



## People Management and innovation in Ireland

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**CISC** Centre for Innovation &  
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## **PEOPLE MANAGEMENT & INNOVATION IN IRELAND:**

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## EXECUTIVE SUMMARY

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The People Management and Innovation survey reports findings from 165 of the **top performing organisations** in Ireland. The picture that emerges from the analysis suggests a moderate to low take-up of a full-blown High Performance Work System model; a finding that is similar to other comparable international studies showing the low overall incidence of strategic bundles of HRM (Blasi and Kruse 2006; Kersely et al, 2006). Nonetheless, we find support for the argument that High Performance Work Systems (HPWS) **impact positively upon a number of performance outcomes** i.e. organisational performance, HR performance, employee effort and innovation.

In terms of the **diffusion of HR practices** the findings indicate a high usage of practices such as employee induction programmes and specific company training, while less than one third of firms surveyed used validated employment tests, had a skill or knowledge based pay system, paid a premium wage or administered employee attitude surveys on a regular basis.

Further, it has long been suggested in the literature that sophisticated HR practices are applied to key workers or specific employee groups. It is often found that production or clerical employees are exposed to a second tier of HR practice with more sophisticated practices being exclusively applied to managers and professional employees. Except for one or two incidences, the evidence among our sample of top performing organisations finds little to suggest this. In contrast, **the extent of application of practices was largely equivalent across employee categories**. Given our sample, this suggests that high performing organisations are those that apply sophisticated HRM to the vast majority of their workforce.

Finally, and unique in this area, our findings indicate the role of HPWS in **creating a climate for innovation and creativity**. Of particular significance here were practices which fostered employee communication and involvement such as the provision of strategic and financial information and self-directed work teams. The presence of a climate of creativity was found to be a positive mediating link in the HR-Performance chain.

Overall, our results are particularly promising given that the majority of our respondents are Irish owned enterprises. The analysis highlights the potential of People Management systems to unlock the **well of employee creativity and innovation**. While for many high performing organisations this recognition seems to come as first nature, by not developing people management capabilities other firms risk not merely standing still, but falling further behind.

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## INTRODUCTION

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***“Ireland’s competitive advantage is no longer based on low labour costs but on the skills and ingenuity of our people”  
An Taoiseach Bertie Ahern***

Increasingly it is acknowledged that the way people are managed is critical to building a competitive knowledge-based economy. Central to this is how companies treat their employees and encourage creative and innovative capability. In this study we consider how the top performing firms in Ireland manage their employees. How, if at all, is their approach to people management related to organisational performance and employee creativity? In particular, what HR practices are found to have a significant impact on innovation and performance? These are the pressing questions that need to be assessed if our knowledge-based aspirations are to be realized.

The results reported here are only a first stepping stone in the analysis about the linkage between people management and innovation in Ireland. The findings are based on 165 usable responses returned from a sample of the top performing organisations across multiple industries in Ireland. The response rate is relatively small (8.8%) but representative. We deployed purposeful sampling to ensure that only ‘high performing’ organisations with operations across representative sectors of the economy were sampled. The final sample was identified using the top 2,000 performing companies in Ireland (drawn from *Irish Times* top companies in Ireland, *Kompass Directory* and *Top 500 Places to Work Survey 2006*), using criteria such as turnover, profit and growth. Postal surveys were administered to senior HR managers (or senior managers with responsibility for human resource issues). Measures of for HR practices, strategy, and creativity and innovation were devised from a range of international studies to ensure validity and comparability of the findings.

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## WHAT ARE HIGH PERFORMANCE WORK SYSTEMS?

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Datta and colleagues define High Performance Work Systems (HPWS) as “systems of human resource practices designed to enhance employee’s skills, commitment and productivity in such a way that employees become a source of competitive advantage” (Datta et al., 2005: 135). Typical HRM practices included in studies include ‘sophisticated selection, appraisal, training, teamwork, communication, job design, empowerment, participation, performance-related pay/promotion, harmonization, and employment security’ (Wall and Wood, 2005). Yet no matter what label is applied (e.g. People Management, High Commitment Management, Innovative Work Practices, Best Practice HRM), there is an increasing consensus that HRM impacts upon organisational performance, especially when practices are utilized as a mutually enhancing bundle or system.

Numerous studies have attempted to demonstrate the performance impact of HRM empirically. A macro review of data from 92 studies, covering a total of 19,319 organisations, found that 20% of the utility available from predicting performance differences among

organisations was attributable to High Performance Work Systems (Combs et al., 2006) while Patterson et al (1998) similarly found HPWS accounted for 17% increased in productivity. In the same vein a review of five national surveys covering more than 3,200 firms estimated that “the effect of a one standard deviation change in the HR system is 10-20% of a firm’s market value” (Huselid & Becker, 2000: 851). In an Irish context research by Flood and Guthrie found that ‘if a firm were to increase its relative use of the set of high performance HR practices from “average” to “above average” it would increase employee sales productivity by 15.61%’. For the median firm in their sample this represented an additional €50,032 in revenue per employee (2005: 6). The conclusion is that ***HPWSs’ impact on performance is not only statistically significant, but managerially relevant.*** This significance is one replicated in our findings. Further, this study extends previous research by introducing an innovative climate as a key mediating variable in the HPWS-performance chain.

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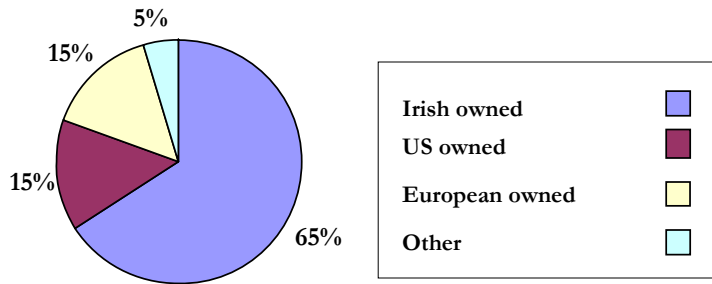
## OVERVIEW OF RESPONDENTS AND ORGANISATIONAL CONTEXT

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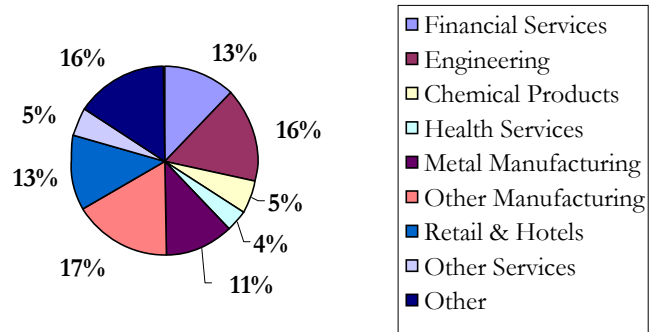
This section will provide a brief overview of important demographic and contextual variables identified in the study. Almost half (48%) of all the respondents were in dedicated HR positions (e.g. HR Director, HR Manager, HR Specialist) while the majority of other respondents were Managing Directors (20%) or Financial Directors (12%). With regard to educational profiles, 91% of respondents had earned a post secondary diploma or degree qualification, while 70% were members of a professional body (47% of these being members of the CIPD). Overall, this indicates that those tasked with managing Human Resources in Ireland’s top performing companies are suitably well qualified.

