# The impact of high-performance work systems on firm performance: The moderating effects of the human resource function's influence

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## Abstract

With data collected from 632 manufacturing firms in South Korea, we investigated (1) the relationship between high-performance work systems (HPWSs) and firm performance, and (2) the moderating effect of the human resource (HR) function's influence on the relationship between HPWSs and firm performance. Our findings showed the existence of both the main effect of HPWSs, supporting the universalistic perspective, and the moderating effect of the HR function's influence, supporting the contingency perspective. Based on the findings, we concluded that HPWSs can be regarded as universal or best practices; at the same time, the presence of an influential HR function may intensify the effect of HPWSs on firm performance. This study contributes to the debate over the respectives are not necessarily incompatible; rather, they can be complementary.

Keywords: high-performance work systems, the influence of the HR function, strategic human resource management

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# INTRODUCTION

Relying largely upon the resource-based view of the firm (e.g., Barney, 1991), many studies have argued that high-performance work systems (HPWSs) improve firm performance significantly, as they leverage human capital through the acquisition, development, and motivation of the best talent (e.g., Kehoe & Wright, 2013; Piening, Baluch, & Salge, 2013; Posthuma, Campion, Masimova, & Campion, 2013; Nyberg, Moliterno, Hale, & Lepak, 2014). A growing body of evidence indicates that firms using HPWSs have better operational and financial performance (e.g., Bowen & Ostroff, 2004; Combs, Liu, Hall, & Ketchen, 2006; Sun, Aryee, & Law, 2007; Subramony, 2009). Recent studies have also found diverse mediation mechanisms in this relationship, that is, HPWSs improve firm performance through enhanced job satisfaction, commitment, psychological empowerment, work motivation, social exchange, and social climate as well as reduced turnover and absenteeism (e.g., Macky & Boxall, 2007; Takeuchi, Lepak, Wang, & Takeuchi, 2007; Messersmith, Pankaj, Lepak, & Gould-Williams, 2011; Jiang, Hu, & Baer, 2012).

While promising results are accumulating, studies have called for further investigation to enrich their theoretical explanations and buttress their empirical findings (Becker & Gerhart, 1996; Khilji &

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Wang, 2006). Indeed, several studies found either no relationship or a negative relationship between HPWSs and firm performance (Cappelli & Neumark, 2001; Godard, 2001; Guest, Michie, Conway, & Sheehan, 2003; Wright, Gardner, Moynihan, & Allen, 2005). Other studies have highlighted the need to address the contextual conditions (e.g., strategy, technology, leadership philosophy, organizational culture, unionization, and the human resource [HR] power) moderating the efficacy of HPWSs (e.g., Boyer, Leong, Ward, & Krajewski, 1997; Welbourne, 2005; Sheehan, Cooper, Holland, & De Ceri, 2007; Boxall, 2012).

This study conceptualizes the influence of the HR function as a critical moderator in the HPWS-performance link, which has attracted much less attention than have other contextual factors, despite its importance, and has been explored mainly through two separate constructs: the HR function's strategic involvement (Golden & Ramanujam, 1985; Wright, McMahan, McCormick, & Sherman, 1998; Teo & Rodwell, 2003) and power (Welbourne & Andrews, 1996; Galang & Ferris, 1997; Chung & Kang, 2013). We argue that influence is a more appropriate construct than power for the HR function, which is rarely in a position to impose sanctions on other organizational members (Ulrich & Brockbank, 2005; Morris & Snell, 2011), and that strategic involvement is a necessary but not sufficient condition for having a say in decision making or influence over others' behaviors (Rifkin, 2003; Cornwall & Brock, 2005). Given the inevitable struggles among stakeholders within organizations (March, 1962; Novicevic & Harvey, 2001), we argue that the impact of HPWSs on firm performance is conditioned by the strength of the HR function's influence.

This study addresses two important theoretical and empirical questions in the strategic human resource management (SHRM) literature: (1) Do HPWSs positively affect firm performance? (2) Does the influence of the HR function's influence moderate the relationship between HPWSs and firm performance? Investigating these two questions is critical to a deeper understanding of the linkage between HPWSs and firm performance. On one hand, such an investigation could provide empirical evidence of whether HPWSs are positively associated with firm performance. On the other, it would also add value to the literature by conceptualizing and testing the HR function's influence as a critical moderator in the HPWS–performance linkage. Investigating this construct is also intriguing because it leads us to the long-standing debate over the respective merits of the universalistic and contingency perspectives (Dyer & Reeves, 1995; Boxall & Purcell, 2000; Martin-Alcazar, Romero-Fernandez, & Sanchez-Gardey, 2005; Guest, 2011). We argue that the two perspectives are neither antithetical nor mutually exclusive and that support for one perspective over another is ultimately an empirical issue, as discussed later.

This study is organized in four sections. The first section reviews theoretical and empirical studies on the relationship between HPWSs and firm performance while shedding light on the importance of the HR function's influence as a moderator in this relationship; it then clarifies our position on the universalistic and contingency perspective debate. Next section presents an empirical test of the hypotheses using data collected from firms in South Korea. The penultimate section discusses the interpretation of the main results, the implications of the findings, and future lines of research stemming from this study. The final section summarizes the conclusions.

### THEORETICAL BACKGROUND AND HYPOTHESES

### The impact of HPWSs on firm performance

There is no universally agreed-upon definition of the term HPWS owing to differences regarding the theoretical, empirical, and practical approaches adopted by different researchers (Boxall & Macky, 2009). Nonetheless, an HPWS can be broadly described as a group of separate but interconnected HR practices designed to enhance employees' skills and effort (Datta, Guthrie, & Wright, 2005;

Takeuchi et al., 2007). The term has been used interchangeably with various related terms, such as high-commitment work systems (e.g., Arthur, 1994; Whitener, 2001) and high-involvement work systems (e.g., Edwards & Wright, 2001; Wood, Van Veldhoven, Croon, & de Menezes, 2012). The HR practices usually comprising HPWSs include incentive compensation, extensive staffing, intensive training and development, flexible job design, and employee participation (e.g., Pfeffer, 1994; Delery & Doty, 1996; Appelbaum, Bailey, Berg, & Kalleberg, 2000).

