High Performance Work Systems and Organizational Performance in Korea

Erhan Atay
Faculty of Management and Administrative Sciences
Suleyman Sah University at Istanbul, Turkey
e-mail: eatay@ssu.edu.tr

Abstract

High Performance Work Systems contribute to the organizational competitive advantage. This study tested the effectiveness of HPWS using a multi-industry sample of firms operating in the Republic of Korea in order to verify current findings of the intentional literature on the relationship between HPWS and organizational performance. The present study suggest that rather than using individual human resource management practices, use of High Performance Work System matters for financial organizational performance. Results also demonstrate that use of high-performance work practices may have implications for the turnover. Turnover is adversely associated with the use of these practices. Greater use of high-performance work systems is associated lower quit rates.

Key words: High Performance Work Systems, Organizational Performance, Turnover, Korea

Introduction

Global competition, shorter product lives and turbulent environmental factors have altered requirements for successful business. Traditional sources of success cannot guarantee for high productivity, financial gains and technological development. Those traditional methods have become easy to copy and imitate [35]. Organizations would now have to shift beyond traditional methods and center upon competitive resources and change them to get the advantage of competition.

An important part of research perspective of SHRM' is that, rather than individual human resources practices, it is the overall systems of Human Resources Management (HRM) practices that may contribute to the organizational competitive advantage. Scholars within the literature have often focused their studies on those systems of human resource practices, arguing for the existence of performance improving effects [24,33] .Among those systems, High Performance Work System (HPWS) is a term used to explain a system of individual HR practices to improve employees' sustainable competitive advantage, skills and participation [8] (Pfeffer, 1998). HPWS gives employees more flexibility, opportunity to participate, chance to improve their skills and knowledge and more central role in the organization [33].

Purpose of this paper is to test effectiveness of HPWS using a multi-industry sample of firms operating in the Republic of Korea in order to verify current findings of the international literature on the relationship between HPWS and firm performance. Those findings are based primarily on research carried out in North America and it would be useful to confirm them against data from Asia, and especially Korea [20,23].

Second, most of the empirical studies conducted on HPWS use cross sectional data, which limit the conclusions that can be appropriately drawn from empirical analyses [19]. Although there is no convincing theory or strong empirical evidence on the possible time -lag between a change in any subsequent HR intervention and performance, most of HRM interventions have a long term effect on performance and sometimes taking up to two or three years before producing their effects [21]. In a related research 70 HR managers were asked to estimate the time it would take to design HR system for delivery and implementation. Their answers were in the range of nine to ten mounts for the design and additional 10 to 12 months for the delivery [45].

Third, industry-level studies may be another source of limitation for literature because such studies have been conducted in only a few industries like steel finishing, steel mini-mills and auto assembly [2, 33]. Such a research setting may provide little information across industries and it will be difficult to disseminate research result to other industries [17, 18].

Fourth, industry studies have also suffered from sampling limitations. For example, Arthur's (1992) study of steel mini-mills included only 30 workplaces, and McDuffie's (1995) study of auto assembly plants included only 62 [2,33].This research is aiming to outcome indicated limitations using a large sample-multi industry and longitudinal sample conducted in Korea from 2002-2003.

Theoretical Review

The strategic perspective of HR, which has been labeled strategic human resource management (SHRM), has grown out of researchers desire to demonstrate the importance of human resource practices for organizational performance [16]. An important part of research has reported positive associations between organizational level measures of HRM systems and performance [3, 24]. However, a variety of opinions on how HR practices configure HR systems and what is an ideal HR system for organizational performance have been expressed. Various types of HR systems are proposed. Control and commitment systems which represent two distinct approaches that shapes employee behaviors and attitudes in the work [3]. Miles and Snow (1984) developed a theoretical framework in which two philosophies or alternative systems of human resource management are described: Buy or market-type system and make or internal system [34]. Walton's (1985) conceptual model hypothesizes that commitment work systems outperform traditional work systems in organizations [41]. Laursen and Foss (2003) identified two HRM systems that are conductive system to innovation system [27]. To sum up, previous studies on the classification of HR systems have been likely to suggest two opposing HR systems. The one is a high performance/ high involvement, innovative or sophisticated HR system to improve their competence. The other is a control, traditional and administrative systems which just focuses on the cost of administrating personnel efficiently.

The primary theory of performance being assumed in HPWS research, either implicitly or explicitly, is AMO theory (Ability-Motivation-Opportunity)" and which others have previously referred to as "the performance equation"[1,10,33]. Determinants of job performance put by Vroom (1964) in the following equation: Performance = f (Ability x Motivation) [40]. Blumberg and Pringle (1982) added another source of influence to Vrooms (1964) basic performance equation which they termed as opportunity that included availability of such resources as tools and information, working conditions, leadership, rules and procedures[9,40]. The theory proposes that HPWS practices contribute to development in employee performance and then to a positive change in organizational performance by three related routes: (a) by developing employee skills and abilities; (b) by increasing employee's

motivation for discretionary effort; and c) by providing employees with the opportunity to make full use of their knowledge and skills in their jobs [14].

