

Exploring the HRM-performance relationship: the role of creativity climate and strategy

Margaret Heffernan, Brian Harney, Kenneth Cafferkey, Tony Dundon

Purpose

While an established stream of research evidence has demonstrated that Human Resource Management (HRM) is positively related to organisational performance, explanations of this relationship remain underdeveloped while performance has been considered in a narrow fashion. Exploring the relevant but often neglected impact of creativity climate, this paper examines key processes (mediation and moderation) linking high-performance human resource practices with a broad range of organisational performance measures, including employee performance and HR performance

Design/methodology/approach

The paper draws on a People Management Survey of 169 HR managers from top performing firms in the Republic of Ireland.

Findings

The findings provide general support for the role of creativity climate as a key mediator in the HRM-performance relationship. The impact of HPWS on performance is judged universal with little evidence of variation by strategic orientation.

Practical implications

Sophisticated HRM is found to directly impact a range of organisational performance outcomes. Creativity climate provides an understanding of the mechanisms through which such impact takes effect. Organisations should develop a clear and consistent HR philosophy to realise HR, employee and organisational performance.

Originality/value

The paper offers a more intricate understanding of the key factors shaping both the operation and impact of the HRM-performance relationship. Creativity climate offers an important vehicle to better understand how the HRM-performance relationship actually operates. The paper also highlights the potential of examining multiple organisational performance outcomes to offer a more nuanced and considered insights.

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Introduction

Over time, competitive forces have changed the nature and purpose of HRM. Research has gradually moved away from an exclusive focus on HRM content and static notions of positioning towards HRM processes and dynamic manoeuvring (Chow, 2012; Patel *et al.*, 2013). It is increasingly acknowledged that the basis of long-term organisational success resides in the ability to continuously foster creativity and realise a positive working environment (Anderson *et al.*, 2014). By affording employee autonomy, encouraging discretionary effort, and rewarding creative solutions organisations are better positioned to react to and exploit unanticipated events, while also exploring and anticipating changing market and customer needs (Amabile *et al.*, 1996; Dixon *et al.*, 2014). It follows that those organisations which excel will be those which readily harness the ideas and suggestions of employees by actively encouraging, enabling and rewarding creative performance behaviours (Birkinshaw and Duke, 2013; Montag *et al.*, 2012).

While extant HRM research has progressed to substantively demonstrate the impact HRM can have on financial and operational dimensions of organisational performance (Combs *et al.*, 2006), the relationship between HRM, creativity and multifaceted organisational performance outcomes remains underexplored (Boxall *et al.*, 2011; Cooke and Saini 2010). This static outlook offers limited potential to capture the critical role of adaptive and creative capabilities (Wei and Lau, 2010). As noted in a review by Hayton 'there is a pressing need for empirical research that addresses the contribution HRM makes to a firm's ability to accept risk, be innovative and be proactive' (2005: 21). This paper addresses this topic by taking a creativity perspective to

examine key processes (mediation and moderation) linking high-performance human resources practices and performance (cf. Sun *et al.*, 2007).

A creativity climate was selected as the facet specific climate for this research due to increased emphasis on how HRM stimulates process innovation and creativity (Shipton *et al.*, 2006; Michie and Sheenan 2003; Searle and Ball, 2003) and how ones environment assists in the creativity process (Amabile *et al.*, 1996; Wallace *et al.*, 2006). The role of HRM in this process cannot be understated as Bowen and Ostroff (2004: 205) note that 'HRM practices and HRM systems will play a critical role in determining climate perceptions'. This is further reinforced by Knight-Turvey (2005) who suggests HRM is significant in determining climate strength. Climate in this sense can be understood as 'a broad class of organisational rather than psychological variables that describes the organizational context for individual action' (Glick, 1985: 613). To date the focus with respect to facet specific climates has been on customer service and safety (Chuang and Liao, 2010; Schneider *et al.*, 2013), although there have been hints of the significance of empowerment and encouraging pro-active behaviours (Kazlauskaite *et al.*, 2011). Of particular significance is the argument that creativity climate does not equate to encouraging unbridled risk taking and radical innovation. Rather it involves developing an organisational infrastructure which fosters challenging work, communication and respect for new ideas and new ways of doing things (cf. Amabile *et al.*, 1996). In this sense it is not specific to environmental conditions but holds more universal applicability in the form of continuous improvement, adaptability and organisational development (Helfat and Winter, 2011). In exploring these relationships

the paper elucidates the role of creativity climate as a critical intermediary between HRM practices and a range of organisational outcomes.

The paper proceeds as follows. Following a brief review of HRM-performance research, the paper highlights the importance of ‘creativity climate’ as a missing explanatory process contributing to organisational performance outcomes. The facet specific climate of creativity has hitherto not been deployed in the service of examining the HRM-performance relationship, despite the obvious advantages to studying the creative performance behaviours of employees (Montag *et al.*, 2012). We then examine the potential moderating role of organisational strategy. The research methodology and measurement scales are explained, followed by the analysis and results. The significant findings are then discussed coupled with opportunities for future research. Overall, this exploration of creativity climate to multiple performance outcomes, coupled with the addition of competitive strategy as a prospective moderator serves to answer recent calls for creativity and boundary conditions to be (re)considered in HRM-performance studies (Chadwick *et al.*, 2013; Jackson *et al.*, 2014; Jiang *et al.*, 2013, deLeede and Looise, 2005).

Theoretical Background and Hypotheses

High Performance Work Systems (HPWS) and organisational outcomes

The past two decades have produced numerous contributions demonstrating that sophisticated HRM practices are positively related to organisational performance (Jiang *et al.*, 2013; Posthuma *et al.*, 2013). While we use the term High Performance Work Systems (HPWS), irrespective of the precise label that is applied, there is a broad

consensus that HRM impacts upon organisational performance by motivating employees and encouraging discretionary effort (Datta *et al.*, 2005). Theoretically, exponents of HPWS find support from the resource based view of the firm, and the idea of leveraging and developing human capital through organisational level HRM systems (Boxall, 1998; Harney and Trehy, 2016). More recent advancements explain the impact of HRM through the theoretical rubric of enhancing ability, providing motivation and affording opportunities for employees to perform (Jiang *et al.*, 2013; Kazlauskaitė *et al.*, 2011). The HPWS debate has consistently advocated that mutually reinforcing (Dyer and Reeves, 1995: 657) or complementary HR practices (Laursen and Foss, 2003) would result in superior performance than if practices were applied in isolation (MacDuffie, 1995). Following previous studies we consider a HPWS index as a measurement of the sophistication of HRM and an appropriate basis for examining its impact (Laursen, 2002). The cumulative effect of HR practices, in turn, relate to outcomes such as labour productivity and turnover rates (Arthur, 1994; Mac Duffie, 1995; Guthrie, 2001) leading to firm level performance measures (Huselid, 1995; Patterson *et al.*, 1997).