The HPWS notion originated in the United States and gained traction in the discussion of the decline of US manufacturing competitiveness. A key stimulus for this concern was the rise of Japanese 'lean production' systems in the 1970s and 1980s, including techniques such as quality circles, just-intime, and team-based work designs, which helped improve quality, cost, flexibility, and delivery (Ouchi, 1981; Womack, Jones, & Roos, 1990). This discussion has recently been revived by the rise of 'offshoring' to low-cost producers such as China and India. The need to reform US mass production systems, perceived to have provided employees with little responsibility, discretion, incentives, or opportunity to improve their skills, has been emphasized in leading studies on various manufacturing industries (MacDuffie, 1995; Appelbaum et al., 2000; Boxall, 2012).

Reflecting this concern, a large body of research, generally falling under the banners of SHRM, has been conducted on the degree to which HR systems can contribute to firm performance (e.g., Richard & Johnson, 2001; Liao, Toya, Lepak, & Hong, 2009; Chi & Lin, 2010). This SHRM research has focused on finding a positive relationship between HR practices and firm performance, relying heavily on the resource-based view of the firm. The resource-based view argues that inimitable resources such as HR can provide firms with a sustained competitive advantage because they are often unique, causally ambiguous, difficult to imitate, and systematically organized throughout the firm (Barney, 1991; Barney & Wright, 1998). This view dominates our conceptual thinking about SHRM and performance, as demonstrated by the burgeoning interest in human capital (e.g., Wright, Dunford, & Snell, 2001; Guest, 2011; Shaw, Park, & Kim, 2013; Nyberg et al., 2014).

The recent integration of social exchange theory (e.g., Blau, 1964; Takeuchi et al., 2007) into SHRM research has also helped unlock the 'black box' in the link between HPWSs and firm performance. Central to this perspective is the norm of reciprocity between employer and employees: HPWSs offer employees inducements such as job security and training/career development opportunities, while employees reciprocate through greater commitment and motivation. In this way, HPWSs align employee goals with organizational goals and values while increasing discretionary efforts (Liao et al., 2009; Jiang, Hu, & Baer, 2012; Kehoe & Wright, 2013; Posthuma et al., 2013).

Accumulating evidence suggests that HPWSs positively affect firm performance through their positive impact on employees' skills, discretionary efforts, and commitment (Wall & Wood, 2005; Liao et al., 2009; Kehoe & Wright, 2013). Recent meta-analytic studies (Combs et al., 2006; Subramony, 2009; Jiang, Hu, & Baer, 2012) strongly support the argument that HPWSs are positively associated with diverse firm performance measures such as productivity and profitability. This positive relationship has also been found in studies conducted in South Korea (e.g., Bae & Sa, 2003; Kim & Cho, 2008; Kwon, Jeong, & Bae, 2010). We therefore propose the following hypothesis:

Hypothesis 1: There is a positive relationship between HPWSs and firm performance.

From a more macro perspective, SHRM researchers have also endeavored to uncover mechanisms through which HPWSs can contribute to firm performance, and have proposed three theoretical perspectives: universalistic, contingency, and configurational (e.g., Delery & Doty, 1996; Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009). The universalistic perspective argues that some HR practices are 'universally' better than others, and that all firms are thus better off if they adopt these 'best practices' (or 'high-performance work practices'). The contingency perspective argues that the efficacy of HPWSs depends on the 'fit' between the HR practices and other aspects of the firm



(particularly strategy) because different business strategies require different sets of employee attitudes and skills (e.g., Youndt, Snell, Dean, & Lepak, 1996; Bowen & Ostroff, 2004). Finally, the configurational perspective argues that 'bundles' of specific HR practices, rather than individual HR practices, improve firm performance because they generate 'synergy' effects in which certain practices reinforce one another to improve organizational efficiency and effectiveness. This shifts attention from the concept of 'universality' or 'external fit' to that of an 'internal fit' among HR practices (e.g., Ichniowski, Shaw, & Prennushi, 1997; Buller & McEvoy, 2012). Among these perspectives, the contingency perspective is particularly intriguing, as it leads us to the issue of contextual conditions as moderators in the HPWS–performance link. We discuss this issue in the following section.

#### The HR function's influence as moderator

Guided by the contingency perspective, a number of researchers have highlighted the need to discuss the contextual conditions moderating HPWS efficacy. Dyer and Reeves (1995) argue, for example, that consistent evidence of a linkage between HPWSs and firm performance may have been found, despite the many approaches to measuring the constellation of HR practices, because other organizational variables impact the relationship. The contextual conditions hypothesized to moderate the efficacy of HPWSs include strategy, industry characteristics, technology, leadership philosophy, organizational/national culture, unionization, and HR power (e.g., Boyer et al., 1997; Welbourne, 2005; Sheehan et al., 2007; Boxall, 2012).

This study focuses on the influence of the HR function, which has received much less attention than other contextual factors in the literature despite its importance. Previous studies have explored this contextual factor mainly through two separate constructs: the HR function's strategic involvement (Golden & Ramanujam, 1985; Wright et al., 1998; Teo & Rodwell, 2003) and its power (Welbourne & Andrews, 1996; Galang & Ferris, 1997; Chung & Kang, 2013). We believe that we can synthesize these into a more integrative construct: the HR function's influence.

