indeed the very essence of the Employment Relations Act 2000, together with recent amendments, is the emphasis it places on fostering productive, collaborative workplace relations based on *good faith*.

Notwithstanding the above, it is important at this point to introduce a note of caution. While much of the vocational, education and training literature of the last decade and a half or so is generally supportive of the high performance/high skills model of 21st Century economic development, there is a developing critique not only of many of the assumptions that underpin policy initiatives in this broad area but also of the empirical evidence that is cited in support of HPWS strategies. Given the limitations of this particular project, we do not address these much larger issues in this review although some insights from that evolving critique has been incorporated into some of our own academic work (eg Law & Piercy, 2004; Cochrane, et al., 2005).

Most aspects of this important debate are both summarised and developed further in work by Coffield (1999), in research papers and articles associated with the British Centre for Skills Knowledge and Organisational Performance (SKOPE) (eg Keep & Mayhew, 2001; Lloyd & Payne, 2002, 2004a, 2004b) and, with respect to empirical studies, McNab and Whitfield (2001) and Whitfield (2000).

While in this review we resist the temptation to engage that broader public policy debate, there are two interrelated aspects of it that link directly with this study. The first is the discussion in sections of the literature about the sort of industrial relations framework that seems to be required if the full promise of a HPWS/high skills strategy is to be realised; the second, which is developed most in work associated with Addison (2005; Addison, Stanley, Wagner, & Wei, 2000), is the importance of

workplace structures, preferably supported by industrial relations systems, that provide workers with a collective voice.

Our research approach in this study reflects the commitment to an inclusive, stakeholder model. Thus in addition to the Department of Labour, the principal industry employer, Fonterra, the New Zealand Dairy Workers' Union (DWU) and the New Zealand Industry Training Organisation (NZITO) are actively involved in the project.

Finally, the research team would like to acknowledge the special contribution of our colleague, Paul Harris, who has been the lead researcher for this aspect of the project.

Introduction

The extensive and growing literature on HPWS comprises mainly governmental/official and academic studies and reports. The volume of this material is itself a reflection of the increasing importance of HPWS as a feature of workplace life in the developed nations. On the one hand, the amount of material is so extensive that a review for a research project of this nature can do little more than address a relatively small selection from it.

On the other hand, many of the publications on HPWS contain literature reviews of their own (eg. Butler, Felstead, Ashton, Fuller, Lee, Unwin, & Walters, 2004) and these are often extensive in the chronological period they cover and the extent of their coverage, for example, across industries and across nations. This facilitates the process of summarising and helps to avoid duplication and replication. As HPWS are a mainly developed nation phenomenon, the majority of the published material concentrates on their impacts/effects in the industrialised nations. This also helps to narrow the field to be reviewed.

Focus

Bearing the above points in mind, this review will focus first and foremost on material dealing with the manufacturing industries. The optimal focus would be purely on the dairy production industry, but with the exception of New Zealand itself, there is a dearth of material in the international literature on dairy production. Manufacturing has therefore been chosen as the closest possible alternative –compared to, say, service sector industries. Some of the material to be reviewed, though, is cross-industry in scope and it is not possible to pick out from it content that refers only to manufacturing.

The second area of focus will be on comparing material from/about nations with similar institutional, cultural and economic settings to New Zealand, so that as far as possible we are dealing with apples and apples. For our purposes, at this point in time that means nations in which there exist democratic institutions, independent trade unions, and collective bargaining, and which are also part of the world's 'rich nations'. This also involves us limiting the chronology of the review to, with a few exceptions, the last decade (1995-2005). There are pragmatic reasons so to do, namely because technological and organisational changes have made much of the earlier material on new work systems anachronistic.

Thirdly, the bulk of the information about HPWS that is analysed in the literature reviewed here derives from two principal sources. One is the use of surveys, carried out by the authors or by governmental/semi-governmental bodies. The other is material provided by the authors of case studies. In both cases we will be dealing with the analysis of empirical sources of material, as opposed to purely speculative or theoretical approaches to the subject. Our preference is for material that is empirically verifiable or refutable, rather than that which is polemical. This is in keeping with the applied nature of our research project.

Lastly, attention will be paid to material that takes account of employee and trade union experiences of and responses to HPWS. This is not to say that material on the perspectives and practices of employers and management will be downplayed or ignored, as they are a vital ingredient to the adoption and implementation of any HPWS. Nonetheless, the focus of this research project is on identifying the skills workers –including workplace union representatives- need to develop to participate effectively in HPWS. This is consistent with our established interest in worker voice and with the institutional objectives of the University of Waikato’s Centre for Labour and Trade Union Studies.

