

# **The Effects of High Performance Work Systems, Entrepreneurship and Organizational Culture on Organizational Performance<sup>\*</sup>**

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## **Abstract**

Focusing on Korean small and medium-sized firms, this paper examines the relationships between high performance work systems (HPWSs), entrepreneurship and organizational culture and organizational performance. The findings reveal that HPWSs and entrepreneurship are significantly related to performance. Also an interaction effect of organizational culture and entrepreneurship on performance is found. These results have both theoretical and practical implications. In accordance with the resource-based view, sustained superior performance can be attributed to unique capabilities, such as human resource management (HRM) and entrepreneurship. From a practical perspective, these findings indicate that HPWSs are applicable in Korean settings.

**Keywords:** High Performance Work Systems, Entrepreneurship, Organizational Culture, Organizational Performance

## **INTRODUCTION**

Korea's financial crisis of 1997 drastically changed its socio-cultural structure and the characteristics of its economy. Since the

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\* The author would like to acknowledge the help of Prof. Jin Kyo Shin, who provided valuable data used for analysis in this paper. She also extends her deepest appreciation to Prof. Kyungmook Lee, the SJB journal Editor, and the two anonymous reviewers for useful comments and suggestions on an earlier version of the paper.

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crisis, which started with a number of insolvent businesses, Korean firms have begun to accept global standards in management styles and systems. In this process, small and medium-sized enterprises (SMEs) have played a key role by raising exports, foreign investments and productivity (Nugent and Yhee 2002). The growing importance of SMEs in employment and value added, particularly in the manufacturing sector, has alleviated the shock of the financial crisis to some extent. Thus, SMEs have made a vital contribution to the Korean economy.

The SMEs faced the necessity of transforming their human resource management (HRM) systems and organizational culture in a way that mirrored the earlier experience of the chaebol, the large conglomerates. Despite the importance of the workers employed in SMEs to the Korean economy, little attention has been paid to HRM practices in the literature that deals with SMEs. Since most studies in the field of HR have been limited to large firms, the issue of whether the theories, research and practices derived from the large firms are directly applicable to small entrepreneurial organizations has often been controversial. Heneman, Tansky, and Camp (2000) argued that such theories about HR, by and large, cannot be extended to SMEs and tend to be incongruent with the actual HR issues encountered by SME practitioners in the field. Stated in this way, this study attempts to fill this gap by extending current HRM theories to SMEs.

As the emphasis on strategic factors in HRM has increased over recent decades, the concept of strategic human resource management (SHRM) has attracted more attention than ever before. Previous research on SHRM suggests that configurations of HR practices may lead to higher performance on the part of firms and become sources of sustained competitive advantage because these systems of practices are often unique and difficult to imitate (Lado and Wilson 1994). Consequently, a good deal of attention has been paid to the role of employees, or "human resources," in enhancing organizational performance and creating sustained competitive advantage (Den Hartog and Verburg 2004). SHRM researchers tend to adopt the resource-based view of the firm in order to explain the role of HR practices in firm performance (Wright, Dunford, and Snell 2001). The resource-based view suggests that HR systems contribute to sustained competitive advantage by facilitating the development of firm-specific competencies (Barney 1992; Reed and DeFillippi 1990;

Wright and McMahan 1992). These firm-specific competencies are embedded in a firm's history and culture. It has been recognized by strategy researchers that organizational culture as a rent-yielding strategic resource that has the potential to generate sustainable competitive advantage (Barney 1986b; Fiol 1991).

Accordingly, organizational culture may enhance a firm's profitability by reducing the uncertainty and ambiguity inherent in strategic decisions and actions (Jones 1983; Wilkins and Ouchi 1983). Organizational culture may also unleash the valuable leadership talents and time that would otherwise be spent in coordinating work and controlling employee effort to achieve desired organizational outcomes (Schein 1985).

After reviewing the literature on the resource-based view, this paper explores the idea that HR systems and the managerial characteristics of entrepreneurs may function as organizational competencies and be sources of sustained competitiveness. It also examines how organizational culture facilitates the utilization, development and integration of organizational competencies. This article has three purposes. First, the article examines the relationship between high performance work systems (HPWSs) and organizational performance in SMEs. To date, little attention has been given to the HPWSs of SMEs outside the US (Heneman, Tansky, and Camp 2000). Since firms in Asian countries may have different HRM systems, it is valuable to look at the relationship between HR systems and organizational performance in Korean settings.

Second, this article examines the effects of entrepreneurship on firm performance, treating organizational culture as a contingent factor. Entrepreneurship has been considered to influence the improvement of firm performance (e.g., Zahra and Covin 1995). Since entrepreneurship can be defined as "innovative behavior allied to a strategic orientation in pursuit of profitability and growth" (Carland et al. 1984 cited in Sadler-Smith et al. 2003: 48), this study pays attention to the managerial and psychological characteristics of entrepreneurs. There have been numerous empirically-based studies that examine the relationships between entrepreneurship and organizational performance (e.g., Agarwal and Chatterjee 2007; Lafuente and Salas 1989; Ozcan and Eisenhardt 2009). This paper attempts to confirm those empirical findings and to provide evidence from the Korean case. Although research on the relationship between entrepreneurship and organizational performance has

been prolific, relatively little is known about the integrative effect of firm resources such as the characteristics of entrepreneurs, human resources, and organizational culture on organizational performance, specifically based on the resource-based view of the firm. Thus, this study is intended to advance our understanding of the effect of the characteristics of entrepreneurs on organizational performance by considering the role of HPWSs and organizational culture.