Huselid‘s research on the relationship between HR practices and corporate financial performance serves as the fundamental work in this area [24]. MacDuffie’s study of automotive assembly plants found that plants with high commitment HR bundles of practices outperform mass production plants [33]. Youndt, Snell, Dean & Lepak tested the relationship between a human capital enhancing HR system and operational performance and found significant results [46]. Hsu, Lin, Lawler & Hwawu used of data from Taiwan and concluded that despite cultural forces that might be expected to limit the effectiveness of high performance work systems in East Asia, for example, managerial paternalism and hierarchy[25]. They concluded companies operating in East and South East Asia are relatively open to accepting and implementing high performance work systems and that high performance work systems have been demonstrated to be effective in increasing a firm‘s performance in this region, again both in foreign-owned and indigenous companies. Lee and Chee (1996) found no relationship between HR practices and firm performance in Korean organization [28].

There are several reasons why HPWS could applicable to Korean organizations. First, Lee and Johnson (1998: 73) argued that: "Managerial values of loyalty, cooperation, and harmony underlie most Korean firms' labor policy. These values mesh well with high-involvement work systems". They also concluded that Korean employee’s highly value education and ready to get additional training which is the basic the basic foundation for effective HPWS implementation [29]. Second, High-involvement work systems require some individualistic features, which seemingly contradict Korean collectivism. However, modern Korean culture is more complex than the traditional culture and can be characterized as a composite of Asian and Western values [4]. "I" feeling and the "we" feeling coexist in Korean behavioral patterns [11]. Third, although implementation of HPWS may not seem applicable to Asian organizations, as a worldwide economic power, Korean organizations operate globally and adopting western style management. Cultural changes seem to be occurring that make workers and employers more open to HPWS [5].

Hypothesis Development

Most of the HRM practices included within HPWS studies fit into one of six broad categories of HRM practices namely:(1) staffing, (2) compensation, (3) flexible job assignments, (4) teamwork, (5) training, and (6) communication [42]. Also Becker and Huselid (1998) suggest that HPWS should be including HRM practices that previous research has indicated are theoretically appropriate [7]. Therefore, within each of the six broad categories the specific HRM practices to be included within this study‘s HPWS must be linked to selecting, developing, motivating a workforce that produces superior organizational performance. From previous research and panel data set design characteristic below practices are selected for HPWS construction.

Employment Security: In a study of the financial performance of 192 banks, Delery and Doty observed a significant relationship between employment security and the banks return on assets [16]. Some empirical research has shown significant, inverse relationships between individual turnover and employment security measured at an individual level [38] .

Selective Staffing: Selective staffing plays an important role in entry level positions at the bottom of organizational career ladder. A good selection procedure allows organizations to cut the training costs of new recruits and also leads to development of professional

capabilities on a regular basis [37]. Delaney and Huselid‘s study finds positive associations between staff selectivity and firms perceived performance [15].

Training: Generally all definitions of high performance management practices stress training and the amount of training provided by HPWS. Empirical results support for the considerable benefits from organizations investments in training [2, 24, and 33].

Performance Appraisal: There is no strong evidence to prove that appraisals positively impact the performance of the employees. But it can be concluded that apart from the direct benefits to the organization, appraisals may contribute to employee satisfaction, which in turn leads to improved performance.

Pay Level: Pay may enhance the firm‘s ability to gain access to a workforce that produces superior employee output [42]. Levine found that workers whose wages were higher than might be predicted, expressed higher levels of job satisfaction, were less likely to quit, and indicated that they would work harder [30].He also discovered a positive relation between changes in wages and changes in productivity. The relationship between pay and voluntary turnover has been empirically supported at organizational level [43].

Performance Based Compensation: Empirical studies on the relationship between performance-related pay and company performance have generally found a positive relationship [24].Research also claimed that performance-based compensation is the single strongest predictor of organizational performance [16].

Employee Involvement: Employee involvement have an positive effect on organizational performance [3,36] .In a similar vein, Li also found that employee involvement has a positive effect on productivity of state-owned enterprises in China [31].

Welfare System: The most important feature of an organization that considering the welfare of employees is abundance of programs designed to integrate and adapt workers to organizational life. Those kinds of programs are believed to improve organizational loyalty and consequently organizational effectiveness [12].

Communication: Research has showed that systems that do not permit employees to have their views taken into account will not be identified as fair and such systems may be associated with negative outcomes [38].

Hypothesis 1: There will be a positive relationship between organizational performances: (a) existence of employment security, (b) use of selective hiring methods, (c) training programs, (d) performance evaluation systems, (e) wage based reward, (f) performance based reward, (g) employee involvement programs, (h) welfare benefits and (i) effective communication between employees and management.