Moving to consider organisational characteristics, the mean number of people employed by respondent organisations was 368. In terms of a breakdown of the proportion of employees in different job categories, around one-third of those employed in firms were *Managerial/Professional* i.e. executives, managers, supervisors, and professional or technical employees while the remaining two-thirds were *Clerical/Production* i.e. maintenance, production, service or clerical employees. We use the labels *Managerial/Professional* and *Clerical/Production* throughout this report to refer to these two different category groupings of employees. Of the respondent organisations, 41% recognised a union for bargaining and consultation purposes: 44.4% of firms had no union membership for Clerical/Production employees, while 17.9% reported a significant number of employees were union members. With regard to *Managerial/Professional* employees, 69.8% of the firms were non-union, while 3.1% reported significant union membership. The majority firms surveyed, 65%, were Irish-owned, with the remainder either US-owned (15%), European-owned (15%) or other (5%) (see Figure 1). Looking at the firms’ competitive activities, the vast majority of organisations were non diversified receiving 80-100% of their total sales turnover from their stated industrial sector. The range of industrial sectors of respondents is shown in Figure 2.

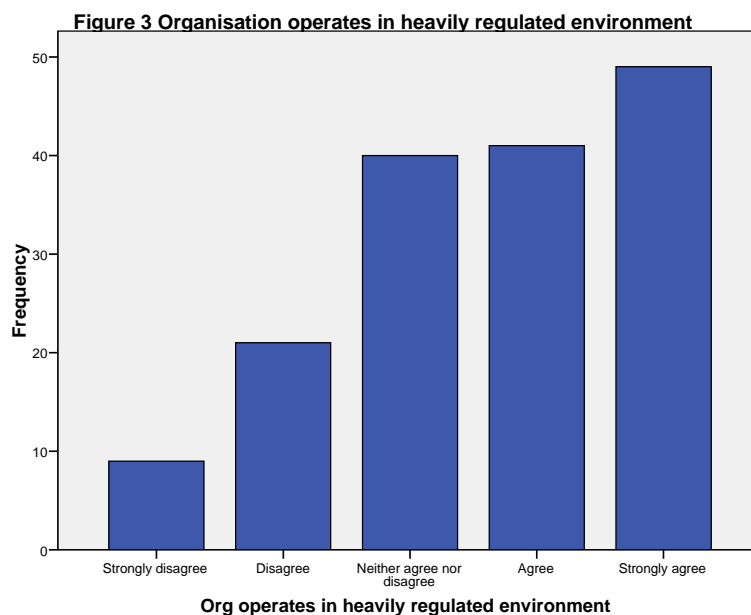
**Figure 1: Country of origin**

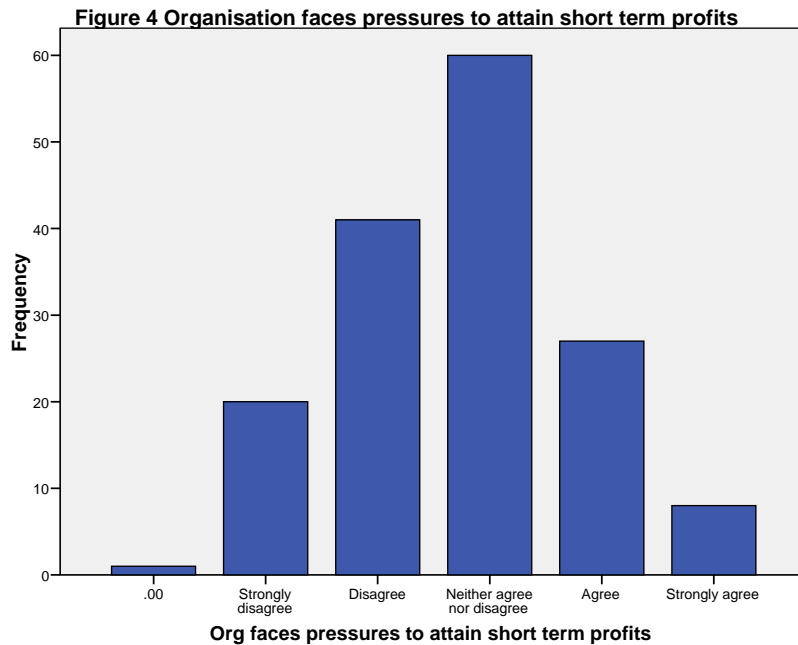


**Figure 2: Primary Industrial Sector of Respondents**



Overall, 45% of organisations obtained the majority of their total sales from national markets, 35% obtained the majority of their total sales from European/ International markets and 20% obtained the majority of their sales from regional markets. Reflective of these statistics, 50% of organisations either agreed or strongly agreed to the assertion that their organisation faced substantial competition from international competitors. Respondents confirmed that the technologies employed by their organisations required a highly skilled workforce. As illustrated in Figure 3 below, 56.2% of respondents felt their organisation was operating in a heavily regulated environment. Interesting, only 23.3% of respondents felt their organisation faced pressure to obtain short term profits (see Figure 4). The picture of the general business environment painted by these results does not appear as severe or deterministic as some business commentators might suggest.





The ‘most prevalent’ **change management pressures** which impact on HR practices among the respondent firms include:

- (a) Difficulties in recruitment (54.8% of respondents),
- (b) Responding to changes in employment legislation (55%)
- (c) Demands from customers (53.3%).

The factors causing the least pressure for change included:

- (a) Changes in production technology (26.6%)
- (b) Best practices implemented by other companies (26.4%); and
- (c) Changes in organisational structure (22%).

Arguably there is a temporal dimension to these findings as those factors most likely to cause pressure for change are equally those which are likely to impact organisations more frequently.

## PEOPLE MANAGEMENT & STRATEGY

In this section we consider the structures in place to manage people in a strategic manner. In terms of overall strategic direction 33% of our respondent organisations were pursuing a strategy competing on the basis of lower costs, 48% were pursuing a differentiation strategy on the basis of creating products or services that were perceived industry-wide as unique, while 19% of companies were pursuing strategies based on elements of both, sometimes referred to as ‘best cost’<sup>1</sup>. 31% of respondents reported that they had no actual department that was solely responsible for HR, while 69% indicated a formal HR department was present within their organisation. Within those departments the number of people employed ranged from just one person to 45 professional staff. The average number of people working in the HR department was 4, while 26% had just one person employed in the department. Furthermore, and potentially more significant, is that 68% of respondents had a senior manager/director with responsibility for Personnel or Human Resource-related matters on the board of directors (or equivalent) of their organisation. Table 1 illustrates the extent of strategy and HR policies in the respondent organisations.