Defining HPWS

One thing is clear from the literature: there is no simple, clear-cut and universally agreed upon definition of what HPWS are. Ashton and Sung (2002) cite research that refers in one case to seven practices of successful organisations, in another case to five key practices and in a third to 18 practices derived from research in the UK. Cappeli and Neumark (2001) refer to one piece of research that suggests that 27 variables could be used to define “high performance.” Some authors, such as White, Hill, McGovern, Mills, and Smeaton (2003) do not consider that there is any consensus over what comprises HPWS.

Other authors believe that certain common features help define HPWS. For McNab and Whitfield (2001) a high performance system is “a generic term covering a wide range of disparate approaches to organizing employment, including high commitment workplaces, flexible specialization and high involvement organizations” (p. 294). For Ramsay, Scholarios, and Harley (2000), HPWS are a bundle of practices that involve “management ceding a degree of control to employees and introducing a range of progressive methods which increase employee welfare” and “practices aimed at the development of employee skills”(p. 508). Summarising the literature on HPWS, Guthrie argues that HPWS utilize a “system of management practices giving employees skills, information, motivation, and latitude and resulting in a workforce that is a source of comparative advantage” (p. 181).

Drawing on their own extensive reading of the literature, Ashton and Sung (2002) suggest that rather than simply listing practices, as some observers have done, it makes more sense to think in terms of “a series of four dimensions: employee autonomy and involvement in decision-making, support for employee performance, rewards for performance, and the sharing of information and knowledge” (p. 12). They continue by providing examples of those four dimensions and it is useful at this point to follow them along that path. The examples they provide are as follows:

Employee autonomy. This is about the “structuring of opportunities for the exercise of employee skills” (p. 12). Examples include self-managed work teams and multi-skilling.

Support for employee performance. Under this rubric they include all practices designed to support continuous learning acquisition of skills, such as appraisal systems and mentoring and coaching.

Rewards for performance. This they see as being about the use of systems designed to reward performance and motivate the employee, such as individual and group based performance pay.

Sharing information/knowledge. By this they refer to organisations designing systems to communicate with employees and to encourage feedback from them (and the means of ensuring that this feedback reaches the organisation’s strategists) as part of a drive to promote employee participation in the management of the work process. (Source: Ashton & Sung, 2002).

The genesis of and impetus to HPWS

In 1992 Brown, Reich and Stern outlined a model of a high-performance work organisation that successfully combined employee job security, employee involvement and employee training, which they called the SET (Security, Employee Involvement and Training) model. They did so as part of a research survey on US firms and on how they were coping (or not) with the need to become “more competitive in world markets” (Brown et al., 1992, p. 2). They held that the SET model derived not only from the practices of large Japanese firms but also from successful European firms. Ashton and Sung (2002), however, argue that it was Japan that first introduced the new working practices that now comprise the core of HPWS and that in the 1980s’ and 1990’s manufactures in the USA and the UK sought to incorporate them or to develop comparable systems of their own.

Whatever the precise mode of transmission, the drive to HPWS arose in the context of the deregulation and globalisation of markets and the dissemination and adoption of information technology that became a feature of the world economy from the late 1970s onwards (Bauer, 2004). It was against this background that firms sought to improve their performance in the face of increased competition within and between nations. This competition also increasingly included the output of the newly industrialising nations, such as South Korea and Taiwan and, a little later, China and India.

Ashton and Sung (2002) also point to the impact of new technologies in computing and communications and argue that the “speed with which information could be processed and transmitted facilitated the de-layering of organizations and the pushing down of responsibility to the lower levels” (p. 16). This argument is supported in the report of the High Level Group on industrial relations in the European Union (EU) which claimed that within the EU “New technologies are affecting the way business is done and organised...A new corporate culture is already focusing on knowledge management, personnel development, participation and empowerment” (European

Commission, 2002, p. 13). [Please note that all references to the EU in this review refer to studies carried out in the 15 nation EU prior to its 2004 extension to 25 nations].

The impetus to HPWS therefore came from employers, or from management in general, as they sought to find means for their firms to survive, and hopefully to thrive, in the new globally competitive environment. Their respective governments might have given them active or passive encouragement in these endeavours, but this was an employer/managerial initiative. We will now consider how the literature on HPWS evaluates the results in terms of gains –or otherwise- for firms pursuing HPWS.