The term 'influence' is often used interchangeably with 'power,' which is commonly defined as the ability of a person (or group) to impose his/her will upon others despite resistance (Weber, 1922/1978). It is the threat of sanctions that differentiates power from influence: power is associated with the threat of sanctions for noncompliance, whereas influence does not interfere with others' freedom (Dahl & Steinbrickner, 2003; Simpson, Farrell, Orina, & Rothman, 2014). The exercise of influence occurs mainly through persuasion, information, and advice (Mokken & Stokman, 1976). The HR function as a staff unit is rarely in a position to impose sanctions on other organizational members (or groups) (Ulrich & Brockbank, 2005; Kim & Kang, 2011; Morris & Snell, 2011), and thus influence seems to be a more appropriate construct than power in this context. On the other hand, the most important source of influence is a strategic location in the communication and information networks others use in the determination of their behavior (Mokken & Stokman, 1976), and thus strategic involvement could be considered a prerequisite of influence. If not strategically involved in the process of formulating and implementing HPWSs, the HR function lacks the opportunity to influence the behaviors of others within those systems (Golden & Ramanujam, 1985; Teo & Rodwell, 2003). Strategic involvement is not a sufficient condition, however, for having a say in decision making or influence over others' behaviors, that is, without genuine empowerment, strategic involvement can quickly become a token exercise or remain an empty, unfulfilled promise (Rifkin, 2003; Cornwall & Brock, 2005). This study therefore synthesizes the two constructs of the HR function's power and strategic involvement into the HR function's influence, that is, its ability to be effectively integrated into the strategic management process as a strategic partner, achieve organizational consensus, and develop conditions conducive to innovative practices and the achievement of organizational goals (McGourty, Lemuel, & Dominck, 1996).

Although firms can pursue a multitude of strategies, each strategic orientation requires unique attitudes and role behaviors for superior performance. HR activities are the primary means used to elicit and reinforce the kinds of employee behaviors a firm requires (Jackson, Schuler, & Rivero, 1989; Youndt et al., 1996; Delery & Shaw, 2001). Thus, researchers have emphasized the importance of the integration between human resource management (HRM) and strategy (Martell & Carroll, 1995; Wright et al., 1998; Rose & Kumar, 2006; Lepak, Taylor, Tekleab, Marrone, & Cohen, 2007). It must be emphasized, however, that neither a fit between HRM and firm strategy nor the mere presence of HPWSs secures stronger firm performance (Becker & Huselid, 2006; Guest & Bryson, 2009). Effective policy design can impact employee behavior, but it may be useless if it is not properly implemented or if the HR function fails to create a shared understanding of its added value throughout the firm (Khilji & Wang, 2006; Nishii, Lepak, & Schneider, 2008; Raes, Heijltjes, Glunk, & Roe, 2011).

To achieve an organization-wide commitment to and shared understanding of the value of HPWSs, messages about HPWSs must come from top management – those who hold the formal power base of the organizational function (Collins & Clark, 2003; Raes et al., 2011). Successful HPWS implementation also requires line managers' active participation and cooperation, as they actually implement HR practices and thus have a more direct impact on their subordinates' motivation, commitment, and discretionary behavior (Andersen, Cooper, & Zhu, 2007; Bos-Nehles, 2010). The knowledge and skills required to implement strategies often reside in nonmanagerial employees (Grant, 1996; Guthrie, 2001), and employees' perceptions of the rationales behind HPWSs are important in steering their responses to the systems (Nishii, Lepak, & Schneider, 2008). Thus, employees' acceptance of and commitment to an HPWS are also indispensable for its successful implementation (Mossholder, Hettie, Richardson, & Settoon, 2011; Den Hartog, Boon, Verburg, & Croon, 2013).

However, the organizational context is characterized by diversity, competing interests, and scarce resources. Organizational members do not remain passive. Instead, they are actively engaged in the intraorganizational competition for the opportunity to influence critical decision making in pursuit of their own interests and preferences (March, 1962; Novicevic & Harvey, 2001). As such, the resource-based view promise of a rational commitment to the maximization of HR as a source of competitive advantage cannot be easily realized (Sheehan et al., 2007). Given the inevitable struggles among stakeholders within organizations, the HR function must be influential enough to create the necessary shared understanding of its added value. Nevertheless, the HR function often lacks the authority and influence to ensure that HPWSs are effectively utilized (Galang & Ferris, 1997; Morris & Snell, 2011; Chung & Kang, 2013). This generates a vicious circle: if strategic decision makers perceive that the HR function does not contribute to firm performance (and is therefore neither important nor effective), they will fail to include HR executives in strategic decision making; then, as HR executives have no input in firm strategy, they will likely be unable to contribute maximally to firm performance. The self-perpetuating cycle of powerlessness illustrates how the inability of the HR function to contribute to organizational success stems from its lack of authority, which in turn only reinforces the withholding of authority from the HR function (Galang & Ferris, 1997; Lawler & Mohrman, 2003; Sheehan et al., 2007).

In short, an HPWS is an interdependent set of human-capital-enhancing HR practices that requires an agent to synthetically design and implement it. The HR function is the agent that designs and implements HPWSs and ultimately impacts employee behaviors through its generic tasks such as selection, staffing, development, training, and rewards. In this way, the HR function plays the role of linking mechanism between HPWSs and firm performance. However, the HR function is unable to ensure that HPWSs are effectively implemented and utilized as a cohesive, consistent system, unless it is actively involved in the strategic management process with strong influence over the behaviors of other organizational members. Given the inevitable struggles among stakeholders within organizations,



the impact of HPWSs on firm performance is conditioned by the strength of the HR function's influence.

In fact, several studies have shown that the HR function's power and strategic involvement have a significant impact on HPWS implementation (Kossek, 1987; Frost & Egri, 1991; Ferris, Galang, Thornton, & Wayne, 1995), and that HR power plays a significant role in determining the success of HPWSs (Wolfe, 1995; Chung & Kang, 2013). Research has also found that greater involvement of the HR function in the strategic management process is strongly related to perceptions of HR effectiveness and firm performance (Wright et al., 1998; Edelman, Brush, & Manolova, 2005). Nikandrou and Papalexandris (2007) also found that successful companies had increased HR involvement in their strategic decisions, formalized HR practices, built organizational capability through training and development, and devolved HR activities to line managers. Therefore, we propose the following hypothesis:

Hypothesis 2: The influence of the HR function moderates the relationship between HPWSs and firm performance such that the relationship is stronger when the HR function has a higher level of influence.