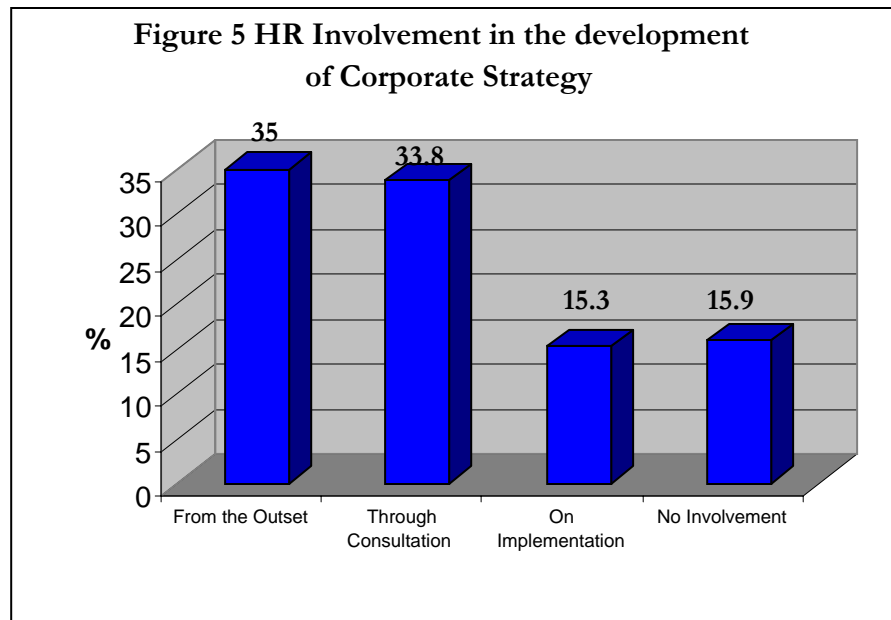
**Table 1: Strategy and HR Policies**

	Written	Unwritten	No/Don't Know
Mission Statements	72.6%	9.1%	18.3%
Corporate Strategy	63.2%	20.2%	16.6%
HR Strategy	45.7%	27.7%	26.6%
HR translated into programs and deadlines	37%	20.4%	42.6%

As Table 1 indicates, as one moves from the higher level of mission statements and corporate strategy towards more specific HR programs, the extent of formulated and written strategic goals is reduced significantly. A notable 27.7% of organisations claimed to have an ‘unwritten’ HR Strategy. This might reflect the fact that HR Strategy is sometimes equated with a general philosophy towards the management of people and that functional strategies (e.g. HR, Operations, Marketing etc) have a lower order in relation to an organisation’s overall corporate mission. The evidence on this point may indicate a lack of strategic integration between functional and corporate objectives. For example, only one-third of the respondent

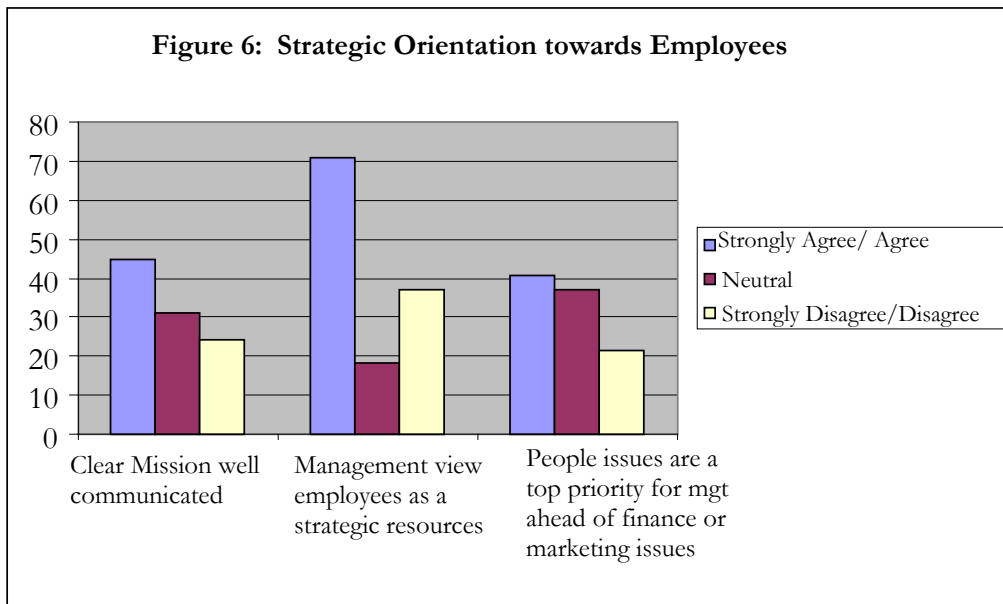
<sup>1</sup> Note due to limited adequate responses N= 136 for this question.

organisations translated HR into deliverable programs and deadlines. This figure rises to nearly half of respondents when ‘unwritten’ programs and deadlines are also considered. Conversely, a more encouraging picture of the strategic nature of HRM is captured when we consider the stage at which the HR function becomes involved in the development of corporate strategy: for one-third of respondent organisations HR becomes involved at the outset of strategy formation; for another third HR is consulted about strategy in some way; while 15.9% suggested that HR is not involved at all in the development of corporate strategy at all (See Figure 5).



The results in Figure 5 reflect to some degree the strong representation of HR on the Board of Directors at the respondent organisations (68%). Because of the patterns revealed in Table 1 and Figure 5, a ‘strategic integration’ variable was subsequently developed using a composite measure of the dimensions described in table 1 above. This strategic integration index was developed to measure the degree to which HRM policies are integrated into a more broadly based strategic approach to management (Roche, 1999). Initial correlations suggest that there is a positive relationship between strategic integration, prevalence of HPWS and innovation in an organisation, although this is only marginally significant. This provides some evidence to show that an organisation with a high strategic HR focus was also more inclined to adopt HPWS practice and be more innovative than those with a low strategic HR focus. This can be explained through HRM reflecting clarity of organisational purpose, strategy and planning. Matching our expectations the evidence also suggests that those organisations pursuing a differentiation strategy were more likely to have more sophisticated HPWS in place.

Figure 6 illustrates the extent to which a strategic orientation towards employees is evident in the respondent organisations.



Overall, 70% of the companies surveyed either agreed or strongly agreed that employees were viewed as a strategic resource, while 45% agreed or strongly agree that their organisation’s mission statement was well communicated and understood at every level of the organisation. Moreover, 40% of respondents viewed HR as a top priority for management ahead of other functional areas such as finance or marketing, while 23% viewed HR as somewhat less of a priority. In relation to the cost of employment, the following Table 2 depicts labour costs as a percentage of total annual operating expense. For 42.7% of our respondent firms labour costs were between 26-50% of their total operating expenses.

**Table 2: Labour costs as % of total annual operating expense**

Table 2: Labour as a percentage of total costs	%
<25%	26.8%
26-50%	42.7%
51-75%	22.3%
>75%	8.3%
<b>Total</b>	<b>100.0%</b>

Finally, in relation to the HR department, 38% of managers were happy with the operations of the department and believed it to be performing well, 40% were indifferent as to its performance, and 22% were not satisfied with the performance of their HR department. Subsequently, in relation to the effectiveness of HRM policies and practices, 45% agreed that the policies and practice in place were effective, 40% were indifferent, while 15% did not believe the policies and practices were effective for business operations.

## HIGH PERFORMANCE WORK PRACTICES AND THEIR DIFFUSION

The last decade has witnessed growing evidence suggesting that HR practices are an important predictor of organisational performance. Responses from 165 of the top 2,000 performing organisations means that we are able to provide an overview of leading edge HRM practice in Ireland. Table 3 indicates the extent of High Performance Work Systems in five key HR functional areas of (1) employee resourcing; (2) training and development; (3) performance management and remuneration; (4) communication and involvement and (5) family friendly/work life balance. Respondants were asked to indicate what proportion of employees were administered particular HR practices (29 HR practice items in total). Percentages reported are the weighted average for both employee category groupings (i.e. Managerial/ Professional and Clerical/Production employees) at the respondent organisations.

