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ABSTRACT

The last decade witnessed growing academic evidence suggesting that HR practices are an important predictor of organisational performance. However, the reality is that we know very little about the intermediary mechanisms through which HRM impacts upon performance. If the logic about obtaining sustainable competitive advantage holds, it suggests that we should turn to exploring the role of HRM in fostering the climate of creativity and innovation deemed necessary for competitive success. Drawing on a survey of the top 2,000 performing firms in Ireland, this paper explores these linkages. The findings indicate a significant positive relationship exists between HRM systems, creativity climate and organisational performance outcomes. One HRM practice in particular; communication and involvement was found to be particularly significant in creating a climate of creativity. The paper therefore serves as a useful first step in charting a course through the explanatory void that exists between HRM and organisational performance.

Keywords: High performance work systems, competitive strategy, creativity climate, innovation

INTRODUCTION

Increasingly it is acknowledged that a mosaic of competitive and social factors are changing the face of human resource management (HRM). While previously organisations could afford to be static and focus on ‘positioning’ for success they are now mandated to become ‘knowledge based organisations’, to develop ‘dynamic capabilities’ and to evolve in tandem with the external environment (Teece et al., 1997; Wright and Snell, 1998). The dynamics of competition is shifting with less emphasis on the idea of strategic positioning and more on movement; the focus has changed from *where* to compete (positioning) to *how* to compete (processes) (Stalk et al., 1992). HRM has benefited from this shift as it has directed attention towards the role of internal organisational processes in creating competitive advantage. In particular, HRM has found a theoretical bedfellow in the resource based view of the firm which focuses on imperfectly imitable processes composed of very complex social phenomenon and interactions, which are beyond the ability of other firms to systematically identify and create themselves (Barney 1991). Building on this theoretical rationale, a myriad of studies have seemingly demonstrated a positive relationship between HRM practices and organisational performance (see Boselie et al., 2005; Wall and Wood, 2005 for extensive overviews).

Yet while this theoretical and empirical advancement has proved a valuable foundation for HRM, it remains just that. Becker and Huselid recently argued that “a clearer articulation of the “black box” between HR and firm performance is the most pressing theoretical and empirical challenge in the SHRM literature” (2006: 915) while Gerhart contends that HRM needs to ‘expand its conceptual focus’ (2005:183). Here Amabile’s (1996) work on creativity appears to fill some of this void. If the logic holds that “the essence of strategy lies in creating tomorrows competitive advantages faster than competitors mimic the ones you posses today” (Prahalad and Hamel 1990), it suggests that we should turn to exploring the role of HRM in fostering a climate of creativity and innovation deemed necessary for competitive success. Indeed, given the ever increasing pace of change and necessity for organizational agility this is a surprisingly uncharted terrain in the HRM-Performance relationship (Shipton et al., 2006). This paper explores the relationship between HRM, creativity, and organisational performance in an exploratory attempt to address this deficiency.

The paper is structured as follows. In the first section we briefly review the success of research which claims to have demonstrated a link between HRM and performance as well as some of its key limitations. Following this review we highlight the importance of a climate of creativity as an explanatory mediating variable contributing to organisational success. An implicit Druckerian assumption we make throughout is that creativity and innovation is systematic and purposeful rather than something that can be merely attributed to the 'kiss of the muse' (Drucker, 1985). It should hold therefore that there are specific HRM policies and practices that create and sustain a climate for creativity and innovation. Our methodology section provides details on the People Management in Ireland survey that was sent to the top 2,000 performing companies in Ireland. This dataset was used to explore these key ideas. Following statistical analysis, we identify and discuss the positive role of creativity and HRM on performance outcomes. Having highlighted some limitations of the study the paper concludes that these findings prove a useful first step in charting a course through the explanatory void that exists between HRM and organizational performance.

HRM and Performance Research: Progress and Limitations

Developing theories on how to improve individual and organisational performance has long been the practice of academics and specialists in the field of Human Resource Management (HRM). The past decade has produced numerous contributions which claim to demonstrate that HRM practices are positively related to organisational performance (e.g. Arthur, 1994; Huselid, 1995). The various labels attached to HRM are indicative of this e.g. Best Practice HRM, High Performance Work Practices/Systems (HPWS), High Commitment Management and High Involvement Management (see Wall and Wood, 2005). Yet no matter what label is applied, there is a consensus that HRM impacts upon organisational performance through schemes that promote and nourish employee autonomy, skills and discretionary behaviours e.g. teamworking, communication, skill enhancement (Edwards and Wright, 2001). Datta and colleagues, for example, define High Performance Work Systems 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).

Extensive reviews in this field indicate the evolution and progress of the HRM-Performance research project (see Boselie et al., 2005; Wall and Wood, 2005). Most notably, in a recent meta-theoretical review of data from 92 studies, covering a total of 19,319 organisations, Comb and colleagues (2006) find that 20% of the utility available from predicting performance differences among organisations is given by HPWPs (High Performance Work Practices). These results they claim “lay to rest any doubt about the existence of a relationship” (Combs et al., 2006: 524). Yet others point to a number of ‘unanswered questions’ (Gerhart, 2005), ‘challenges’ (Becker and Huselid, 2006) and the ‘significant methodological issues that remain’ (Arthur and Boyles, 2007: 77). While the universal appeal of best practice is intuitively attractive, a number of conceptual and methodological issues draw caution to overemphasizing its promise. In particular, neither conceptual/prescriptive (e.g. Pfeffer, 1998) nor empirical work (e.g. Arthur, 1994; Huselid, 1995) yields agreement as to what actually constitutes best practice HRM or how it should be measured (e.g. indexes, scales, clusters). Varying levels of analysis, e.g. plant/workplace studies (Arthur, 1994) or firm level studies (Huselid, 1995), and differing performance measures from direct productivity considerations (e.g. adjusted line up time Ichniowski et al., 1997) to more removed firm-level performance data (e.g. Tobins Q, Huselid, 1995) make comparison and reaching conclusive assertions difficult. This study acknowledges these limitations by focusing solely on organizations identified as financially high performance organizations.