### The debate between the universalistic and contingency perspectives

As Boxall and Purcell (2000: 186) note, most SHRM research engages in the debate over the respective merits of the universalistic and contingency perspectives. Guest (2011: 7) argues that this debate would have been settled long ago in favor of the contingency perspective because of its strong logic, but the available empirical evidence appears to favor the universalistic perspective (e.g., Dyer & Reeves, 1995; Combs et al., 2006; Rose & Kumar, 2006; Clinton & Guest, 2013). Martin-Alcazar, Romero-Fernandez, and Sanchez-Gardey (2005) also argue that the application of a rigorous deductive logic in research leads proponents of the universalistic perspective to a comparatively superior level of statistical strength in the testing of their hypotheses but also to a lack of consideration of crucial variables, constructs, and relationships; on the other hand, the contingency approach does not match the statistical strength of the universalistic approach, as it uses more sophisticated empirical techniques, but its arguments build a theoretical body more solid than are the universalistic foundations. In this regard, Clinton and Guest recently note that, 'despite extensive research, we seem no closer to argument about which approach is best able to explain the impact of HRM' (2013: 529).

In this debate, we support the view proposed by a number of researchers (Youndt et al., 1996; Boxall & Purcell, 2000; Martin-Alcazar, Romero-Fernandez, & Sanchez-Gardey, 2005) and assume that the universalistic and contingency perspectives can be complementary although they appear to be competing. The universalistic perspective implies a direct relationship between HPWSs and firm performance, while the contingency perspective posits that an organization's contextual conditions either augment or diminish the impact of HPWSs on performance. Analytically, this distinction can be operationally defined as a main effect for the universalistic perspective and as interaction (or moderation) effects for the contingency perspective. The value of the universalistic perspective lies in its demonstration of the strategic importance of HPWSs, whereas the contingency perspective complements the universalistic perspective by introducing contextual relationships. The main assumptions of the perspectives are thus neither antithetical nor mutually exclusive, and support for one perspective over another is ultimately an empirical issue.

Empirically, a main effect alone can be found without an interaction effect, supporting the universalistic perspective (e.g., Huselid, 1995; Sheehan et al., 2007; Clinton & Guest, 2013). On the other hand, both of these effects can exist simultaneously, supporting both the universalistic and contingency perspectives (e.g., Delery & Doty, 1996; Kinnie, Hutchinson, Purcell, Rayton, & Swart, 2005; Purcell, Kinnie, Swart, Rayton, & Hutchinson, 2009). In such a situation, the strength of support for each perspective depends on the extent of each effect. Furthermore, a main effect may be predominantly a function of an interaction effect; the analysis would then support the contingency perspective (e.g., Youndt et al., 1996; Guthrie, Spell, & Nyamori, 2002).

## **METHODS**

### Research setting and sample

This study used data from the Workplace Panel Survey (WPS) collected by the Korea Labor Institute. The WPS has been conducted every 2 years since 2005 to gather information about the HR and labor relations practices of South Korean firms. The WPS questionnaire contains questions regarding a firm's HR and labor relations practices as well as factual data such as the number of employees, sales revenue, and assets of the firm. The WPS has been administered to a stratified sample of firms selected from among those with more than 30 employees. Of the available WPS data sets, we chose to use the most recent one, collected in 2011.

Of the 632 manufacturing firms that participated in the 2011 survey, 569 had all their performance data and were thus included in the sample. We conducted a logistic regression to check for potential bias resulting from our exclusion of firms missing performance data. A dependent variable was coded 1 if a firm was included in the sample and 0 if it was not. The independent variables in this regression included those commonly identified as characterizing a firm: firm type, firm age, firm size, presence of a union, and capital intensity. None of these variables was significant, indicating that the difference between the firms in the sample and those excluded from it was not significant.

### Measures

### **HPWS**

Based on our literature review, we created the measure of HPWSs by selecting relevant items from those included in the WPS. The HPWS measure used in this study was a composite of four items frequently used by previous studies (Arthur, 1994; Huselid, 1995; Guthrie, Spell, & Nyamori, 2002): emphasis on loyalty and commitment, use of internal promotions with long-term employment relationships, use of teams, and use of training focused on employee development. Sample items included 'the company uses internal promotion to maintain long-term employment relationships with the employees' and 'the company provides extensive training programs for the employees.' An HR manager from each participating firm was asked to respond to the items, and all items were measured with 5-point Likert scales ranging from 'strongly disagree' to 'strongly agree.' The inter-item reliability estimate (Cronbach's  $\alpha$ ) of the HPWS measure was 0.64, slightly lower than the conventional criterion of 0.70 (Nunnally, 1978). The HPWS measure's relatively low Cronbach's  $\alpha$  level may be a function of its small number of items. Nonetheless, as suggested by researchers, the measure may be acceptable given that the study is exploratory in nature and the items are grounded in the literature (Cortina, 1993; Bernardi, 1994; Hair, Tatham, Anderson, & Black, 2006). Furthermore, according to Van de Ven and Ferry (1980), a measure with a Cronbach's  $\alpha$  value above 0.60 can be considered acceptable when the unit of analysis is an organization. Thus, we decided to use the HPWS measure but to interpret the results with caution.

## Influence of the HR function

Based on our literature review (Truss, Gratton, Hailey, Stiles, & Zaleska, 2002; Hailey, Farndale, & Truss, 2005; Kim & Kang, 2011), we selected relevant items contained in the WPS to construct the



measure of the influence of the HR function. The measure consisted of four items: 'the HR department makes a significant contribution to corporate strategy planning,' 'the HR department is regarded as a strategic partner,' 'HR issues are integrated with the corporate strategy,' and 'the HR department successfully supports the achievement of strategic goals.' An HR manager from each participating firm was asked to respond to the items along a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree.' The Cronbach's  $\alpha$  of the measure was 0.846.