**Table 3 High Performance Work Practices in Top Irish Organisation**

Employee Resourcing		Training & Development	
Structured/Standardized Interviews	64 %	Formal Induction	86 %
Validated Employment Tests	24 %	Training in Company Specific Skills	78 %
Formal Job Analysis	36 %	Training in Generic Skills	39 %
Exit Interview	49 %	Involved in Total Quality Management Programme	30 %
Performance Management and Remuneration		Communication and Involvement	
Routine Formal Appraisals	62 %	Programmes designed to elicit participation and employee input	35 %
Formal performance feedback from more than one source	31 %	Provided relevant financial performance information	53 %
Compensation partially contingent on <i>individual</i> merit or performance	44 %	Provided relevant strategic information	61 %
Compensation partially contingent on <i>group</i> merit or performance	36 %	Regular attitude surveys	31 %
Option for shares of organisation's stock	18 %	Grievance/Compliant procedure	91 %
Paid a premium wage in order to attract and retain them	28 %	Organised in self-directed work teams	40 %
Work life Balance			
Covered by family-friendly policies or work-life			52%

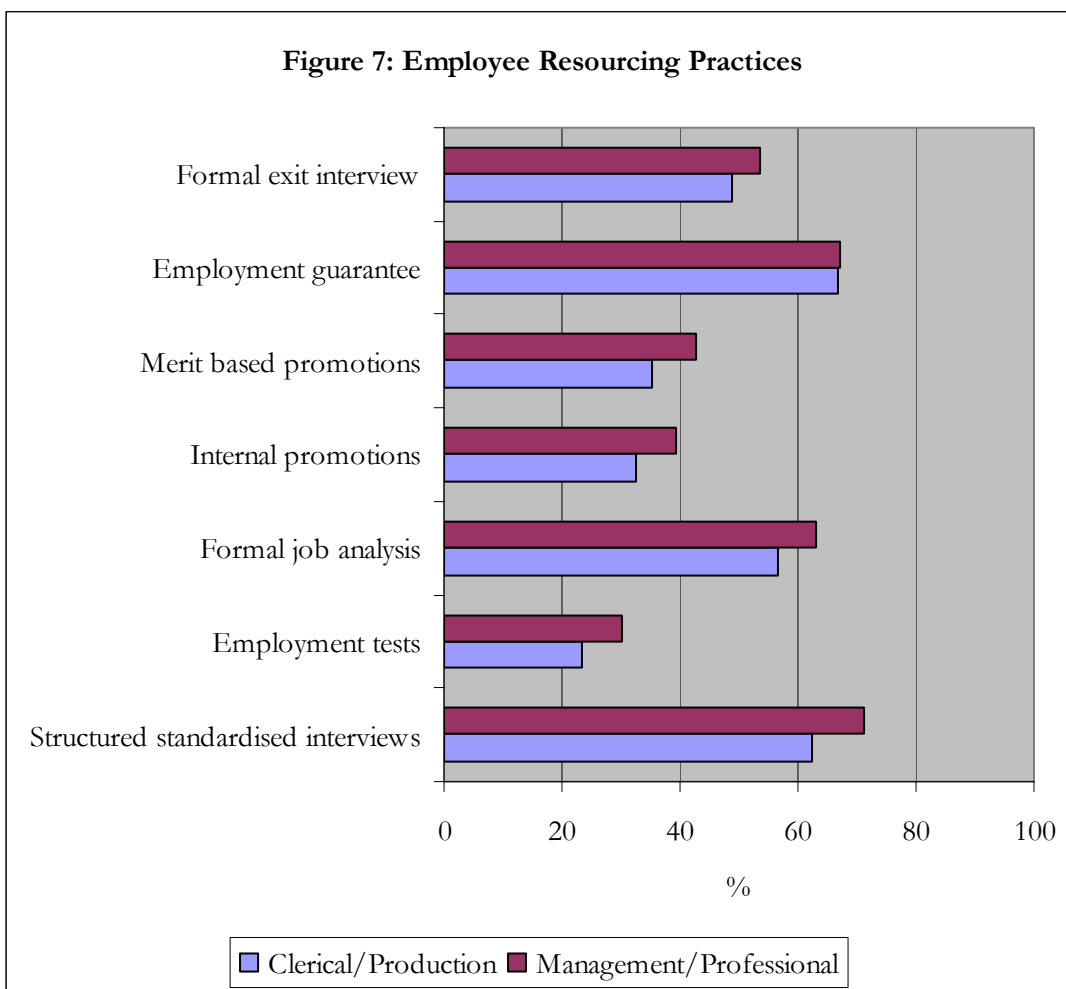
The findings indicate a broadly high use of practices such as inductions and company specific training, while less than one-third of firms used validated employment tests, had a skill or knowledge based pay system, paid a premium wage or administered employee attitude surveys on a regular basis. In addition workers were covered by family-friendly or work-life balance practices in only 50% of workplaces.

In order to capture breadth and depth of practices employed, we segregated by employee category, using the distinction between employee categories of Managerial/Professional and Clerical/Production. Interestingly when we disaggregate the extent to which High Performance Work Practices are used to manage the different employee categories of Managerial/Professional and Clerical/Production respectively we find that the application of High Performance Work Practices is largely equivalent across both employee categories. Exceptions in this trend included the practices of individual performance related pay, formal performance appraisals and the provision of financial and strategic information which were more prevalent in management and professional employee categories (see Figure 9 and 10 below).

This finding contrasts suggestions in previous literature where it is typically advanced that production maintenance and clerical employees are exposed to a second tier of HR practice with more sophisticated practices being exclusively applied to managerial and professional employees. Except for the examples cited above, the evidence among our sample of top performing organisations finds little to support this. Given our sample, this suggests that High Performing organisations are those that apply sophisticated HRM to the vast majority of their workforce. In the sections below we will discuss the findings for each of the HR categories investigated in more detail, namely: (1) employee resourcing; (2) training and development; (3) performance management and remuneration; and (4) communication and involvement.

## **EMPLOYEE RESOURCING**

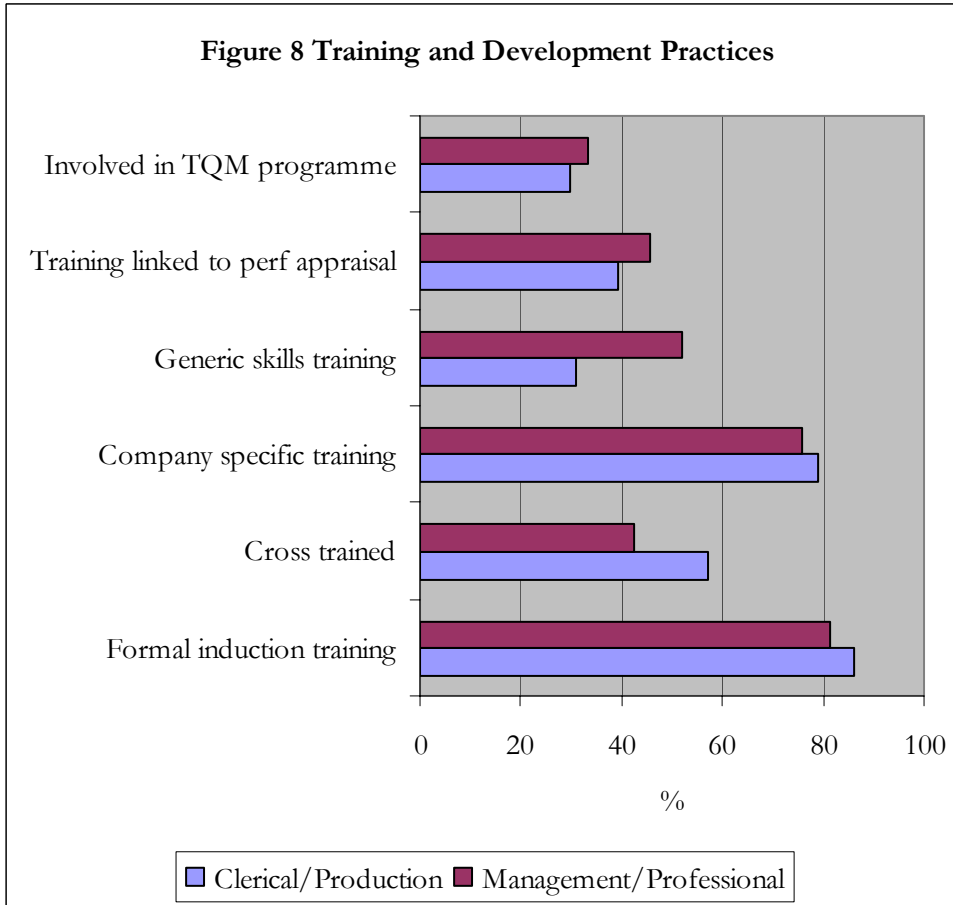
Boxall (1996) claims that recruiting and retaining outstanding people and capturing a stock of exceptional human talent is seen as an effective way to achieve sustained competitive advantage. Systematised and sophisticated selection techniques together with a management commitment to employment security have been identified as important for effective employee resourcing. Figure 7 highlights the proportion of employees across two group covered by employee resourcing practices. Over 66% of production and clerical employees were reported to have some job security guarantee. This is important as it has been found to impact the psychological contract and trusting employment relations (Holman et al, 2003). Structured standardized interviews are used across both employee groups (Clerical/Production- 62% and Managers/Professionals- 71%). The percentage of employees who hold non-entry level jobs as a result of internal promotions was much lower however, across both groups. Only 35% of clerical/production employees and 42% of management/professional employees held jobs as a result of internal promotions.