More critical for the life-blood of the HRM-performance project, however, is the absence of an explanation of why or how HRM performance effects take place (Hesketh and Fleetwood, 2006: 695). At present HRM research is subject to an *explanatory void*; we know very little about the mechanisms by which HRM is said to contribute to organisational performance and facilitate the change required to compete in dynamic environments. When theoretical frameworks are deployed, they tend to serve as part of the rationale for the study or are used to lend weight to findings rather than to form an explicit set of hypothesis (Boselie et al., 2005: 71). Similarly, while the AMO (Abilities, Motivation, Opportunity) performance rubric that was advanced by both Applebaum et al. (2000) and Boxall and Purcell (2003) draws specific attention to the role of HRM in fostering desired employee attitudes and behaviour, the precise way in which HRM impacts upon employee actions and performance remains illusive. We are not alone here. Becker

and Huselid recently argued that “a clearer articulation of the “black box” between HR and firm performance is the most pressing theoretical and empirical challenge in the SHRM literature” (2006: 915) while Gerhart contends that HRM needs to ‘expand its conceptual focus’ (2005:183). Thus, while we seem to be on safe ground by assuming HRM impacts performance, in some shape or form, the key question that remains is *how* (Marchington and Zagelmeyer, 2005). Although the precise configuration of HPWS practices may vary based on organisational idiosyncrasies, research focuses on the degree of investment in HR practices, rather than explanatory mechanisms (Evan and Davis, 2005: 760). Yet if we are to follow influential arguments that sustained success involves ‘creating new market space’ and a different pattern of strategic thinking (Kim and Mauborgne; 1999) then focusing on HRM’s ability to foster a climate of creativity and innovation deemed necessary for competitive success would seem one potential route to fill this void.

Creativity Climate

Given the ever increasing pace of change and necessity for organizational agility, exploration between HRM and creativity/innovation is surprisingly an uncharted terrain in the HRM-performance relationship (Gelade and Ivery, 2003; Shipton et al., 2006). As well as advancing individual abilities, motivation and opportunities to perform one, would expect HRM practices to improve organisational processes; fostering a more cohesive pattern of interaction and communication among employees (Evans & Davis, 2005, Gould-Williams, 2007). The introduction of a climate of innovation is an attempt to address the shortcomings of the somewhat overly simplistic input-output models of present HRM-performance research. Climate can be presented as the intervening variable between HR practices and employee behaviours. Organisational Climate (OC) is defined as “individual cognitive representations of the organisational setting” (Scott and Bruce, 1994:581) or simply perceptions of organisational attributes, such as policies, practices and procedures (Neal et al., 2005: 496) taken as an aggregate or conglomeration for a group of people (Ekvall, 1996: Gelade and Ivery, 2003). There are numerous facets of climate, general psychological climate (James et al., 1990), employment relations climate (Dundon and Rollinson, 2004), and service climate (Schneider et al., 1998). Due to the increased emphasis on how HRM stimulates innovation and creativity in recent years (Shipton et al, 2006, Michie and Sheenan 2003; Searle and Ball, 2003) a creativity

climate was selected as the 'facet specific' climate (Rousseau, 1988), as climate as a general concept is difficult to work with regard to the range of domain it covers (Patterson et al, 2005). This focusing on the utility of HRM as proactive in fostering a climate and innovation moves the HR function into new and uncharted territory (Mumford, 2000). Traditionally, when considered in fostering innovation, HR has operated as a support function (Mumford, 2000), as 'reactive' (Holbeche 2002:4) or as part of a "nuts and bolts" approach (Searle and Ball, 2003).

At present there is a growing body of literature on the components, processes and supports of an innovative climate (Patterson et al, 2005; Amabile et al., 1996) and there is considerable evidence suggesting that climate influences innovative outcomes (Pillinger and West 1995). Sauer and Anderson (1992) found evidence that climate could forecast innovation in the NHS in the UK, while in a study of university lecturers, Ekvall (1991) established that climate moderated leadership styles/supports and innovative outcomes. More recently, Gelade and Ivery (2003) found that climate partially mediated the relationship between HRM and organisational performance in decision making units in various branches of a bank network. Other research, however, has not proved as fruitful (see de Jong and Kemp, 2003), while Levitt (2002) suggest that an over emphasis on a creative climate could in fact inhibit innovation.

Critically, however, the HR implications for such a climate have never fully been explored explicitly. Ramamoorthy et al., (2005) suggested that where employees perceive their expectations have been met this affects their perceived obligation to the employer. Therefore the way people experience work affects their attitudes, which in turn effects motivation leading to discretionary behaviour and thus organisational performance (Neal et al., 2005). A climate of creativity is also contingent on various other organisational factors in addition to HRM these include size (Aiken and Hage, 1971), job tasks (Paolillo and Brown, 1978) and organisational structures and supports. (Amabile et al., 1996; Baldrige and Burnham, 1975, Mumford 2000). In the main, however, given HRM's direct impact on employees it would be expected that HRM would have a significant role to play in systematically developing and fostering a climate of innovation (Saunders et al., 2008). Further, this logic finds support in the resource-based view of the firm and its emphasis on creating processes which are socially complex and therefore beyond the ability of other firms to systematically identify and create themselves (Barney 1991). In a

similar vein, Becker and Huselid (2006) argue if HRM is to be judged as truly strategic this will involve more than a systems focus, or even relying on connections to financial performance. Instead they advocate a focus on building sustainable competitive advantage that in turn creates above-average financial performance. This, they argue, should centre on the notion of HR architecture as a value-creating system, raising “the question of the appropriate locus of strategic value creation” (Becker and Huselid, 2006: 900). Here, again a focus on a climate of creativity seems to offer one potential solution, as it can serve as the locus for strategic value creation by fostering continuous organisational innovation, development and change. Based on this review we are in a better position to more formally state our key research propositions.

