

THE RELATION OF HIGH-PERFORMANCE WORK SYSTEMS WITH EMPLOYEE INVOLVEMENT

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Abstract:

The basic aim of high performance work systems is to enable employees to exercise decision making, leading to flexibility, innovation, improvement and skill sharing. By facilitating the development of high performance work systems we help organizations make continuous improvement a way of life. The notion of a high-performance work system (HPWS) constitutes a claim that there exists a system of work practices for core workers in an organisation that leads in some way to superior performance. This article will discuss the relation that HPWS has with the improvement of firms' performance and high involvement of the employees.

Keywords: human resources management, employee involvement, work performance

Introduction

High Performance Work System is a name given to a set of management practices that attempt to create an environment within an organization where the employee has greater involvement and responsibility. More specifically, HPWS has been defined by Bohlander et al (2004) as "a specific combination of HR practices, work structures, and processes that maximizes employee knowledge, skill, commitment and flexibility" (Bohlander & Snell, 2004, p. 690).

Barnes (2001) writes that the concept and ideas for high performance work systems has existed for quite some time and has its roots in the late twentieth century amid the upheaval in the United States manufacturing environment (Barnes, 2001, p. 2). During this period, the manufacturing industry in America had realized that global competition had arrived and they needed to rethink the 'tried and true' manufacturing processes. The concepts that arose out of these turbulent times are items that eventually would become key components of a high performance work system.

The role of human capital as a potential source of sustainable competitive advantage has recently been the focus of considerable interest in the academic and popular press. The current "terms of art" such as *intellectual capital*, *knowledge work and workers*, and *high-performance work systems* (HPWS) all reflect a new interest in "people" as a source of competitive advantage, rather than a cost to be minimized. By extension, intellectual assets and the organizational systems that attract, develop, and retain them are emerging as significant elements in strategic decisionmaking. This evolution in the role of human resources (HR) follows directly from the demands of rapidly changing product markets and the corresponding decline of command and control organizational structures. A skilled and motivated workforce providing the speed and flexibility required by new market imperatives has increased the strategic importance of human resource management (HRM) issues at a time when traditional sources of competitive advantage (quality, technology, economies of

scale, etc.) have become easier to imitate. In effect, while the markets for other sources of competitive advantage become more efficient, the subtleties surrounding the development of a high performance workforce remain a significant unrealized opportunity for many organizations.

Despite this turmoil, the changing competitive realities have provided the HRM function with an unprecedented opportunity to create significant shareholder value, through the *effective* (in contrast to the *efficient*) management of the firm's HRM system.

Literature Review

We emphasize the importance of the global or overall HRM system because we believe that it is the systemic and interrelated influence of HRM policies and practices that provides their inimitability, and therefore provides a strategic lever for the firm. Such internally consistent and externally aligned (with firm competitive strategy) work systems are generally thought to include rigorous recruitment and selection procedures, performance-contingent incentive compensation systems, management development and training activities linked to the needs of the business, and significant commitment to employee involvement (Arthur, 1994; Huselid, 1995; Ichniowski, Shaw, & Prennushi, 1997; Jackson & Schuler, 1995; MacDuffie, 1995; Milgrom & Roberts, 1995; Pfeffer, 1994). An internally consistent and coherent HRM system that is focused on solving operational problems and implementing the firm's competitive strategy is the basis for the acquisition, motivation, and development of the underlying intellectual assets that can be a source of sustained competitive advantage. In contrast, elements of the HRM function that focus on transactions and compliance activities do not play an equivalent strategic role, and will continue to be evaluated as cost

centers. Indeed, while the HRM system is typically thought of as the responsibility of the HRM function, such HPWS can be implicit in smaller firms without such a function, or diffuse in larger firms that have attempt to embed them more broadly in management (e.g., Hewlett-Packard). In our view, one of the most significant impediments to developing a *strategic* system that provides solutions to business problems rooted in human capital, is thinking of the HRM system as *a-traditional* HRM responsibility.