## TRAINING AND DEVELOPMENT

Training and development is noted as being one of the most widely quoted and important element of high performance work systems due to their investment in human capital (Wright and Gardner, 2003). Respondents were asked to indicate the average number of hours training each group received in the last 12 months. The average number of hours training for Clerical/Production employees was 25.8 hours and for Manager/Professional was 27.3 hours. Formal induction training is popular across both groups with over 80% of each group receiving such training (see Figure 8). Company specific skills score highly across both groups but generic skills training is not so prevalent in clerical/production categories of employees (30%). Less than 40% of production/clerical employees receive training as a result of their performance appraisal rating.

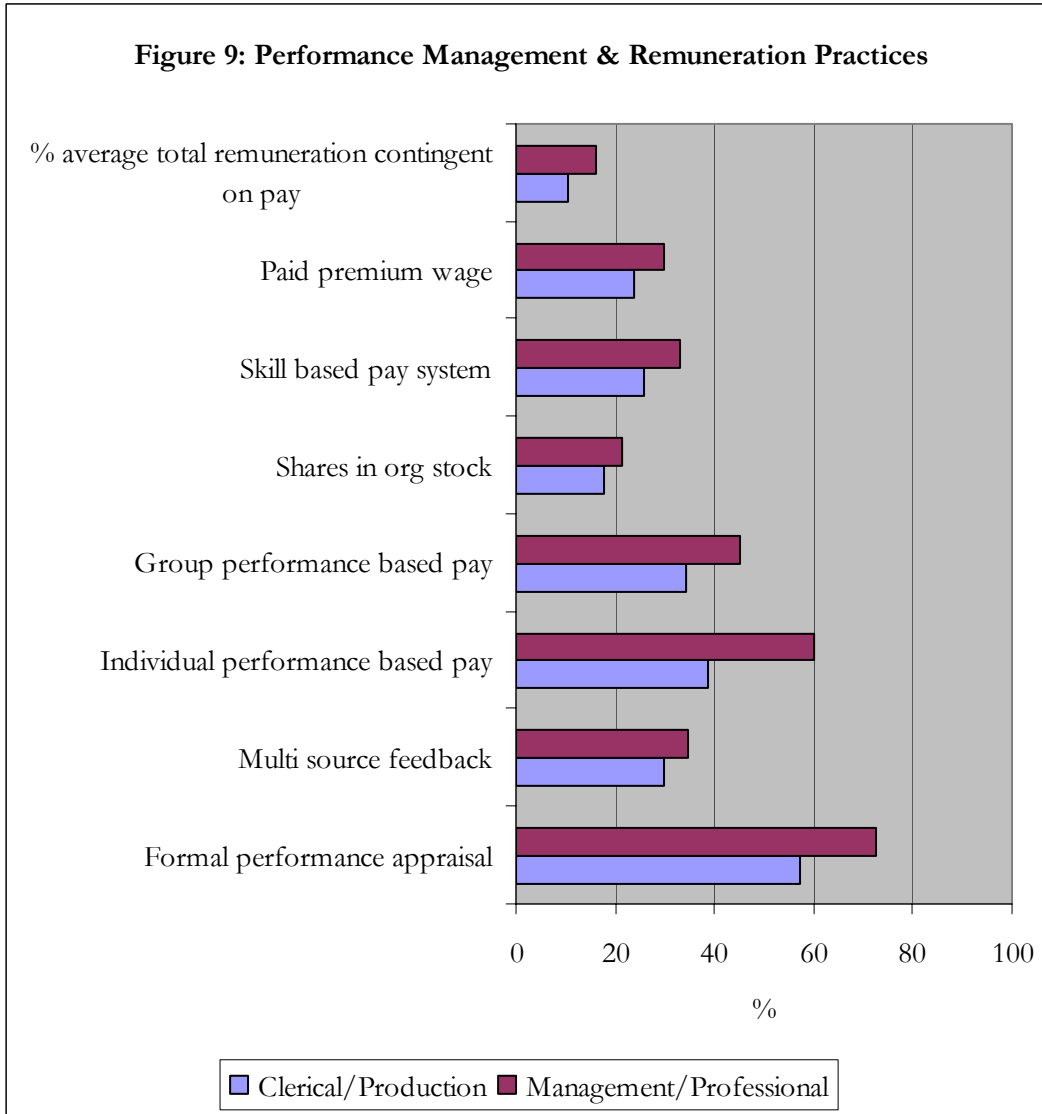
**Figure 8 Training and Development Practices**



## PERFORMANCE MANAGEMENT AND REWARD

Performance management, if implemented properly under HPWS should link together individual goals, departmental purpose and organisational objectives. Reward focuses on a number of elements – higher than average compensation and performance related reward. Thus compensation is designed to reflect different levels of worker contribution through bonuses, profit sharing schemes or performance based pay. Worker contribution can be assessed by reviewing performance standard through performance appraisals. Almost 60% of Production/Clerical employees receive formal performance appraisals on a routine basis. However, only 38% are rewarded based on individual merit or performance (see Figure 9). This contrasts with managers/professionals where over 72% receive formal performance appraisals and almost 60% are partially compensated based on individual merit or performance. There is little practice of offering shares in organisations stock with only 17% of Production/Clerical employees and 21% of Manager/ Professional employees having access to stock options.