The interrelationship of HRM, creativity and performance in an Irish Context

Ireland is a useful context to explore the nature of HRM practices in use and their relationship to creativity, innovation and organisational performance as it is an extremely open economy readily subject to the joint dictate of global economic and social forces (O’Hagan, 1995). Perhaps of greater relevance is that Ireland has experienced exemplary economic success, attaining some of the highest growth rates in the OECD, and earning the label ‘Celtic Tiger’ (OECD, 2006). Coupled together these factors pose some interesting questions in relation to HRM in Ireland, specifically

- a) To what extent do firms in Ireland utilize High Performance Work Systems (HPWS) and do HPWS impact positively upon performance?

Exploring HPWS in Ireland is all the more worthwhile given the relevant dearth of research in an Irish context (for an exception see Flood and Guthrie, 2005) and the relative emphasis placed on human capital by industrial agencies (Forfas, 2007). In the parlance of Prime Minister Bertie Ahern, Ireland’s future economic success is contingent on its ability to leverage ‘*the skills and ingenuity of its people*’ (see also Forfas, 2007). These factors should have served to place the importance of HRM on most company’s radars. Further, given Ireland’s extensive economic growth and success and reflective of the HPWS studies discussed previously we would expect to see a positive relationship between the HRM practices in place and organisational performance. This sets the scene for the second agenda of our research, namely exploring the role of a climate of creativity as an intermediary variable between HRM and performance. One would expect that HPWS would not only develop individual Ability, Motivation and Opportunity to perform, as per the AMO performance rubric, but

at a more macro level would engender a more cohesive pattern of interaction and communication among employees thereby creating a climate of creativity which would subsequently impact positively on performance outcomes (Evans and Davis, 2005). From this perspective HPWS not only enhance the human capital pool but also change the nature of employment relationships (Evans and Davis, 2005: 762). Extant research has found some preliminary support for the role of creativity climate as a mediating variable, albeit in a single company context (Gelade and Ivery, 2003). Our second research thrust is an effort to overcome the explanatory void that exists between HRM and performance;

- b) Does creativity climate act as a mediator in the relationship between HPWS and organisational performance?

Further research has disaggregated the possible impact of HRM upon creativity by exploring the role of particular practices in fostering a climate of creativity. Here we counter the thesis of bundles of HRM having a universalistic impact and instead consider whether there are particular HR practices that are judged to have a specific impact on creativity. In their theoretical overview of mediating factors in the HPWS-Performance linkage, Evans and Davies note that “although HPWS are conceptualized as a system of human resource (HR) practices, each category of HR practices has a differential relationship with the mediating variables” (2005: 758). Treating various HPWP as a homogenous group may be problematic. Walsworth and Verma (2007: 239) found that training was positively related to creativity and innovation while variable pay schemes were likely to have a negative effect. In contrast, an extensive literature review by Martins and Terblanche’s (2003) concluded that the factors most likely to determine a climate of innovation were rewards and recognition, availability of resources, and communication. Open and transparent communication in particular was said to have a positive influence in promoting creativity and innovation (Martins and Terblanche, 2003). Overall a common consensus exists that more workplace-level research is needed to investigate the differences across various HPWP, hence our third research proposition is as follows:

- c) Is there evidence of particular HR practices having greater utility in creating a creativity climate in organisations?

Again, to reiterate, following Drucker (1985) underpinning our ideas is the notion that creativity and innovation is systematic and purposeful rather than something that can be merely attributed to the 'kiss of the muse'. It should hold therefore that there are specific HRM policies and practices that can systematically create and sustain a climate for creativity and innovation. We propose that HR *management practices* which allow employees freedom or autonomy in the conduct of work and formation of work teams may impact positively on the creativity climate, together with HR practices which focus on *resources* (e.g. availability of training) and provide *motivation to innovate* (e.g. skill or knowledge based pay) (Amabile, 1988).

Our final research proposition also concerns the nature of contingency relationships. Much of the early HRM literature concentrated on interlinkages between strategy and HRM, and how HRM was tailored to meet the demands of business strategy (Miles and Snow, 1984: 37). It is widely noted that the HRM practices deployed by those firms pursuing an innovation based strategy (variously labelled differentiation, prospector, or quality based strategies) would differ from those focused on low cost strategies (see Arthur, 1994; Delery and Doty, 1996 for a discussion). Strategic orientation defines the context for organisational learning and sets the direction for the search of new knowledge and opportunities (Zdunczyk and Blenkinsopp, 2007: 28). Michie and Sheehan (2005) found that a positive relationship exists between HR policies, practices and performance but that this relationship is dependent on business strategy. Further they found that companies pursuing an integrated approach to HR coupled with an innovator/quality enhancer focus within their business strategy perform best. That a climate of innovation might exist in a low cost enterprise is not unlikely. In practice, however, cost constraints and lack of scope for investment may reduce the likelihood that an infrastructure will exist to support and nurture such a climate in a systematic manner. While business strategy has largely been neglected by research attempting to demonstrate the universalistic impact of HRM performance, many have called that strategic orientation should be re-introduced as a key variable in studies (Becker and Huselid, 2006; Gerhart, 2005). Thus our final research proposition considers

- d) What is the moderating effect of business strategy on HPWS, creativity climate and performance?

Figures 1 and 2 show a simplified framework showing these possible relationship interactions.

