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ABSTRACT

Using data gathered from 132 organizations operating in Ireland, we examined the impact of high performance work systems (HPWS) and partnership on firm-level performance. Our results reveal that HPWS and partnership practices are positively associated with labour productivity, workplace innovation and negatively associated with voluntary turnover. More specifically, both HPWS and partnership are positively associated with labour productivity and employee retention, and the positive relationship between partnership and workplace innovation is mediated by HPWS.

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INTRODUCTION

> There is an urgent need for further research on the impact of new partnership-style arrangements on organizations, on management, on employees and on unions. As further momentum grows behind partnership it becomes more important to have stories, which show the implications for people and for thinking in management, employee relations and human resources. There is also a need for careful and rigorous studies of the impacts: studies, which quantify outcomes and demonstrate results (O'Connell, 2003: 75).

High performance work systems (HPWS), a set of human resource policies and practices thought to encourage workforce skill and motivation, have gained much attention in recent years. Many recent studies (e.g., Huselid, 1995; Guthrie, 2001, Appelbaum et al., 2000; MacDuffie, 1995; Datta et al., 2005) have indicated a positive relationship between the adoption of HPWS and firm outcomes. O'Connell (2003) argues that high-performance HR practices are central to the notion of "partnership". Partnership denotes a philosophy of collaboration or mutuality between management and employees for the purpose of organizational problem-solving and functioning. Partnership also indicates an "employee-centred" organization design. Similar to O'Connell's views, authors in the strategic HRM literature (e.g., Guthrie, 2001) describe firms utilizing HPWS as employee-centred organizations. This is because information and decision-making power is dispersed throughout the organization with employees at all levels taking on greater responsibility for the operation and success of the organization. Research in international settings has suggested that, as a form of partnership, HPWS can help create and sustain competitive advantage. We believe that managerial philosophies or values espousing "employee partnership" may affect both the use of high performance HR practices and firm performance.

In this paper, we examine the impact of HPWS together with partnership on three important outcome measures: labour productivity, workplace innovation and employee voluntary turnover. Our research question is whether partnership directly or indirectly affects firm performance. We first review previous studies linking HPWS and partnership to firm performance. We next present a description of our research method and finally, report our findings and consider the implications.

High Performance Work Systems (HPWS)

High performance work practices have gained enormous popularity in recent years and numerous strategic human resource management (SHRM) studies have examined the impact of "bundles" of HR practices on organizational outcomes. A growing body of work contains the argument that the use of a set of HR practices, including comprehensive employee recruitment and selection procedures, compensation and performance management systems, information sharing, and extensive employee involvement and training, can improve the acquisition, development and retention of a talented and motivated workforce (e.g., Arthur, 1994; Batt, 2002; Becker and Gerhart,

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1996; Datta et al., 2005; Guthrie, 2001; Huselid, 1995; Huselid and Becker, 1996; Jones and Wright, 1992; MacDuffie, 1995; United States Department of Labour, 1993). These HR practices are referred to as high involvement (e.g., Guthrie, 2001), high commitment (Arthur, 1994), or high performance work systems (Datta et al., 2005; Pfeffer, 1994, Huselid, 1995). The idea that a system of HR practices may be more than the sum of the parts appears in discussions of synergy, external and internal fit, bundles, holistic approaches, configurations, contingency factors, and so forth (Datta et al., 2005; Huselid, 1995, Flood et al., 2003, Becker and Gerhart, 1996, Amit and Shoemaker, 1993). Although there is debate as to the specific configuration of practices constituting a high performance system, a system or set of human resource management practices is considered to be more difficult to imitate than individual HRM practices for competitors. Some work suggests "universal" HPWS effects (e.g., Huselid, 1995), while other work suggests that HPWS effects may depend on conditions such as competitive strategy or industry (e.g., Datta et al., 2005). The common theme in the SHRM literature is an emphasis on utilizing a system of human resource management practices that provides employees with skills, information, motivation and latitude, resulting in a work force that is a source of competitive advantage.

Among a number of studies of HPWS, Huselid's (1995) landmark study examined the relationship between the use of HPWS and firm performance. His main finding was that greater use of these types of HR practices was associated with decreased turnover and higher levels of productivity and profitability. Since then many studies have indicated a positive relationship between the adoption of an HPWS and firm-level performance outcomes including productivity and innovation (e.g. CIPD, 2006; Flood et al., 2004; Guthrie, 2001, Appelbaum et al., 2000; MacDuffie, 1995; Datta et al., 2005).