On any reading, the idea that there are systemic or synergistic effects in the cluster of chosen HR practices is a key part of the HPWS proposition. What tends to vary in the literature, however, is the extent to which this systemic notion reaches out to companion elements of a business: its technology or propriety knowledge, product or service mix, financing, supply chain and governance, for example. Narrowly conceived, bundling is seen as an issue of design within the components of an HR system: making training consistent with a change to self-directed teams, for example. More broadly conceived, it entails complementarity between changes in HR systems and other strategic changes in the workplace or productive unit: for example, moving to a high-involvement HR model because management is making a major investment in advanced technology in the workplace, which will not realise its potential unless operating workers are more highly engaged in technical problem solving (Wall *et al.*, 1992). Given the embeddedness of work systems within wider production or operational strategies (MacDuffie, 1995; Purcell, 1999), the narrow conception of synergy is too limiting. Complementarity does need to be considered within the domain of HR policies and practices but, more importantly, it needs to be understood within the broader

management system of the workplace or business unit.¹

Organisational performance, the dependent variable in HPWSs, is more troublesome to pin down because it is an omnibus term, similar to 'organisational effectiveness'. It is something that can be conceived in a variety of ways, incorporating short- and long-run economic outcomes and wider notions of social legitimacy or corporate social responsibility (Edwards and Wright, 2001; Paauwe, 2004; Boxall and Purcell, 2008). In terms of HPWSs, however, most researchers have focused on economic performance criteria, as Godard's (2004) evaluation of HPWS studies indicates. This means that HPWSs, to be deemed successful, need primarily to enhance cost-effectiveness. If the financial benefits do not exceed the costs, then HPWSs are not economically rational for firms.

However, measurement of cost-effectiveness is far from straightforward. One approach, exemplified by Huselid's (1995) widely cited study of 968 US publicly owned firms, measures HR practices and outcomes at the firm or organisational level. Like many US scholars in HRM, Huselid (1995) adopts this approach in order to maximise the potential for generalisation of findings across industries and firms. The problem is that this method glosses over the diverse business units, production systems and occupational groups that actually exist in such organisations (Purcell, 1999). Another approach argues that costs and benefits should be examined as closely as possible to the work outcomes that the specific group of employees concerned can materially influence. This much less distal approach to measuring the links between HR systems and performance is exemplified in the studies of MacDuffie (1995) in automobile manufacturing, of Ichniowski *et al.* (1997) and Ichniowski and Shaw (1999) in steel making, and of Appelbaum *et*

al. (2000) in steel making, clothing manufacturing and medical electronics manufacturing. Approaches to constructing the independent variable in HPWSs in which researchers aggregate their perceptions of best practices, without regard to a specific context, are therefore fundamentally contentious. Work systems and employment practices vary significantly across occupational, hierarchical, workplace, industry and societal contexts (*e.g.* Appleyard and Brown, 2001; Lorenz and Valeyre, 2005; Kalleberg *et al.*, 2006). Any assertion in the literature that there is some kind of general consensus around systems of best practices is patently false, and arguments that a particular set of practices is self-evidently highly performing are not defensible (Wood, 1999; Marchington and Grugulis, 2000; Bryson *et al.*, 2005).