 INSERT FIGURE 1 ABOUT HERE

 INSERT FIGURE 2 ABOUT HERE

DATA AND METHODS

Sample and data collection

The data used in the analysis derives from the People Management in Ireland Survey (PMI) which was designed and administered in March 2006. This survey uses the firm as the unit of analysis and allowed the authors to collect a large amount of data across many firms and industries. A sample was identified using stratified sampling techniques which excluded those companies which did not meet our criteria for inclusion. Our main criterion was that organisations in the sample were seen to be ‘high performing’. The sample was also devised to ensure that we had a representative set of Irish-based operations across sectors. The final sample was identified using the top 2,000 performing companies in Ireland (drawn from Irish Times Top 1,000 companies, Kompass Directory and Top 500 Places to Work Survey 2006). After pilot testing, 1,995 surveys were administered to senior HR managers (or senior managers with responsibility for human resource issues) by post. Following follow-up letters and calls, 172 surveys were returned. Because of missing responses on some of the key areas required for the analysis, the usable number of surveys for the study was reduced to 165. This represents a response rate of 8.8 per cent which is lower than other comparable studies in HRM research but it still within the range of previous studies. Becker and Huselid (1998) reviewed previous HRM studies and reported response rates ranging from 6 to 28 per cent, with an average of 17.4 per cent. The average organisation had 368 employees with the average age of organisations being 36 years old.

Measures

Measurement of HR practices

While the goals of HRM can be reasonably well defined, the related list of HRM practices is far from clear (Guest, 1997). Little agreement exists among the proponents of this approach about what practices should be included within the scope of the term HPWS. Most HPWS researchers construct a list of HR practices but there is no agreement on what or which practices to include. However, Wall and Wood (2005) argue ‘nonetheless, there is much commonality as studies typically cover a substantial range of the following: sophisticated selection, appraisal, training, teamwork, communication, job design, empowerment, participation, performance-related pay/promotion, harmonization, and employment security’. There is a consensus that HRM impacts upon organisational performance through schemes that promote and nourish employee autonomy, skills and discretionary behaviours e.g. teamworking, communication, skill enhancement (Edwards and Wright, 2001). Datta and colleagues, for example, define High Performance Work Systems 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)

In terms of deriving the list of practices to include in the survey we created a list based on previous empirical research using Huselid’s (1995) seminal work as a base. This list included Arthur’s (1994) ten practices, Huselid and Rau’s (1997) seventeen practices, Guest et als. (2001) eighteen practices and Guthrie’s (2001) eighteen practices. These practices were then cross checked against reviews of empirical work ((Becker & Gerhart, 1996; Boselie, Dietz, & Boon, 2005; Wood, 1999). Boselie et al. (2005) highlight 26 general categories of practice indicating that the top four, in order, were training and development, contingent pay and reward schemes, performance management (including appraisal) and careful recruitment and selection. These might be seen to reflect the main objectives of most conceptualisations of a ‘strategic’ HRM programme (Batt, 2002). Of particular concern was the issue that some practices are often absent from research in HRM include employment security, diversity and work-life balance (as noted by Boselie et al, 2005). Thus the current research endeavoured to include those practices that have been deemed absent from previous research. This process enabled us to be fairly confident that we have covered all those practices that are perceived to be best practice. Having identified the

practices, we deliberately utilised measures that had been validated in previous research (e.g. Huselid and Rau, 1997; Guthrie, 2001; Jackson et al, 1989).

A second methodological criticism levelled at previous HPWS research is its focus on only one major category of employee. Although not often made explicit many studies have focused on one major category of employee, namely the job that tends to be most critical to an organisation's performance. Delery and Doty (1996) note that the focus of their study is that of loan officer, common to all banks and deemed to be one of the most important jobs. Osterman (1994) and Arthur (1992, 1994) take a similar approach. Following Jackson et al. (1989), for the purpose of the current research in order to capture breadth and depth of practices employed we decided to segregate by employee category. While Jackson et al. (1989) originally used four categories, in their subsequent analysis they note the limitations of this and instead focus on two distinct categories or groupings of employees. This is also similar in approach to that of Huselid (1995), Huselid and Rau, (1997); Michie et al., (2005), Guthrie (2001), and Flood and Guthrie (2005). In our research, responses were segregated by employee category with group A consisting of production, maintenance, service, clerical employees, and group B consisting of executives, managers, supervisors, professional/technical employees. Research which focuses on two distinct categories overcomes the limitations of studies which treat all employee groupings equally. The validity of such an approach is that while prior work has frequently employed a dummy variable to indicate the presence or absence of each practice; the specification used in the current research is more sensitive to the breadth of implementation of each practice throughout the firm (cf Huselid, 1995: 645).

Rather than cluster or categorise practices into discrete typologies of industrial relations systems (e.g. Arthur, 1994) or simply cross check against would be lists of best practices (Pfeffer, 1994), we measured each firms use of high performance work practices on a continuous scale by creating a HPWS index. Using the number of employees in each group, a weighted average for each item/practice (except average training hours) was computed (consistent with Guthrie, 2001). These scores were then converted to Z-scores. Cronbach alpha for the scale was .81. A single index seemed particularly appropriate for this study in that the basic question was whether greater use of a *system* of high-performance work practices interacts with employee turnover and

retention to affect firm productivity (Guthrie, 2001). Table 1 presents the High Performance Work System items used to create the HPWS index and descriptive statistics for each item across the weighted average for each employee group. Each item was collapsed into five HR headings. The key areas were (1) employee resourcing; (2) training and development; (3) performance management and remuneration; (4) communication and involvement and (5) family friendly/work life balance. The average use of high performance work systems in our sample of Irish firms ($x = 46.79$; $s.d. = 17.36$) compares favourably with the U.S. results ($x = 49.58$; $s.d. = 15.27$) reported by Datta et al., (2005).