Employer/managerial gains

According to Ashton and Sung (2002), there is “stringent scientific research” evidence that demonstrates the HPWS have a positive effect on “productivity and, crucially, profitability. Put plainly, investment in these practices and the skills associated with them pays off on the bottom line” (p. 17). They reach this conclusion from a review of data provided in studies from the USA, Canada, the UK, Australia and New Zealand. Their viewpoint is supported by the results of numerous studies showing that employers stand to gain from higher productivity, better quality production and ultimately enhanced profitability and competitiveness (Applebaum, Bailey, Berg, & Kalleberg, 2000; Brödner & Latniak, 2002; Datta, Department of Trade and Industry [DTI], 2001; Guthrie & Wright, 2003; Healy, 2003; Kling, 1995; Kumar, 2000; Ramsay et al., 2000; Savage, 2001; State of Wisconsin, 1999).

That employers might lose out from implementing HPWS hardly enters into the literature on the topic. However, some studies are critical of the perception that HPWS are simply a ‘win only’ matter for employers. For example, in their survey of large-scale US manufacturing firms, Cappelli and Neumark (2001) found that such practices as team work and benchmarking raised labour costs but that their effect on profitability was unclear. Likewise, the adoption of certain management policies might offset the potential gains of HPWS. McNab and Whitfield (2001) examine cases in which the use of formal job evaluation procedures, seen as necessary by firms subject to equal pay claims, can run counter to the forms of job flexibility associated with successful high performance systems. But these are exceptions to the many studies that, as noted above, claim only beneficial effects to employers/management from adopting HPWS.

Employee losses and gains.

Whereas the overwhelming majority of studies on HPWS would signal gains to employers from moving down that path, whether or not, and if so to what extent, employees stand to gain from HPWS is a much more controversial matter. The literature on employee losses and gains reveals a spectrum of opinions. At the one end of the range are studies which argue that HPWS provide mainly gains to employees, in the middle are studies that attempt to assess both gains and losses, whilst the other end of the range comprise studies arguing that HPWS produce many more losses than gains to employees.

At the negative end of the scale, Danford (2003) cites research that evidently shows that HPWS go hand in hand with downsizing and lead to job insecurity and reminds us that HPWS does not escape the “capitalist logic” of “maximising profits” (p. 73). As Graham (1993) had noted in an earlier study, significant levels of dissatisfaction can be associated with HPWS when employers use worker involvement as a control mechanism to increase the pace of work. And sceptics can take some comfort from Godard’s (2004, p. 360) wide ranging critical assessment of the HPWS literature. That study suggests the quite pessimistic finding that the impact on worker job satisfaction of HPWS practices such as autonomous teams may in fact be negative.

White, Hill, McGovern, Mills, and Smeaton (2003) point out that HPWS can have ‘negative spillovers’ on work life balance. For instance, because it can lead to employees having to work longer hours and thus having less time at home for their domestic lives. In addition, the pressure of new appraisal systems can lead to domestic tensions. Godard (2001) finds that stress is an issue too. Surveying Canadian workers, he argues that higher levels of employee involvement, eg through teamwork, can produce stress that counter-weighs the positive impacts on workers of empowerment and task involvement. Also drawing on Canadian material, Kumar (2000) lists reduced quality of worklife, increased workloads, job insecurity, and declines in influence on the job and in confidence in management as being amongst the impacts of HPWS on workers. Danford et al. (2004), in a case study of British aerospace workers, found that HPWS produced a number of negative impacts. For example, employee workloads increased, older workers complained about a loss of job variation, worker stress levels rose, workers – and managers- especially came under increasing time pressure and this also had a negative spill-over into the workers home lives. Looking at workplace changes in the EU from 1997-2000 Oei and Noortje (2002) found that 32% of employees reported being subjected to high speed work for over 50% of their working time, and there was a general move across Europe to an intensification of work. Further, “monotonous work decreased but so did task complexity and learning opportunities” (p. 45).

In an attempt to move beyond the polarisation of the HPWS debate between those who are unqualifiedly enthusiastic and those who were equally strongly critical, Anderson-Connolly, Grunberg, Greenberg, and Moore (2002) decompose the process of workplace transformation into distinct components: intensity, autonomy, teamwork, skilling and computing. They then analyse the impact of these factors on the psychological and physical wellbeing of workers in a large US manufacturing corporation. These authors found a complex pattern where some aspects of workplace transformation proved harmful to worker well-being and decreased job satisfaction

while other aspects were beneficial and contributed to increased levels of satisfaction. They also found that the effects were conditioned by the status of the individual within the corporation. For example, while some components of workplace transformation, such as autonomy, contributed to the satisfaction and well-being of non-managers they were a stressor to management level employees.

In her study of a large, unionised, telecommunications company, Batt (2004) also found that status within an organisation was related to satisfaction with aspects of HPWS. Workers participating in self managed teams reported significantly higher levels of perceived discretion, employment security, and satisfaction while supervisors reported the opposite. Middle managers who had initiated the implementation of these innovations also reported higher levels of employment security than their non-innovating counterparts.