Hypothesis 2: There will be a negative relationship between turnover rate and (a) existence of employment security, (b) use of selective hiring methods, (c) training programs, (d) performance evaluation systems, (e) wage based reward, (f) performance based reward, (g) employee involvement programs, (h) welfare benefits and (i) effective communication between employees and management.

HPWS- Organizational Performance

The effects of HPWS have shown positive results across industries [1]. Most of the empirical work conducted in industrialized Western countries has shown positive

relationships between the extent of a firm's adoption of HPWS and organizational performance [3, 15, and 24]. A more positive note, Combs et al., who carried out a meta-analysis of 92 recent studies on the HPWS–firm performance relationship, found that an increase of one standard deviation in the use of high-performance work practices (HPWP) is associated with a 4.6 per cent increase in return on assets, and with a 4.4 percentage point decrease in turnover [13]. **Hypothesis 3a:** The presence of a high performance work systems positively related to organizations financial performance

HPWS should lead to fewer turnovers because it offers employees more flexibility, freedom and participation opportunities in workplace. Arthur (1994) has found that organizations that adopted commitment-based human resource systems, or HPWS, have lower turnover rates compared to the organizations that adopted control-based human resource systems [3]. Huselid (1995) has noted that the effect of HPWS s would operate mainly through the impact on voluntary turnover [24]. HPWS generate a work environment in which employees experience commitment, motivation, increased worker autonomy and satisfaction, which may affect workforce turnover [1]. **Hypothesis 3b:** The presence of a high performance work systems is negatively related to turnover-rate.

Sample Structure

The Workplace Panel Survey is a statistical survey conducted by the Korea Labor Institute (a government-funded policy research body). The surveys are conducted with 2276 sample workplaces in 2002 with a response rate 88.1 % and 2164 sample workplaces in 2003 with a response rate of 92.61%. The return rates from management respondents, at over 80 per cent, compares favorably with most US studies which struggle with response rates around or even below 25 per cent [7]). Survey is including questions regarding the industry specifications, human resources practices and union characteristics

Independent Variables and Control Variables

Employment security is measured as a dummy variable that takes of value 1 if company has the policy that states no forced reduction of full time workers and 0 otherwise [26]. Employee involvement is measured as the number of suggestions made in one year by one employee and the percentage of adopted suggestion [33]. Selective hiring is measured by two items. Sample item is the total number of recruiters that company use frequently. Training is measured by two items. Sample item is the percentage of employees that received training in one year [42]. Performance evaluation is measured by three items. Sample item is if the percentage of employees gets periodic performance evaluation [24]. Pay level is measured with a 5 point Likert scale, changing from very low to very high, as average wage level of the company with respect to the other companies in the same industry [44] .Performance based compensation is measured by 3 items. Sample item is if workplace has employee stock ownership plan or not. Welfare benefits is measured with a 5 point Likert scale, changing from very good to very bad, as workplaces welfare benefits plans compared to competing companies in the same field [32]. Communication is measured with a dummy variable that take value 1 if the workplace has the communication programs (attitude surveys, newsletters, electronic board, conversation with executives, hot line with executive and regular gatherings) and 0 otherwise [21] .Selection of the control variables for each dependent variable is consistent with Huselid’s research including firm size, capital intensity, existence of union or work council and industry type [24].

Dependent Variables

Prior work on the measurement of corporate financial performance is extensive. Perhaps the primary distinction to be made among the many alternative measures is between measurement of accounting and economic profits [8]. This study focuses mainly on three dimensions of firm performance which are important for economic profits and also for shareholders of the organizations, net profit margin on sales, ordinary income on sales and ordinary income on total asset. The natural logarithms of each financial variable are used for regression analysis. The level of turnover within each workplace was assessed with

a single question, ―How much was the monthly turnover rate of employees in your company last mount? This measure includes both voluntary employee departures and involuntary ones

Method

In this research additive approach is used in order to estimate the overall effect of HPWS on organizational performance and monthly turnover rate. The additive approach to combining practices will be used for several reasons. Statistically, the additive combination of practices has the desirable property that the sum of normally distributed variable scores is still normally distributed which is not true for the multiplicative product. Conceptually, a multiplicative relationship implies that if any single organizational practice is not present, the "bundle" score (and effect) should be zero. Although practices in a bundle are expected to be interrelated, the absence of a particular practice will not eradicate the effect of all other practices, but will weaken the net effect of the bundle [33]. Youndt et al. also (1996) grouped practices by theoretical rationales rather than factor analysis [46]. They also stated that an additive approach to combining HR practices into an index suggest that firms can improve performance either by increasing the number of practices they employ within the system or by using the practices in an HR system in a more comprehensive and widespread approach. The common thing in these studies is that they computed measures of systems of HRM practices by grouping practices together and taking the average or sum of those practices. These scales or indexes were then used to estimate the effect of the HR system on performance.