Third, this article explores the moderating effect of organizational culture on the relationship between HPWSs and organizational performance and on the relationship between entrepreneurship and organizational performance. Previously, most research was conducted in Western settings. Korean SMEs have been believed to possess an organizational culture characterized by human orientation, combined with a high level of uncertainty avoidance that is often associated with other Asian countries as well. SMEs in Korea tend to show strong leadership and a centralized decision-making mechanism (e.g., Dastmalchian, Lee, and Ng 2000; Lee 1998). In this vein, this article hypothesizes that organizational culture in Korean SMEs produces different effects on the HR systems than those found in Western firms.

## **THEORETICAL BACKGROUND AND HYPOTHESES**

### **Organizational Competencies as Sustained Competitive Advantage**

A fundamental premise of the resource-based view is that organizational competencies, heterogeneous and immobile, form the basis of sustained competitive advantage (Lado and Wilson 1994). Organizational capabilities characterize the dynamic, nonfinite mechanisms that enable the firm to acquire, develop, and deploy its resources to achieve superior performance relative to other firms (Dierickx and Cool 1989). Among such organizational capabilities, this paper will focus on human resources and the characteristics of entrepreneurs.

As noted above, the resource-based view suggests that “human resource systems can contribute to sustained competitive advantage by developing firm specific competencies, producing complex social relationships and generating tacit organizational knowledge” (Lado

and Wilson 1994: 699). Also, organizational capabilities that are supposed to be effective sources of sustainable competitive advantage include organizational culture, routines, and entrepreneurship (Lado and Wilson 1994). Expanding this point, this paper describes HR systems and entrepreneurship as firm-specific resources and capabilities.

*Human Resource Systems as Sustained Competitive Advantage and Organizational Performance.* According to the resource-based view, in order for a resource to qualify as a source of sustained competitive advantage, the resource must add value to the firm, must be rare and difficult to imitate, and may not have any adequate substitutes (Barney 1991). The resource-based view has been used as the theoretical grounding in most research based on the notion that HRM can have a positive impact on firm performance (Wright, Dunford, and Snell 2001).

Considerable attention has been paid to high performance work systems (HPWSs) intended to enhance the employee's commitment, skills and productivity. The concept of HPWSs assumes that employees are a primary source of competitive advantage and are difficult to imitate. Moreover, workers can exhibit continuous improvement and perform at a higher level if they are motivated to do so. This is achieved by encouraging practices such as allowing them to participate in decision-making processes, providing high-quality training and sharing information. By treating workers with respect and as capable and intelligent individuals, organizations find that workers are more committed to the organization and more trusting of management, which results in improved performance (Walton 1985). In HPWSs, workers are, to a great extent, self-controlled and self-managed (Tomer 2001). HPWSs are conceptualized as a set of distinct but interrelated HRM practices that together select, develop, retain, and motivate the workforce (Becker and Huselid 1999; Guthrie 2001; Huselid 1995). The workers who possess superior abilities tend to apply their competence to work-related activities (i.e., actual employee behaviors/output), which results in superior intermediate indicators of firm performance and sustainable competitive advantage (Way 2002).

Many empirical studies have investigated whether firms utilizing particular HPWS managerial practices achieve a higher level of performance than traditionally managed firms (Tomer 2001). Even though several theoretical and empirical problems remain, signifi-

cant progress has been made in the study of such systems and performance.

Theoretical (Jackson and Schuler 1995; Lado and Wilson 1994) and empirical (Huselid 1995; MacDuffie 1995) HRM researchers have reached a general consensus that the methods used by firms to manage their workforce have a positive impact on firm performance (Becker and Huselid 1998; Wright and Boswell 2002). Numerous studies provide empirical support for the superiority of HPWSs for employees and for the level of performance of the organization (Arthur 1994; Huselid 1995; Lee and Kim 2006; MacDuffie 1995; Way 2002; Zacharatos, Barling, and Iverson 2005). Drawing on this rationale and resource-based perspectives, Hypothesis 1 is proposed as follows:

**H1:** High performance work systems will be positively related to organizational performance.

*Entrepreneurship as Sustained Competitive Advantage and Organizational Performance.* According to Lado and Wilson (1994: 703), managerial competencies include “(a) the unique capabilities of the organization’s strategic leaders to articulate a strategic vision, communicate the vision throughout the organization, and empower organizational members to realize that vision and (b) the unique ability to enact a beneficial firm environment relationship.” These managerial competency attributes can be effective sources of sustained competitive advantage because they determine the acquisition, development and deployment of organizational resources, the conversion of these resources into valuable products and services, and the delivery of value to organizational stakeholders (Castanias and Helfat 1991; Lado, Boyd, and Wright 1992). In this respect, entrepreneurship is regarded as sustained competitive advantage because the entrepreneur’s managerial characteristics, such as effective communication ability, delegation of responsibility, and universalistic selection, are the unique capabilities of the organization’s strategic leaders.

The term “entrepreneurship” implies a configuration of psychological traits, attributes, attitudes and values of an individual motivated to initiate a business venture (Thomas and Mueller 2000). Numerous normative and descriptive studies have identified various personality characteristics of entrepreneurs. From a societal perspec-

tive, the most important factor is the characteristic of innovation (Carland et al. 1984). Schumpeter (1934) believed that innovation was the central characteristic of entrepreneurial endeavors. His emphasis on this point is shown in his declaration that one behaves as an entrepreneur only when carrying out innovations.