In their conclusion, Anderson-Connolly et al. (2002, p. 409) argue that such productivity enhancing changes as the implementation of HPWS are more or less inevitable but that this process is contested and offers workers the opportunity to pursue those changes that enhance this psychological and physical well-being while opposing those aspects that do not. Farris and Toyama (2002) would concur with this assessment of the possibility of mitigating the impact of the 'mean side of lean' by focusing on the importance of 'worker voice', a key aspect of the HPWS paradigm. Their comparative study of US and Japanese lean production systems also points to the tensions within production systems, such as HPWS, between those elements that improve productivity and product quality through increased worker effort and stress, and reduced worker health and safety, and those that promote workers' job satisfaction through increased autonomy, interaction with co-workers and upskilling (Bauer, 2004).

Closer to home, sceptics of unions' strategic capacity to take advantage of such opportunities can derive some support from Buchanan and Hall's (2002) analysis of 19 case studies of best practice in the Australian metal and engineering sector. Buchanan and Hall acknowledge that team-working has the potential to provide workers with opportunities for greater autonomy and control at work. However, they doubt the ability of workers to press their claims for increased autonomy against the firm's desire for increased labour flexibility, reduced waste and 'slack' in the labour process and strengthened monitoring and surveillance of worker and process performance. Furthermore, they report that this was not a product of a lack of worker voice, as, by and large, trade unions were present and active. Rather they suggest that it was, at least in part, a consequence of a union strategy that legitimated the workplace change process, albeit in pursuit of higher levels of worker job satisfaction empowerment and control over change, and ultimately marginalised rather than empowered unions.

A New Zealand case study (Cochrane et al., 2005) of the implementation in the dairy industry's Whareroa plant of a HPWS known as Manufacturing Excellence (ME) found a mixed set of responses from workers. Most respondents felt they had limited involvement in key decision making, but a majority felt that the workplace had become safer. There was evidence of more pressure from management on workers to come to work if sick or injured and also that the pace of work had increased. A majority agreed that the changes had led to the skill level of their job rising and a

bigger majority greed that new training opportunities had been opened up. But there was also a majority disagreement that the system had any impact on their earnings. Interestingly, and in contrast with the findings reported above of ‘negative spillovers’ into workers domestic lives, 25% of the respondents stated that the changes at work had produced off the job, home and community, benefits to them.

Healy (2003), in an Australian report that is highly supportive of HPWS, lists higher skills, better rewards and earnings, more secure jobs, access to family-friendly measures and higher job satisfaction as gains to workers, but he also points out that speed and intensity of work effort may be increased, and that the economic gains through greater productivity may not be distributed evenly amongst workers. Berg and Kalleberg’s (2002) survey of over 4000 US workers provided a similarly mixed set of findings.. They reported that the demands of communication and participation could lead to role overload for workers, but communication and participation systems also reduced co-worker conflict, whilst the level of stress varied according to industry and practice.

At the positive end of the spectrum, Ashton and Sung (2002) surveyed existing studies to argue that HPWS benefited workers via higher levels of job satisfaction, higher earnings, higher skills, though they were cautious about the robustness of the studies surveyed. Around the same time, a survey by Bailey, Berg, and Sandy (2001) of three US industries, concluded that HPWS led to workers being better trained and better skilled, and earning more – allowing for factors such as gender, race and education- than those in traditional workplaces. In 2004, Bauer published a study that utilized data from over 20 000 EU workers and which reached the conclusion that HPWS had a “highly significant positive effect on job satisfaction” (p. 11).

The diffusion of HPWS

Despite their seemingly obvious advantages, HPWS are not as widespread as some of the literature might lead one to believe. A survey of 800 organisations in the EU (Business Decisions, 2002) found that only 10% of the sample were “systematic” users of HPWS whilst 30% of the organisations had decided against using them. Other EU studies/surveys (Brödner & Latniak, 2002; Oeij & Noortje, 2002; Savage 2001,) have reached similar conclusions: HPWS are not widespread and their dissemination rate is slow. Evidence from Australia, the UK, Ireland and the USA points in the same direction – only a minority of firms utilise HPWS (Healy, 2003; Hutt & Read, 2003; Knauss, 1998; Roche & Geary, 2000).