The validation of the measures is conducted through three analyses: Factor analysis, reliability analysis for HPWS index and correlation analysis for all variables. Since high multi collinearity results in incorrect estimations of regression analysis, the total correlation matrix of the model was reviewed and no significant multi-collinearity was detected. All individual practices are z-standardized, added together then divided by the number of items in order to get HPWS index. The mean standardized value for the questions was included in the HRM system index. The alpha was 0.591, which is statistically less than satisfactory. However, HPWS scale alpha is in line with the alpha scores in similar studies conducted in the United States [7] and, given the diversity of HRM practices included in the construct, not particularly surprising. (COORELATION MATRİX IS ATTACHTED TO THE END OF PAPER.IT CAN BE EXCLUDED IF YOU CONCLUDE THAT IT WİLL BE TO LONG)

Hypothesis Testing

Linkages between the HPWS scores, organizational performance and moderating variables, as specified in the hypothesis, were examined in three stages using a series of regression analyses. The first stage examined the effects of the control variables, second step examined High Performance' Work Practices (HPWS) on each of the organizational performance variables, the net profit margin on sales, ordinary income, sales and ordinary income on total asset and monthly turnover rate. Third step examined the moderating effects of environmental dynamism and union influence and power. These regressions used workplace data from the management survey data set and employee representative data set

and controlled for firm size, capital intensity, existence of union or work council and industry type.

Hypothesis 1 (a)-(e), which propose positive relationship between financial organizational performance and use of HPWS practices individually. This hypothesis is tested by regression analysis. As shown in table 2. Wage based reward (β= 0.130, $p < 0.001$) and training (β= 0.160, $p< 0.01$) estimated dependent variable ordinary income on sales. Net profit margin on sales also estimated by based reward (β=0.062, $p < 0.001$) and training (β= 0.028, $p < 0.05$). Another financial performance variable ordinary income on total asset also estimated by based reward (β= 0.063, $p <0.05$) and training (β= 0.075, $p <0.01$).All regressions controlled for, size, capital intensity, union presence and industry. All financial organizational performance variables are estimated only by pays level and training variables. Other individual HPWS practices didn‘t estimate regression equation. So it can be concluded that only hypothesis 1 (c) and hypothesis 1 (e) is supported.

SET TABLE 2 HERE

Hypothesis 2 (a) - (e) which propose an adverse relationship between monthly turnover rate and use of HPWS practices individually. This hypothesis is tested by regression analysis. As shown in table 2, performance based reward (β = 0.094, $p < 0.01$), employee involvement (β = -0.064, $p < 0.1$) and welfare benefits (β = -0.090, $p < 0.05$) estimated dependent variable. Other individual HPWS practices didn‘t estimated dependent variable. So only hypothesis 2 (f), 2(g) and 2(h) is supported.

Hypothesis 3a posited that the presence of a high performance work systems positively related to organizations financial performance. Table 3 shows the following results: HPWS were significantly predictors of ordinary income on sales (β= 0.160, $p <.001$), net profit margin on sales (β=0.044, $p <.01$) and ordinary income on total asset (β=0.060, $p <.01$) after controlling size, capital intensity, union presence and industry. Thus, Hypothesis 1a was supported.

Hypothesis 3b posited that the presence the presence of a high performance work systems is negatively related to turnover-rate. As shown in Table 3, HPWS were negatively significant predictor of monthly turnover (β= -0.084, $p <.01$) after controlling size, capital intensity, union presence and industry. Thus, Hypothesis 1b was supported.

SET TABLE 3 HERE

Discussion and Conclusion

In today‘s organizations, the performance management of human resources and systemic approach, especially high-performance work systems is receiving a good deal of emphasis. The intent of this study was to examine the influence of high performance work systems on organizational performance. Across a wide range of industries and firm sizes, investments in High Performance work systems are associated with lower employee turnover and greater firm performance. This analysis supports arguments and previous findings suggesting that organizational performance can be enhanced by high-performance work systems [3,22,24,33 and 37]. Findings also suggest that organizations should be conscious of the fact that high performance work practices likely yields these results due to their impact on the skills, knowledge, motivation, creativity, and opportunities afforded to organizational members. Although organizations HPWS may not the only determinant of a firm's performance, it has been shown that it is an important determinant. Therefore, workers are not just a cost to be

consumed; rather, as is maintained in the resource-based perspective, people and HRM are emerging as critical sources of competitive advantage for firms. Another finding of this study revealed high-performance human resource practices to be related to the one of the organizational performance indicator, namely turnover. Employee turnover rate is especially critical when investments in high-involvement work practices. The findings in this study are particularly supportive of the generalizability of Arthur's (1994) study of the U.S. steel mini-mill industry [3]. The results present study suggests that use of high-involvement work practices may have implications for the turnover. Turnover is adversely associated with the use of these practices. Greater use of high-performance work systems is associated lower quit rates. Organizations should recognize that use of high-involvement work practices will decrease their turnover rate and consequently increase their reliance upon employees' tacit or specialized knowledge, making them more distinctive and less easily replaceable.