Partnership in Organizations

Guest and Peccei (2001) describe partnership as a concerted effort by owners and managers to create an environment where employees take a significant psychological stake in the success of the organization. This is achieved through building high levels of attachment, commitment, and involvement in the enterprise. In addition, a partnership philosophy relies on both employees and management to focus on shared goals and interests without being derailed by potentially different positions on specific issues (Guest & Peccei, 2001). As such, partnership represents a philosophy of integration and mutuality, with a move away from conflicting positions and distinctions (Martinez-Lucio & Stuart, 2002).

Labour-management partnership embraces six principles: a focus on the quality of working life, employer commitment to employment security, transparency in the management of enterprise, the recognition of legitimate differences of interest, shared commitment to the success of the enterprise and mutual gains.

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McCartan discusses the primary values espoused by partnership philosophies including: mutual trust and respect, a joint vision for the future, continuous information exchange, employment security, and dispersed decision-making (2002: p. 60). Conceptually, partnership has been argued to increase productivity, boost quality, provide a more motivated workforce, and precipitate drops in absenteeism and turnover (Roscow & Casner-Lotto, 1998). In addition, it is likely that this focus on the internal relationships within the firm will result in higher degrees of collaboration and knowledge sharing, which ultimately builds social capital.

Empirical research on partnership has been somewhat mixed. Kelly and Badigannavar (2005) examined employee outcomes of partnership in a medium-sized non-union retail firm and found little evidence of "mutual gains" of employees and management. In a case study of unionized British firms the espoused values of partnership were linked to greater perceptions of trust in some organizations but not in all employees (Dietz, 2004). Similarly, a study of trade union representatives found acceptance of aspects of partnership including a commitment to less-adversarial relations between labour and management, failed to find evidence that partnership-based firms improved job security, transparency, involvement or work-life quality (Martinez-Lucio & Stuart, 2002).

However, Guest and Peccei (2001) presented a framework for the analysis of partnership, emphasizing the principles, practices and outcomes of partnership. Using samples of 54 UK management and employee representatives, they found a link between partnership principles and practices and employee attitudes and behaviour. Their findings support mutual gains. In addition, partnership practices and principles have been found to be a salient factor in the implementation of organizational change initiatives (Bacon & Storey, 2000; Oxenbridge & Brown, 2002).

In addition, in previous studies, no evidence has shown if the observed relationship between partnership and firm performance, either positive or negative, is based on an environment with HPWS practices. Our study will focus on examining the exact relationships between HPWS together with partnership and firm performance. Next we present our research method.

METHOD

The empirical approach adopted here draws on previous work (e.g., Datta et al., 2005; Guthrie, 2001; Guthrie, Spell & Nyamori, 2002). The basic procedure was to solicit survey-based descriptions of management practices in the areas of communication and participation, training and development, staffing and recruitment, performance management and remuneration and partnership, and to match these with objective indices of firm performance. Survey instruments were sent to the top HR manager in sample firms. An additional person, typically the firm's Managing Director was also targeted for receipt of a secondary survey to establish inter-rater reliability and to gather additional important information.

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Sample

A mail survey which was designed according to the Total Design Method (Dillman, 2000) was executed in 2006. The sample of 1000 firms was drawn from "The Irish Times Top 1000 Companies" database, which is a representative, multi-industry set of Irish-based operations. The sample includes both indigenous Irish firms and foreign-owned firms with operations in Ireland. In total, 241 companies participated; 132 of them completed both surveys, resulting in an overall response rate of 13.2%. These 132 companies were representative of the larger top 1000 companies in Ireland in terms of firm size, age of firm, type of industry and country of ownership. Analysis in this paper is based on data from the 132 companies with responses to both surveys.

Responding organizations represented a variety of industries. Nearly one third of participating companies were from manufacturing, including 7 percent from metal manufacturing and 24 percent from other manufacturing. 27 percent of participating companies were involved in service industries - finance, personal, recreational, health and other services.

Of the organizations that responded, 50 percent (n=66) were subsidiaries of foreign companies, including those from USA (25.8 percent, n=34), Germany (6.8 percent, n=9), and UK (5.3 percent, n=7). The remaining 50 percent were wholly Irish owned organizations. The average firm had been established for about 37 years with a median number of employees of 270. Average research and development investment was 3.89 percent of annual turnover.