HIWSs AND HCM

It is useful to start from the observation that any HR system encompasses the management of some work domain and the management of the people who do the work in question. Thus, HR systems involve two broad types of practice: work practices and employment practices (Whitfield and Poole, 1997; Godard, 2004). Work practices are to do with the way the work itself is organised, including its normal structure (*e.g.* Taylorised jobs, supervised group work, self-managing teams, highly autonomous professional jobs) and any associated opportunities to engage in problem solving and change management regarding work processes (such as quality circles and team meetings). Employment practices include all the practices used to recruit, deploy, motivate, consult, negotiate with, develop and retain employees, and to terminate the employment relationship.²

Together, the work and employment practices embedded in an

HR system affect performance on multiple levels (Lepak *et al.*, 2006; Boxall and Purcell, 2008). On one level, they influence the abilities (A), motivations (M) and opportunities (O) to perform of individual employees (the AMO model of individual performance; *e.g.* Blumberg and Pringle, 1982; Campbell *et al.*, 1993; Huselid, 1995). In other words, every HR system works through its impacts on the skills and knowledge of individual employees, their willingness to exert effort, and their opportunities to express their talents in their work. Bearing in mind that HR systems have these multilevel impacts, we can try to describe the main thrust of management's approach to work organisation in respect of a particular work domain, and the main thrust of its approach to employing the people concerned. The main variations on the HPWS terminology – HIWSs and HCM – are, in fact, focused on one or the other of these two categories. We have a school of thought, tracing back to Lawler (1986), concerned with high-involvement *work* practices, and we have a school of thought, tracing back to Walton (1985), concerned with high-commitment *employment* practices (Wood, 1999; Wood and Wall, 2007).

Whether the terminology in each case talks of practices, processes, systems or management, both of these are more descriptive terms for HR systems because they signal to us the dominant theme informing a stream of managerial action. It is descriptively helpful to draw a contrast between work processes in which managers try to control decisions and those that seek to make workers more responsible and involve them more fully in decision making (*e.g.* Ramsay *et al.*, 2000; Godard, 2004). Similarly, it is descriptively helpful to contrast employment practices which seek little enduring employee commitment from those that seek a much longer, more motivated attachment to the

organisation. High-involvement and HCM are also less loaded terms than the notion of HPWS: they do not *assume* that the particular configuration of management practices is necessarily performance-enhancing (Bryson *et al.*, 2005: 460). This has to be demonstrated in specific contexts, not simply asserted in a generalised way.

At the heart of high-involvement work reforms are practices that attempt to reverse the Taylorist process of centralising decision making and problem solving in the hands of management (Edwards and Wright, 2001). This is obviously relevant to those contexts where Taylorism has had a major impact and is part of a system of management which is now underperforming or at risk of complete failure. Researchers are *not* talking about professional and technical occupations which have always enjoyed a high level of autonomy but have in mind waged production workers in Taylorist/Fordist production environments. In these contexts, movement towards a high-involvement goal implies making better use of employee capacities for self-management, personal development and problem solving. However, research across the European Union suggests that such work reforms remain subject to demanding production targets and rarely go as far as the levels of autonomy and learning opportunities enjoyed by those in managerial, professional or technical occupations (Lorenz and Valeyre, 2005).

The specific practices that are intended to reform a Taylorist heritage can be expected to vary across industry circumstances. In the automobile industry, MacDuffie (1995: 203) measures five practices: work teams, problem-solving groups (employee involvement or quality circle groups), employee suggestion schemes, job rotation and decentralisation of quality-related tasks. In the steel manufacturing

industry, Bacon and Blyton (2001: 8) examine whether or not employees (have) flexible job descriptions not fixed to one specific task; whether employees (are) organised into teams to supervise their own work; whether employees (are) organised into problem-solving teams sometimes called quality circles; whether there (are) . . . smaller unit crews with larger activity ranges; and whether maintenance jobs (are) integrated into production jobs.

In the service sector, the relevant practices can be expected to vary enormously because service industries, and competitive segments within them, cover a huge range of business models (Boxall, 2003). At one extreme in services (mass services), prices are kept low through low-skilled work and through labour-saving technology and customer self-service while, at the other extreme (professional services), firms largely compete through esoteric knowledge. In the latter, the management of professionals has always involved high levels of involvement: larger, more ambiguous tasks that rely on discretionary judgement and team meetings that pool expert knowledge, for example. In between the extremes of mass and professional services, there are industries and market segments in which firms compete through quality as well as costs, and potential exists for more empowering forms of management that enhance customer satisfaction and retention (*e.g.* Batt, 2002, 2007).