References

1. Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A., (2000), “Manufacturing Advantage: Why High-Performance Work Systems Pay Off ’, Ithaca, New York: Cornell University Press.
2. Arthur, J.B., (1992), “The Link between Business Strategy and Industrial Relations Systems in American Steel Minimills”, Industrial and Labor Relations Review, Vol. 45, pp: 488-506.
3. Arthur, J. B., (1994), “Affects of Human Resource Systems on Manufacturing Performance and Turn-over”, Academy of Management Journal, Vol. 37, pp: 670-687
4. Bae, J., (1997), “Beyond Seniority-based Systems: A Paradigm Shift in Korean HRM?”, Asia Pacific Rusiness Review, 3(4): 82-110. Vol. 3, Issue: 43, pp: 82-110.
5. Bae, J., Chen, S., Wan, T. W., Lawler, J.J. and Walumbwa, F.O., (2003), “Human resource strategy and firm performance in Pacific Rim Countries”, International Journal of Human Resource Management, Vol. 14, pp: 1308-1332.
6. Bae, J. and Lawler, J.J., (2000), “Organizational and HRM Strategies in Korea: Impact on Firm Performance in an Emerging Economy”, Academy of Management Journal, Vol. 43, pp: 502-518
7. Becker, B.E. and Huselid, M.A., (1998), “High Performance Work System and Firm Performance: A Synthesis of Research and Managerial Implications”, Research in Personnel and Human Resource Management, Vol. 16, Issue: 1, pp: 53-101.
8. Becker, B. E. and Olson, C. A., (1987), “Labor Relations and Firm Performance”, In Morris Kleiner et a1. eds., Human Resources and the Performance of the Firm, Madison, WI: IRRA Research Volume, pp: 43-85.
9. Blumberg, M. and Pringle, C.C., (1982), “The Missing Opportunity in Organizational Research: Some Implications for a Theory of Work Performance”, Academy of Management Review, Vol. 7, pp: 560-569.
10. Boxall, P. and Purcell, J., (2000), “Strategic Human Resource Management: Where Have We Come from and Where Should We be Going?” International Journal of Management Reviews, Vol. 2, pp: 183-203.
11. Chang, C.S. and Chang, N.J., (1994), “The Korean Management System: Cultural, Political, Economic Foundations”, Westport, CT: Quorum
12. Cole, R., (1979), “Work, Mobility, and Participation”, Berkeley: University of California Press

13. Combs, J., Hall, A. and Ketchen, D., (2006), “How much Do High-performance Work Practices Matter? A Meta-analysis of Their Effects on Organizational Performance”, Personnel Psychology, Vol. 59, Issue: 3, pp:501-528

14. Cooke, W. N., (1989), “Improving Productivity and Quality through Collaboration”, Industrial Relations, Vol. 28, Issue: 2, pp: 299–319.

15. Delaney, J.T. and Huselid, M.A., (1996), “The Impact of Human Resource Management Practices on Perceptions of Organizational Performance”, Academy of Management Journal, Vol. 39, Issue: 4, pp: 949-969.

16. Delery, J.E. and Doty, D.H., (1996), “Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency and Configurational Performance Predictions”, Academy of Management Journal, Vol. 39, Issue: 43, pp: 802-835.

17. Godard, J., (1998), “An Organizational Theory of Variation in the Management of Labor”, In David Lewin and Bruce Kaufman, (eds). Advances in Industrial and Labor Relations, Vol. 8, pp: 25-66.

18. Godard, J., (1999), “Beyond the High Performance Paradigm An Analysis of Variation in Managerial Perceptions of Reform Program Effectiveness”, British Journal of Industrial Relations, Vol.39, Issue: 1, pp:25-52.

19. Godard, J. and Delaney, J.T., (2000), “Reflections on the "High Performance" Paradigm's Implications for Industrial Relations as a Field”, Industrial and Labor Relations Review, Vol. 53, Issue: 3, pp: 482-502.

20. Guest, D.E., (1997) “Human resource Management and Performance: A Review and Research Agenda”. International Journal of Human Resource Management, Vol. 8, pp: 263-276.

21. Guest, D.E., Michie, J., Conway, M.J. and Sheehan, M., (2003), “Human Resource Management and Corporate Performance in the UK”, British Journal of Industrial Relations, Vol.41, Issue: 2, pp: 291–314

22. Guthrie, J., (2001), “High-involvement Work Practices, Turnover and Productivity: Evidence from New Zealand”, Academy of Management Journal, Vol. 44, pp: 180-192.

23. Hiltrop, I.M., (1996), “The Impact of Human Resource Management on Organizational Performance: Theory and Research”, European Management Journal, Vol. 14, Issue: 63, pp: 628-37.23.

24.Huselid, M.A., (1995), “The Impact of Human Resource Management Practices on Turnover, Productivity and Corporate Financial Performance”, Academy of Management Journal, Vol. 38, Issue: 3, pp: 635-672.