A number of reasons have been put forward for the relatively low take up rate of HPWS. One is that other business strategies can deliver enhanced profits. Ashton and Sung (2002) see this as a short term option, but other authors simply point out that there are viable alternative strategies for firm and these are not necessarily short term ones (Knauss, 1998; Roche & Geary, 2000; Business Decisions Ltd., 2002). Two reasons given by EU firms that rejected HPWS were that HPWS did not fit in with their culture or that it was not needed to meet their customer requirements. Bayo-Moriones and Merino-Diaz de Cerio (2001) consider that multinational firms and firms that utilise a high level of automation are more likely to move to HPWS. This is partly contradicted by Datta, Guthrie and Wright’s (2003) research that suggests that

firms with low capital intensity, which practice product differentiation and which are located in growth industries, gain most from HPWS.

The point remains the one made by Ashton and Sung (2002) who, in reference to several studies of HPWS, conclude that HPWS “may not be suitable for all companies and organizations” (p. 61). Nor are all firms willing to take the risk of adopting HPWS. Organisational or system inertia, whereby firms have become fixed in a pattern of operating in a certain way and are resistant to change, has also been seen as a reason why firms do not shift to HPWS (Ashton & Sung, 2002; Healy, 2003). The same authors also point to worker and/or union resistance to change as making it difficult for some firms to introduce HPWS. This survey will deal shortly with worker and union attitudes and the implementation of HPWS.

As well as low-take up rates, firms often use only one or a few elements of the total bundle of practices that comprise HPWS. A survey of Irish firms found that the most common workplace practice was TQM followed by team work and ad hoc task forces (Roche & Geary, 2000). For the EU as a whole, survey results showed that of those firms claiming to use HPWS 64% had introduced multitasking, 33% had adopted a flattened hierarchy in production, and only 28% had moved to team working. Within the EU the level of application of HPWS varied between nations with the lowest level of application being in the Southern European nations (Dell’Aringa, Ghinetti, & Lucifora, 2003).

Successful HPWS implementation

In 1995, Kling made the point that the work practices associated with HPWS “may have limited or negligible impact unless they are elements of a coherent work system” (p. 32). That ‘cherry picking’ elements of HPWS rather than applying HPWS systematically was a self-defeating approach by firms was a point also made by Jacobson (1996). The argument that for HPWS to work effectively, the bundle of HPWS practices needed to be implemented - and simultaneously, not incrementally - has since been repeated by other analysts of workplace change (Ashton & Sung, 2002; Healey, 2003). But as the literature makes clear, and in this case we are referring to evidence drawn from literally hundreds of case studies and surveys, for HPWS to succeed, then certain criteria need to be met/conditions need to be fulfilled. These are summarised below.

Managerial Commitment

Ashton and Sung (2001) stress that “a strong and active commitment from senior management is essential for successful implementation of HPWS” (p. 69). They go on to cite UK research which found that a certain managerial philosophy was required, namely one in which management were supportive of employees both in terms of employee involvement and of providing support, such as training, for employees. Their point is similar to that made by Bayo-Moriones and Merino-Diaz de Cerio (2001), whose study of 965 manufacturing plants in Spain led them to conclude that for HPWS to work, what was required was “a type of personnel management that considers the workers as a fundamental part of the company” (p. 257). The ability of managers to provide leadership and be facilitators for enhanced employee

consultation and involvement has been seen as one of the “necessary conditions “when implementing HPWS (Gollan, 2004, p. 11)

Employee Support

There are many ways in which employees can frustrate or subvert attempts to implement change and there are a range of reasons why they might do so, such as fears of: job losses, cuts in pay and conditions, higher work loads, loss of technical status (Business Decisions Ltd., 2002); and “doubts about employers’ motivations and intentions” (Cochrane et al., 2004, p. 6). The employees are pivotal to the success or failure of HPWS, because they will have the responsibility for operating the HPWS on a day to day basis (Guthrie, 2001). Employee resistance can undermine all the potential gains from HPWS (Ramsay et al., 2000). Employers/managers must therefore “actively engage in capturing the hearts and minds of all employees” (Ashton & Sung, 2002, p. 65) and must also acknowledge the “importance of employee satisfaction” when implementing HPWS (Gollan, 2004, p. 8).

If workers or their unions do not trust management, then the potential gains of HPWS are jeopardised (Stuart & Lucio, 2001). The literature is in general agreement that to win the hearts and minds of employees involves generating trust relations between employers/managers and employees and encouraging cooperation between them (Ashton and Sung, 2002; Business Decisions, 2002; DTI, 2003; Kallenberg & Berg, 2002;). This is a two-stage process; that is, employee trust and cooperation should be gained prior to the introduction of HPWS and it needs to be maintained if HPSW are to succeed. The continued construction of trust is important to the successful operation of HPWS and participation by employees, eg through autonomy over their task levels, enhances their trust (Kallenberg & Berg, 2002).