Measures

All measures were computed based on practices recommended in the literature (Huselid, 1995; Guthrie, 2001; Datta et al., 2005; Guest and Peccei, 2001). Data regarding HPWS was obtained from the HR manager survey. Data regarding partnership was obtained from the secondary (GM) respondent survey. Data regarding performance were obtained from both the HR manager and the secondary survey respondent and were statically combined to form single measures for each of the three performance-related outcomes, labour productivity, innovation and voluntary turnover.

High Performance Work Systems

We used 18 HR practices from the areas of staffing, performance management and remuneration, training and development and communication and employee participation to form a single index representing a measure of HPWS. Since practices vary across employee groups, questions relating to HR practices were asked separately for two categories of employees. Group A comprised production, maintenance, service and clerical employees; Group B comprised executives, managers, supervisors and professional/technical employees. Sample items are "What proportion of your employees from Groups A and B are administered one or more employment tests (e.g., skills tests, aptitude tests, mental/cognitive ability tests) prior

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to hiring? "What proportion of your employees from Groups A and B have received intensive/extensive training in generic skills (e.g., problem-solving, communication skills, etc.)? "What proportion of your employees from Groups A and B receive compensation partially contingent on group performance (e.g., profit-sharing, gain-sharing, team-based)? Using the number of employees in each occupational group, a weighted average for each practice was computed. The reliability coefficient, as measured by Cronbach's alpha was 0.854. Table 1 lists a detailed description on HPWS practices.

[Insert Table 1 here]

Partnership

Drawn from Guest and Peccei's study (2001), we used a set of interrelated management practices to measure partnership. Four practices were combined (summed) to form a single index representing a measure of partnership. The Cronbach's alpha is .702. Table 2 presents these partnership items.

[Insert Table 2 here]

Labour Productivity

SHRM theorists have identified labor productivity as the crucial indicator of "work force performance" (Delery & Shaw, 2001) and productivity has been used frequently in a large body of work in the SHRM literature (Boselie & Dietz, 2003). Per other work (e.g., Guthrie, 2001; Huselid, 1995), labour productivity was conceptualised as revenue per employee. Data on the most recent estimates of total sales and total employment were collected via questionnaire from both HR and the secondary respondent. Labour productivity was calculated as total firm revenue divided by the total number of employees. The computed intraclass correlation coefficient (ICC2 = .830) across the respondents supports the reliability and aggregation of these data. A log of the average of labour productivity from both questionnaires was used as a dependent variable in the multiple regression analysis.

Workplace Innovation

Workforce innovation was measured by caclulating new (annual) sales revenue divided by the number of employees in an organization. Each respondent was asked: "What proportion of your organization's total sales (turnover) comes from products or services introduced within the previous 12 months?" The response to this question was multiplied by total sales to yield an estimate of sales revenue generated by new sales. This sales figure was then divided by the number of employees to obtain our measure of workforce innovation – an indication of per capita sales derived from recently introduced products or services. This measure captures a workforce's ability to work smart, i.e. impacting organizational efficiency and innovation through process

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and product innovations. The (log of) the average of the HR and GM survey responses was used in analyses. There was strong agreement, as indicated by the computed intraclass correlation coefficient (ICC2 = .961).

Employee Turnover

Similar to past research (e.g., Guthrie, 2001; Huselid, 1995), the measure of firm employee turnover rates was taken from responses to the following survey question on the HR questionnaire: "Please estimate your annual voluntary employee turnover rate (percentage who voluntarily departed your organization)". This question was asked separately for both categories of employees (Group A and Group B). A weighted average of these separate estimates was computed to represent the overall average rate of employee turnover for each firm.