The resource-based view of the firm implies that entrepreneurial resources are intangible, socially complex and difficult to understand and imitate. Several scholars have argued (Barney 1986a; Nelson 1991; Rumelt 1987) that the firm possessing unique resources, skills and capabilities or the firm possessing unique abilities to rapidly adapt to revolutionary changes can earn and sustain more supra-normal returns than those that lack these competencies (Lado and Wilson 1994). Entrepreneurial talents are rare (Leibenstein 1987), and are cultivated and nurtured over a long period of time. Because they provide the impetus for resource mobilization and deployment, entrepreneurial skills are a non-substitutable strategic asset (Lado and Wilson 1994). Hisrich and Peters (1992), building upon the work of Sahlman and Stevenson (1985), contrasted entrepreneurial approaches with managerial approaches in terms of five key business dimensions; strategic orientation, commitment to opportunity, commitment of resources, control of resources, and management structure. Furthermore, entrepreneurial styles and their associated behaviors are hypothesized as predictors of performance in terms of high- or low-growth types (Sadler-Smith et al. 2003).

Entrepreneurial types are then further characterized in terms of education, age, origin and other personal characteristics. Each entrepreneurial type can be described in terms of the behavior (strategy) of the firms they manage and in terms of the results obtained by their activity (Lafuente and Salas 1989). From a conceptual perspective, scholars have previously compared and contrasted the entrepreneurial and administrative-managerial domains (Sadler-Smith et al. 2003). Smith (1967) indicated two types of entrepreneurs (Smith and Miner 1983: 326). The first type is "the craftsman entrepreneur" characterized by a lower level of education and training, a lower social environment and limited time orientation. The second type is "the opportunistic entrepreneur," who, in contrast, has broader education and training, higher social awareness and involvement, competence in dealing with the social environment, and a futuristic orientation. The closer the entrepreneur is to the craftsman model, the more rigid the firm is likely to be. On the other hand, the more

closely the entrepreneur matches the opportunistic model, the higher the probability that the firm will be adaptive and flexible in response to change. Smith found that adaptive firms headed by opportunistic entrepreneurs experienced more rapid growth in sales than those headed by craftsmen entrepreneurs. In addition, opportunistic entrepreneurs tend to develop plans for the long run and consciously weigh options. They are preoccupied by the need to identify and explore opportunities in the future that others fail to see and thus do not pursue (Das and Teng 1997). This paper hypothesizes that the craftsman and opportunistic characteristics of entrepreneurs will produce different patterns through the association of individual and financial performance. It is expected that significant differences between the effects of craftsmen entrepreneurs and opportunistic entrepreneurs on organizational performance will be found. Although the link between the types of entrepreneurship and performance outcomes has previously been demonstrated (for example, Das and Teng 1997; Lafuente and Salas 1989), this relationship appears to vary in magnitude between different firms. This paper focuses on SMEs because human capital attributes, or the characteristics of the entrepreneur, are more critical resources for smaller firms (cf. Agarwal and Chatterjee 2007; Pennings, Lee, and Van Witteloostuijn 1998; Pfeffer 1994). Therefore, on the basis of the discussions presented above, the following hypotheses can be put forward:

**H2:** The characteristics of entrepreneurs will be related to organizational performance such that the more opportunistic the entrepreneur, the higher the organizational performance.

### **High Performance Work Systems and Organizational Culture**

More recently, the resource-based view of the firm has also incorporated a contingency perspective (Datta, Guthrie, and Wright 2005). This paper identifies organizational culture from the literature related to the adoption of HPWSs and the performance of firms. Researchers generally agree that a supportive organizational culture is needed for HR practices to result in advantage-creating capabilities (Chan, Shaffer, and Snape 2004). Through rituals, heroes, routines and managerial values, organizational culture directly and indirectly influences investment and resource allocation decisions (Deal



and Kennedy 1982).

HRM is often associated with organizational culture (Guest 1994; Mabey and Salaman 1995). According to Deal and Kennedy (1982), successful firms distinguish themselves from less successful ones through their clearly articulated and shared norms and values regarding organizational functioning. Therefore, creating a strong organizational culture is a powerful tool to influence employee behavior and to improve performance (Den Hartog and Verburg 2004; Park 1999). Informal rules may help employees understand what is expected of them, and such a culture may also help people feel better about their efforts on behalf of the organization. Wilkins (1984) observes that HRM can create an environment which encourages the development of a strong organizational culture (Ogbonna 1992).

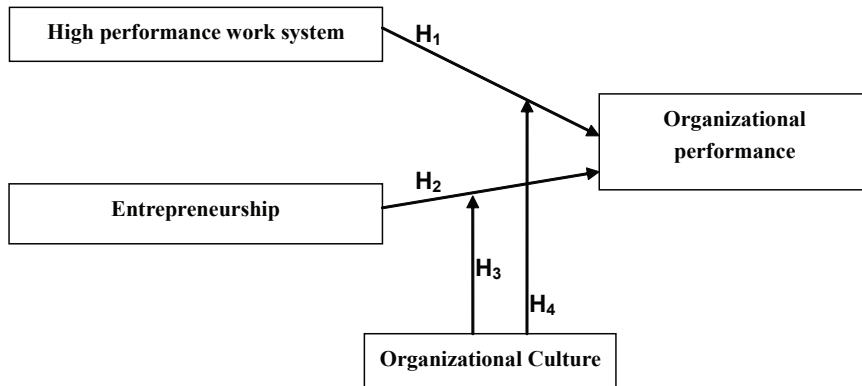
High performance work practices also act as culture-embedding mechanisms. Kerr and Slocum (1987), for example, describe two types of corporate reward systems that give rise to different cultures (Den Hartog and Verburg 2004). As such, high performance work practices may play an important role in shaping culture. Schein (1985) also describes several secondary mechanisms that articulate and reinforce culture. These are secondary in the sense that they work only when they are in line with the primary mechanisms. These include organizational structure, systems and procedures, and the formal statement of the organizational values, philosophy or creed. This suggests that different high performance work practices may influence organizational culture.