Information/Consultation

The provision of information to, and a willingness to consult with, employees is seen as a pre-requisite for generating such trust and cooperation (Brödner & Latniak, 2002). Whilst management must be willing to share information with the workforce, it must also be willing to give them opportunities to be heard. Participation requires that employees’ views are listened to, for “employees overwhelmingly want voice” (Gospel & Williams, 2003, p. 2). In their concluding comments on their own (SET) version of HPWS, Brown, Reich and Stern (1992) noted that for it to work “management must be willing to give up its belief that management always knows more and works harder than workers” (p. 21).

Management might make use of a mixture of formal and informal, direct and indirect means of informing and communicating with employees, what seems to matter in the case of achieving successful organisational change is that information and consultation takes place (Dundon, Curran, Maloney, & Ryan, 2003). In the European Union and in the majority of its member states there is a statutory requirement for firms to inform and consult employees and/or bodies such as Works Councils and trade unions about significant workplace changes (Addison, 2005; Addison et al., 2000; DTI, 2003). The current employment relations setting in New Zealand (Employment Relations Act, 2000, Employment Relations Amendment Act, 2004, Health and Safety in Employment Amendment Act, 2002), is one which puts the onus

on management to inform and consult employees about significant workplace changes. Survey data indicates that as well as facilitating workers' greater acceptance of change, information and consultation lead to positive outcomes as measured by employee performance indicators such as cost reductions and improved quality of output (Dundon et al., 2003).

Quality Employment Relations

HPWS rely on the maintenance of high quality working relationships (Hutt & Read, 2003). That is, employment relations should be cooperative not conflictual/confrontational. In unionised workplaces, the introduction and implementation of HPWS needs to take into account the union position. Where unions support HPWS, the likelihood of them succeeding is increased (Ashton & Sung, 2002, Savage, 2001). Unions should therefore be encouraged to "participate and increase their role as workers' legitimate representatives" (Healey 2003, p. 12). In the UK and Ireland (which, like New Zealand, have no history of statutory employee participation through bodies such as Works Councils) employers in unionised firms have utilised 'partnership' agreements with unions as a mechanism for introducing and implementing HPWS (Roche & Geary, 2000, DTI, 2003).

During the early 1990's 'workplace reform' became a feature of the New Zealand workplace. This involved various experiments with the reorganisation of work that were similar to those associated with HPWS. The majority of significant unions were highly supportive of workplace reform, as was the Council of Trade Unions (CTU) as a whole (Cochrane et al., 2004). The Employment Relations Act and its 2004 Amendment (op cit) support and encourage quality (ie cooperative and productive) employment relations between employers and unions. In the dairy industry, in which there is only one union- the Dairy Workers Union-, which represents over 90% of all employees in dairy production- the successful implementation of HPWS would seem to require that the union has a voice in the participatory process. The Dairy Workers Union has a well-established record of supporting workplace changes that can lead to positive benefits for its members (Cochrane, et al., 2004).

That unionisation and worker involvement together can have a highly positive impact on HPWS outcomes was demonstrated by US research based on a survey of 627 establishments. This showed that the highest levels of productivity growth were to be found in unionised firms with high levels of worker involvement and using innovative work practises such as benchmarking, TQM and the self-managed teams. Setting a 'productivity baseline' as that being the levels of productivity achieved by non-union workforces with low employee involvement, the research showed that productivity in unionised/employee involvement firms increased by 20% over this baseline compared to 15% for non-union firms with high involvement (National Centre For Partnership And Performance, 2003, pp. 26-27).

Training and Skills

Ultimately, it is the employer/management that carries the responsibility of providing a suitably supportive learning/training environment for the employees working within the HPWS framework (Ashton & Sung, 2002). Employees in HPWS need more skills – such as learning how to carry out a wider range of tasks, better interpersonal skills,

and how to deal with supervisory and coordinating functions (Bailey et al., 2001). “Practices aimed at the development of employee skills” are an essential part of HPWS (Ramsay et al., 2000, p. 508) and skills associated with problem-solving and contributing to workplace innovation are amongst those that the literature has identified as significant (Lee, Kim, & Kim, 2004). Firms need to consider both how to develop a wider range of skills amongst their employees and also whether they provide opportunities for the employees to upskill in a HPWS environment; for example, from being data-entry clerks to being upskilled to computer programmers (Wisconsin, 1999). The ability of employees to acquire new skills on the job is a key variable in determining the success or otherwise of HPWS workplaces (Hutt & Read, 2003).