Control Variables

Models controlled for a number of firm and industry variables. A measure of firm age was obtained from the question "How long has your local organization been in operation?" There was strong agreement across respondents (ICC2 = .961) and responses were aggregated by taking the log transformation of the mean of both respondents' responses. The log of number of employees is used to indicate firm size. Since there was strong agreement across respondents (ICC2 = .933), we aggregated these responses. R & D investment was measured as a percentage of sales/turnover. Respondents were given eighteen response categories and were asked. "Which category (<1%, 1%, 2% ... 16%, >16%) best approximates the percentage of total annual sales/turnover spent on research & development (R&D) in your organization?" The average of the two respondents (ICC2 = .803) was used to estimate R&D spending. We measured unionization by asking "What proportion of your workforce is unionized?" Similar to the HR practice questions, a weighted average of Group A and Group B employees was used to compute unionization. Firm competitive strategy. was taken from a question directed to the GM respondent: "During 2005-06, what proportion of your organization's total sales (turnover) was achieved through a product differentiation strategy?" Skewness in this measure was corrected via a log transformation. We also controlled for country of ownership, coding firms as either Irish indigenous companies (=1) or foreign-owned firms (=0). Industry sector. Firms were dummy-coded to indicate their membership in one of the following seven industries: Agriculture, chemical, manufacturing, retail, services, transportation/communication or financial. The average firm derived approximately 94% of its sales from the designated primary industry. This lack of diversification supports the designation of a primary industry for sample firms. In the OLS analyses, "financial" is the omitted benchmark industry variable.

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ANALYSIS AND RESULTS

The threat of non-response bias exists whenever significant numbers of the targeted population fail to respond. Given a relatively low response rate, we checked for possible non–response bias using a "time trend extrapolation test" in which "late" versus "early" respondents are compared along key study variables (first suggested by Oppenheim, 1966). The assumption behind this test is that "late" respondents (those responses received after the second round of mailing and follow-up telephone calls) are very similar to non-respondents, given that they would have fallen into that category without the follow-up efforts (Armstrong & Overton, 1977). T-tests conducted showed no significant differences between "early" and "late" respondents along any of the key study variables. This analysis suggests sample representativeness.

We used ordinary least squares (OLS) regression analysis to examine our research questions. Table 3 shows the means, standard deviations and correlations of study variables.

[Insert Table 3 here]

Table 4 shows the results of the OLS regression analyses in which high performance management practices and partnership predict the three performance outcome measures of labour productivity, workplace innovation and voluntary employee turnover. We also include our seven control variables (country of ownership, industry sector, firm age, firm size, level of unionisation, R&D investment and competitive strategy), to isolate effects above and beyond the influence of these factors. .

[Insert Table 4 here]

In model 2, we examined the effects of HPWS and partnership on labour productivity. Partnership was entered OLS first and accounts for 3.9% of variance in labour productivity ($p < .01$). HPWS was entered second and explained an additional 10% of variance ($p < .001$). Thus, greater use of partnership and HPWS is associated with increased labour productivity. If we conceive of HPWS as an operationationalization of a partnership philosophy, this implies a mediating relationship. That is, the affect of partnership on productivity may be partially due to the increased likelihood that "partnering" firms will more likely use HPWS.

In discussing the process for examining proposed mediating effects, Baron and Kenny (1986) denote the relationship between the independent variable and a hypothesized mediator as Path a, the relationship between a hypothesized mediator and a dependent variable as Path b, and the relationship between the independent variable and dependent variable as Path c. According to Baron and Kenny:

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A variable functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path a), (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Path b), and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when Path c is reduced to zero (1986: 1176).

Following Baron and Kenny's recommendation, we ran a series of OLS regressions that suggested that HPWS partially mediates the partnership → productivity relationship. A formal test confirms that HPWS partially mediates the relationship between partnership and productivity (Sobel test statistic = 1.649; p =.049, one-tailed).

In model 4, our analysis focused on workforce innovation. Partnership was entered first and accounts for 1.4% of variance in workforce innovation ($p < .10$). HPWS was entered second and explained another 5% of variance ($p < .01$) and reduces the influence of partnership to non-significance. However, a partnership philosophy does affect innovation directly, but instead leads to an increased probability of HPWS use and, in turn, higher levels of innovation. A formal test provides some support for the assertion that HPWS mediates the relationship between partnership and innovation (Sobel test statistic = 1.450; p =.074, one-tailed).

In model 6, we analysed the effects of HPWS and partnership on employee turnover. Partnership was entered first and accounts for 4% of variance in employee turnover ($p < .01$). HPWS was entered second and explained an additional 1.9% of variance ($p < .10$). The addition of HPWS does not significantly reduce the impact of partnership on voluntary turnover. Thus, the impact of partnership on turnover is not mediated by HPWS.