While the direct relationship between HRM and narrow financial performance has been well established the relationship remains distal. Much less explored are the relationship between HRM and more multi-faceted organisational performance dimensions including HR performance and employee outcomes (Wright and Nishii, 2007; Delaney and Huselid, 1996). There is an inferred recognition that financial indicators (profits, sales, market share) are the best *indicators* of performance (Boselie *et al.*, 2005). Purcell and Kinnie (2007: 536) state that financial performance data is too far removed from HRM influence, whereas Guest (1997) suggests that HRM outcomes are more

aligned to HRM activities than to organisational outcomes. Harter *et al.* (2002) supports this assertion that HRM influences HR activities, with less direct impact on organisational outcomes and even less again on financial measures. Following this logic we do not focus on narrow financial measures of organisational performance, but instead examine subjective evaluations of organisational performance relative to competitors, This includes market based factors such as growth in sales, quality of product/service but also more direct HR performance issues such the organisation's ability to attract and retain talent and relations between management and employee (Delaney and Huselid, 1996). Finally, to complete a more rounded assessment of organisational performance we incorporate an assessment of employee performance relative to competitors along such dimensions as levels of motivation, flexibility of employees and innovative ideas.

In sum, following the logic of the resource based view of the firm and the thesis of mutual inclusivity (Laursen, 2002); we explore the relationship between HPWS and a range of organisational performance measures. In so doing we extend traditional understanding of HPWS to include work life balance which has been found to contribute to effort-reward fairness in determining the likelihood of positive outcomes (Janssen, 2000). Overall, examining the HPWS-performance relationship remains important in a context where research is described as 'sporadic' (Kazlauskaite *et al.*, 2011: 139) with some questioning whether HRM should or can ever be expected to be related to performance outcomes (Boxall and Macky, 2014). Consequently hypothesis 1 is framed as follows:

Hypothesis 1: HPWS are positively associated with (a) employee performance, (b) HR performance, and (c) organisational performance

HPWS and creativity climate

It has been suggested that HPWS can serve as a necessary antecedent to developing and sustaining organisational climate (Bowen and Ostroff, 2004; Jiang *et al.*, 2013). Consequently the impact of HRM on climate and resultant employee and organisational outcomes is not to be underestimated. Empirically, Bjorn *et al.*, (2010) demonstrate a relationship between transformational HR practices and perceived climate for initiative, whilst empowerment focused HR practices have been found to be important in building a climate for knowledge sharing and learning (Kazlauskaite *et al.*, 2011; Shipton *et al.*, 2005). Yet while climate has proven a useful concept in HRM e.g. research on service climate (Liao *et al.*, 2009) and trust and co-operation (Collins and Smith, 2006) its meaning and application remain contested. Bowen and Ostroff (2004: 205) define organisational climate as: a shared perception of what the organisation is like in terms of practices, policies, procedures, routines, and rewards, what is important and what behaviours are expected and rewarded'. Climate in this understanding is not an aggregate of individual perceptions, but rather an organisational process based phenomenon founded on inter-subjective agreement and interpretation (Glick, 1985; Schneider *et al.*, 2013). Organisational climate can therefore be used as a lens within the causal chain linking HR to performance (Boxall and Purcell 2008; Purcell and Kinnie, 2007, Bowen and Ostroff, 2004; d'Arcimoles, 1997).

To date, few studies attempt to address the HPWS-climate relationship (Rogg *et al.*, 2001; Gahan and Buttigieg, 2008: 8) and even fewer attempt to address creativity specific climates (Hunter *et al.*, 2007; Shipton *et al.*, 2006; Scott and Bruce, 1994). Bowen and Ostroff (2004) suggest that it is not the presence (content) of particular practices that is important it is the process i.e. how it is designed and administered that is important. Where there are high levels of distinctiveness, consistency, and consensus, Bowen and Ostroff, (2004: 213) call this a 'strong situation' where HPWS will foster the requisite creative behaviours. In this process HPWS are likely to encourage autonomy and knowledge sharing thus enabling a firm to create and maintain its core competencies. HRM practices such as extensive training and rewards can foster innovative behaviour amongst employees (Fu *et al.*, 2014) whilst fostering intellectual stimulation and challenge (Bjorn *et al.*, 2013). A growing body of literature suggests organisational climate as a potential mediator within the high performance paradigm (Ostroff and Bowen, 2000; Kopelman *et al.*, 1990).

The mediating influence of creativity climate on the HPWS-Performance relationship

While the establishment of a direct relationship between HRM and performance outcomes is necessary, it is not sufficient to enhance understanding. It is important to explicate the mechanisms through which HRM practices work to impact different performance outcomes (Camps and Luna-Arocas, 2012; Jackson *et al.*, 2014; Jiang *et al.*, 2013). Bowen and Ostroff (2004) provided a strong conceptual foundation for this task moving the focus away from the content of HR practices per se to the purposes they actually serve. A range of mediators have been proposed, with much work focusing on

the way in which HR impacts upon employee's ability, motivation and opportunity (AMO) to perform (see Jiang *et al.*, 2013: for an overview). At a more aggregate level, it has been highlighted that the climate strength is an important mediator between the HR system and firm performance (Bowen and Ostroff, 2004). Jiang *et al.* note that climate can "further influence employee attitudes and behaviours and subsequent firm performance" (2013: 1455). Research has illustrated the positive role of climate in enhancing the impact of HRM, including work climates which emphasize team-orientation and human capital development (Gelade and Ivery, 2003; Patel and Cardon, 2010; Wei *et al.*, 2012). Taking a relational perspective, Sun *et al.*, (2007) found that a supportive work environment facilitates the exchange or sharing of tacit knowledge leading to productivity improvements. However, while Neal *et al.*, (2005) found that a human-capital-enhancing HR system was positively associated with organisational climate and this in turn was positively associated with subsequent productivity, they did not find support for mediation. Much less explored with respect to climate, are how HRM interventions may foster the type of employee creativity, involvement and discretionary action that are increasingly deemed central for competitive survival (Amabile *et al.*, 1996, Anderson *et al.*, 2014). If, as is frequently asserted, sustained advantage involves 'creating new market space' and a different 'pattern of strategic thinking' (Kim and Mauborgne, 2004) then HRM practices should do more than simply reinforce the existing modes of employee behaviour and thinking. While numerous facets of climate may exist including general psychological climate (James *et al.*, 1990), employment relations climate (includeAuthor Ref Removed), and service climate