Extensive employee training (and/or retraining) must be seen as an integral part of a successful HPWS approach (Bayo-Moriones & Merino-Diaz de Cerio, 2001). This also applies to management who must learn/be trained how to operate in a new environment: “standardised tasks and hierarchical ‘tayloristic’ organisations seem increasingly to have been replaced by multi-tasking and flatter structures” (European Commission, 2002, p. 25). Employees and unions must learn how to work within that framework, but managers also have to learn how to manage within it. They have to adapt to a situation in which they, inter alia, cede their claims to a Taylorist monopoly of workplace knowledge and also cede some of their day to day decision making powers to the workforce (Ashton & Sung, 2002; Guthrie, 2001). A HPWS system such as ME can give opportunities to the workers themselves to become involved as co-ordinators and training and workers “respond well to their colleagues” involvement in these roles (Law & Piercy, 2004).

Oeij and Noortje (2002) have noted a number of steps that firms in the EU have taken to improve training and promote skills. These include widening the scope of training to all employees, and broadening the focus of training. The emphasis has been shifted from training people in the vocational skills needed for their existing jobs to widening workers’ technical and business skills to carry out larger jobs and developing social and psychological skills relevant to tasks such as problem solving, team working and interacting with other workers and managers. The focus is more on learning potential than on present skill levels. Employees are also becoming more involved in determining their own training needs.

Job Security

Nowhere in the literature reviewed is there any suggestion that HPWS are a magic bullet that will guarantee the eternal success of a firm and the jobs of its employees. Nevertheless, employees are concerned about job security (Ashton and Sung, 2001; Business Decisions Ltd., 2002). In the EU, concern about job security rose “sharply” in the 1996-2000 period (Oeij & Noortje, 2002, p. 52). If employees do not trust management over job security, then they are unlikely to commit themselves to supporting HPWS (Stuart & Lucio, 2001). “In the absence of security, workers will fear that they may innovate themselves out of a job” (ILO, 2004, p. 198). Conversely, the more HPWS address job security issues, the more trust is built up between management and employees and the more likely employees are to be willing to adopt new ways of working (Ashton & Sung, 2002).

As employees are trained to do new tasks and/or as their skill levels increase, so their job security becomes greater as their value to the firm increases (Ashton & Sung, 2002; Healey 2003; Stiles & Kulvisaechana, 2003). It then becomes important to management to retain these higher skilled employees, because high turnover rates will have an adverse effect on firm productivity (Guthrie, 2001; Stiles & Kulvisaechana, 2003). From its study of the research on HPWS, Germany's Friedrich Ebert Foundation makes the following remarks that are pertinent not only to the matter of job security but to the question of what comprises successful HPWS as a whole:

Research findings confirm that businesses only implement HPWS and achieve real economic gains under the following conditions: when they have succeeded in putting together an effective combination of new forms of work organisation, employee participation systems, motivational incentives and job security measures. In this case the worker and the employer both gain from innovations in work organisation and the enhanced company communications and decision making structures (Friedrich Ebert Foundation, 2003).

Workplace learning

Thus far we have focussed very specifically on the HPWS literature. We need to note, however, that there is also an equally vast and rapidly growing literature on workplace learning that is, frankly, well beyond the scope of this review. Thus far in this review we have relied primarily on Ashton and Sung's (2002) volume in order to bridge the workplace learning literature and the HPWS literature. However there is some merit in briefly commenting on aspects of the training manuals that are being used in the Fonterra HPWS and on some other insights from the workplace learning literature that will inform this study.

Learning and TRACC

TRACC is the generic name of The HPWS purchased by Fonterra from the South African company, Competitive Capabilities International (CCI). TRACC is a five stage, best practice programme. Workplaces that achieve the fifth stage would be characterised by work teams that are "viewed as autonomous operating units, requiring little or no management input" (CCI, 2001a, p. 18). The TRACC manuals are replete with references to learning, training, and skills, much of which is drawn from the extensive workplace learning literature that is, frankly, well beyond the scope of this review. An inherent problem we have with the TRACC literature is the conflation of 'objective' and 'subjective' skills. On one hand, the TRACC approach places considerable emphasis on visual performance measurement and the identification of measurable attributes or technical skills that can be located within a skill matrix and assessed. But on the other hand, TRACC also relies on the development of the capacity to undertake self- and peer analysis, participate in open communication, engage in constructive critique, and many other attributes in order to function effectively as a member of a highly autonomous team: "The team climate should be conducive to team development and engendering an atmosphere of trust and co-operation" (CCI, 2001b, p. 8). In general, the TRACC approach views training as the means of developing such attributes and there is an implicit sense in the manuals

that workers will, some how, contribute to that learning process. But there is also something of a paradox in all of this in that the learning journey itself is effectively charted for workers before it begins.