A culture that enhances a firm's ability to retain its well-developed and motivated human capital is equally important (Sheridan 1992). This dimension of organizational culture will not only facilitate a firm's superior performance, but will also strengthen the impact of HPWSs on firm performance. This interaction is summarized as follows:

**H3:** Organizational culture will moderate the relationship between HPWSs and organizational performance, such that HPWSs with strong organizational culture will enhance organizational performance.

## **Entrepreneurship and Organizational Culture**

The German sociologist Max Weber believed that culture played



**Figure 1. Research Model**

a primary role in the development of entrepreneurial activity that created the Industrial Revolution (Feldman 1988). However, little research has been carried out on the characteristics of entrepreneurs and organizational culture. Cross-national investigations on entrepreneurship could make a significant contribution to theoretical research in the field, since it would provide patterns of interrelationship between the broad social and cultural environments and the propensity to create and develop a firm with a particular strategy and managerial style. From such studies, it would be possible to identify which personal characteristics of entrepreneurs are more or less sensitive to social and cultural variables, so that a core description of the entrepreneur and the entrepreneurial process might finally emerge.

Meanwhile, it is important to recognize that simple models are not likely to capture the diversity of individuals, firms and processes at work. In a previous study, for example, Cornwall and Perlman (1990) distinguished the entrepreneurial from the non-entrepreneurial domain. One of the characteristics of the entrepreneurial domains was that a change was viewed as an opportunity and means for longer-term survival, adaptation, and growth through an intelligent approach to risk. Sadler-Smith et al. (2003) found that managing culture and managing vision are related to an entrepreneurial style, while managing performance is related to a non-entrepreneurial style. In their study, entrepreneurial style, not managerial behavior, is the determinant which strengthens a firm's probability of having

high growth. In addition, they proposed a positive relationship between the entrepreneurial style and the managerial behaviors that promote a creative and risk-taking culture. Based on such prior research, the interaction between the characteristics of entrepreneurs and organizational culture is hypothesized as follows:

**H4:** Organizational culture will moderate the relationship between the characteristics of entrepreneurs and organizational performance such that the opportunistic entrepreneur with strong organizational culture will enhance organizational performance.

## METHOD

### Sample and Data Collection

Data were collected by questionnaires distributed to small and medium-sized firms located in Daegu, the fourth largest city in Korea, and in the area of Kyungbuk province during five months in the year of 2000. The city of Daegu has been characterized by the high concentration of SMEs. As of 2008, workers employed in SMEs where the number of employees is fewer than 300 constituted 91.7% of the total workforce in Daegu, which is much higher than the national average (86.6%) as well as those in Seoul (80.6%) in all industries (Korean Statistical Information Service, 2008). The survey was carried out with senior managers, including the chief executive officers (CEOs) and HR executives of each organization. The total number of questionnaires received was 179, but 17 were eventually excluded from analysis due to the lack of relevant firm level data. Consequently, the effective sample size was reduced to 162. Of the sample, 137 (85%) came from manufacturing industry, 14 (9%) from construction, 7 (4%) from public/repair/individual service, 2 (1%) from wholesale/retail and 2 (1%) from transportation industries. The sample also included 85 (53%) firms with less than 50 employees, 29 (18%) firms with 51~100, 25 (15%) firms with 101~199, and 23 (14%) firms with 200 employees or over.

### Measurement

*High Performance Work Systems as a Unitary Index.* Researchers

have used a variety of approaches to measure HPWSs. Six different HR practices were conceptualized and measured using Delery and Doty's (1996) method. The six items are internal career opportunities, training programs, results-oriented appraisal, profit sharing, employment security, and employee participation. Higher scores in training practices, for example, indicate that extensive and formalized training programs are provided for employees, and higher scores in internal career opportunities reflect the existence of a well-defined internal career and staffing system offering greater opportunities to employees. Since there is little consensus regarding which HPWSs should be included, previous research has provided several theoretical and methodological arguments for why a systems approach is preferable in HPWSs research (Becker and Huselid 1998; Delery 1998; Huselid and Becker 1997). Although the sets are not always the same, this paper adopts the notion of a "unitary index" used in Way's (2002) research. The HPWSs unitary index used in this paper was created by adding the standardized scores of the six equally-weighted components of the HPWSs. This is an additive approach (the maximum HPWSs unitary index score is 13.34).