(Chuang and Liao, 2010) we propose creativity as a ‘facet specific’ climate particularly significant to the intention and success HRM interventions (Rousseau, 1988).

Creativity climate was selected as the facet specific climate due to increased emphasis on how HRM stimulates process innovation and creativity (Shipton *et al.*, 2006; Michie and Sheenan 2003; Searle and Ball, 2003) and how ones environment assists in the creativity process (Amabile *et al.*, 1996). However, the HRM implications for such a climate have never fully been explored explicitly. Increasingly researchers have looked towards social and organisational influences on behaviour to explain performance (Patterson *et al.*, 2005: 379). Management therefore should place an emphasis on an organisational climate that fosters positive employee outcomes (Ahmad and Schroeder, 2003). Extant research suggests that climate predicts job satisfaction (Pritchard and Karasick, 1973; Day and Bedeian, 1991) organisational commitment (Saunders *et al.*, 2008; Organ, 1988; Eisenberger, 1990; Wayne *et al.*, 1997) HRM performance (Knight-Turvey, 2005; Bowen and Ostroff, 2004; Delaney and Huselid, 1996) and finally organisational performance (Neal *et al.*, 2005; Collins and Smith, 2006; Kangis *et al.*, 2000; Ostroff and Schmitt, 1993).

HRM bundles are likely not only to develop individual motivations and opportunities to perform better, as per the AMO rubric, but also to engender a more cohesive pattern of interaction and communication amongst employees (Author Ref Removed). From this perspective HRM not only enhances the human capital pool but may also change the nature of employment relationships (Evans and Davis, 2005). Given

HRM's direct impact on employees it would be expected that HRM would have a significant role to play as a more proximal value creating system developing and fostering a creativity climate (Becker and Huselid, 2006). Extant research has not purposefully deployed an assessment of creativity climate as a necessary intervening factor between the HRM system and performance outcomes. As an organisational level construct climate for creativity captures formal and informal practices and procedures guiding and informing a supportive, self-starting, and persistent approach to work (Baer and Frese, 2003). The emphasis is not exclusively related to dramatic risk taking and radical innovation but rather framed by an understanding of execution as dealing with unexpected set-backs, devising and sharing new job-related knowledge, and managing inevitable uncertainty (Hayton et al., 2005; Sull et al., 2015). Creativity climate therefore includes supporting the execution of new ideas as much as devising them (Baer and Frese, 2003). Following this logic the measures of creativity climate deployed draw on the work of Amabile et al., (1996) and include items such as 'People in this organisation generally feel challenged by their work', 'There is free and open communication within this organisation' and 'an individual's creative ability is respected in this organisation'. Overall, focusing on HRM's ability to foster a creativity climate across a more general population of firms and examining the potential connections to performance gains is an important requirement (Hayton, 2005) particularly as the HR-Climate-Outcomes thesis has yet to be fully established (Neal *et al.*, 2005; Gelade and Ivery, 2003). This leads us to propose hypothesis two as follows:

Hypothesis 2: Creativity climate positively mediates the relationship between HPWS and (a) employee performance, (b) HR performance and (c) organisational performance

The moderating role of strategy

It has been argued that organisations whose HR practices match their business strategies will outperform those that do not (Bird and Beechler, 1995). According to contingency theory, an organisation's strategy moderates the effect of human resource practices on firm performance (Schuler and Jackson, 1987). Although strategic orientation was at the forefront of the emergence of HRM, it has since been downplayed by attempts to demonstrate the unilinear relationship between HRM and performance (Batt and Banerjee, 2012; Becker and Huselid, 2006). As an example, less than 10 percent of the 154 Strategic HRM studies reviewed by Jackson *et al.*, (2014: : 25) explored whether strategy moderated the effects of HRM on various outcomes. Similarly, a meta-analysis by Subramony (2009) reports a dearth of studies examining the boundary conditions framing the HRM-Performance relationship (notable exceptions include studies by Datta *et al.*, (2005) and Chadwick *et al.*, (2013). The significance of such research is noted by Youndt *et al.*, (1996: 837) who posit that an organization's strategic posture either augments or diminishes the impact of HR practices on performance'.

In line with the propositions of Porter (1985) and the resource based view of the firm (Barney, 1991) it is posited that HRM will contribute more to performance outcomes where an organisation pursues a differentiation strategy. Differentiation strategies are characterized as having a long-term orientation with an extensive reliance on the workforce to improve quality and maintain flexibility (Shore and Shore, 1995). Successful differentiation is founded upon commitment associated with employee involvement in decisions, wide job definitions, and extensive investment in employee

skill development. Guthrie *et al.*, (2002) found that where organisations pursued a differentiation strategy, greater use of HRM was associated with increased productivity. Other studies have shown that differentiation strategies are associated with the use of HPWS and employee centered philosophies (Lepak *et al.*, 2007). In terms of employees, research has shown that HRM systems were more effective in reducing voluntary turnover in firms pursuing differentiation strategies (Chow and Liu, 2009). Arguably those competitive strategies founded upon innovation or unique product or service features are more likely to be reliant upon employee capabilities, discretionary effort, and a higher level of motivation (Guthrie *et al.*, 2002; Youndt *et al.*, 1996; Neal *et al.*, 2005). Those organisations following a strategy of differentiation are more likely to have a stronger association with employee creativity due to an emphasis on risk taking, exploratory learning, employee involvement and a quest by HR to encourage new and different ways of working (Sun *et al.*, 2007, Shipton *et al.*, 2006).