 INSERT TABLE 1 ABOUT HERE

Measurement of creativity climate

Creativity climate was measured using a scale developed by Amabile et al (1996). Examples of statements in the scale include: people in this organisation are rewarded for creativity and innovation and; there is free and open communication within this organisation. These were measured on a Likert scale from strong agree (5) to strongly disagree (1). Factor analysis was conducted on the six measures using principal axis factoring with varimax. This revealed one clean factor with all five measures scoring eigenvalues of over .7 and one scoring .5. These were aggregated to create a creativity climate variable. Cronbach alpha was .89 indicating reliability of the scale.

Measures of performance

The PMI survey included a number of performance outcome measures as dependent variables. These included (1) employee turnover, (2) absenteeism, (3) innovation and respondent's subjective evaluation of their firm's (4) performance, (5) HRM performance and (5) employee performance relative to competitors (Delaney and Huselid, 1996). Absenteeism was measured across both employee groups by assessing the average number of days per year employees are absent. Turnover was measured across both employee groups by asking the respondent to estimate their annual employee turnover rate. Both employee turnover measures and absenteeism was created using a weighted average across two groups of employees.

Innovation was measured by the proportion of organisations total sales coming from products or services introduced within the previous 12 months (Jackson et al, 1989).

Organisational performance ($\alpha = .76$) was created in the form of an averaged index of eight variables. These eight variables measured the subjective evaluation by the respondent of the performance of their organisation against competitors in the same industry in terms of: (1) profitability; (2) growth in sales; (3) market share; (4) quality of products/services; (5) development of new products and services; (6) % sales spent on R&D; (7) satisfaction of customer or clients and (8) operating costs (Bennett et al, 1998; Delaney et al, 1996). HR performance ($\alpha = .76$) was measured using a scale developed by Delaney and Huselid (1996) and included subjective evaluations of the organisations ability to attract and retain employees, management employee relations and relations among employees in general. The employee performance variable utilised a scale developed by Guest et al (2000) and assessed areas such as quality of employees, level of employee output, flexibility of employees and identification with organisations core values and goals ($\alpha = .84$)

Many authors suggest that objective performance data is preferable to subjective judgement calls (Boselie et al., 2005; Guest, 2001) as it introduces the possibility of error. However, Purcell and Kinnie (2007) believe it is premature to write off subjective evaluations and rely exclusively on objective performance or profit measures. Using subjective measures of performance HRM can be associated with 'high comparative performance (Guest, 2003). Wall and Wood (2006) and Wall et al, (2004) have found that subjective self reports of performance are reasonable robust indicators with a high degree of equivalence between the findings of subjective and objective performance measures.

Measures of business strategy

Measures of business strategy build on the work of Porter (1985) focusing on low cost strategy and differentiation strategy. Respondents were asked to allocate a total of 100% the proportion of the organisation's total sales (turnover) that was achieved through each of the two strategic approaches. Low cost strategy was explained as organisations that compete on the basis of lower costs (through economies of scale, experience, technology etc) resulting in lower prices

to consumers. A differentiation strategy was one which created products or services perceived industry wide as unique. This measure of business strategy was adapted from a study by Carroll et al. Snow and Hambrick (1980) state that self-typing allows the organisations managers to characterise the organisations strategy.

Control variables

Consistent with other research, standard control variables were created and included in our regressions to minimise possible survey response bias. Following Guthrie (2001) and Huselid (1995), we use the logarithm of the number of employees to operationalize firm size. Size has been found to impact prevalence of HPWS together with productivity (Datta et al, 2005). Union representation was measured by asking the proportion of employees unionised across each group. Using the number of employees in each group, we computed a weighted average for extent of unionisation ranging from 0 to 100 per cent. Union representation has been association with productivity and turnover rates (Guthrie, 2001; Huselid, 1995). Two ownership dummy variables (Irish or foreign owned) were included to control for ownership effects. Finally, the age of the establishment was included to control for possible lifecycle effects and learning curves in productivity (Guthrie, 2001).

Non-response bias

Given the low response rate to our survey, concerns regarding the generalisability of the findings and non response bias had to be considered. A multivariate general linear model test on early responding versus late responding firms showed no significant difference in terms of variables such as HPWS, company size, age, and nature of industry, which somewhat rules out the concern of a non-response bias (Armstrong and Overton, 1977).

RESULTS

Table 2 shows the univariate and bivariate correlation between the study variables. The correlations reported are largely in accordance with expectation and with previous research.

 INSERT TABLE 2 ABOUT HERE

First, the table shows that the HPWS index correlated positively with a number of performance measures identified previously, namely organisational performance, HR performance, employee performance and innovation. Two of the dependent performance variables did not correlate with HPWS however. Both employee turnover and absenteeism show a negative relationship with HPWS but not at any level of significance. Organisations operating a differentiation strategy were found to correlate positively with HPWS while creativity climate was positively correlated with both HPWS and organisational, HR and employee performance. These relationships were then explored further using separate regression analysis which aims to test the hypotheses discussed previously. The results of these analyses are reported in tables 3 and 4.

In table 3, 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 hypothesis a), 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 performance.

Regression 4 is concerned with testing the hypothesis that creativity climate acts as a mediator in the relationship between HPWS and organisational performance. A variable may be called a mediator “to the extent that it accounts for the relationship between the predictor and the criterion” (Baron and Kenny, 1986, p. 1176). To test for two-way interactions, an effect between HPWS and performance was initially established. HPWS was then found to have an impact on creativity climate. The mediator was established to have a significant impact on performance. The effect of HPWS on performance variables was found to reduce upon the addition of creativity climate to the model.

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 performance ($F(6, 134) = 15.10; P < .001$). Results of regression 4 support hypothesis (b) that creativity climate acts as a partial mediator in the relationship between HPWS and organisational performance.

 INSERT TABLE 3 ABOUT HERE

Table 4 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 4 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 climate 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 reported in table 2 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.