DISCUSSION

Our study reveals that increased use of high performance work systems (HPWS) and partnership practices appears to be associated with very real benefits for employers in the 132 organizations that comprised the sample for this research. Organizations that made greater use of HPWS and espoused a partnership philosophy saw marked increases in labour productivity and innovation and decrease in voluntary labour turnover. When firms used well-developed partnership as well as HPWS, this resulted in even more gains. From a practical standpoint, for the median firm in our sample, our models indicate that increasing use of partnership and HPWS from "average" to "above average" (i.e., from mean to mean plus one standard deviation) will generate an additional 11 million Euro in sales revenue and 290,000 Euro from sales of new products or services.. Furthermore, average voluntary turnover rates of 5.4% suggest that the median sample firm loses approximately 15 employees each year. The affect of HPWS and partnership practices would lead to the retention of an additional 1 -2

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employees per years. Recent work suggests that voluntary turnover has substantial negative implications for firm performance, often costing as much as 150% of the departing employee's annual salary (Cascio, 2006).

These findings serve to improve our understanding of the relationships between high performance work systems together with partnership practices and firm level effectiveness. We identified a set of separate yet interrelated and complementary work practices and examined separate and combined effects of these practices on organizational outcomes. Overall, our research reinforces the important role of HPWS and partnership in creating value, improving innovation and reducing employee turnover in organizations. The use of employee centred and partnership-oriented principles and practices would seem to have a net benefit for employers.

However, a number of factors argue for caution in interpreting study results. First, we cannot claim that the use of HPWS and partnership practices causes labour productivity, workforce productivity and employee turnover. These data were collected simultaneously and thus "cause" relationships may be reverse. While it is more plausible to argue that HR systems and management practices influence productivity, it is certainly possible that firms experiencing greater success are better positioned to invest in these HR practices. Second, although we tested non-response bias, whenever survey response rates are less than 100%, bias may be introduced into the data. Third, although we show a positive association between partnership and HPWS practices and productivity, innovation and employee turnover, we do not explicate the relevant pathways (i.e., the proverbial "black box" problem). Therefore, a further study should try to solve these limitations.

While our study cannot definitely that conclude that investment in HPWS and partnership will lead to productivity and innovation increase, it does support the proposition that increased use of HPWS and partnership will prove advantageous for these firms. While much work remains in determining the pathways by which these types of practices affect important organizational outcomes, we hope that both academics and practitioners will find this study a meaningful contribution to the SHRM literature.

REFERENCES

Amit, R., & Shoemaker, J. H. (1993). Strategic assets and organizational rents. *Strategic Management Journal*, 14, 33-46.

Armstrong SJ & Overton TS. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research* 14: 396-402.

Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37(3), 670-688.

Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2000). *Manufacturing advantage: Why high-performance work systems pay off.* Ithaca, London: ILR Press.

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Bacon, N.; Storey, J.(2000)., "New Employee Relations Strategies in Britain: Towards individualism or partnership", *British Journal of Industrial Relations,* Vol.Sept. 38, 3, pp.407-428.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Batt, R. (2002). Managing customer service: Human resource practices, quit rates, and sales growth. *Academy of Management Journal*, 45(3), 587-597.

Becker, B., & Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39(4), 779-801.

Boselie, P., Dietz, G., and Boone, C. (2005). ‚Commonalities and Contradictions in HRM and Performance Research'. *Human Resource Management Journal, 15(3),* 67-94.

CIPD (2006). *Achieving Best Practice in Your Business: High Performance Work Practices: Linking Strategy and Skills to Performance Outcomes*, London: CIPD

Datta, D.K., Guthrie, J.P. & Wright, P.M. (2005). HRM and labour productivity: Does industry matter? *Academy of Management Journal*, *48*(1), 135-145.

Delery, J.E. & Shaw, J.D. 2001. The strategic management of people in work organizations: Review, synthesis and extension. In. K.M. Rowland & G.R. Ferris (eds). *Research in Personnel and Human Resource Management*, Greenwich, CT: JAI Press, 165-197.

Dietz, G. 2004. Partnership and the development of trust in British workplaces. Human Resource Management Journal 14(1): 5-24.

Dillman, (2000). *Mail and Internet Surveys* (2nd ed.). New York: John Wiley & Sons, Inc.

Flood, P., Guthrie, J., Liu, W., & MacCurtain, S. (2005). *High Performance Work Systems in Ireland: The Economic Case.* Dublin: National Centre for Partnership and Performance.