In contrast, a cost leadership strategy is associated with mass production methods and emphasizes cost reduction in every activity across the value chain (Wang and Verma, 2012). Unlike a differentiation strategy, cost reduction expects minimum commitment from employees, but nonetheless deploys a high utilization of their skill or effort. Following Arthur (1992), in cost leadership the emphasis is on transactional relations and control. Employers perceive employees as costs to control; this implies narrowly defined jobs, close supervision, and limited investment in training or involvement (Bamberger and Meshoulam, 2000). This matches an approach whereby employees are not considered a source of competitive advantage as they perform a narrow range of activities, deploying a skill set that is typically more readily available in the external labour market. In this

instance organisations are focused on short term activities and objectives and are unlikely to require specific creative behaviours from their employees (Bornay-Barrachina *et al.*, 2012). The strategic orientation of the firm therefore bears on the likely effectiveness and impact of practices. Drawing upon a behavioural perspective, Schuler and Jackson (1987) provided a rationale for such distinctions by outlining the role behaviours expected of different strategy types. Thus while some have suggested a universal impact of HPWS irrespective of strategic orientation (Huselid, 1995) others propose that HPWS may actually hinder this relationship in the context of a low cost strategy provision (Cooke and Saini, 2010). Nonetheless, it is still largely assumed rather than evidenced that the outcomes of HPWS are consistent with the demands and strategy of organisations (Jackson *et al.*, 2014, Jiang *et al.*, 2013). We therefore examine whether the influence of HPWS on multiple outcomes is moderated by a firms competitive strategy as follows

Hypothesis 3: Differentiation strategy moderates the positive relationship between HPWS and (a) employee performance, (b) HR performance and (c) organisational performance in such a way that it is more positive for higher than for lower levels of differentiation strategy.

Hypothesis 4: Low cost strategy moderates the positive relationship between HPWS and (a) employee performance, (b) HR performance and (c) organisational performance in such a way that it is more negative for higher than for lower levels of low cost strategy.

Overall, as depicted in Figure 1, we examine creativity climate as a mediator to better explicate how the HRM-performance link operates, while also exploring strategic orientation as a key contingency shaping the HRM-performance relationship.

Insert Figure 1 about here

Methods

Sample and procedures

In order to examine the proposed hypotheses, this paper draws on Irish data derived from the ‘People Management Survey’ (PMI). This national survey was administered in 2008 using a stratified sampling technique. Our main criterion was that organisations in the sample were deemed to be ‘high performing’ as measured by profit and financial turnover reported by the *Irish Times Business and Finance Top 1000* companies, *Kompass Business Directory*, and the *Top Places to Work Survey*. This gave a target population of 2000 firms. The research design then ensured a representative set of Irish-based operations across multiple sectors of the economy. After pilot testing, a postal survey was administered in hard copy to 1,995 senior HR managers or senior managers with responsibility for HR issues. Following follow-up calls, a total of 169 usable surveys were returned, giving a response rate of 8.5 percent. Although low the response rate is comparable with other similar studies (Becker and Huselid, 1998) and within a range likely to yield informative analysis (Krosnick, 1999). Cook et al. (2000) argue that response representativeness is more important than response rate in survey research. To explore representativeness, we checked for possible non-response bias using a “time trend extrapolation test” in which ‘late’ versus ‘early’ respondents were compared along

a number of key study variables (Armstrong and Overton, 1977). The rationale for this test is that 'late' respondents (defined as those responses received after the first round of mailing i.e. after follow-up or second mailing) are very similar to non-respondents, given that they would have fallen into that category without the follow-up efforts (Armstrong and Overton, 1977). A one-way analysis of variance (ANOVA) showed no significant difference between the early and late responses in terms of measures such as firm size ($F(1, 166) = 0.480, p = .49$) and firm age ($F(1, 167) = .002, p = .965$).

The sampling organisations have 379 employees on average organisation age of 37 years. In terms of ownership 66.3 percent were Irish owned, 14.1 percent US owned, 14.7 European owned (non-Irish), and others represented 4.9 percent.

Measures

Unless otherwise indicated, all items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

High performance work systems:

In terms of deriving the list of practices to include in the survey we drew on Huselid's (1995) seminal work as a base. These practices were then cross-checked against other empirical studies (Arthur, 1994; Guest *et al.*, 2000; Guthrie, 2001) with the research including those practices deemed absent from previous research, specifically employment security, diversity and work-life balance (Boselie *et al.*, 2005). Having identified the key HR practices, we deliberately utilised measures that had been validated in previous research (Guthrie, 2001). In order to capture breadth and depth of practices

we followed Jackson *et al.*, (1989) and Guthrie *et al.*, (2009) and distinguish between HRM practices deployed at a *managerial/professional employees* (i.e. executives, managers, supervisors, professional/technical), and *administrative/non-managerial employees* (i.e. production, maintenance, service, clerical employees). Research which focuses on multiple categories helps to overcome the limitation of studies which treat all employee groupings equally. Rather than cluster or categorise practices into discrete typologies or would-be-lists of so-called best practices (Pfeffer, 1998), we measured each firm's use of HPWS on a continuous scale by creating a HPWS index. This aligns with our theoretic exposition in allowing us to treat the system as a whole and thereby contributed to parsimony of analysis (Chow *et al.*, 2012; Neal *et al.*, 2005). Using the number of employees in each group, a weighted average for each practice was computed, as recommended by Guthrie (2001). These scores were then converted to Z-scores. Cronbach's alpha for the HPWS index was .81.

Table 1 presents the HPWS items used to create the HPWS index and descriptive statistics for each item representing the weighted average for both employee groups. 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 index measure of HPWS in our sample ($x = 46.33$; s.d. = 16.17) compares favourably with other studies ($x = 49.58$; s.d. = 15.27, reported by Datta *et al.* 2005).

Insert Table 1 about here

Creativity climate was measured using a six-item scale developed by Amabile et al., (1996). The logic draws upon the referent-shift model which refers to attributes of the respective organisation rather than individual's own perceptions (Schneider et al., 2013). Examples of statements in the scale include: 'new ideas are always encouraged and rewarded'. Factor analysis was conducted on six measures using principal axis factoring with varimax showing items loaded on to one clean factor. Cronbach's alpha was .89 indicating reliability of the scale and akin to similar measures of climate (Baer and Frese, 2003).