### Firm performance

Following previous researchers' suggestions (Venkatraman & Ramanujam, 1986; Dyer & Reeves, 1995), we assessed firm performance in terms of the following two aspects: operational (i.e., nonfinancial) performance and financial performance. First, we created a measure of operational performance from the items contained in the WPS. The measure was relative in the sense that the questions asked respondents to assess operational performance relative to the performance of competitors in the same industry. Specifically, HR managers were asked to evaluate their respective firm's competitive advantages over other firms in the same industry in the following areas: labor productivity, product quality, employee-initiated innovation, and product improvement. All the items were measured with 5-point Likert scales ranging from 'not competitive at all' to 'highly competitive.' The inter-item reliability estimate (Cronbach's  $\alpha$ ) of the measure was 0.749. Second, we assessed firms' financial performance with sales revenue per employee (sales revenue divided by the number of employees in 2011). In HR research, sales revenue per employee is considered to represent the extent to which a firm's workforce is efficiently creating output and has often been used to compare a firm's performance with that of others (Cappelli & Neumark, 2001; Datta, Guthrie, & Wright, 2005).

## **Control** variables

Our analyses included several control variables commonly considered to affect a firm's operational and financial performance. First, we controlled for the possible effects of firm type using a dummy created for two types of firms – private-owned businesses and corporations. Firm age (i.e., the number of operational years) was included to control for any effects related to the length of business operation (Huselid, 1995). Firm size, measured as the number of employees, and capital intensity, measured as total assets divided by the sales of each firm, were included to control for any advantages related to economy of scale (Jackson & Schuler, 1995; Guthrie, 2001; Datta, Guthrie, & Wright, 2005; Wright et al., 2005). The presence of a labor union was also controlled for because unions may affect financial performance (Freeman & Medoff, 1984; Guthrie, 2001). In addition, we controlled for the potential effects of market conditions by including the severity of market competition and customer demand for the products as control variables. Each of these two control variables was measured by asking respondents to answer the following questions about competition and customer demand, respectively: 'How severe is the competition in the domestic market for your main products?' and 'Have the demands for your major products been increasing?'

## Test of the measurement model

To empirically validate the measurement model of this study, we performed confirmatory factor analysis. Each multi-item measure (i.e., HPWS, influence of the HR function, operational performance) was specified as one dimensional with the appropriate items loading only on their respective constructs (factors), and all constructs were specified in a single measurement model. Although the  $\chi^2$  value was significant ( $\chi^2/df = 2.724$ , p < .05), the values of all other fit indices (CFI = 0.958, NFI = 0.935, TLI = 0.944, RMSEA = 0.052, SRMR = 0.054) were all within the

recommended ranges suggested by the literature (Kline, 2005). Thus, we concluded that the measurement model of this study had an adequate model fit.

### RESULTS

Table 1 shows the means, standard deviations, and correlation matrix for all variables. As predicted by the hypothesis, the correlations between HPWS and both operational and financial performance were positive, providing preliminary support for the hypotheses.

To test our hypotheses, we conducted multiple regression analyses with operational performance and sales revenue per employee as outcome variables. The procedure for each of the two outcome variables was the same. In step 1, the control variables (e.g., firm type, firm size) were entered as a set. In step 2, the influence of the HR function was entered in order to control for the effects it may have on HPWS, firm performance, or the relationship between the two. In step 3, HPWS was entered to examine its main effect on firm performance. A significant effect in this step would provide support for Hypothesis 1. In step 4, the interaction term obtained by multiplying the influence of the HR function by HPWS was included. A significant effect in this step would indicate the existence of the moderating effect of the HR function's influence, thereby supporting Hypothesis 2. To avoid multicollinearity issues, we used the centering procedure for regression analysis employing interaction terms (Aiken & West, 1991).

Table 2 presents the results of the hierarchical multiple regression analyses. With the characteristics potentially affecting a firm's performance (firm type, firm age, firm size, capital intensity, unionization, competition, and demands) and the influence of the HR function controlled, HPWS had a significant main effect on operational performance (B = 0.128, p < .01) and on sales revenue per employee (B = 0.183, p < .05). The findings provide support for Hypothesis 1. Other things being equal, HPWSs are effective in improving operational and financial performance.

We introduced the interaction terms into the regression models to investigate the moderating effect of the HR function's influence on the HPWS-firm performance relationship. As reported in Table 2, the interaction between HPWS and the HR function's influence was significant in predicting operational performance (B = 0.137, p < .01). To support Hypothesis 2, the form of the interaction needed to conform to the hypothesized pattern. Following conventional procedures, we plotted simple slopes at 1 SD above and below the mean of the moderator (see Figure 1). Consistent with Hypothesis 2, the slope of the relationship between HPWS and operational performance was positive when the influence of the HR function was higher (simple slope = 0.213, t = 4.907, p < .01), while their relationship was weaker and insignificant when the influence of the HR function was lower (simple slope = 0.030, t = 0.656, p = .512).

The findings show that HPWS had a significant main effect on firm performance (both operational and financial), thereby providing support for Hypothesis 1. In addition, the influence of the HR function had a significant moderating effect on the HPWS–operational performance relationship. Specifically, the relationship was stronger when the function was highly influential. Thus, Hypothesis 2 was also supported.

### DISCUSSION

### Overview and implications of findings

As discussed, much conceptual and empirical research has been conducted on the linkage between HPWSs and firm performance, broadening our knowledge about the role of HR practices in organizations. While some studies have demonstrated a positive relationship between HPWSs and firm



Variables	М	SD	1	2	3	4	5	6	7	8	9	10
1. Firm type <sup>a</sup>	0.956	0.205										
2. Firm age <sup>b</sup>	3.053	0.618	0.057									
3. Firm size <sup>b</sup>	5.071	1.106	0.137**	0.358**								
4. Capital intensity <sup>b</sup>	-0.134	0.666	0.092*	0.263**	0.096*							
5. Unionization <sup>c</sup>	0.346	0.476	0.066	0.379**	0.559**	0.102*						
6. Competition	3.907	0.827	0.049	0.068	0.039	0.034	0.024					
7. Demands	3.130	0.902	0.050	-0.135**	0.030	-0.079 <sup>†</sup>	-0.105*	-0.088*				
8. HPWS	3.438	0.611	0.024	0.097*	0.210**	0.019	0.112**	-0.027	0.101*			
9. Influence of the HR function	3.493	0.667	0.088*	0.184**	0.329**	0.063	0.174**	0.153**	0.064	0.241**		
10. Operational performance	3.413	0.487	0.081 <sup>†</sup>	0.014	0.114**	-0.007	0.087*	0.006	0.078 <sup>†</sup>	0.202**	0.177**	
11. Sales revenue per employee <sup>b</sup>	6.319	1.268	0.124**	0.272**	0.440**	-0.052	0.402**	0.052	-0.032	0.182**	0.206**	0.172**

TABLE 1. DESCRIPTIVE STATISTICS AND ZERO-ORDER CORRELATIONS

Note. N = 569.