Flood, P., MacCurtain, S. & West, M. (2001). *Effective Top Management Teams: An International Perspective*, Blackhall: Dublin.

Flood, P., Ramamoorthy, N. & Liu, W. (2003). Knowledge and Innovation: Diffusion of HRM Systems. *Scandinavian Journal of Business Research*, *1*(17), 59-68.

Guest, D. and Peccei, R. (2001). Partnerhsip at work: Mutuality and the balance of advantage. *British Journal of Industrial Relations.* 39 (2): 207-236.

Contact: patrick.flood@dcu.ie

Guthrie, J. P. (2001). High involvement work practices, turnover and productivity: Evidence from New Zealand. *Academy of Management Journal*, *44*, 180-190.

Guthrie, J.P., Spell, C. & Nyamori, R. (2002). Correlates and consequences of high involvement management: The role of competitive strategy. *The International Journal of Human Resource Management, 13*(1), 183-197.

Huselid, M. A. (1995). The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance. *Academy of Management Journal, 38*, 635-672.

Huselid, M. A., & Becker, B. (1996). Methodological issues in cross-sectional and panel estimates of the HR-firm performance link. Industrial Relations. 35: 400-422.

Jones, G. R., & Wright, P. M. (1992). An economic approach to conceptualising the utility of human resource management practices. In K. M. Rowland & G. R. Ferris (Eds.), *Research in personnel and human resources management.* Greenwich, CT: JAI Press.

Kelly, J. and Badigannavar, V. (2005). Labour-management partnership in the non-union retail sector. *International Journal of Human Resource Management* 16(8): 1529-1544.

MacDuffie, J. P. (1995). Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry. *Industrial and Labor Relations Review*, *48*, 197-221.

Martinez-Lucio, M., Stuart, M. (2002), Assessing partnership: the prospects for, and challenges of, modernisation, *Employee Relations,* Vol. 24 No.3, pp.252-61.

O'Connell, L. (2003). *Achieving high performance: Partnership works – The international evidence. Forum on the Workplace of the Future*, National Center for Partnership Performance.

Oxenbridge, S., Brown, W.A. (2004), "Developing partnership relationships: a case of leveraging power", in Stuart, M., Martinez-Lucio, M. (Eds),*Partnership and Modernisation in Employment Relations*, Routledge, London.

Pfeffer, J. (1994). *Competitive advantage through people.* Boston: MA: Harvard Business School Press.

Rosow, Jerome M., Jill Casner-Lotto (1998). P*articipation, Achievement, Reward: Creating Infrastructure For Managing Continuous Improvement. Part III: Reward. Scarsdale,* NY: Work In America Institute, Inc., 84 pp.

United States Department of Labour. (1993). *High performance work practices and firm performance.* Washington, D.C.

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TABLES AND FIGURES

Table 1: High Performance Work Practices in Irish Companies

Staffing: What proportion of your employees.....	**Score**
Are administered one or more employment tests (e.g., skills tests, aptitude tests, mental/cognitive ability tests) prior to hiring?	24.19%
Are hired on the basis of intensive/extensive recruiting efforts resulting in many qualified applicants?	57.67%
Hold non-entry level jobs as a result of internal promotions (as opposed to hired from outside of the organization)?	34.37%
Hold non-entry level jobs due to promotions based upon merit or performance, as opposed to seniority?	44.99%
Training & Development: What proportion of your employees..…	**Score**
Have been trained in a variety of jobs or skills (are "cross trained") and/or routinely perform more than one job (are "cross utilized")?	53.72%
Have received intensive/extensive training in company-specific skills (e.g., task or firm-specific training)?	73.58%
Have received intensive/extensive training in generic skills (e.g. problem-solving, communication skills, etc.)?	37.23%
Performance Management & Remuneration: What proportion of your employees..…	**Score**
Receive formal performance appraisals and feedback on a routine basis?	67.32%
Receive formal performance feedback from more than one source (i.e., feedback from several individuals such as supervisors, peers etc.)?	20.57%
Receive compensation partially contingent on *group* performance (e.g., profit-sharing, gainsharing, team-based)?	34.44%
Are paid primarily on the basis of a skill or knowledge-based pay system (versus a job-based system)? That is, pay is primarily determined by a person's skill or knowledge level as opposed to the particular job that they hold	28.16%
Communication & Participation: What proportion of your employees..…	**Score**
Are involved in programmes designed to elicit participation and employee input (e.g., quality circles, problem-solving or similar groups)?	36.88%
Are provided relevant operating performance information (e.g., quality, productivity, etc.)	72.22%
Are provided relevant financial performance information?	68.04%
Are provided relevant strategic information (e.g., strategic mission, goals, tactics, competitor information, etc.) ?	67.41%
Are routinely administered attitude surveys to identify and correct employee morale problems?.	37.63%
Have access to a formal grievance/complaint resolution procedure	96.17%
Are organized in self-directed work teams in performing a major part of their work roles?	36.09%
	Average score
HPWS	48.81%