 INSERT TABLE 4 ABOUT HERE

DISCUSSION AND CONCLUSION

This paper's primary aim was to examine the explanatory void or 'HR black box' that exists between HRM and organisational performance using creativity climate as a linking mechanism. Boselie et al (2005: 77) studied 104 research papers on the topic and found that while there were 'plenty of acknowledgements of the existence of the 'black box' and some speculation on its possible contents, few studies tried to look inside'. Creativity and innovation have emerged as vital ingredients for organization competitive advantage given the degree of change in today's global environment. As a result of this degree of change, the business focus has changed from *where* to compete (positioning) to *how* to compete (processes) (Stalk et al., 1992). Within this, HRM issues are now directed towards the role of internal organisational processes in creating competitive advantage. Traditionally, most companies focused on matching or beating their rivals and shared conventional wisdom about how to compete. However, creating new market space today requires a different pattern of strategic thinking to achieve competitive advantage.

The resource based view of the firm believes competitive advantage is achieved by basing competition on internal resources that are valuable, rare, inimitable and non-substitutable (Barney, 1991). A frequently cited source of competitive advantage is now knowledge embedded in their people (Jackson et al., 2003). Guest et al (2003: 291) also note the importance of 'the management of organisational culture' within the resource based view of the firm. Climate and culture are identified as a critical intangible asset in RBV (Barney and Wright, 1998). Bowen and Ostroff (2004: 205) suggest that 'HRM practices and the HRM system will play a critical role in determining climate perceptions'. Purcell and Kinnie also point out that we need to measure culture/climate if we are to assess the relative importance of these and HR practices and assess how the one mediates the other in linking to performance (2007: 547). In examining climate, creativity climate was chosen as appropriate within the RBV literature. 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 creativity climate mediates the relationship between HPWS and performance (Evans and Davis, 2005).

Our focus then turns to the kind of HR interventions likely to most influence creativity climate. Mumford (2000) proposes that HR practices, particularly those providing requisite information and training, can influence creativity climate. HPWS are conceptualized as a system of human resource (HR) practices yet each category of HR practices has a differential relationship with the mediating variable. In one empirical investigation, Walsworth and Verma (2007: 239) found that training was positively related to creativity and innovation while variable pay schemes were likely to have a negative effect. Beugelsdijk (2008) also report that R&D intensity is positively affected by the presence of training. In contrast, Martins and Terblanche (2003) concluded that the factors most likely to determine a climate of innovation were rewards and recognition, availability of resources, and communication. Open and transparent communication in particular was said to have a positive influence in promoting creativity and innovation (Martins and Terblanche, 2003). Beugelsdijks (2008) research reported that a firms performance based pay systems positively influence its ability to generate product innovations. He argues that these systems may motivate employees to develop norms and goals to improve team's performance without eroding the contributory creativity (Beugelsdijk, 2008); Kang et al, 2007).

Our research found that various components of HPWS have different impacts on a firm's propensity to be innovative or high performing (through the mediating variable – creativity climate) with only one, communication and involvement, emerging as significant, whereas previous research (Neal et al., 2005) found no significant relationship between any practice and measures of climate. Arad et al. (1997) contend that the degree to which employees have freedom and authority to participate in decision making and in solving problems determines the level of empowerment, which is positively related to the level of creativity and innovation in an organisation. Many scholars also endorse the importance of the involvement mechanism of team

working as a mechanism for achieving innovation through greater collaborative interactions which can lead to greater cohesion (cf. West et al., 2004; Gelade and Ivery, 2003). Teams are identified as having an influence on the degree to which creativity and innovation take place in organisations. Teams (where they operate effectively) present an environment whereby individuals are enabled to deal with the emotional and cognitive challenges associated with change and innovation (Shipton et al, 2006).

However, given the limitations discussed below, future research in this area should incorporate multiple levels of analysis.

Findings related to strategic direction for firms also provide scope for future research. It has already been noted that the HRM practices deployed by those firms pursuing a differentiation strategy would differ from those focused on low cost strategies (see Arthur, 1994; Delery and Doty, 1996 for a discussion). Guthrie et al (2002) found that firms adopting more of a differentiation strategy opted to utilize higher levels of high performance work systems which were associated with increasing levels of productivity. Building on this, Michie and Sheehan (2005) found that a positive relationship between HR policies, practices and performance exists and is dependent on business strategy. This particular study failed to find such a relationship following multivariate analysis similar to Neal et al., (2005). However, a correlation did appear on the bivariate analysis. This suggests there may be a link between HPWS, performance and creativity climate, and the strategic orientation of the firm. The strength of our findings may have been impacted by the size of our data set and subjective performance measures. These correlations, whilst not standing up to regression analysis, do suggest a consistency with recent calls that strategic orientation should be re-introduced as a key variable in studies (Becker and Huselid, 2006; Gerhart, 2005). Becker and Huselid (2006) suggest that organisations following a differentiation strategy have a focus on the processes of strategic value creation.

This research has importance for both academics and practitioners. This research has established that creativity climate can be developed by a bundle of HR practices, with communication and involvement policies being the most significant. The authors have acknowledged the recent writings calling for better theory to more fully understand the impact of

HPWS on organisations (e.g Becker and Huselid, 2006). The proposed framework set out in figure 1 should serve to add to recent HPWS-organisation debate and illuminate understanding of the intermediate linkage-creativity climate-in the relationship between HPWS and organisational performance. We found that creativity climate has an important role in developing the HR-performance causal chain further. From a practitioner perspective, organisations need to question how can a culture supportive of creativity and innovation be built with their organisation. Whilst the literature suggests that training and development and reward are important predictors, in this research involvement mechanisms were found to be the most important practices to facilitate such a culture.