25. Hsu, I.C., Lin, C.Y., Lawler, J.J., Hwawu, S. (2007), “Toward a Model of Organizational Human Capital Development: Preliminary Evidence from Taiwan”, Asia Pacific Business Review, Vol. 13, Issue:, 2 pp:251-275.

26. Ichniowski, C., Shaw, K. and Prennushi, G., (1997), “The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines. American Economic Review’, Vol. 87, Issue: 3, pp: 291-313.

27.Laursen, K.and Foss, N.J., (2003), “New Human Resource Management Practices, Complementarities and Impact on Innovation Performance”, Cambridge Journal of Economics, Vol. 27, pp: 243-263

28. Lee, M.B., and Chee, Y., (1996), “Business Strategy, Participative Human Resource Management and Organizational Performance: The Case of South Korea”, Asia Pacific Journal of Human Resources, Vol. 34, pp:77–94.

29. Lee, M.B. and Johnson, N.B., (1998) “Business Environment, High-Involvement Management, and Firm Performance in Korea”, Advances in Industrial and Labor Relations, Vol. 8, pp: 67-87.

30. Levine, D., (1995), “Reinventing the Workplace: How Business and Employers Can Both Win”, Washington, DC: Brookings Institution Press.

31. Li, J., (2003), “Strategic Human Resource Management and MNEs' Performance in China”, International Journal of Human Resource Management, Vol. 14, Issue: 23, pp: 157-173.

32. Lincoln, J.R and Kalleberg, A.L., (2001), “Commitment, Quits, and Work Organization in Japanese and U.S. Plants”, Industrial and Labor Relations Review, Vol. 50, Issue: 13, pp: 39-59.

33. MacDuffie, J.P.,(1995), “Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry”, Industrial & Labor Relations Review, Vol. 48, Issu: 2, pp: 197-221.

34. Miles, R.E. and Snow, C.C., (1984), “Designing Strategic Human Resource Systems”, Organizational Dynamics, Vol. 31, Issue: 1, pp: 36–52.

35. Osterman, P., (1994), “How Common is Workplace Transformation and Who Adopts It?” Industrial Relations and Labor Relations Review, Vol. 47, pp: 173-88.

36. Pfeffer, J., (1994), “Competitive Advantage through People: Unleashing the Power of the Workforce”, Boston: Harvard Business School Press.

37. Pfeffer, J., (1998), “The Human Equation: Building Profits by Putting People First”, Boston, MA: Harvard Business School Press

38. Shaw, J.D., Delery, J.E., Jenkins, G.D., and Gupta, N., (1998), “An Organization-Level Analysis of Voluntary and Involuntary Turnover”, Academy of Management Journal, Vol. 41, pp: 511–525.

39. Ulrich, D.O., (1987), “Organizational Capability as a Competitive Advantage: Human Resource Professionals as Strategic Partners”, Human Resource Planning, Vol. 10, 4, pp: 169-184

40. Vroom, V.H., (1964), “Work and Motivation”. New York: Wiley

41. Walton, R.E., (1985), “From Control to Commitment in the Workplace”, Harvard Business Review, Vol. 63, pp: 77-84

42. Way, S.A., (2002), “High Performance Work Systems and Intermediate Indicators of Firm Performance within the US Small Business Sector”, Journal of Management, Vol. 28, pp: 765-785.

43. Wilson, N. and Peel, J. M., (1991), “The Impact of Absenteeism and Quits on Profit-Sharing and Other Forms of Employee Participation”, Industrial and Labor Relations Review, Vol. 44, pp: 454-468.

44. Wright, P.M., Gardner, T.M., Moynihan, M. and Allen, M.R., (2005), “The Relationship between HR Practices and Firm Performance: Examining Causal Order”, Personnel Psychology, Vol. 58, pp: 409–446.

45. Wright, P.M., McCormick, B., Sherman, W.S. and McMahan, G.C. (1999), “The Role of Human Resource Practices in Petro-Chemical Refinery Performance”, International Journal of Human Resource Management, Vol. 10, pp: 551-571.

46. Youndt, M.A., Snell, S.A., Dean, J.W. and Lepak, D.P., (1996), “Human Resource Management, Manufacturing Strategy, and Firm Performance”, Academy of Management Journal, Vol. 39, pp: 836-866.