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Table 2: Partnership Items

Item	Definition
There is a high level of trust between management and employees	Strongly disagree=1; 2; 3; 4; Strongly agree=5.
Employees are well informed on the views and concerns of company management	Strongly disagree=1; 2; 3; 4; Strongly agree=5.
Company management are well informed on the views and concerns of employees	Strongly disagree=1; 2; 3; 4; Strongly agree=5.
Workplace partnership is…	0 (Non-existent); 1 (Largely confined to a few key individuals); 2 (Largely confined within formal partnership structures); 3 (Evident in at least certain parts); 4 (Evident across most of it); 5 (Now the norm for working).

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Table 3: Means, Standard Deviations and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. HPWS	48.77	18.80										
2. Partnership	7.62	1.70	.278***									
3. Labour Productivity	-1.16	1.10	.333***	.170*								
4. Workplace Innovation	.51	2.02	.185*	.080	.261***							
5. Employee Turnover	1.69	1.13	-.172*	-.211**	-.170*	-.011						
6. Country of ownership	.53	.50	-.388***	-.202**	-.168*	.071	.080					
7. Firm Age	3.27	.74	-.199**	-.161*	-.021	-.140	-.115	.189*				
8. Firm Size	5.63	1.18	.035	.079	-.471***	-.342***	.219**	.002	.246**			
9. R&D	3.74	4.27	.349***	.152*	.008	.081	-.165*	-.191*	-.123	.047		
10. Unionisation	34.93	35.73	-.059	.132	-.050	-.117	-.247**	-.093	.332***	.308***	.047	
11. Diff strategy	3.23	2.32	.062	.008	-.002	.080	-.059	-.044	-.009	-.115	.203**	-.081

N= 109; * $p < 0.05$; ** $p < 0.01$; *** $p < .001$ (one-tailed tests)

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Table 4: Multiple Regression Analysis on Labour Productivity, Workplace Innovation and Employee Turnover [a b c]

	Labour productivity		Workplace innovation		Employee turnover	
VARIABLES	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Control Variables	**β**	**β**	**β**	**B**	**β**	**β**
Country of ownership	-.177*	-.079	.149	.228*	-.045	-.084
Agric/Energy/Const. Industry	-.089	-.030	-.109	-.073	-.047	-.075
Chemical Prods. Industry	.055	.090	-.012	.015	-.105	-.116
Mfg. Industry	-.142	-.060	.076	.133	-.138	-.177
Retail Industry	.081	.150	.119	.165	-.022	-.038
Service Industry	-.095	-.049	-.023	.016	-.072	-.100
Transport/Commun. Industry	-.111	-.059	-.118	-.086	-.220*	-.241*
Firm Age	.131	.160*	-.119	-.106	-.204*	-.217*
Firm Size	-.526***	-.549***	-.308**	-.327**	.405***	.409***
Unionization	.066	.087	.104	.127	-.229*	-.235*
R%D Intensity	-.001	-.084	.092	.026	-.170	-.125
Firm competitive strategy	-.118	-.112	.203*	.204*	-.012	-.016
Independent Variable						
1. Partnership	.216**	.156*	.127*	.088	-.221*	-.189*
2. HPWS		.373***		.266**		-.163†
ΔR^2	.039**	.100***	.014†	.050*	.040*	.019†
Model R^2	.355	.455	.364	.314	.287	.306
Model F	4.016***	5.606***	2.627**	3.075***	3.003***	3.017***

[a] financial Industry is the omitted benchmark industry variable.
[b] R^2 values are unadjusted.
[c] Standardized regression coefficients are shown.
*** p < .001; ** p < .01; * p < .05; † p < .10; all tests are two-tailed.

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