Limitations

As an exploratory study the findings of this reported are subject to certain limitations and caveats. While we have tended to extol the virtues of a climate of innovation, paradoxically, over focusing on innovation to the neglect of market factors can mean that companies become escapists rather than innovators and thinkers rather than craftsmen (Miller, 1992). Further, more critical orientated studies take issue with the notion that culture or climate can simply be 'managed' (Wilmott, 1993). In terms of methodology, there are suggestions that studies yielding multiple responses might yield better results. However, this issue is by no means resolved in the HRM literature. Firstly, even in such cases where this method is used (e.g. Ichniowski et al., 1997; MacDuffie, 1995) it is difficult to see how the information was combined, and the extent to which it was consistent across sources. Secondly, while multiple responses would indeed facilitate reliability calculations, Becker and Huselid (2006: 913) contend; "there seems to be little incremental contribution to continuing to divert those resources to largely futile (and apparently unnecessary) efforts to develop multi-respondent samples. (Becker and Huselid, 2006: 913). Datta (et al., 2005) is a case in point, where their response rate for multiple respondent firms was only 3.4% (Datta, Guthrie, and Wright, 2005). There is also on going debate about causality and cross sectional survey based research. Cross sectional surveys such as those used in this study can only reveal associations not causality (Purcell and Kinnie, 2007). Marchington and Zagelmeyer (2005) argue that "until more longitudinal research is completed there will continue to be debates about directions of causality, as it is logically possible that the HRM-performance link operates in both directions".

Ultimately, our study also falls foul to the typical criticism that can be directed at survey based studies. Survey based research has limited ability to inform on the very complex relationships between people and processes in a firm. What we have presented is a linear model which maybe an over simplification of a more complex situation. It is quite plausible that there are other exogenous variables or spurious influences that impact on both creativity and performance. Arguably, this is even more likely when it comes to complex issues such as creativity and innovation. Ultimately only detailed case-study analysis can shed light on these types of complexities in firms (Michie and Sheehan, 2005). Thus while we have managed to gain *great breadth* in exploring HRM, creativity and performance among top performing Irish firms this has come at the expense of *depth of insight* which may prove critical in advancing explanations for success. The authors recognise the need for qualitative and quantitative research at unit level incorporating all stakeholders in the organisation if we are to understand the relationship between HRM, creativity climate and performance outcomes and the dynamics of the interconnections.

Conclusion

The research findings show that creativity climate mediates the relationship between HRM and organisational performance, this extends on conceptual work (Bowen and Ostroff, 2004) and empirical work (Neal et al., 2005; Gelade and Ivery, 2003) as this current research finally provides concrete statistical evidence to support what until now were mere assumptions, that the concept of climate could potentially mediate the relationship between HRM and Performance. The findings are consistent with the theoretical propositions by Bowen and Ostroff (2004). Potential future contributions could analyse employees perceptions of HPWS and other supports for creativity and the subsequent climate. Contributions could also aim to shed light on the mechanisms or employee outcomes that mediate the relationship between climate and performance.

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FIGURE 1:

Creativity climate mediates the HPWS-Performance relationship

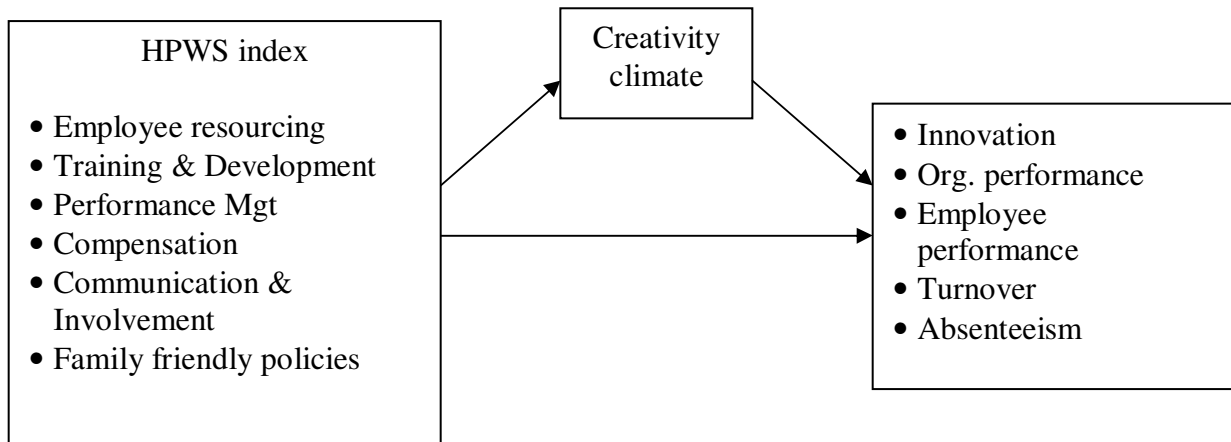
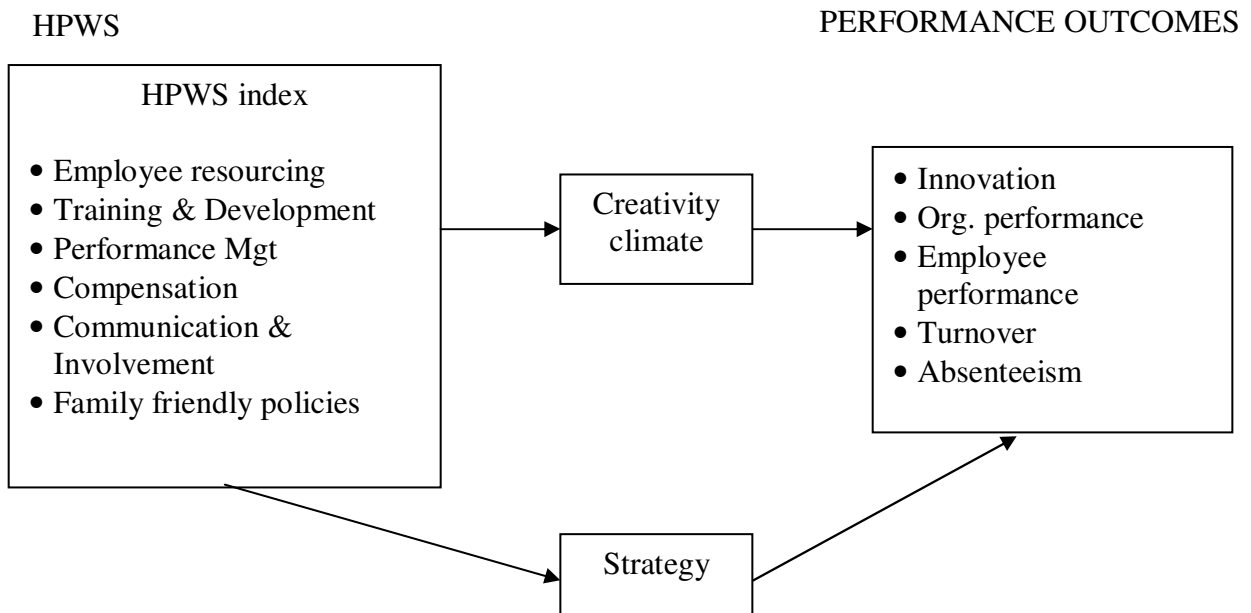