Performance variables: A number of performance outcome measures were included as dependent variables. Factor analysis was conducted on these items using principal axis factoring with varimax showing items loaded on to three factors with scores of .6 or higher. These factors were titled 'organisational performance', 'HR performance' and 'employee performance'. Organisational performance ($\alpha = .77$) was assessed using six items measuring the subjective evaluation of an 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; and (6) % sales spent on R&D; (Delaney and Huselid, 1996). HR performance ($\alpha = .75$) was measured using a three-item scale developed by Delaney and Huselid (1996) and included subjective evaluations of the organisations ability to attract and retain employees, relations among employees and management-employee relations in general. The employee performance variable utilised a four-item scale developed by Guest et al., (2000) and assessed areas such as levels of motivation, flexibility of employees and innovative ideas ($\alpha = .745$).

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 percent 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 (1991).

Control variables: Consistent with other research, standard control variables were created and included in our regressions. 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 (Datta *et al.*, 2005). Union representation was measured by asking the proportion of employees unionised across each group. A dummy variable was then created where unionisation was coded 1 and non-union was coded as 0. Union representation has been associated with productivity and turnover rates (Guthrie, 2001; Huselid, 1995). An ownership dummy variable (indigenous or foreign owned) was then created to control for ownership effects. Finally, the age of the establishment was included to control for possible lifecycle effects and learning curves in productivity.

Analysis and Results

Table 2 presents the means, standard deviations and correlations of variables for this study. We tested our hypotheses using hierarchical linear regression methods. In testing the mediating effects of creativity climate on the relationship between HPWS and organisational outcomes, we ensured that the four conditions suggested by Baron and Kenny (1986) were met. Many criticisms have been levelled against Baron and Kenny's (1986) model as it does not explicitly provide a numerical value of the strength of the mediated effect (see Zhao *et al.*, 2010 for a full review). As a result, this research goes beyond the causal step approach proposed by Baron and Kenny by following Preacher and Hayes (2008) procedures for mediation. Specifically, we used bootstrapping to further test for mediation using the PROCESS SPSS macro suggested by Preacher and Hayes (2008). Their method parametric (i.e. Sobel test) and non-parametric (i.e. bootstrapping) tests of the estimated indirect effect (Preacher and Hayes, 2004). The resultant confidence interval, when not containing the value of zero, demonstrates that there is a difference in the change of coefficients for the test of mediation. There are a number of advantages to using this statistical method as it does not rely on the assumption of a normal sampling distribution (see Preacher and Hayes, 2004; Shrout and Bolger, 2002), or suffer from a high Type I error rate as the number of inferential tests is minimized. Moderator effects were estimated through the use of interaction terms which are new variables defined as the product of a predictor/independent variable and a moderator variable (Aiken *et al.*, 1991).

Insert Table 2 about here

Main effects

Firstly, hypothesis 1 predicted a positive relationship between HPWS and a number of organisational outcomes. The results in Table 3 (Step 2) show a direct and positive relationship between HPWS and all three dependent variables. More specifically, HPWS was positively related to employee performance ($\beta = .329$, $p < .001$), HR performance ($\beta = .312$, $p < .01$), and organisational performance ($\beta = .263$, $p < .01$). Thus the results support hypotheses 1a to 1c, which posit that HPWS would positively impact employee performance, HR performance, and organisational performance, albeit to differing degrees contingent on the outcome under consideration.

Insert Table 3 about here

Mediation effects

Hypotheses 2 predicted the mediation effect of creativity climate in the relationship between HPWS and organisational outcomes. Table 3 presents the results of the mediation analysis. Following Baron and Kenny's (1986) steps, the first condition for mediation proposes that HPWS (as the independent variable) should be significantly related to creativity climate (the mediator). As the results depicted in Step 2 demonstrate, HPWS was significantly related to creativity climate ($\beta = .526$, $p < .001$). Next, the mediator, creativity climate, should predict the dependent variables. The results (Step 3) revealed that creativity climate was significantly associated with: (a) employee performance ($\beta = .536$, $p < .001$), (b) HR performance ($\beta = .467$, $p < .001$) and (c) organisational performance ($\beta = .297$, $p < .01$). The third condition for mediation (that HPWS, the independent variable, has a direct effect on the dependent variables) was then

tested. Results for this regression analysis have already been discussed (Hypothesis 1) showing condition 2 holds for all dependent variables. The above results fulfil the first three conditions of testing mediation. Finally, in the fourth step, mediation occurs if the significant relationship between HPWS and the dependent variables either reliably reduces or becomes non-significant when controlling for creativity climate (step 4). Results show that the formerly significant relationship between HPWS and employee performance, HR performance and organisational performance became insignificant when the dependent variables were regressed on both HPWS and creativity climate suggesting full mediation. To further strengthen the analysis, bootstrapping was conducted using methods described by Preacher and Hayes (2007) for estimating direct and indirect effects (5000 bootstrapped samples generated). The results from the bootstrapping procedures showed that the 95% confidence interval around the indirect effect did not contain zero: employee performance 95% CI: .005 and .017) HR performance (95% CI: .004 and .0124), and organisational performance (95% CI: .0016 and .0096). The confidence intervals do not contain zero, which further supported a significant indirect relationship between HPWS and the dependent variables via creativity climate. In view of these results, the mediation is confirmed. Therefore, hypotheses 2a, 2b and 2c were supported.

Moderating effects

The next hypotheses move to explore a key contingency likely to impact the strength of the HPWS-performance relationship, namely the strategic orientation of the firm. In hypotheses 3 and 4 we proposed the moderating role of strategy in the

relationship between HPWS and organisational outcomes. This study examined two moderators – low cost strategy and differentiation strategy. A new interaction variable was computed for each moderator by multiplying the independent variable by the moderating variable. As all predictor variables and/or moderator variables in this study were continuous variables, Aiken and West (1991) suggest that researchers should first centre those predictors by subtracting the mean from each value, creating two new centred variables. Hierarchical multiple regression was used to examine moderator effects by entering variables into the regression equation through a series of steps (Aiken and West, 1991). The first step includes the control variables, predictor/independent and moderator variables were entered in step 2. Finally, in step three, the interaction term is included in the regression model.