*Characteristics of Entrepreneurs.* The characteristics of entrepreneurs were measured by Smith and Miner's (1983) methods. Extensive interviews were conducted with entrepreneurs. These interviews provided information which was used to classify the entrepreneurs themselves along the craftsman-opportunistic spectrum, comprised of fourteen items. Examples of entrepreneurial variables are breadth in education and training, management reference group, high social involvement, delegation of authority and responsibility, and long-term strategic planning for the company. In Smith and Miner's (1983) original research, a score of -1 was given for a craftsman classification and +1 for an opportunistic classification on each item, and then with the fourteen items added, the entrepreneur score varied from -14 to +14 (Smith and Miner 1983). In the present study, this score was modified to a 5-point Likert-type scale, and the score was changed to one ranging from 1 to 5. Cronbach's alpha for this scale is 0.91. The mean score of an entrepreneur is 2.98. Higher scores on this scale represent the strong opportunistic characteristics of the entrepreneur, while the lower scores reflect strong craftsman entrepreneurial traits.

*Organizational Culture.* Organizational culture was measured with eight items based on the four cultural subscales developed by Denison and Mishra (1995). The items of organizational culture consist of 4 dimensions, namely adaptability, mission, involvement and consistency. Sample items for each dimension of organizational culture are as follows: “This organization is very responsive and changes easily (adaptability),” “There is a shared vision of what this organization will be like in the future (mission),” “Most people in this company have input into the decisions that affect them (involvement),” and “There is a high level of agreement about the way that we do things in this company (consistency)”. A unitary index was created to represent a strong and high performance culture by multiplying the traits of the four equally-weighted components of an organizational culture. A culture can be considered strong if norms and values are widely shared and intensely held throughout the organization (Gordon and DiTomaso 1992; Kotter and Heskett 1992; O’Reilly and Chatman 1996). To the extent that all managers share relatively consistent values, performance follows because of increased goal alignment, stronger motivation and intrinsic reward implicit in the successful culture, and appropriate behaviors can be controlled or sanctioned without the need for expensive and stifling bureaucracy and coordinating structures (Deal and Kennedy 1982; Hofstede 1980; Peters and Waterman 1982; Schein 1985).

*Organizational Performance.* While a number of outcomes or performance measures (e.g., turnover, absenteeism, profits) have been used to ascertain the effectiveness of HR systems, this paper focuses on profitability and return on asset (ROA). Organizational performance was measured in the same way as by Covin, Slevin and Covin (1990). Respondents were asked to assess financial performance on a 5-point Likert-type scale.

*Organizational Size and Age.* Since large organizations may be more likely than small ones to have well-developed HR practices, any extraneous effects of organizational size were controlled for by including a variable to represent size. Size was the natural logarithm of a firm’s number of employees (Huselid 1995; Koch and McGrath 1996). Organizational age was the number of years that passed since the year the company had been founded (Delery and Doty 1996).

**Table 1. Pearson Correlation Coefficients, Means and Standard Deviations for All Variables in the Analyses (N= 157~162)**

	Mean	S.D.	1	2	3	4	5	6
1. Organizational age	13.67	11.50						
2. Organizational size <sup>a</sup>	3.94	1.06	.46**					
3. HPWSs <sup>b</sup>	.00	5.01	-.11	-.10				
4. Characteristics of entrepreneurs	3.05	.65	-.05	-.02	.73 **			
5. Organizational culture	105.18	109.95	-.16	-.25 **	-.07	-.00		
6. Profitability	3.23	.92	-.19 <sup>†</sup>	-.17 *	.52 **	.50 **	.07	
7. Return on Asset	3.12	.81	.06	-.01	.52 **	.55 **	-.04	.60**

<sup>a</sup>Natural logarithm of the number of employees. <sup>b</sup>HPWSs are standardized to z-scores. HPWSs=High performance work systems.

\* $p < .05$ , \*\* $p < .01$ .

## RESULTS

The method of hierarchical ordinary least squares (OLS) regression was used to test the four hypotheses. The hypothesis test was based on changes in the level of explained variation before and after the variable of interest was added to the set of control variables. Table 1 presents the correlation coefficients, means and standard deviations of the variables that were used. Consistent with prior work, the relationship between the HPWSs and organizational performance measures is generally positive. Understandably, the characteristics of entrepreneurs and organizational performance measures are strongly correlated.

In Step 1, organizational age and size were entered to control for any extraneous effects across organizations. In Step 2, HPWSs and the characteristics of entrepreneurs were entered to test Hypotheses 1 and 2. Also, organizational culture was added in order to control for any effects that an organizational culture might have on HPWSs and the characteristics of entrepreneurs. In Steps 3, the cross product of HPWSs and organizational culture and that of the characteristics of entrepreneurs and organizational culture

**Table 2. Results of Regression Analyses for Profitability<sup>a</sup> (N=162)**

	Variables	Model 1	Model 2	Model 3
Step 1	Organizational age	-.12	-.09	-.08
	Organizational size	-.14	-.09	-.10
Step 2	HPWSs		.30 **	.35 *
	Characteristics of entrepreneurs		.28 **	.05
	Organizational culture		.05	-.94 <sup>+</sup>
Step 3	HPWSs× organizational culture			-.02
	Characteristics of entrepreneurs× organizational culture			1.01 *
	$R^2$	.05	.34	.36
	$F$	3.78 *	14.83 ***	11.58 ***
	$\Delta R^2$	.05	.29	.02
	$\Delta F$	3.78 *	21.18 ***	2.64 <sup>+</sup>

<sup>a</sup> Entries are standardized regression coefficients. HPWSs = High performance work systems.