FIGURE 2

Competitive strategy moderates the HPWS-creativity climate-performance relationship



**TABLE 1:
HR practices use in the analysis**

<i>What proportion of your employees....</i>	Pct. *
1 EMPLOYEE RESOURCING	
Are interviewed during the hiring process using structured, standardized interviews	64.10
Are administered one or more validated employment tests	24.25
Hold jobs which have been subjected to a formal job analysis to identify position requirements	58.16
Hold non-entry level jobs as a result of internal promotions	35.58
Hold non-entry level jobs due to promotions based upon merit or performance	38.23
Can expect to stay in this organisation for as long as they wish	67.16
On leaving the firm are subjected to a formal exit interview	49.34
2 TRAINING AND DEVELOPMENT	
Receive formal induction training/ socialisation to the organisation	85.67
Have been trained in a variety of jobs or skills (cross trained) and/or routinely perform more than one job	53.37
Have received training in company-specific skills?	78.14
Have received training in generic skills (e.g., problem-solving, communication skills, etc)?	38.76
Receive specific training as a direct result of their performance appraisal?	42.23
Have been involved in a Total Quality Management programme?	29.84
3 PERFORMANCE MANAGEMENT AND REMUNERATION	
Receive formal performance appraisals on a routine basis?	61.63
Receive formal performance feedback from more than one?	30.96
Receive compensation partially contingent on individual merit or performance	44.41
Receive compensation partially contingent on group performance	36.06
Have options to obtain shares of your organisation's stock	18.21
Are paid primarily on the basis of a skill or knowledge-based pay system	27.75
Are paid a premium wage in order to attract and retain them	26.54
What proportion of the average employee's total annual remuneration is contingent on performance	12.40
4. COMMUNICATION AND INVOLVMENT	
Are involved in programmes designed to elicit participation and employee input	35.42
Are provided relevant financial performance information?	52.63
Are provided relevant strategic information	61.20
Are administered attitude surveys on a regular basis?	30.59
Have access to a formal grievance/complaint resolution procedure or system?	90.63
Are organised in self-directed work teams in performing a major part of their work roles?	40.43
5 WORK LIFE BALANCE	
What proportion of workforce covered by family-friendly or work-life balance practices?	52.49

*These percentages represent weighted averages across the two employee groups

TABLE 2
Univariate statistics and bivariate correlations: Means, standard deviations and pearson product moment correlations of study variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Size	368.75	735.00	1.00										
2. Organisational Performance	3.549	.5232	.068	1.00									
3. HR Performance	3.753	.640	.0074	.346**	1.00								
4. Employee outcomes	3.650	.565	.031	.411**	.534**	1.00							
5. Turnover	.103	.124	.036	.054	-.026	-.022	1.00						
6. Absenteeism	11.653	31.543	-.063	.010	-.039	-.051	.040	1.00					
7. Innovation	15.804	21.610	.060	.109	-.043	.080	.002	.094	1.00				
8. Differentiation strategy	55.138	33.061	.060	.122	-.008	.283**	-.016	-.077	.359**	1.00			
9. Low Cost strategy	42.220	32.870	-.100	-.100	.006	-.252**	.016	-.059	-.341**	-.906**	1.00		
10. Creativity climate	3.485	.72469	.040	.413**	.436**	.616**	.089	-.066	.133	.220**	-.174*	1.00	
11. HPWS	46.787	17.361	-.006	.315**	.166**	.278**	-.017	-.097	.247**	.224**	-.176*	.434**	1.00

* $p \leq .05$; ** $p \leq .01$; *** $P \leq .001$

TABLE 3
The Determinants of HPWS, creativity climate and organisational performance measures - regression results

Regression Dependent variable	Performance			
	1. Organisational Performance	2. HR Performance	3. Employee Performance	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 ²	(.046)	(.001)	(.024)	(.092)
Regression 2: HPWS variable				
Change in R ²	.315*** (.092)	.166* (.021)	.278*** (.071)	.247** (.061)
Regression 3: Creativity Climate				
Change in R ²	.413*** (.164)	.436*** (.185)	.616*** (.375)	.133 (.009)
Regression 4: Creativity climate mediates HPWS – performance relationship				
Change in R ²	.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 4
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 ²	(.053)	(.239)
Step 2:		
Strategy		
Differentiation strategy	.001	.096
Low cost strategy	.223	.218
Change in R ²	(.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 ²	(.369)	

*p ≤ .05; ** p ≤ .01; *** P ≤ .001