Table 4 presents the results for the moderating role of differentiation strategy. In step 3, the interaction term (HPWS x differentiation strategy) was found to be only significant for employee performance ($\beta = .139$, $p < .05$), thereby accounting for significant portions of additional variance. Thus hypothesis 3 (a) was supported. No support was found for hypotheses 3(b) or 3(c). Table 5 examines the moderating role of low cost strategy on the HPWS-performance relationship. An interaction variable was calculated (centred HPWS*centred cost reduction strategy). Findings suggest that low cost strategy is not a significant moderator. Thus hypotheses 4 were not supported.

Insert Table 4 about here

Insert Table 5 about here

Frazier *et al.*, (2004) recommend that the predicted values obtained from moderation regression modelling should then be used to create a figure depicting the trajectory of the moderator effect. Figure 2 illustrates the moderating effect of differentiation strategy. The direction of the interaction effects of differentiation strategy aligned with hypotheses 2a such that the relationship between HPWS and employee performance was more positive for organisations pursuing a more extensive differentiation strategy.

Insert Figure 2 about here

Discussion

Organisations need to have HRM practices which foster agility and creativity. While this argument was once the reserve of high-technology or fast paced industries it now holds general relevance (Dobbs *et al.*, 2015; Helfat and Winter, 2011). The findings indicate that HPWS has a positive impact in enhancing a number of performance variables across a diverse range of high performing firms from the Republic of Ireland. This lends further evidence to existing research on HRM and performance in an Irish context suggesting a universalistic impact (Guthrie *et al.*, 2009). However, we also extend this understanding by emphasizing the role of HRM in fostering and sustaining a

creativity climate as one of the key means by which this performance benefit is realized (Ceylan, 2013; Jackson *et al.*, 2014). Evidently organisations need to put in place a HR infrastructure which ensures that the organisation is open to change and has the capability to adapt to changing circumstances and market needs (Patal *et al.*, 2013; Wei and Lau, 2010).

Hayton's review of corporate entrepreneurship highlights that risk acceptance and discretionary contributions may be 'effectively encouraged through the creation of a climate in which entrepreneurial contributions are the result of a social exchange between employees and the organization' (2005: 32). The findings from our second set of hypotheses provide empirical support for the role of creativity climate as an explanatory mediating variable between HPWS and organisational outcomes in the form of employee, HR and organisational performance. HRM practices which encourage high-involvement and emphasize mutual long-term exchange relationships are said to foster greater knowledge creation and exchange (Bowen and Ostroff, 2004; Camelo-Ordaz *et al.*, 2011). Evidently HPWS do not merely serve to enhance the human capital pool but can also change the nature of the employment relationship (Evans and Davis, 2005). This links with debates that structures do not necessarily impact performance on their own, but that labour and agency interactions remain a critical conduit in generating creative contributions. This argument resonates with the emergence of a more process-based perspective on HRM (Katou *et al.*, 2014) coupled with associated calls for greater exploration of the mediators of the HRM-organisational outcomes relationship (Jiang *et al.*, 2013). Creativity climate offers a useful contribution in this respect as it captures

forward focusing and future proofing behaviours. Notably, additional analysis of our data suggests that creativity climate may have universal relevance as an explanatory variable; both a mediated moderation and moderated mediation model examining the influence of strategy on the HRM-creativity climate-organisational outcome relationship were not supported (Not reported here but available from the authors). This suggests the benefits of a behavioural approach to understanding creativity and finds support from research which claims the benefits of supportive learning climate (Shipton *et al.*, 2005) and empowerment focused HR (Kazlauskaite *et al.*, 2011). This is a timely finding as, while a 'myriad of mechanisms' have been proposed as underpinning the HR-performance relationship, few studies have considered HRM's role in encouraging pro-active behaviours and fostering creative response (Patel *et al.*, 2013).

While greater explanation of how and why HPWS take effect is an important line of questioning, this is equally the case for understanding the role of boundary framing the direction and strength of this impact (Chadwick *et al.*, 2013; Jung *et al.*, 2008). This research explored strategic orientation as a moderating variable influencing the HPWS-organisational outcome relationship. While strategic orientation has received significant conceptual recognition this has not been reflected in subsequent empirical attention (Posthuma *et al.*, 2013; Jackson *et al.*, 2014). The findings offer interesting insights. In the main, strategy was not found to be a significant influence on the HRM-performance relationship. This lends weight to more universalistic arguments concerning the merits and impact of HRM for these organisational outcomes (see Neal *et al.*, 2005). In support of this research by Monks *et al.*, (2013) finds that HR philosophies orientated towards either maximizing efficiency or relying on employee capability can be equally effective

in terms of delivering organisational performance. The only hypothesized relationship that proved significant was that differentiation strategy was found to moderate the relationship between HPWS and employee performance such that for those organisations pursuing a more extensive differentiation strategy higher levels of HPWS were associated with more positive employee outcomes (see Figure 2). This suggests that organisations pursuing a differentiation strategy need depth and breadth of employee skills, as well as a higher level of commitment and involvement (Anderson *et al.*, 2014). Thus, HRM practices based on the high usage of employee participation in decision-making, team working and training, are all consistent with enabling positive outcomes. This finding echoes organisational culture research whereby those organisations with more clan based orientations tend to have better employee outcome than those with a more transactional focus (Hartnell *et al.*, 2011).

Implications and limitations

The evidence has import for both academics and practitioners. First HPWS have been shown to directly impact organisational performance highlighting the merits and return from strategic investment in HR practices. The index measure deployed rests on the assumption of a mutually inclusive influence, suggesting that HR practices need to be considered in tandem (i.e. horizontal alignment). Second the paper offers an explanation of the process through which such impact takes effect (Guest, 2011). The current findings suggest the value of a process and behavioural perspective rather than a focus on the content of practices per se. HR managers can explore the nature and depth of the creativity climate evidenced in their organisations, exploring how they might devise an

infrastructure to offer more expansive roles or encourage greater employee initiative (Birkinshaw and Duke, 2013). Critically, it has been found that perceptions of a climate for creativity are an important precursor for people to show initiative (Bjorn *et al.*, 2013). Third, our lack of findings concerning the moderating role of strategic orientation suggests that HPWS aids in the provision of clarity surrounding the purpose and implementation of strategy, thereby even benefiting those organisations that pursue a low cost orientation (Tracey, 2012).