MacDuffie's (1995) work is impressive in the way it identifies links between involvement and skill. But what about commitment? Must we also have high employee commitment if we wish to build an HIWS? An important empirical study on this issue is Guthrie's (2001) survey of 164 New Zealand firms which shows that when firms pursue high-involvement work practices, lower employee turnover is consistent with

higher productivity. Conversely, when firms pursue more control-oriented forms of work organisation, higher employee turnover is consistent with higher productivity. In other words, firms which decide to make the costly investment in high-involvement work processes, and the related skills, will have better economic performance in conditions of low labour turnover. When such firms are affected by tight labour markets, they clearly need to take measures to improve employee commitment if they are to achieve low labour turnover and recoup their investment in human capital.

Does high commitment imply high involvement?

If high involvement implies high commitment to protect the firm's investment, is the reverse also true? Will a high-commitment employment strategy logically imply an HIWS? Walton (1985) clearly thought so: he regarded more empowering work design – reintegrating planning and execution – as central to generating employee commitment (Wood and Wall, 2007). One cannot argue with this view when a major reason for labour turnover is that employees are leaving because they find their jobs uninteresting (Boxall *et al.*, 2003). In these cases, work reform is pivotal to improve commitment. However, research shows that there are many situations where higher employee commitment can be pursued entirely through employment practices rather than work practices. For example, it is possible to enhance employee retention through offering higher pay and loyalty bonuses (*e.g.* Lakhani, 1988). Similarly, and most obviously, it is possible to enhance behavioural commitment through improving perceptions of job security (Iverson and Roy, 1994; Appelbaum *et al.*, 2000): for example, through policies which privilege redeployment over redundancies. It is also possible to

improve employee commitment through enhancing perceptions of procedural justice – for example, in promotion decision making (Lemons and Jones, 2001) and in pay setting (Appelbaum *et al.*, 2000). All of these can be carried out without changing the structure of work, without enhancing job autonomy or the scope for initiative. Thus, we should not assume that high-commitment employment strategies will inevitably imply the adoption of high-involvement work processes (*cf.* Bryson *et al.*, 2005: 460).

There are clearly, then, a range of analytical paths open to us if we are interested in high performance. We could study high-involvement–high-commitment models, low-involvement–low-commitment models, high-commitment–low-involvement models, and so on. In this article, we are concerned with focusing the research which has, in effect, considered the first of these avenues. Our review suggests that HPWS studies which constitute some kind of argument about context-free best practice are fatally flawed. On the other hand, HPWS studies which start from an industry-based analysis of work reforms aimed at building higher levels of employee involvement proceed from a much more secure footing: they are empirically grounded and much more conscious of the need to specify how work reforms are meant to affect employee attitudes and behaviour. This is very evident in the work of MacDuffie (1995) on automobile manufacturing, as we have just noted, and in the three-industry study by Appelbaum *et al.* (2000). A critical reform to the basis of the dominant work system for production or operating workers in a particular industry is at the centre of these studies. We know of no longitudinal studies of economic performance specifically measuring involvement processes through the PIRK model. There are, however, longitudinal studies in the steel industry

that operationalise high-involvement work practices and that get close to the point of production. Ichniowski *et al.* (1997) find positive impacts on productivity of high-involvement HR systems in a sample of US steel finishing lines. This finding is reinforced by a subsequent study by Ichniowski and Shaw (1999) which compares the operating performance of US and Japanese steel finishing lines. This study finds that Japanese plants – all characterised by participative work practices – and US plants using high-involvement processes have equivalent productivity levels and outperform US plants with traditional (Fordist) or partially reformed work systems. The finding is also supported by Appelbaum *et al.* (2000), whose three-industry dataset includes some longitudinal data on steel manufacturing (see pp. 130–137).