Table 1-1 Correlatiin Analysis

	Mean	Standard Deviation	N	1	2	3	4	5	6	7	8	9	10
1 Size	4,7214	1,18352	2001	1									
2 Capital Intensity	12,1204	1,43247	1743	.205(**)	1								
3 Union Status	0,3546	0,47851	2008	.451(**)	.211(**)	1							
4 Manufacturing Industry	0,4391	0,49637	2733	.146(**)	.151(**)	-.055(*)	1						
5 Construction Industry	0,06	0,23754	2733	-.056(*)	.080(**)	-.118(**)	-.224(**)	1					
6 Personnel Business Service	0,1072	0,30943	2733	-.129(**)	.095(**)	-.095(**)	-.307(**)	-.088(**)	1				
7 Distribution Services	0,1083	0,31082	2733	0.026	-0.027	.292(**)	-.308(**)	-.088(**)	-.121(**)	1			
8 Business Services	0.187	0,38996	2733	-.078(**)	-.430(**)	-.064(**)	-.424(**)	-.121(**)	-.166(**)	-.167(**)	1		
9 Social Business Services	0.079	0,26984	2733	-0.017	-0.023	0.007	-.259(**)	-.074(**)	-.102(**)	-.102(**)	-.140(**)	1	
10 Other Industries	0,0194	0,13793	2733	0.012	.148(**)	.105(**)	-.124(**)	-0.036	-.049(*)	-.049(*)	-.067(**)	-.041(*)	1
11 Employment Security	0	1	1988	.139(**)	0.006	.259(**)	-0.014	-0.034	-.044(*)	.103(**)	-0.042	0.022	0.043
12 Selective Hiring	0	0,73378	2005	.252(**)	.149(**)	.161(**)	-.048(*)	0.017	0.014	0.014	0.009	0.006	.056(*)
13 Training	-0,0879	0,74005	1933	.230(**)	.123(**)	.061(*)	0.042	.056(*)	-0.014	-.098(**)	0,02	-.061(**)	.057(*)
14 Performmance Evaluation	0,1198	0,64245	1621	.205(**)	.234(**)	0.046	-.071(**)	-0.002	.058(*)	-.087(**)	.102(**)	0.002	.055(*)
15 Pay Level	0	1	1971	.114(**)	.093(**)	-0.012	.057(*)	-.044(*)	-0.023	-.069(**)	0.002	0.024	0.035
16 Performance-based Reward	0,0016	0,65111	1952	.189(**)	.212(**)	-0,04	.102(**)	0.019	0,04	-.164(**)	0.011	-.096(**)	0,01
17 Employee Involvement	-0.031	0,77903	1980	.229(**)	.106(**)	.079(**)	.224(**)	-.055(*)	-.050(*)	-.109(**)	-.121(**)	-.053(*)	0.035
18 Welfare Benefits	0	1	1996	.119(**)	0.047	.092(**)	.048(*)	-.062(**)	-0.043	.060(**)	-.051(*)	-0.007	0,03
19 Communication	0,05	0,82303	2004	.288(**)	.205(**)	.092(**)	.067(**)	-0.042	0.021	-.123(**)	0.017	-0.019	.057(*)
20 HPWS	0,0576	0,41913	1377	.404(**)	.241(**)	.195(**)	.087(**)	-0.046	-0.017	-.089(**)	-0.039	0.004	.082(**)
21 Ordinary Income on Sales	-0,5829	60,70726	1858	0.044	-.060(*)	-0.016	-0,02	0,009	0.008	0.012	-0.008	0.003	0.026
22 Net Profit Margin on Sales	0,0849	50,5664	1858	0.022	-.049(*)	-0.013	-0,008	0.015	0.022	0.002	-0.023	-0.015	0,02
23 Ordinary Income on Total Asset	4,2796	13,8517	1992	.075(**)	-.157(**)	-0,04	-0,021	0.031	-0.003	0	0	0.004	0,02
24 Monthly Turnover Rate	3,3275	5,24836	1986	-0.041	-.126(**)	-.061(**)	0,05(*)	0.056(*)	-0,03	.048(*)	0.037	-0.016	-0.033

(+< .10, * p< .05, **p<0.01, ***p<0.001, All industry variables are dummy coded)

Table 1-2 Correlation Analysis

	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Size														
2 Capital Intensity														
3 Union Status														
4 Manufacturing Industry														
5 Construction Industry														
6 Personnel Business Service														
7 Distribution Services														
8 Business Services														
9 Social Business Services														
10 Other Industries														
11 Employment Security	1													
12 Selective Hiring	.110(**)	1												
13 Training	.088(**)	.207(**)	1											
14 Performmance Evaluation	0.045	.155(**)	.224(**)	1										
15 Pay Level	-0.004	.110(**)	.133(**)	.125(**)	1									
16 Performance-based Reward	0	.148(**)	.251(**)	.315(**)	.122(**)	1								
17 Employee Involvement	.089(**)	.124(**)	.176(**)	.148(**)	.111(**)	.149(**)	1							
18 Welfare Benefits	.060(**)	.120(**)	.129(**)	.094(**)	.399(**)	.106(**)	.149(**)	1						
19 Communication	.099(**)	.238(**)	.323(**)	.322(**)	.190(**)	.316(**)	.195(**)	.226(**)	1					
20 HPWS	.342(**)	.445(**)	.525(**)	.475(**)	.540(**)	.442(**)	.445(**)	.545(**)	.602(**)	1				
21 Ordinary Income on Sales	0,03	0,02	-.078(**)	0.026	0.009	-0.021	0.021	0.039	0.021	0.008	1			
22 Net Profit Margin on Sales	0.042	0.015	-.075(**)	0.017	-0.013	-0.043	0.006	0.001	0.006	-0.003	.891(**)	1		
23 Ordinary Income on Total Asset	0.035	-0.008	0.043	-0.015	.151(**)	.056(*)	0.038	.100(**)	.062(*)	.106(**)	.486(**)	.426(**)	1	
24 Monthly Turnover Rate	0.012	-.061(**)	-0.022	-.053(*)	-.065(**)	-.067(**)	-.046(*)	-.054(*)	-.074(**)	-.095(**)	-0.006	-0.019	0.008	1