Future research would benefit from combining both subjective and objective measures when measuring performance. In order to develop causal explanations for the relationships exhibited cross-sectional research needs to be complimented with more longitudinal research designs. Evidently, a richer understanding could be gained by surveying multiple respondents, with employee respondents particularly significant in exploring the impact of HPWS, especially via concepts such as creativity climate. Thus while the current research has opened up a number of prospective research avenues, without direct consideration of the mediating role of employee outcomes, understanding will remain partial at best (Jiang *et al.*, 2013).

As with all cross sectional research, common method variance can become an issue. However the present research specifically selected key respondent groups to overcome such limitations. In fact it can be stated that the present research demanded common methods across both distinct employment groups to allow comparisons (Spector, 2006). Research has shown at a meta-analysis level that common methods are no less reliable than other methods (Crampton and Wagner, 1994).

Authors have recently questioned the assumption that common-method variance can cause serious problems in organizational research (Spector, 2006). Nevertheless, we employed several procedural and statistical strategies for addressing issues related to common method bias (as per Podsakoff et al. 2003). We ensured survey anonymity through anonymous returns; we pilot tested the survey prior to distribution and ensured scale item quality (e.g., items had familiar terms, and items were short, succinct, and focused and conducted the Harman one-factor test. We encourage future researchers to collect data from multiple sources and on longitudinally to investigate our findings further.

Conclusion

This paper responds to recent calls for greater exploration of prospective mediators and moderators in the relationship between HPWS and organisational outcomes (Jiang *et al.*, 2012; Chadwick *et al.*, 2013). Overall, we find general support for the concept and merits of HPWS, while also extending our understanding of how their impact takes effect via creativity climate. Arguably, it is only by drawing attention to the internal processes through which HRM's impact takes effect that HRM can find a more secure foundation to highlight its merits (Jackson *et al.*, 2014; Sun *et al.*, 2007). The significance of facet specific creativity climate in this respect is that it is more directly amenable to management via HR practices than more abstract concepts such organisational culture. Going forward it is suggested that purposeful consideration of multi-faceted dimensions of organisational outcomes will enable a more nuanced and considered explication of the impact of HPWS.

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Figure 1: Mediating (climate) and moderating (strategy) in the HR-performance relationship

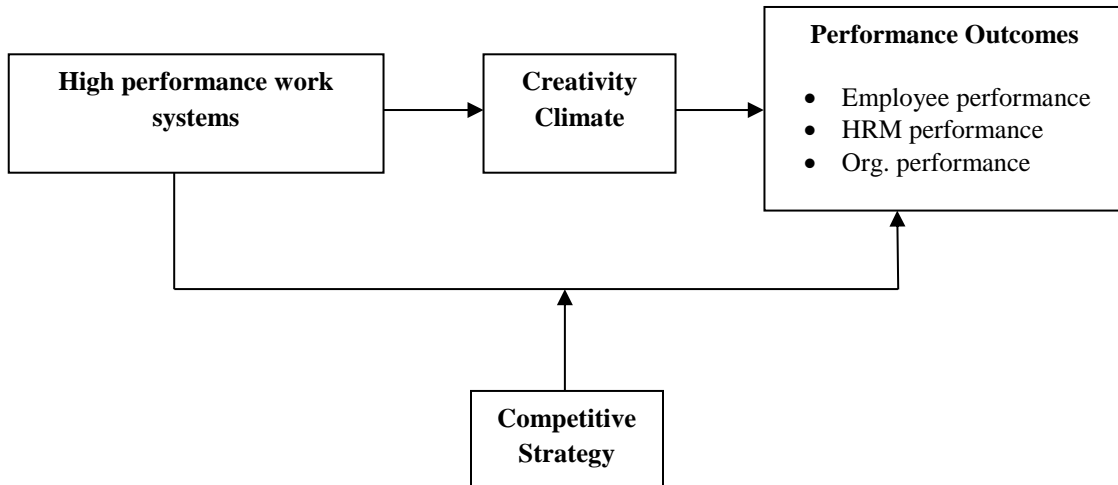


Table 1: HR practices use in the analysis

| <i>What proportion of your employees....</i> | <i>Mean</i> |
|--|--------------|
| 1 EMPLOYEE RESOURCING | |
| Are interviewed during the hiring process using structured, standardized interviews | 64.78 |
| Are administered one or more validated employment tests | 24.19 |
| Hold jobs which have been subjected to a formal job analysis to identify position requirements | 54.14 |
| Hold non-entry level jobs as a result of internal promotions | 36.41 |
| Hold non-entry level jobs due to promotions based upon merit or performance | 39.22 |
| Can expect to stay in this organization for as long as they wish | 66.63 |
| On leaving the firm are subjected to a formal exit interview | 50.47 |
| 2 TRAINING AND DEVELOPMENT | |
| Receive formal induction training/ socialisation to the organization | 86.01 |
| Have been trained in a variety of jobs or skills (cross trained) and/or routinely perform more than one job | 53.13 |
| Have received training in company-specific skills | 78.27 |
| Have received training in generic skills (e.g., problem-solving, communication skills, etc)? | 38.43 |
| Receive specific training as a direct result of their performance appraisal | 41.70 |
| Have been involved in a Total Quality Management programme | 30.56 |
| 3 PERFORMANCE MANAGEMENT AND REMUNERATION | |
| Receive formal performance appraisals on a routine basis | 61.72 |
| Receive formal performance feedback from more than one source | 30.68 |
| Receive compensation partially contingent on individual merit or performance | 45.21 |
| Receive compensation partially contingent on group performance | 37.79 |
| Have options to obtain shares of your organization's stock | 18.91 |
| Are paid primarily on the basis of a skill or knowledge-based pay system | 27.31 |
| Are paid a premium wage in order to attract and retain them | 27.26 |
| What proportion of the average employee's total annual remuneration is contingent on performance | 12.89 |
| 4. COMMUNICATION AND INVOLVEMENT | |
| Are involved in programmes designed to elicit participation and employee input | 35.33 |
| Are provided relevant financial performance information | 53.86 |
| Are provided relevant strategic information | 59.35 |
| Are administered attitude surveys on a regular basis | 31.74 |
| Have access to a formal grievance/complaint resolution procedure or system | 90.91 |
| Are organised in self-directed work teams in performing a major part of their work roles | 41.27 |
| 5 WORK LIFE BALANCE | |
| What proportion of workforce covered by family-friendly or work-life balance practices | 52.67 |
| 6 HIGH PERFORMANCE WORK SYSTEMS | |
| Average HPWS Index Score | 46.33 |