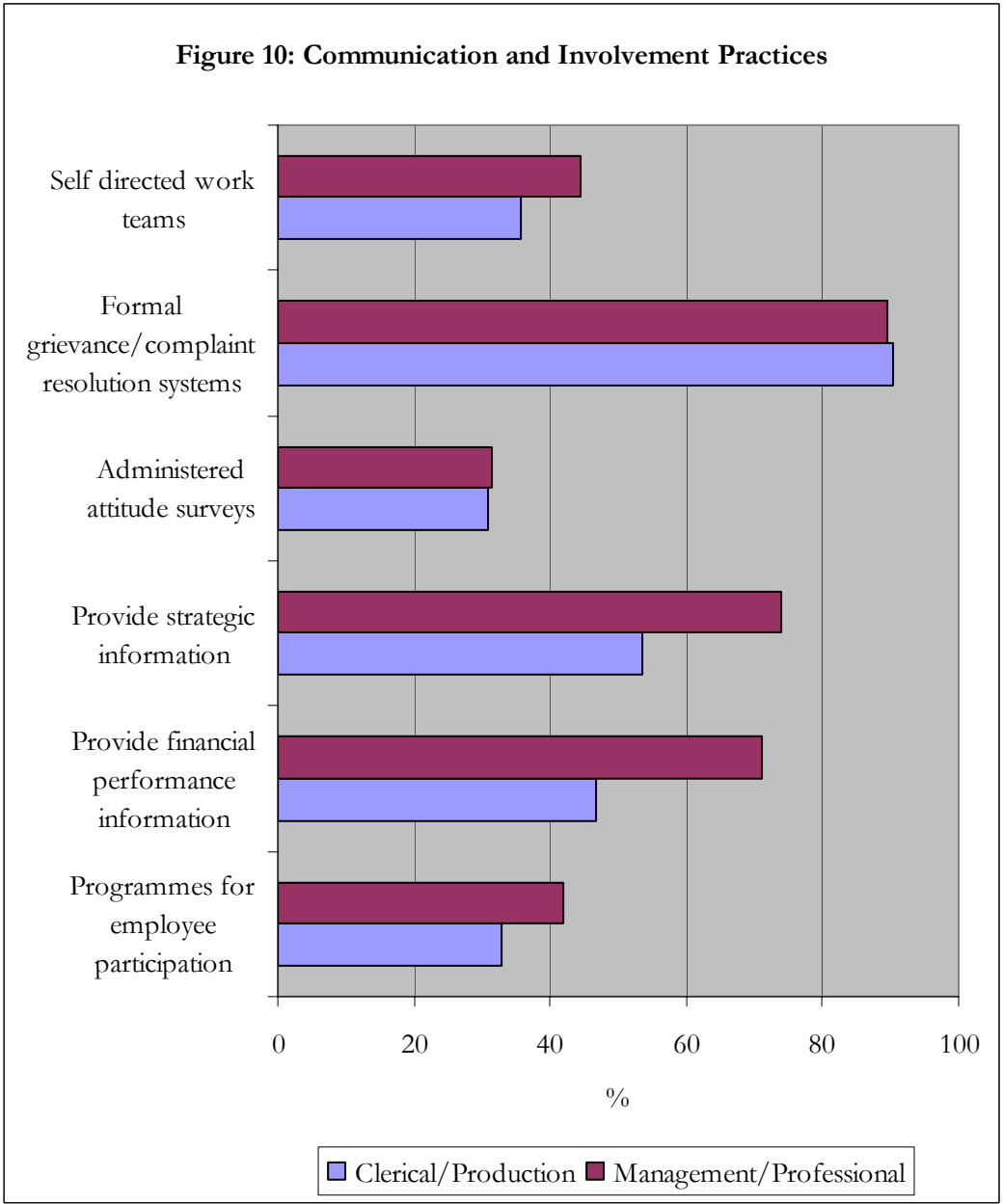
**Figure 9: Performance Management & Remuneration Practices**



## COMMUNICATION AND INVOLVEMENT

This cluster of practices examines the extent of teamwork, open communications about financial performance and strategy, employee participation and opportunities to air grievances. Teamwork and participation are seen to lead to better decision making and more creative solutions (Pfeffer, 1998). Overall, 90% of both employee groups have access to formal grievance/complaint resolution procedures. These established grievance procedures are seen as important vehicles for employee voice at work (Batt et al, 2002). As illustrated by Figure 10 over half of clerical/production employees were reported to receive relevant strategic information; 73.5% of Managers/Professionals receive strategic information. A much smaller proportion of Clerical/Production employees receive relevant financial information however (46%) compared to 70% of managers/professional. Self directed work teams are also not as prevalent as one might have expected. Only 35% of Clerical/Production employees are organized in self work teams for a major part of their work roles.

**Figure 10: Communication and Involvement Practices**



Having examined the individual components of High Performance Work Systems and reviewed their incidence in Irish organisations and across different employee groupings, the next section will examine the positive links between these bundles of HR practices and their synergistic effects on a number of organizational performance measures.

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## HIGH PERFORMANCE WORK SYSTEMS

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A HPWS index was created to capture the use of a **system** of high-performance work practices and the **extent** of HPWS coverage<sup>2</sup>. The general picture emerging from the analysis is a rather moderate to low take-up of a the *full-blown HPWS model* that is advocated in the literature; a finding that is similar to other comparable international studies showing the low overall incidence of strategic bundles of HRM (Datta et al., 2005; Kersely et al, 2006). The average level of high performing work systems in our sample of Irish-based firms was 46.79 out of a possible 100. This index score is consistent with average the take-up among U.S. firms ( $x = 49.58$ ; s.d. = 15.27) reported by Datta et al., (2005). Among our sample, no organisation had all of the practices for both employee groups. The lowest HPWS index score was 7.75, while the highest HPWS index score achieved was 84.07. On the basis of our HPWS index where a score of above 65 indicates a relatively high adoption of HPWS, a score of 35-65 indicates a moderate HPWS adoption, and a score of below 35 indicates a relatively low adoption of HPWS we can rank our respondent firms on an HPWS adopter scale as follows:

**Table 4 Adoption of High Performance Work Systems**

Low HPWS Adopters (Index Score <35)	Moderate HPWS Adopters (Index Score 35-65)	High HPWS Adopters (Index Score >65)
26.6%	62%	11.4 %

Note: Total possible index score= 100, Irish HPWS average 46.79

Despite the lack of a full-blown HPWS model among Irish-based organisations in our sample, the findings do indicate the potential for a positive impact on organisational performance from the diffusion of HPWS practices. Using regression analysis, it was found that the HPWS index (whilst controlling for variables such as size, age and ownership) had a direct and positive relationship with a number of performance measures including organisational performance, HR performance and employee discretionary effort . For example, it was found that that 9 per cent of the variance in organisational performance is explained by HPWS ( $F = 14.73$ ,  $p < .001$ ). (see Appendix 1 for more detail on statistical analysis undertaken).

In terms of influences on the prevalence of HPWS in Irish-based organisations, several important associations were identified through correlations and subsequent statistical analysis (see table A2 in Appendix 1 for more details):