<sup>+</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Table 3. Results of Regression Analyses for Return on Assets<sup>a</sup> (N= 162)**

	Variables	Model 1	Model 2	Model 3
Step 1	Organizational age	.05	.08	.08
	Organizational size	-.02	.01	.00
Step 2	HPWSs		.24 *	.17
	Characteristics of entrepreneurs		.40 ***	.32 *
	Organizational culture		-.02	-.35
Step 3	HPWSs× organizational culture			.11
	Characteristics of entrepreneurs× organizational culture			.36
	$R^2$	.00	.36	.37
	$F$	.17	16.28 ***	12.03 ***
	$\Delta R^2$	.00	.36	.01
	$\Delta F$	.17	26.96 ***	1.26

<sup>a</sup> Entries are standardized regression coefficients. HPWSs = High performance work systems.

\*  $p < .05$ , \*\*\*  $P < .001$ .

were entered as a set. Evidence of moderation exists when the set of interaction terms accounts for significant residual variance in

the dependent variable. Significant effects here would indicate that organizational culture moderates the relationship between the characteristics of entrepreneurs and organizational performance, but not between HPWSs and organizational performance. The hypotheses would be accepted if these interaction terms account for significant residual variance in organizational performance. Tables 2 and 3 show the results of the hierarchical regression analyses.

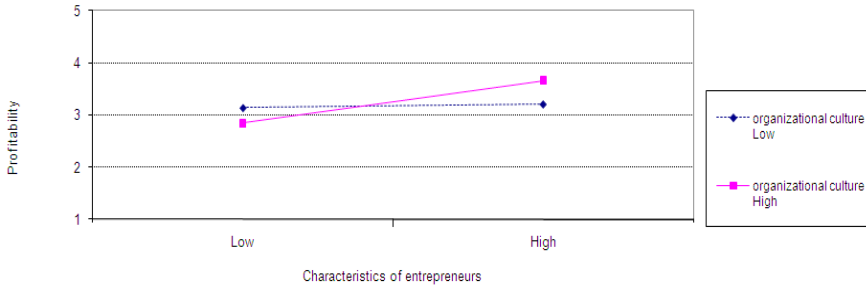
### Main Effects

With organizational age, size and culture controlled, HPWSs and the characteristics of entrepreneurs were significantly related to profitability ( $\Delta R^2 = .29$ ,  $F = 14.83$ ,  $p < .001$ ) and ROA ( $\Delta R^2 = .36$ ,  $F = 16.28$ ,  $p < .001$ ). The HPWSs index had a significant main effect on profitability ( $\beta = .30$ ,  $p < .01$ ) and ROA ( $\beta = .24$ ,  $p < .05$ ). The characteristics of entrepreneurs had a significant main effect on profitability ( $\beta = .28$ ,  $p < .01$ ) and ROA ( $\beta = .40$ ,  $p < .001$ ). Overall, these findings provide preliminary supports for Hypotheses 1 and 2. The results suggest that HPWSs and the opportunistic characteristics of entrepreneurs are valuable for enhancing organizational performance.

### Moderating Effects

Despite the direct relationships between HPWSs, the opportunistic characteristics of entrepreneurs and performance, no moderating effects of HPWSs and organizational culture were found. Therefore, Hypothesis 3 was not supported. However, this research found partial support for Hypothesis 4. The interaction term of organizational culture and the opportunistic characteristics of entrepreneurs accounts for a significant incremental variation in profitability ( $\beta = 1.01$ ,  $p < .05$ ). This result indicates that organizational culture moderates the relationship between the opportunistic characteristics of entrepreneurs and profitability. But organizational culture does not moderate the relationship between the opportunistic characteristics of entrepreneurs and ROA. Finally, this study examined the nature of the significant interaction by plotting values representing plus and minus one standard deviation from the means for characteristics of entrepreneurs and organizational culture (Cohen and Cohen 1983). These interactions are illustrated in Figures 2. The results of





**Figure 2. Interaction between the Characteristics of Entrepreneurs and Organizational Culture in Predicting Profitability**

simple slope analysis confirm that the higher organizational culture is, the stronger the relationship between the characteristics of entrepreneurs and organizational performance (profitability). These findings provide partial support for Hypothesis 4.

## DISCUSSION

This study aimed to explore the relationship between HPWSs, entrepreneurship and organizational performance taking organizational culture into account. This research supports the argument that organizational performance can be enhanced by HPWSs (Den Hartog and Verburg 2004; Way 2002) and that entrepreneurship are very important in determining organizational performance. The findings of this paper are that HPWSs and the characteristics of entrepreneurs have statistically significant relationships with organizational performance as shown in previous research. Also the effect of the interaction between organizational culture and the characteristics of entrepreneurs turned out to be significant, but the interaction effect of organizational culture and HPWSs was not statistically significant. There are some reasons for these results. The lack of a connection between HPWSs and organizational culture is not particularly surprising, in part because this research was executed with a sample of SMEs. Researchers (Deshpande and Golhar 1994; Hornsby and Kuratko 1990; McEvoy 1984) have suggested that the inability of small firms to select, develop, retain and motivate a competent workforce produces major barriers to firm

success and is a leading cause of firm failure within the small business sector (Way 2002). In this vein, it is presumed that their organizational culture is not well-developed compared with their larger counterparts and that the resources of SMEs are very limited. These firms are typically more labor-intensive and suffer from a lack of basic infrastructure and, thus, tend to be vulnerable to business recessions and industrial fluctuations, particularly in the Korean setting.