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 $^{a}1 = corporations, 0 = private-owned businesses.$ 

<sup>b</sup>Log transformed.

 $^{c}1$  = unionized, 0 = not unionized.

HPWS = high-performance work system; HR = human resources.

†*p* < .10; \**p* < .05; \*\**p* < .01.



		Operational	performance		Financial performance (sales revenue per employee)				
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
Firm type Firm age Firm size Capital intensity Unionization Competition Demands Influence of the HR function HPWS × influence of the HR function	0.153 (0.100) -0.021 (0.037) 0.037 (0.023) -0.010 (0.032) 0.056 (0.053) 0.004 (0.025) 0.040 (0.023) <sup>+</sup>	0.141 (0.100) -0.031 (0.037) 0.016 (0.023) -0.011 (0.031) 0.060 (0.053) -0.009 (0.025) 0.034 (0.023) 0.114 (0.032)**	0.147 (0.098) -0.035 (0.037) 0.007 (0.023) -0.011 (0.031) 0.059 (0.052) -0.003 (0.025) 0.026 (0.023) 0.091 (0.033)** 0.128 (0.034)**	0.182 (0.098) <sup>†</sup> -0.038 (0.037) 0.004 (0.023) -0.005 (0.031) 0.062 (0.052) -0.007 (0.024) 0.026 (0.023) 0.105 (0.033)** 0.122 (0.034)**	0.474 (0.228)* 0.249 (0.085)** 0.327 (0.052)** -0.270 (0.072)** 0.542 (0.121)** 0.042 (0.056) -0.022 (0.052)	0.461 (0.228)* 0.239 (0.085)** 0.306 (0.054)** -0.271 (0.072)** 0.546 (0.121)** 0.028 (0.057) -0.029 (0.052) 0.118 (0.074)	0.470 (0.227)* 0.233 (0.085)** 0.292 (0.054)** -0.271 (0.072)** 0.545 (0.120)** 0.036 (0.057) -0.039 (0.052) 0.085 (0.075) 0.183 (0.079)*	0.487 (0.229) 0.232 (0.085) 0.291 (0.054) -0.268 (0.072) 0.546 (0.120) 0.034 (0.057) -0.040 (0.052) 0.092 (0.076) 0.180 (0.079) 0.065 (0.102)	
$R^{2} = \frac{\Delta R^{2}}{F \text{ for } \Delta R^{2}}$	0.025	0.046 0.021 12.301**	0.069 0.024 14.124**	0.085 0.016 9.742**	0.259	0.263 0.003 2.506	0.270 0.007 5.406*	0.270 0.001 0.409	
	2 0524								
Overall F Note. N = 569. Unstandardiz <sup>+</sup> p < .10; *p < .05; **p < .01.	2.053* ed regression co	3.370** efficients are prese	4.635** ented. Standard er	5.211** rors in parenthese	28.066** s.	24.937**	22.941**	2.666**	
Note. N = 569. Unstandardiz						24.937**	22.941**	2.666**	
Note. N = 569. Unstandardiz						24.937**	22.941**	2.666**	
Note. N = 569. Unstandardiz						24.937**	22.941**	2.666**	
Note. N = 569. Unstandardiz						24.937**	22.941**	2.666**	

TABLE 2.	FIRM	PERFORMANCE	REGRESSED	ON HPWS	AND TH	HE INFLUENCE	OF THE HR FUNCTION
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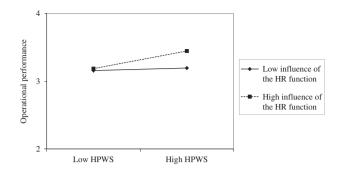


FIGURE 1. THE INTERACTION BETWEEN HPWS AND THE INFLUENCE OF THE HR FUNCTION

performance (Combs et al., 2006; Sun, Aryee, & Law, 2007; Subramony, 2009), others have reported either no relationship or even a negative relationship (e.g., Cappelli & Neumark, 2001; Godard, 2001; Guest et al., 2003; Wright et al., 2005). The conflicting findings may be partly due to the potential effect of contextual factors on the relationship between HPWSs and firm performance. In this study, we examined the impact of HPWSs on firm performance as well as the effect of the HR function's influence in the HPWS–performance linkage as a contextual factor. Given that other organizational members (or groups) have their own interests that may conflict with the HR function (March, 1962; Novicevic & Harvey, 2001), the HR function should be influential enough as a strategic partner to achieve a shared understanding of the value of HRM throughout the organization; this is indispensable for the efficacy of HPWSs.

Our investigation of these hypotheses engages in the debate over the respective merits of the universalistic and contingency perspectives. As stated at the outset, they are neither antithetical nor mutually exclusive; it is analytically feasible to have both main effects supporting the universalistic perspective and moderating effects supporting the contingency perspective. Indeed, our analysis did find both the main effect of HPWSs on firm performance (both operational and financial) and the moderating effect of the HR function's influence on the HPWS–firm performance (operational performance) relationship. No moderating effect was found for financial performance, but the link between HRM and financial performance tends to be loose in HR research. This may occur because stakeholders are likely to appropriate potential profits generated by the HR function and practices before potential profits translate into actual profits, whereas operational performance is closer to the actual value generated by the HR function and practice and is thus harder for stakeholders to appropriate (Coff, 1997; Crook, Todd, Combs, Woehr, & Ketchen, 2011).