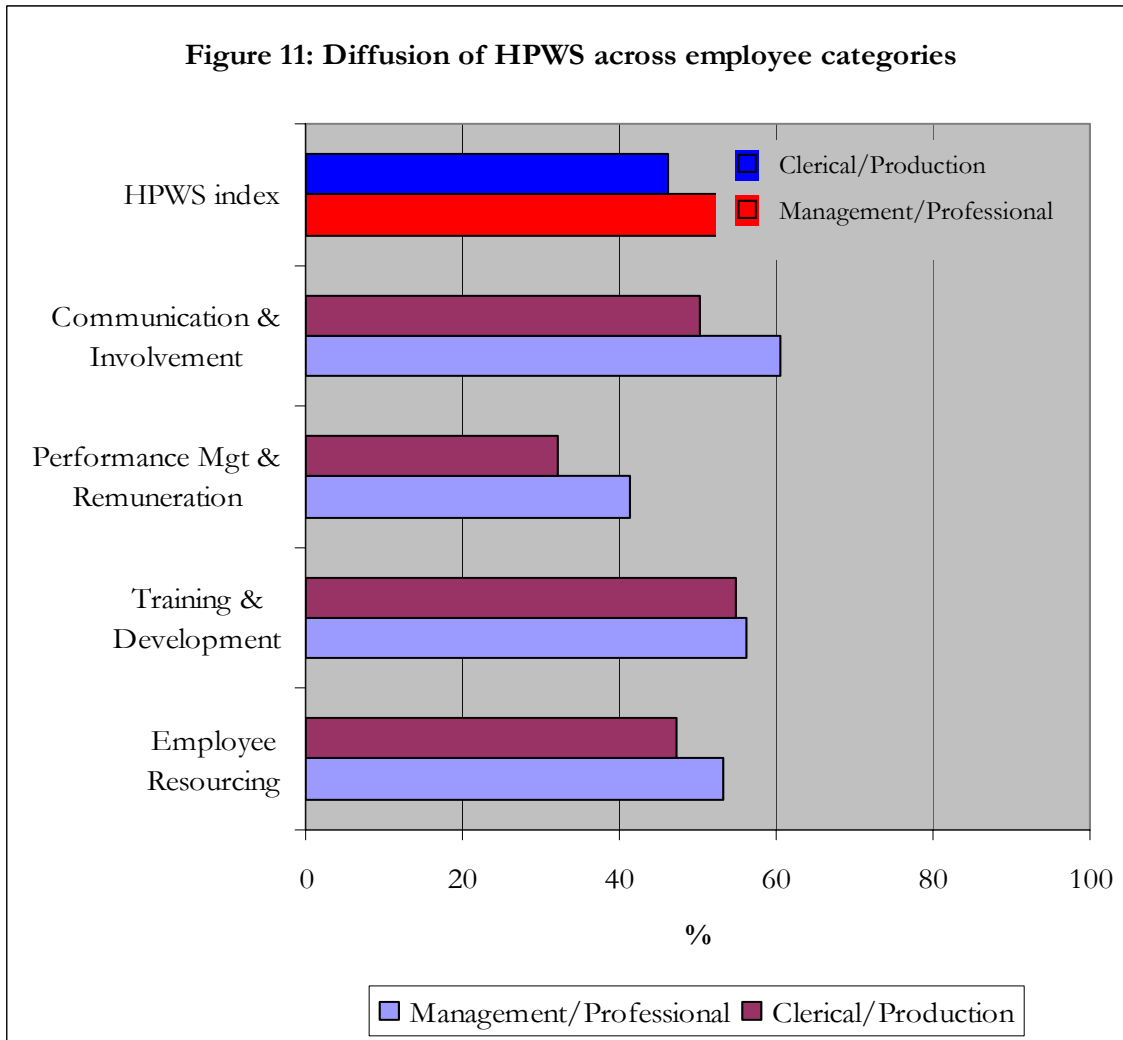
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<sup>2</sup> Using the number of employees reported in each group and percentage of coverage across each of the categories reported in table 4 above, we created a weighted average for each item/practice (except average training hours). These scores were then converted to Z-scores and combined to create a HPWS index.

- **Presence of a union:** A link with union recognition was uncovered with firms which are unionised reporting lower use of these HPWS. Introduction of HPWS are mainly in organisations which are non-union. Consistent with other findings (e.g. Roche, 1999) it appears that these organisations are capable of developing and implementing these HRM practices without taking into account the views and/or oppositions of trade unions.
- **Ownership:** The country of origin was found to be an important determinant of HPWS presence with multinational organisations based in Ireland more likely to have greater investment in HPWS than Irish owned firms.
- **Strategic Integration:** The research also confirmed that organisations with a high degree of integration of human resource strategy into business strategy are more likely to adopt high performance work practices and be higher innovators.
- **Public and private organisations:** Variations across public and private sectors were also explored. Private sectors organisations scored higher on HPWS and creativity index but not at a significant level. More sophisticated employee resourcing practices were found in private organisations than those in the public sector ( $t=2.07$ ,  $p < .005$ ). Private sector firms were also more inclined to have procedures in place to elicit communication and involvement ( $t = 2.17$ ,  $p < .05$ ). As would be expected, union coverage was more extensive in public sector firms.
- **Organisation size:** It was found that organisations with a greater number of employees had a greater prevalence of HPWS.

Reverting back to our disaggregated analysis as per the previous section, Figure 11 shows the overall HPWS index as relevant to Clerical/Production and Managerial/Professional employees respectively. It also shows the extent of HPWS coverage across the various main HR functions. Again the HPWS index scores for Clerical/Production and Managerial/Professional employees are quite comparable, while differences between the main HR functions are not as considerable as might have been expected.

**Figure 11: Diffusion of HPWS across employee categories**



## HIGH PERFORMING INNOVATORS

The previous section briefly reported the significance of the relationships between HPWS practices and a selected number of organisational performance outcomes. This section will examine the role of innovative climates in the HPWS-performance relationship. In this study the presence of a ‘climate of creativity’ was measured using a scale developed by Amabile et al (1996). Following factor analysis a creativity climate variable was developed (Cronbach alpha = .89). This variable was then tested against HPWS and performance outcomes.

Following regression analysis (see tables in Appendix 1 for full details), the findings indicate a **significant positive relationship exists between HRM systems, a creativity climate and organisational performance outcomes**. We tested for the impact of both corporate strategy and separate HR practices on the creativity index (see Table A1 in Appendix 1 for full details). The addition of strategy to the model accounts for an 8 per cent variance in creativity index.

However, when HR practices were added to the model (controlling for size, unionisation, age and ownership) it was found that HR architecture accounted for an additional 39.9% of the variance ( $F(11, 103) = 7.06$ ) in creativity climate. Results also indicate that creativity climate has a direct and positive relationship with three of the four dependent variables. These were organisational performance, HR performance and employee discretion. One HRM practice in particular; communication and involvement, was found to be a particularly significant conduit in creating a climate for creativity. A culture supporting higher-level learning would be rooted in the values of creativity, innovation, expertise, self-development, knowledge-sharing, mutual trust and appreciation of diversity (Zdunczyk and Blenkinsopp, 2007: 28). Overall the findings in the study correspond with recent studies that suggest that a creativity climate acts as a mediating influence on the relationship between HPWS and performance outcomes (Evans and Davis, 2005).

Using this creativity measure, firms were collapsed into two categories (1) high performing innovators and (2) low performing innovators. The following were found to be the key indicators of high performance innovating firms:

- **High Performance Work Systems:** The presence of HPWS or ‘bundles’ of HRM practices were associated with high performing innovators. This highlights the important role of HRM in developing internal organisational processes in creating competitive advantage.
- **Unionisation:** Employee representation through unions was negatively associated with high innovating organisations.
- **Training and development:** Initial regression analysis on HPWS did not find a significant relationship between training and development and creativity and innovation. When categories were collapsed into high performing innovators versus low performing indicators, training came out as a key indicator of high performance innovating firms. Training, the quality of and amount of, is seen as critical in fostering employee commitment and motivation.
- **Employee involvement and communication:** As previously discussed, this individual HR category was identified as the most significant of all HR practices in explaining a high performing innovator. Organisations with practices in place to nurture transparent work teams and involvement and consultation mechanisms were found to have a positive influence in promoting creativity and innovation. This finding may bode well for Ireland’s partnership approach in both union and non-union enterprises.
- **Performance management and reward:** Organisations that appraise employee performance on a routine basis and link compensation to individual or group performance are positively associated with high performing innovators. These practices that signal to employees that rewards should reflect different levels of worker contribution are said to signal to employees that only superior contributions deserve to be rewarded.