Although this study has several important strengths, it also has certain limitations. The limitations of this study constrain the interpretation of the findings. First, this study is limited to cultural traits as a key concept for analysis. Although the reliance on the concept of traits reflects a strategy that is becoming more widespread among culture researchers (Denison 1993; Gordon et al. 1992; Hofstede et al. 1990; Kotter and Heskett 1992; O'Reilly, Chatman, and Caldwell 1991), there is much criticism to the effect that culture scales based on the four dimensions are a questionable operationalization of the constructs (e.g., Van den Berg and Wilderom 2004). There is a bias in asking individuals to respond to questions about the whole company. However, the majority of previous research (e.g., Delery and Doty 1996; Huselid 1995; Huselid and Becker 1996; Huselid, Jackson, and Schuler 1997) in HR and firm performance has used a single respondent to rate HR practices or HR effectiveness of the entire organization. Single informants may produce unreliable information about HR practices (Gerhart et al. 2000; Wright et al. 2001). In order to reduce the error derived from raters, the number of raters should be increased (Gerhart et al. 2000) or better measures of HR practices should be developed (Wright et al. 2001: 897). The more specifically worded the item, the greater the expected reliability. Error in measurement is also related to time. To date, little research has explored how much error is caused by time, but given the lack of any other such reported correlations in the literature, it is impossible to know how appropriate this would be (Wright et al. 2001). Taken all together, future research should seek in-depth measures from a variety of organizational members or the HR director should provide a richer test of the model by increasing the number of raters, developing better items for HR and organizational culture, and considering timing of the measurement of the items. Related to this, a potential risk of common method bias has to be mentioned because the data were collected using a single question-

naire from HR executives or CEOs. Thus, future research is needed to collect data from different sources or at different times (Park 2006; Podsakoff et al. 2003).

Second, this study examined cross-sectional differences between SMEs. Gaining a clearer understanding of the relationships between HPWSs, entrepreneurship, organizational culture and performance will require longitudinal analysis as well.

Third, this study only looked at the moderating effects of organizational culture on the relationships between organizational performance and HPWSs or entrepreneurship. Other organizational characteristics should be considered, such as the strategy and innovation orientation of the CEO. These factors would affect this relationship as well. Accordingly, future studies using other organizational characteristics as moderators are needed in order to secure more accurate insights into the relationships between an HR system, the characteristics of entrepreneurs and organizational performance.

Fourth, the issue of multicollinearity in regression analysis needs to be considered. Although a high correlation between causal indicators is a very common phenomenon for some composite variables (Law and Wong 1999), the lack of robustness of the differential effect of variables may be caused by multicollinearity. Future research should deal with the issue of multicollinearity.

The findings presented in this paper also have both theoretical and practical implications. Theoretically, in accordance with the resource-based view, sustained superior performance can be attributed to unique capabilities such as HRM and entrepreneurial talents. Although Korean SMEs have many disadvantages, such as low levels of equipment management compared to large conglomerates, *chaebol*, the HPWSs have similar effects on performance. Therefore, it can be expected that HPWSs will be a good source for achieving sustained competitive advantage regardless of organizational size.

Furthermore, these findings have practical implications. The results of this research show that HPWSs are applicable to the Korean situation, even in SMEs. Since 1997 when Korea faced an economic crisis, Korean firms have accepted global standards in many areas including HRM. This has brought profound changes in Korean HR practices. Korean firms have tried to find new ways to gain global competitive advantage. Now SMEs in Korea have also come to accept these global trends and have made efforts to survive in harshly

competitive environments. Reflecting on this orientation, the present study has tried to investigate whether HPWSs really have an effect on firm performance as predicted by Western researchers. The results of this research imply that Korean SMEs may become excellent research sites for studying synergistic HRM practices. Therefore, it is hoped that future studies will use the appropriate means to utilize, facilitate and integrate organizational competencies such as HRM, entrepreneurship and organizational learning.

Despite their remarkable progress and continuous role in the Korean economy, SMEs have faced various forms of internal and external challenges. With limited capital and financial resources, they have to compete with huge globalized conglomerates, and increasing wage rates have always produced difficulties for them. Furthermore, SMEs have to make every effort to develop new technology themselves. Ordinary Korean firms seem caught between Eastern traditionalism and Western modernism. The Confucian tradition supported entrepreneurial efforts in the past when Korean firms were smaller and the country was struggling to escape from poverty-stricken daily life (e.g., Choi 2004; Shim and Steers 2001). The traditional management styles in Korean firms often characterized by paternalism and authoritarianism (e.g., Kim and Bae 2005; Shin 1999), appear to be some distance from the HPWSs in which workers are likely self-managed and self-controlled (Tomer 2001). Since the financial crisis of 1997, however, the Korean way of management has been widely challenged by social demands for transforming the workplace to other forms of work system as distinct from the conventional practices in financial systems and corporate governance. In recent years, Korean firms have been driven to transform themselves into truly global enterprises in such a competitive business world. New management strategies must be pursued to revitalize entrepreneurial spirits for their survival in the future.

## Appendix

CEO or HR executives were asked to rate the organizational culture comprising 4 dimensions (adaptability/mission/involvement/consistency), HPWSs and the types of entrepreneurs. The following are examples of the items included in each dimension of the scales.