On the other hand, cross-industry studies sound a different note. Cappelli and Neumark (2001), using a national probability sample of US manufacturing establishments and examining work practices and outcomes in firms in 1977 and then again some 20 years later, conclude that high-involvement work reforms raise labour costs and that this implies that employees benefit through above-average remuneration rises, a picture reinforced by Osterman's (2006) study of the wage impacts of high-performance work organisation in US manufacturers.⁷ However, the statistical case for productivity benefits is weaker and the effects on profitability are unclear. British studies mirror these findings with analysis of the WERS 1998 survey indicating that high-involvement management is associated with a wage premium (Forth and Millward, 2004). While also associated with a productivity benefit in unionised firms, no association is shown with financial performance in either unionised or non-unionised contexts (Bryson *et al.*, 2005). A study of some

3000 small US firms (less than 100 employees) by Sean Way (2002) also calls for caution, indicating that the benefits may not outweigh the costs in small organisations, as does Guthrie's (2001) New Zealand study noted earlier. Logically, however, gains from HIWSs are likely to be greater in the currently tight labour markets that many firms are experiencing and that are forcing them to improve employee retention.

Theoretical foundation

While the strategic HRM literature in its broadest form might have several motivating themes, the most fundamental question in our judgment is whether a firm's HRM system can provide a long-lived source of competitive advantage, or whether it represents an organizational attribute that can easily be replicated by competitors. Indeed "the questions of the day" in the field of competitive strategy is generally "What is the source of competitive advantage within the firm? Recent theoretical work in the field of strategic management by Amit and Shoemaker (1993) develops the concept of *strategic assets* as "the set of difficult to trade and imitate, scarce, appropriable, and specialized *resources* and *capabilities* that bestow the firm's competitive advantage" (p. 36). HPWS represent a source of "invisible assets" (Itami, 1987) that both create value and are difficult to imitate. These systems produce tacit knowledge "which is embodied in individual and organizational practices and cannot be readily articulated" (Spender & Grant, 1996, p. 8) The strategic value of this knowledge is a function of its *appropriateness* for the implementation of strategy at each level of the firm. This implies that the most important aspect of fit is its embeddedness throughout the organization; it then represents an "invisible" capability for

effective strategy implementation. Operationally, this will take the form of similar corporate strategies (e.g., focus, cost leadership, etc.) being reflected in a variety of unit level operating objectives and problems that are substantially influenced by the skills, motivations, and structure of the workforce.

Do we consider a HPWS a "best practice?" Yes and no. Schuler (1992) argued that strategic HRM is comprised of five interlocking activities: HRM philosophies, HR policies, HR programs, HR practices, and HR processes. In Schuler's framework, efforts to develop a high-performance workforce are reflected in a firm's *philosophy* concerning its human resources, which in turn is directly reflected in the architecture of policies, programs, practices, and processes. An HR *philosophy* that takes as its strategic foundation an HRM system that is aligned both internally and externally to successfully implement a firm's strategy is a best practice. The nature of that fit is not. It is in fact very firm specific and idiosyncratic, which is the basis of its inimitability. For example, policies that reward and develop high-performing employees are part of the architecture of a HPWS, and a best practice. The appropriate pay "practice," however, will depend on the behaviors required to implement a specific firm's strategy. Once the requirements of a particular firm's compensation policy have been developed, based on strategic considerations, it may very well be that a "best practice" for such a policy exists. However, the focus is actually at the level of practice, not strategy or philosophy. Firms may benefit by benchmarking against other organizations at this level, but they should not confuse this with the need to develop a firm specific HRM architecture that by its nature is not appropriately imitated. Figure 1 describes our understanding of this