Accordingly, it would be appropriate to conclude from our study that HPWSs are 'universally' beneficial to firms while the presence of an influential HR function intensifies the effect of HPWSs on firm performance. The findings support the idea that the universalistic and contingency perspectives are not necessarily incompatible; rather, they can be complementary. Our findings are also in line with those of earlier empirical studies that provided support for the positive relationship between the HR function's power and strategic involvement and the efficacy of HPWSs (e.g., Wright et al., 1998; Welbourne & Cyr, 1999; Edelman, Brush, & Manolova, 2005; Nikandrou & Papalexandris, 2007; Chung & Kang, 2013).

Since the Asian financial crisis of the late 1990s, South Korean firms have increasingly adopted HPWSs to not only improve their performance but also gain legitimacy from internal and external stakeholders (e.g., Bae & Lawler, 2000; Rowley & Bae, 2004). On the other hand, HR functions in Korean firms remain largely administrative and thus have only limited influence (Kim & Kang, 2011;

Kim & Ryu, 2011). In fact, the HR function in the firms of many other Asian nations also has a relatively low status (Long, Ismail, & Amin, 2013). This tendency is problematic because, according to the findings of this study, a firm's efforts for HPWSs can be more beneficial when they accompany a highly influential HR function.

#### What is to be done?

Studies of SHRM have long suggested that the HR function should play a more proactive and strategic role (Brockbank, 1999; Lawler & Mohrman, 2003; Ulrich & Brockbank, 2005; Lengnick-Hall et al., 2009). They have prescribed the characteristics an HR function requires to become more effective in contemporary organizations. For example, Brockbank (1999) suggested that the activities performed by a strategic HR function must be long term, comprehensive, planned, and aligned with business strategies. Ulrich and Brockbank (2005) suggested that an HR function should act as a strategic partner and change agent. Lawler and Mohrman (2003) argued that, to become strategic, an HR function must highlight the knowledge and competency aspects of corporate strategy and actively participate in its development and implementation.

However, HR functions in most organizations are still cast in the position of influencing without authority and in demonstrating effectiveness without the benefit of objective criterion measures (Ulrich & Brockbank, 2005; Morris & Snell, 2011), although there is evidence of the emerging importance of HR and the increasing involvement of HR functions in firm strategy (Brockbank, 1999; Kim & Kang, 2011). The question is, then, how HR functions can gain influence in the organization, breaking the self-perpetuating cycle of powerlessness.

As social influence theory (Tedeschi & Melburg, 1984; Morrison & Bies, 1991) argues, influence in an organization is largely a function of how effectively an organizational actor creates and manages his/her image. Organizational actors influence definitions of 'reality' through the use of language and symbolic actions, and it is on the basis of this constructed reality, rather than the objective or materially concrete reality, that organizational members act. Without objective characteristics, the HR function needs to actively engage in various impression management behaviors to create and maintain the perception that HRM is a critical and strategic concern of the organization, because it deals with the organization's primary asset (i.e., HR) and presents problems to which the organization must attend. Symbolic actions also serve to influence interpretive frames, which include not only the use of norms and values to evaluate the effectiveness of the HR function but also information about one's capability to cope with these concerns (Galang & Ferris, 1997; Bowen & Ostroff, 2004; Mossholder et al., 2011).

Symbolic actions require the HR function's effective and consistent communication and information sharing with other organizational members. Research has found significant differences in perceptions of SHRM and actual HR priorities even among chief executive officers, HR directors, and other senior managers (Bartram, Stanton, Leggat, Casimir, & Fraser, 2007). Therefore, the involvement of HR executives on boards of directors is indispensable. Access to this level of decision making not only recognizes the legitimate authority of the HR function but also provides the HR function with the opportunity to create a shared meaning with other senior executives of what the function can contribute as a strategic partner (Golden & Ramanujam, 1985). Strategic management process is largely a matter of interactions among organizational actors (Hoon, 2007), but it does not always occur through formal mechanisms such as meetings of boards of directors. It is access to both formal and informal decision making that provides a linkage to strategic management processes (Mokken & Stokman, 1976; Buyens & De Vos, 2001). Thus, HR professionals must actively engage in both formal and informal communication with executives and other managers. The closer relationship HR



professionals develop with other functions in their organizations, the stronger influence they can have on those functions (Pfeffer, 2010).

As discussed, line managers' cooperation is critical for the successful implementation of HPWSs because the line managers have a more direct impact on their subordinates' motivation, commitment, and discretionary behavior (Andersen, Cooper, & Zhu, 2007; Bos-Nehles, 2010; Guest, 2011). HR professionals therefore must actively communicate with line managers. As Cohen and Bradford (2003) argue, influence without formal authority is possible only through the 'law of reciprocity,' as critical colleagues respond to your requests only when they choose to. HR professionals should thus develop 'give-and-take' relationships with line managers through which equivalent 'currencies' can be exchanged over time. As Lawler and Mohrman (2003) suggest, an effective way to create this kind of involvement is to utilize task teams that have both line managers and HR professionals through which the HR function can have an opportunity not only to be close to the business but also to develop a close relationship with line managers. Partnership requires increasing the trust in line managers and transferring HR accountability to them in many areas where the HR function has previously exercised control and provided service.

During HPWS implementation, employees may feel anxious about substantial changes such as new responsibilities and intended consequences to themselves. The HR function therefore should not only encourage feedback about employee attitudes toward strategic planning and activities but also inform employees about the intent and implications of the new programs to alleviate their concerns (Kim & Kang, 2011). Truss (2001) found that organizations could reduce the gap between implemented and perceived HR activities by communicating information on the changes in HR programs to employees. As an employee advocate, the HR function should also creatively seek and implement the means by which employees may voice opinions and feel ownership of the business. Whatever the context within which HR professionals find themselves, caring for, listening to, and responding to employees remain a major piece of HR work. Neglecting this role may negatively impact employees' sense of well-being and commitment to the organization. The HR function then loses direct contact with employees and is no longer able to represent the employees' voice at the top management level (Ulrich & Brockbank, 2005; Gilbert, Winne, & Sels, 2011).