### Organizational Culture Dimension

#### *Adaptability*

1. Customers' comments and recommendations often lead to changes in this organization.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

2. This organization is very responsive and changes easily.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

#### *Mission*

3. This company has a long-term purpose and direction.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

4. There is a shared vision of what this organization will be like in the future.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

#### *Involvement*

5. Most people in this company have input into the decisions that affect them.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

6. Cooperation and collaboration across functional roles is actively encouraged.

Strongly disagree Strongly agree  
1                    2                    3                    4                    5

*Consistency*

7. There is a high level of agreement about the way that we do things in this company.

Strongly disagree Strongly agree  
1                    2                    3                    4                    5

8. Our approach to doing business is very consistent and predictable.

Strongly disagree Strongly agree  
1                    2                    3                    4                    5

The previous 8 items were derived from Denison, D. R. and A. K. Mishra (1995), "Organizational Culture and Effectiveness," *Organization Science*, 6(2), 204-224.

**High Performance Work Systems**

*Internal career opportunities*

1. Individuals in this job have clear career paths within the organization.

Strongly disagree Strongly agree  
1                    2                    3                    4                    5

2. Individuals in this job have very little future within this organization (reverse-coded).

Strongly disagree Strongly agree  
1                    2                    3                    4                    5

3. Employees' career aspirations within the company are known by their immediate supervisors.

Strongly disagree Strongly agree  
1 2 3 4 5

4. Employees in this job who desire promotion have more than one potential position they could be promoted to.

Strongly disagree Strongly agree  
1 2 3 4 5

*Training*

5. Extensive training programs are provided for individuals in this job.

Strongly disagree Strongly agree  
1 2 3 4 5

6. Employees in this job will normally go through training programs every few years.

Strongly disagree Strongly agree  
1 2 3 4 5

7. There are formal training programs for new team members to provide the skills they need to perform their jobs.

Strongly disagree Strongly agree  
1 2 3 4 5

8. Formal training programs are offered to employees in order to increase their promotability in this organization.

Strongly disagree Strongly agree  
1 2 3 4 5

*Result-oriented appraisals*

9. Performance is most often measured with objective quantifiable results.

Strongly disagree Strongly agree  
1 2 3 4 5

10. Performance appraisals are based on objective, quantifiable results.

Strongly disagree					Strongly agree
1	2	3	4		5

*Employment security*

11. Employees in this job can expect to stay in the organizations for as long as they wish.

Strongly disagree					Strongly agree
1	2	3	4		5

12. It is very difficult to dismiss an employee in this job.

Strongly disagree					Strongly agree
1	2	3	4		5

13. Job security is almost guaranteed to employees in this job.

Strongly disagree					Strongly agree
1	2	3	4		5

14. If this company was facing economic problems, employees in this job would be the last to get cut.

Strongly disagree					Strongly agree
1	2	3	4		5

*Participation*

15. Employees in this job are allowed to make many decisions.

Strongly disagree					Strongly agree
1	2	3	4		5

16. Employees in this job are often asked by their supervisor to participate in decisions.

Strongly disagree					Strongly agree
1	2	3	4		5



17. Employees are provided the opportunity to suggest improvements in the way things are done.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

18. Superiors keep open communications with employees in this job.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Profit Sharing*

19. Individuals in this job receive bonuses based on the profit of the organization.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

The above items were developed and adapted from Delery, J. E. and H. D. Doty (1996), "Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency, and Configurational Performance Predictions," *Academy of Management Journal*, 39(4), 802-835.

**Entrepreneurship (Characteristics of Entrepreneurs)**

*Breadth in education and training*

1. Formal education includes some technical/non-technical area.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Breadth in type of jobs held*

2. Jobs include activities other than the technical, practical or mechanical-managing.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Management reference group*

3. Management is considered a reference group.

Strongly disagree Strongly agree  
 1 2 3 4 5

*Management sponsor or multiple role models*

4. Worked closely with a top executive or influenced by different individuals at different points in life.

Strongly disagree Strongly agree  
 1 2 3 4 5

*High social involvement*

5. Involved in community association not directly related to the profession, trade, or business.

Strongly disagree Strongly agree  
 1 2 3 4 5

*Effective communication ability*

6. Evidence of effectiveness in oral and written communication.

Strongly disagree Strongly agree  
 1 2 3 4 5

*Delegation of authority and responsibility*

7. Delegates to the point where the organization can run itself or hires to relieve self of routine.

Strongly disagree Strongly agree  
 1 2 3 4 5

*Universalistic criteria for employee selection*

8. Selects on a universalistic basis the kind of person who could work for any organization.

Strongly disagree Strongly agree  
 1 2 3 4 5

*Multiple sources of capital used*

9. More than two sources of capital used.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Multiple methods of establishing customer relations*

10. Customers developed using a variety of marketing methods - personal selling, advertising, direct mail, etc.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Varied competitive strategies*

11. Strategies extend to new products and marketing methods, different distribution channels, etc.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Long term planning for company initiation*

12. Initiation of business planned more than one year prior to actual start.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Planning for future growth and change*

13. Desire to grow and give evidence of having a plan to accomplish growth.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

*Employee relations not paternalistic*

14. Employee relations are not paternalistic.

Strongly disagree Strongly agree  
1                      2                      3                      4                      5

The preceding 14 items were adapted from those used by Smith, N.

R. and J. B. Miner (1984), "Type of Entrepreneur, Type of Firm, and Managerial Motivation: Implications for Organizational Life Cycle Theory," *Strategic Management Journal*, 4(4), 325-340.

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Received May 25, 2010

Revision received December 14, 2010

Accepted January 24, 2011