value creation process. While the contracting literature in economics has been applied extensively to executive compensation issues, it has not been widely extended to the broader HRM strategy literature. In part this is because the field of economics has historically not been much concerned with the organization and structure of work within the firm. However, given the crucial role that "embedded alignment" appears to play in successful strategy implementation, the importance of incentives and appraisal (monitoring) and the alignment between those policies and firm strategy is paramount. For example, the contracting literature speaks directly to the challenges of relying on employee empowerment and teams as a method of strategy implementation. Flatter organizational structures with decentralized "decision rights" are a reaction to product markets demands for more timely and consumer friendly responses. Firms understand that individual employees have valuable "local specific knowledge" (Brickley et al., 1997), and indeed many now have no choice but to rely on employees to use that information to successfully implement the firm's strategy. Similarly, MacDuffie (1995) summarized the necessary conditions for an HRM-firm performance relationship as follows:

- a. when employees possess knowledge and skills the managers lack;
- b. when employees are motivated to apply this skill and knowledge through discretionary effort; and
- c. when the firm's business or production strategy can only be achieved when employees contribute such discretionary effort (p. 199).

Organizations that are more successful at eliciting the appropriate use of that information will have a competitive advantage. The contracting and HRM strategy literatures, however,

differ in some important areas. The contracting literature describes employment issues in terms of pre-contracting and post contracting problems. Adverse selection is a precontracting problem in which applicants have unfavorable private information about their abilities that is not shared with a potential employer (Aoki, 1988).

HPWS and Levels of Analysis

There is a considerable literature exploring the relationship between individual HRM policies or practices and various levels of organizational performance. At one end of the continuum is the work in the field of utility analysis, which attempts to isolate the impact of an HRM practice (most often the use of validated selection tests) on individual performance and aggregate those gains to the level of the firm, if not the economy (Boudreau, 1991; Schmidt, Hunter, McKenzie, & Muldrow, 1979). At the other end of the continuum are studies that examine the effect of executive compensation on firm profitability (see Gerhart et al., 1996 for a review). While we might agree that any link between an individual HRM policy and bottom line firm performance is evidence of "strategic impact," in our view the strategic HRM literature necessarily takes a broader view of HRM as an independent variable. Indeed, much of the theoretical work suggesting that HRM can be a source of competitive advantage focuses on the entire HRM system, though not always the *same* HRM system (Becker & Gerhart, 1996). To the extent that a systems view is appropriate, and the choice of HRM policies are correlated, work that focuses on just a limited number of HRM policies would be attributing the effect of the larger HRM system to those individual policies.

The level of analysis is linked closely to the choice of measures to reflect the HRM system. On the one

hand, as described above, the conceptual literature strongly suggests that an interrelated system of practices and policies forms an inimitable capability for strategy implementation. There is broad consensus that such a HPWS would include rigorous recruitment and selection procedures, performance-contingent incentive compensation systems, management development and training activities linked to the needs of the business, and significant commitment to employee involvement (Arthur, 1994; Huselid, 1995; Ichniowski et al., 1997; Jackson & Schuler, 1995; MacDuffie, 1995; Milgrom & Roberts, 1995; Pfeffer, 1994). This suggests that it is theoretically appropriate to focus on a single comprehensive measure of the HRM system. The alternative approach is to rely on empirical methods to measurement development, such as factor analysis. Such an approach assumes that multiple HRM practices and policies may represent more than one distinct dimension of the HRM system, and that to arbitrarily combine multiple dimensions into one measure creates unnecessary reliability problems.

Implementing the New Strategic Role and HPWS

For HR to become a successful strategic partner and to effectively implement the principles of a high performance work system, HR managers must premise that role and the development of the HR system based on its contribution to effective strategy implementation. This new perspective is the most fundamental of the necessary changes in HR capabilities (Becker et al., 1997). Moreover, if HR can achieve this change in competencies, we believe the strategic expectations and acceptance of both the importance of HR and of the HRM function by senior management will follow.