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## SUMMARY AND ONGOING RESEARCH

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This survey report is only a short preliminary synopsis describing what leading edge organisations in Ireland do in terms of people management. The overall diffusion of HPWS may be low to medium across the respondent firms in this survey; however, they do point to areas of strategic importance in fostering and sustaining innovation and creativity as a critical determinant in Ireland's knowledge-based economy. A more academic and technical description of the measures used in this research can be found in Heffernan et al. (2007).

The findings are of value to policy makers and practitioners alike. It may be, for example, that high performing innovators are also the type of organisations that are based on a particular management style that eschews any union participation. This could be of importance to individual trade unions, ICTU or State agencies responsible for Ireland's partnership arrangements. It is also possible that high performing companies in Ireland are implementing HR practices that have been designed abroad at a corporate headquarters. This could be an important source of knowledge transfer for indigenous companies and employer bodies, such as the small firm association, IBEC or the CIPD. Further, it may be argued that the relatively limited diffusion of High Performance Work Systems indicates that prior technical definitions of the HPWS model (e.g. a 100 score or a measure in the top percentile of the HPWS bundle) is an unrealistic expectation and instead we should do more to recognize the idiosyncratic way individual firms are managing their employees in very different competitive and regulated market economies.

We recognize that a full understanding of how practices actually work can only be achieved by complementing this national overview with more intensive case studies located in key sectors of the economy. This is the task the High Performance Work System Group at CISC is currently undertaking. By considering employee perceptions of HPWS practices through the lens of organisational justice, by examining the details of non-union HR strategies or the diffusion of HRM in small firms, and by unearthing employee values and beliefs around the notion of an innovative climate, we hope to explore the hitherto neglected 'black box' that governs the precise nature of the relationship between HRM, organisational performance and employee discretionary effort.

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## APPENDIX 1

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The following tables report the findings from statistical tests undertaken. In table A1, whilst controlling for variables such as size, age and ownership, the results of regression 2 suggest a direct and positive relationship between HPWS and all four dependent variables. For example, we can see that 9 per cent of the variance in organisational performance is explained by HPWS ( $F = 14.73, p < .001$ ). 6 per cent of variance in innovation was explained by HPWS ( $F = 7.59, p < .05$ ). Therefore results of regression 2 provide support for the argument that HPWS positively impact organisational performance variables.

Regression 3 deals with the relationship between our mediating variable, creativity climate, and organisational performance. Results indicate that creativity climate has a direct and positive relationship with three of the four dependent variables. Creativity climate accounts for 16 per cent variance in organisational performance, 18 per cent variance in HR performance and 37 per cent variance in employee discretion. .

Regression 4 is concerned with testing the hypothesis that creativity climate acts as a mediator in the relationship between HPWS and organisational performance. In regression tests, when creativity climate is added to the model (after the control variables and HPWS index), creativity climate explains 18 per cent more variance in organisational performance ( $F(6, 115) = 5.32, P < .001$ ), 18 per cent more variance in HR performance ( $F(6, 136) = 6.4, P < .001$ ) and 37 per cent more variance in employee discretionary effort ( $F(6, 134) = 15.10; P < .001$ ). Results of regression 4 support hypothesis b) that creativity climate acts as a mediator in the relationship between HPWS and organisational performance.

Hypotheses tested:

- a) To what extent do firms in Ireland utilize High Performance Work Systems (HPWS) and HPWS impact positively upon performance?
- b) Does creativity climate act as a mediator in the relationship between HPWS and organisational performance?
- c) Is there evidence of particular HR practices having greater utility in creating a creativity climate in organisations?
- d) What is the moderating effect of business strategy on HPWS, creativity climate and performance?

**TABLE A1**  
**The Determinants of HPWS, creativity climate and organisational performance**  
**measures - regression results**

Regression Dependent variable	Performance			
	1. Organisational Performance	2. HR Performance	3. Employee Discretion	4. Innovation
Regression 1: Control Variables				
LOG size	.114	-.122	.068	.118
Unionisation	-.230*	-.019	-.179*	-.195*
Years in operation	-.100	-.079	-.101	-.028
Ownership	-.041	-.083	-.075	.199*
Change in R <sup>2</sup>	(.046)	(-.001)	(.024)	(.092)
Regression 2: HPWS variable				
Change in R <sup>2</sup>	.315*** (.092)	.166* (.021)	.278*** (.071)	.247** (.061)
Regression 3: Creativity Climate				
Change in R <sup>2</sup>	.413*** (.164)	.436*** (.185)	.616*** (.375)	.133 (.009)
Regression 4: Creativity climate mediates HPWS – performance relationship				
Change in R <sup>2</sup>	.341*** (.182)	.438** (.180)	.597*** (.373)	.017 (.044)
Model F	16.029	18.341	47.356	3.705

\*p ≤ .05; \*\* p ≤ .01; \*\*\* P ≤ .001

Table A2 explores the importance of strategy on HPWS and creativity climate and seeks to identify which particular HR practices have greater utility in creating a creativity climate in organisations. Model 1 in table A1 examines the impact of strategy and individual HR practices on the dependent variable – creativity index. The addition of strategy to the model accounts for an 8 per cent variance in creativity index. Individual HR practices were then added to the model in step 3 (controlling for size, unionisation, age and ownership). The addition of the individual HR practices accounts for 39.9% of the variance ( $F(11, 103) = 7.06$ ) in creativity climate. Of the HR practices, communication and involvement practices have the most positive and significant effect on creativity climate ( $p < .001$ ). Surprisingly investments in training and development did not have a significant impact on creativity climate.

In model 2, when strategy variables (low cost and differentiation) are added to the set of controls, we find no significant increase in HPWS. This suggests neither low cost-based strategies nor differentiator strategies have a significant impact on the prevalence of HPWS. However, the bivariate results do suggest a link between strategy, HPWS and corporate performance which our regression analysis could not prove. Similar to Michie and Sheehan (2005), organisations in our study identified as pursuing a differentiation strategy displayed

greater investment in HPWS and had a significant positive correlation with two organisational performance outcomes – innovation and employee outcomes. This suggests that there is reason to believe that the costs of investing in HR practices can be expected to be recouped through improved performance (Michie and Sheehan, 2005). Organisations pursuing low cost strategies were negatively correlated with HPWS and two organisational performance outcomes – innovation and employee outcomes. This is not necessarily surprising as typical (or household named) low cost organisations are known to rarely invest in human capital strategies (e.g. Ryanair).

**TABLE A2: The Determinants of HPWS and creativity climate - regression results**

Regression Dependent variable	Performance	
	Model 1. Creativity Climate	Model 2. HPWS
Step 1: Control Variables		
LOG size	.004	.275***
Ownership	-.020	.341***
Unionisation	-.275**	-.332***
Years in operation	-.077	-.005
Change in R <sup>2</sup>	(.053)	(.239)
Step 2: Strategy		
Differentiation strategy	.001	.096
Low cost strategy	.223	.218
Change in R <sup>2</sup>	(.080)	(.24)
Step 3: Individual HR practices		
Employee resourcing	.005	
Training and development	.002	
Performance Management and Remuneration	.193	
Communication and Involvement	.407***	
Work life balance	.164	
Change in R <sup>2</sup>	(.369)	

\*p ≤ .05; \*\* p ≤ .01; \*\*\* P ≤ .001