(+< .10, * p< .05, **p<0.01, ***p<0.001, All industry variables are dummy coded)

TABLE 2 Regression Analysis
Individual Practices and Organizational Performance

	Ordınary Income on Total Sales	Net Profit Margin on Sales	Ordinary Income on Total Asset	Turnover
	Standardized β	Standardized β	Standardized β	Standardized β
Size	-0.057	-0.023	-0,03	0.015
Capital Intensity	0.005	-0.034	-0.021	-.105**
Union Status	0.004	.030*	-0.021	0,02
Manufacturing	-0.051	-0.011	-0.053	0,08
Construction	0.008	0.001	0.032	-0,03
Personnel Business Services	-0.026	-0.012	0.006	.097**
Distribution	0.019	0.003	-0.006	-0.023
Business Services	-.066*	-.050***	-0.019	-0.041
Social Business Services	-0.019	-0.011	-0.035	-0,04
Other Industries	0.039	0.017	0.012	-0,01
Employment Securuty	-0.001	0.011	-0.016	-0,03
Selective Hiring	0.016	0.004	0.037	-0.026
Training	.074**	.028*	.075**	0.018
Evaluation	0.037	0.013	0.026	-0.025
Pay Level	.130***	.062***	.063*	0.009
Performance Based Reward	0.024	-0.012	0.032	.094*
Employee Involvement	0.036	0	0.027	-0.064+
Welfare Benefits	0.021	-0.017	0.029	-.090*
Communication	-0.028	-0.004	-0.034	-0,02
Ordinary Income on Sales	0.234***			
Net Profit Margin on Sales		-0.903***		
Ordinary Income on Total Asset			0.509***	
Turnover Rate				0.062*
R	0.306	0.908	0.549	0,21
R Square	0.094	0.825	0.302	0.046
Adjusted R Square	0.075	0.822	0.288	0.023
f	5.142	235,45	21,56	1.996
Df	19-966	19-966	19-968	19-811

+< .10, * p< .05, **p<0.01, ***p<0.001, All industry variables are dummy coded

TABLE 3 Regression Analysis
HPWS and Organizational Performance

	Ordinary Income on Total Sales		Net Profit Margin on Sales		Ordinary Income on Total Asset		Turnover	
	STEP 1	STEP 2	STEP 1	STEP 2	STEP 1	STEP 2	STEP 1	STEP 2
Size	0.016	-0.059	-0,06	-0.024	.110***	.041	-.005	.028
Capital Intensity	0.014	0.006	0.056	-0.034*	-.123***	-.064**	-.087	-.071
Union Status	-0.023	-0.015	0.069	0.027	-.084**	-.041	-.006	-.002
Manufacturing Industry	-0.051	-0.038	-0.011	0.003	-.053**	-.097**	0,08	-.069
Construction Industry	0.011	0.013	-0.017	0.005	.070**	0,07	-.022	-0,03
Personnel Business	-0.025	-0.031	-0.031	-0.013	.032	.026	.102**	.104**
Distribution Business	0.026	0.019	-0.017	0.003	-.061	-.032	-.021	-0,02
Business Services	-0.061	-0.062	-0,01	-0.048**	-.118***	-.033	-.018	-.017
Social Business Services	-0,02	-0.022	-0.013	-0.008	-.074**	-.017	-0,04	-.041
Other Industries	0.057	0.038	-0.019	0.017	.041	.022	-.022	-.018
Ordinary Income on Sales		0.225***						
Net Profit Margin on Sales				-0.906***				
Ordinary Income on Total Asset						.615***		
Turnover Rate								.061*
HPWS		0.160***		0.044**		.060**		-.084**
R	0.101	0.285	0,91	0.907	0,2	.645	.145	.176
R Square	0,01	0.081	0.008	0.822	0,04	.416	.021	.031
Adjusted R Square	0.001	0.071	0.001	0,82	.031	0,41	0,1	.018
F	1.092	7.648	0.881	401,9	4.442	62.086	1.924	2.338
Df	9~966	11~966	9-966	11-966	9-968	11-968	9-811	11-811

(+< .10, * p< .05, **p<0.01, ***p<0.001, All industry variables are dummy coded)