The guiding philosophy that the HRM system is first, and foremost, a vehicle to implement the firm's strategy provides a definitive answer to the question we hear most often from managers: Where do we begin? HR must begin with an understanding of the firm's strategy, as well as the unit objectives and business problems confronting line managers attempting to implement that strategy. The HR manager then develops an HRM system that addresses the "human capital" impediments to the successful accomplishment of those strategic initiatives facing line managers. As noted above, the Balanced Scorecard approach developed by Kaplan and Norton (1996) is a new approach to managing strategy implementation that highlights this very process. It is an especially useful organizing framework for developing a HPWS because it provides a systematic method to describe and measure effective strategy implementation. It also is premised on an appreciation for the central role of intellectual assets, and by implication the HR system, in building sustainable competitive advantage.

Conclusions

Like others, we note the serious difficulties with specifying the independent variable in HPWSs. The term itself gives us no clue as to the pathway through which the desired practices are supposed to work and, as others have noted (e.g. Wood, 1999), assumes what it should demonstrate. The companion notions of HIWSs, stemming from Lawler (1986), and high-commitment employment practices, stemming from Walton (1985), are both more descriptive, more useful in helping us to identify the main thrusts in a particular HR system. They are not, however, equivalent. While a move to higher involvement typically implies higher skill and is more rationally managed with high-commitment

employment practices, the reverse is not always true.

The study of HIWSs is a logical focus because reforms to create smarter working, as a means of responding to more intensive competition in globalised manufacturing industries or as a means of building competitive advantage in services, are of vital interest to practitioners and policy makers in the developed economies (e.g. Bauer, 2004; Lorenz and Valeyre, 2005). As the studies of MacDuffie (1995) and Appelbaum *et al.* (2000) indicate, the competitive response requires change to work systems. These industry-grounded studies provide a clear theoretical rationale for particular practices (in each industry) by starting from the 'O' in the 'AMO' framework. Changes in the opportunities (O) created by work redesign lead logically to implications for the ability (A) and motivation (M) dimensions without the need to appeal to eclectic, decontextualised lists of best practice.

It follows that research on such systems should rest on studies in which the linkages from practices to processes to outcomes within the black box are specified. In terms of HIWSs, Vandenberg *et al.*'s (1999) model, which incorporates PIRK variables (Lawler, 1986), comes closest to this but would be enhanced with the inclusion of measurement of work intensification variables along with less distal measures of performance.

Focusing our definition of the independent variable on high-involvement work and improving our theoretical modelling and practical measurements will help to progress the evaluation debate in this area. The current state of knowledge on HIWSs implies that there are possibilities for win-win outcomes in certain contexts but not without careful management of inherent tensions for both parties. On the worker's side, studies based on the

PIRK framework are very positive about improvements in control and communication, and the picture on wage gains looks positive. However, there remain serious questions around the interaction between involvement and intensification. It would be extremely unwise for anyone to argue that any particular practice, such as teamwork, automatically enhances employee autonomy and leads on to positive levels of trust, satisfaction and commitment.

Beyond the explicit internal and external alignment of the elements of a HPWS, many of the functional recommendations that can be derived from this line of research are entirely consistent with familiar principles of sound HRM, including:

- careful selection and hiring that is consistent with the firm's competitive strategy and operational goals;
- reward systems that reflect the elements of successful strategy implementation in appraisal systems and compensation; and
- development strategies that emphasize training and performance management systems guided by business objectives.

There is more tentative evidence that it is more effective to improve the elements of the HRM system systematically and holistically than to optimize individual elements of the system. For example, in our most recent work we have found that the most effective human capital strategy appears to include both a high-performance HRM system as well as the appropriate supporting "organizational logic"; however, a strategy that focused primarily on the pay-performance linkage has nearly 75% of the effect on firm performance. While we would advise firms to pursue systemic solutions to the human capital elements of their business strategies and operational goals, this finding is

consistent with the central role of pay in prior strategic HR research.

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