In addition to symbolic actions, HR professionals also need to develop the skills necessary to be a strategic partner. They lack influence because many HR professionals are not seen as capable of fulfilling their role as a strategic partner (Bartram et al., 2007; Lengnick-Hall et al., 2009). HR executives must fully understand the complexity of the various aspects of HRM in order to bring HR to the strategic planning table and to effectively integrate HR activities with business-oriented perspectives. Whereas there are other board members at the table well versed in the business perspective, the HR executive is likely to be the only person with expertise in HR (Wright et al., 1998; Lawler & Mohrman, 2003). In addition, HR executives can expand and enrich the parameters of HR agendas through which strategic alternatives may be defined and created (Brockbank, 1999). For example, by engaging in environmental scanning behaviors, HR executives can discover new 'threats' that they can control and cope with even when their functional responsibility does not deal with the critical contingencies defined objectively by the organization's strategic and environmental requirements (Russ, Galang, & Ferris, 1998).

Apart from the advantage of developing better communicational channels between HR professionals and line managers discussed above, the rotation of people (individuals rotating within the HR function and into and out of the HR function) offers opportunities for educational development. Without knowledge of the multiple activities that occur in HR, it is very difficult for HR managers and executives to bring a full picture of the HR function to any strategic function. Beyond that, unless HR executives have had some experience in business roles, it may be difficult for them to understand the business well enough to act as a strategic partner when it comes to HR system design and strategy development. HR professionals must learn more about the business, and line managers must become more proficient at managing their HR (Lawler & Mohrman, 2003).

To become influential as a strategic partner, HR professionals must accurately assess the organization's needs, constraints, and opportunities. They must understand the organization's environment and internal contexts while developing and implementing programs and policies that meet the organization's needs. Baird and Meshoulam (1988) itemize the kinds of skills that HR professionals need to possess: (a) information management skills – statistics, analysis, and research; (b) planning skills – the knowledge of planning and planning methodologies plus statistics techniques; (c) management skills – skills in the various business functions and environmental analysis; (d) integration skills – competency at managing organizational interfaces, and skill in assessing the organization plus setting priorities; and (e) change-management skills – the skills of anticipating the future, facilitating changes, and developing organizational activities.

In sum, the HR function needs to break the self-perpetuating cycle of powerlessness. Influence as conceptualized in this study may be constructed as a reward for a job well done. The more management believes that the HR function contributes to the achievement of organizational objectives, the more its role will be integrated into the strategic management process of the organization (Galang & Ferris, 1997; Rose & Kumar, 2006). Then, the HR function can use the legitimate authority associated with organizational board representation as an avenue for influence and strengthen the uptake of HR policy initiatives. The formal authority of a board position also allows the HR function to create a shared understanding of the added value that these policies create for the organization. Innovative HR practices are thus accepted and used by line managers as part of their everyday work (Golden & Ramanujam, 1985; Bowen & Ostroff, 2004; Sheehan et al., 2007). Indeed, where HR executives are highly involved in strategic management process, other organizational members tend to evaluate the HR function more positively (Wright et al., 1998). A competent HR function is given more respect, resources, authority, and responsibility, which feed into its ability to be effective in the value creation process of the organization (Uen, Ahlstrom, Chen, & Tseng, 2012). In order to realize this positive cycle, HR professionals must first prepare themselves as a strategic partner.

### Limitations and suggestions for future research

The findings of this study should be interpreted cautiously, given its inherent limitations. First, this study relied on self-reported and cross-sectional data and was consequently susceptible to common method bias. This bias might be particularly problematic for the relationship between HPWSs and operational performance as the data for these variables were collected from a single respondent at one time. However, we concluded that common method bias did not pose serious problems because the respondents – HR managers – possessed accurate knowledge of their respective firm's HPWSs and performance. In addition, the team who administered WPS rigorously conducted a variety of interviews with the HR managers during the data collection process to increase the reliability and validity of the responses (Kim & Kang, 2011). Harman's one-factor test revealed that no single factor accounted for a majority of the covariance in the variable, also suggesting the nonexistence of common method bias (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Another legitimate concern is reversed causality. Researchers investigating the relationship between HR practices and firm performance have long been concerned about reversed causality, particularly in studies using a cross-sectional research design (e.g., Delaney & Huselid, 1996; Delery & Doty, 1996; Guthrie, 2001). In this article, data were analyzed and the findings were discussed as if HPWSs affected firm performance, but this interpretation is limited by the cross-sectional nature of the data. As researchers have pointed out, the findings of this study may support our hypothesis that HPWSs affect



firm performance; as this study employed a cross-sectional research design, however, its findings can also be used to suggest that firm performance affects HPWSs. To overcome this limitation, future research must use alternative research designs (e.g., Van De Voorde, Paauwe, & Van Veldhoven, 2010; Piening, Baluch, & Salge, 2013) to propose more reliable causal inferences concerning the relationship between HPWSs and firm performance as well as the role of the HR function.

Our study supporting both the universalistic and contingency perspectives is only one step of the many that will be necessary to gain a deeper understanding of the HPWS-performance relationship. More theoretical and empirical studies are needed to better understand how the universalistic and contingency perspectives may or may not converge. In addition, while this study focused on the moderating effects of the HR function's influence on the HPWS-performance linkage, other contextual conditions, such as technology, leadership philosophy, and labor-management atmosphere, may also affect this relationship. The value of contingency research is that it allows researchers to look deeper into the HPWS-performance linkage. Future studies should thus examine other contextual conditions as moderators to gain further insights into the HPWS-performance relationship.

## CONCLUSION

This study examined the impact of HPWSs on firm performance as well as the moderating effect of the HR function's influence in the HPWS-performance linkage in order to contribute to the universalistic and contingency perspective debates in a manufacturing environment. Our analysis indicated the existence of both the main effects supporting the universalistic perspective and the moderating effects supporting the contingency perspective. In this respect, HPWSs can be regarded as universal or best practices while the presence of an influential HR function can intensify the effect of HPWSs on firm performance. The findings support the idea that the universalistic and contingency perspectives are not necessarily incompatible but, rather, may actually be complementary.

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