The skills required for HPWS

While the CCI approach has its own features that distinguish it from other HPWS packages, it essentially conforms to an HRM model that begins with identifying the skill sets that characterise high performance workplaces. This approach is supported by a large amount of employer-focussed, internet material, HRM manuals, and academic literature. The (US) National Council for Advanced Manufacturing's (NACFAM, nd) comprehensive set of 'voluntary skill standards is a good example of an influential, practical guide that attempts to express in assessable terms a very wide range of workplace skills. In general terms, there seems to be some consensus in the mainstream, academic literature about the clusters of skills required in 21st century workplaces. For example, in their analysis of a national survey of over 3000 manufacturing establishments, Gale Jr., Wojan, and Olmsted (2002) measured employers' perceptions of change in six skill requirements ... basic reading, math, problem solving, interpersonal/teamwork, computer, and other technical skills" (p. 55). They found that:

Use of new work-organisation practise has an especially strong association with problem-solving and interpersonal/teamwork skills requirements, whereas production technology use was most strongly associated with increases in computer skill requirements (p. 75).

In general terms, the six sets of skill requirements employed by Gale Jr. et al. include most skills identified in the vocational education and training and related literature. They further observed that the "Use of high-performance work-organisation practices also appeared to be linked to a broader set of skill requirements" (p. 75). This particular finding seems at odds with Whitfield's (2000) British study that concluded that high-performance work may be associated with a greater intensity of training rather than a greater breadth.

One of the obvious limitations of the various sets of technical/applied skills that are derived from immediate workplace/organisation needs and/or employers' perceptions of need is the lack of worker input. The more critical literature (eg Addison, 2005; Foley, 2001; Lloyd & Payne, 2002, 2004a, 2004b) implies that two other interrelated sets of skills need to be considered. First, it is clear from this review that unless workers understand why their work is being re-organised—especially if some of the effects are negative—then commitment and trust may be compromised. From this perspective, workers will also require some critical skills such as the ability to understand something of the political economy of 21st century manufacturing in a developed, capitalist economy. Second, the literature confirms the view that worker voice is an important element of successful HPWS. It therefore follows that workers need to develop the ability to participate effectively through collective organisations, such as unions, in order to have real voice at the workplace.

Identity, learning, and collectivity

Another area of difficulty is the simplistic learning theory that implicitly informs the mainstream literature. Of the small number of adult learning theorists who question the essentially instrumentalist approach adopted in the HRM literature, Foley (2001) offers one of the most comprehensive, alternative theoretical and practical approaches. Central to his argument are several core propositions. One of these holds that “organisational life and learning are complex, contextual and contested” (p. 12). Another is that “people in organisations learn all the time, experientially and informally” (p. 12). Furthermore, he holds that such learning can be “positive or negative, productive or unproductive” and that attempts to change organisations have to understand the “dynamics and outcomes off this informal, experiential learning” (p. 12). For Foley, such understandings must include a searching consideration of the changing nature of the global economy and its impact on the changing nature of work. The central thrust of Foley’s argument is that workers, along with their employing organisations and their unions, live in a real world and that the dynamics of that reality form an important part of workers’ experiential and informal learning.

Implicit in Foley’s work is an appreciation of the collective nature of workers’ learnings, knowledge and attributes. This is a theme that has been explored for some time now by a number of writers, especially in Europe, such as the contributors to Weber’s (2001) edited volume. For example, in their discussion on the subjective dimensions learning, in particular workplace learning, Salling Olesen and Weber (2001) caution against “an individual learning concept” (p. 53). Learning is, they argue, “the essential cultural activity” that “deals with the transfer and the reinterpretation or assigning of new meanings by new members of groups in society” (p. 53). To writers such as these, professional identity, work identity, and group identity--including that of union member--are all of critical importance when attempting to understand the nature and acquisition of workplace skills.

Conclusion

This review has been an attempt to summarise some of the most salient points in a rapidly expanding field of publications on HPWS. From our evaluation of that material it is reasonable to conclude that the majority verdict, although a conditional one, is that HPWS provide net gains to both employers and employees. The majority verdict also seems to be that for HPWS to succeed they require an environment in which all parties to the employment relationship are committed to the success of the project and work in good faith for its achievement.

The review has dealt only very briefly with aspects of the workplace learning literature. In particular, it has noted views that challenge an instrumentalist approach to the introduction and implementation of HPWS. It has also introduced research that underscores the collective dimension of workplace culture and the learning that takes place at work.

In the context of the New Zealand dairy industry, and within the existing employment relations setting, the majority verdict on HPWS noted above, especially when read in conjunction with the selected insights provided from the workplace learning literature, implies that for HPWS to produce ‘win win outcomes the employer, the union and the workforce as a whole must act together to promote the necessary trust and cooperation.

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