*These percentages represent weighted averages across the two employee groups

Table 2: Means, standard deviations and correlations

| | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| 1. Firm age | 37.49 | 33.18 | - | | | | | | | | | | |
| 2. Firm Size | 379 | 742 | .080 | - | | | | | | | | | |
| 3. Ownership | - | - | -.189* | -.081 | - | | | | | | | | |
| 4. Unionisation | - | - | .104 | .081 | .007 | - | | | | | | | |
| 5. HPWS | 56.40 | 32.60 | -.131 | .118 | .224** | -.193* | - | | | | | | |
| 6. Creativity climate | 3.48 | .725 | -.170* | .066 | -.068 | -.230** | .466** | - | | | | | |
| 7. Low cost strategy | 42.24 | 32.34 | -.082 | -.115 | -.134 | .138 | -.271** | -.166* | - | | | | |
| 8. Differentiation strategy | 56.40 | 32.60 | -.045 | -.050 | .170* | -.141 | .166* | .145 | -.600** | - | | | |
| 9. Org. Performance | 3.46 | .635 | -.144 | .087 | -.012 | -.180* | .244** | .314** | -.084 | .145 | - | | |
| 10. HR Performance | 3.75 | .640 | -.080 | -.001 | -.046 | -.036 | .241** | .436** | .037 | -.049 | .248** | - | |
| 11. Employee performance | 3.48 | .706 | -.109 | -.035 | -.044 | -.095 | .239** | .523** | -.166* | .222** | .271** | .432** | - |

*p < .05; ** p < .01 N = 169

Table 3: Summary of hierarchical regression and bootstrapping analysis: creativity climate as mediator

| | <i>Creativity Climate</i> | | <i>Employee Performance</i> | | | | <i>HR Performance</i> | | | <i>Org. Performance</i> | | |
|-----------------|---------------------------|---------------|-----------------------------|---------------|---------------|---------------|-----------------------|---------------|---------------|-------------------------|---------------|---------------|
| | <i>Step 1</i> | <i>Step 2</i> | <i>Step 1</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 4</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 4</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 4</i> |
| Firm age | -.162* | -.124 | -.077 | -.047 | .015 | .016 | -.059 | -.010 | -.009 | -.076 | -.057 | -.058 |
| Firm size | -.005 | -.163* | .022 | -.089 | .028 | .001 | -.115 | -.001 | -.030 | .017 | .092 | .056 |
| Ownership | -.093 | -.232** | -.067 | -.160 | -.016 | -.035 | -.190* | -.066 | -.087 | -.113 | -.017 | -.057 |
| Unionisation | -.220* | -.090 | -.108 | -.029 | .001 | .019 | .029 | .065 | .079 | -.117 | -.109 | -.095 |
| HPWS | | .526*** | | .329*** | | .068 | .312** | | .093 | .263** | | .137 |
| CC | | | | | .536*** | .509*** | | .467*** | .426*** | | .297** | .235* |
| R ² | .085 | .310 | | .110 | .286 | .291 | .098 | .217 | .224 | .104 | .128 | .143 |
| ΔR ² | | .228 | | .088 | .264 | .270 | .080 | .199 | .207 | .055 | .082 | .093 |
| F | 3.268* | 12.485*** | | 3.161** | 10.900 | 9.118*** | 2.962** | 7.639*** | 6.480*** | 2.721** | 3.473** | 3.217** |

Sobel test of indirect effect and bias corrected interval based on 5,000 bootstrap samples

| | <i>Employee Performance</i> | <i>HR Performance</i> | <i>Org. Performance</i> |
|------------------------|-----------------------------|-----------------------|-------------------------|
| Sobel (z) | 4.513*** | 3.978** | 2.479* |
| Value | .0105 | .0078 | .0047 |
| S.E. | .0031 | .0021 | .0020 |
| Lower CI ^a | .0054 | .0044 | .0016 |
| Higher CI ^b | .0176 | .0124 | .0096 |

Note: * = p < .05 ** = p < .01 *** = p < .001 (standardised coefficients reported). N = 169

CC = Creativity Climate, HPWS = High performance work systems

Ownership (1 = Irish owned; 0 = others); Unionisation (1 = union; 0 = non union)

^a Lower 95% bootstrap confidence interval

^b Higher 95% bootstrap confidence interval

Table 4: Summary of hierarchical regression analysis: differentiation strategy as moderator

| | <i>Employee Performance</i> | | | <i>HR Performance</i> | | <i>Organizational Performance</i> | |
|------------------------|-----------------------------|---------------|---------------|-----------------------|---------------|-----------------------------------|---------------|
| | <i>Step 1</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 2</i> | <i>Step 3</i> |
| Firm age | -.134 | -.116 | -.117 | -.053 | -.053 | -.084 | -.089 |
| Firm size | .083 | .015 | .011 | -.139 | -.141 | .043 | .029 |
| Ownership | .031 | -.072 | -.075 | -.174* | -.175* | -.120 | -.132 |
| Unionisation | -.176 | -.086 | -.096 | .014 | .011 | -.108 | -.111 |
| HPWS | | .289*** | .285** | .332*** | .331*** | .232* | .245* |
| Differentiation | | .145* | .158* | -.121 | -.119 | .121 | .119 |
| HPWS x differentiation | | | .139* | | -.034 | | -.098 |
| R ² | .055 | .154 | .173 | .110 | .112 | .117 | .126 |
| ΔR ² | | .100 | .018 | .092 | .001 | .068 | .009 |
| F | 1.988 | 4.110** | 3.991** | 2.815* | 2.422* | 2.566* | 2.378* |

Note: * = p < .05 ** = p < .01 *** = p < .001 (standardised coefficients reported) N = 169
Ownership (1 = Irish owned; 0 = others); Unionisation (1 = union; 0 = non union)

Table 5: Summary of hierarchical regression analysis: low cost strategy as moderator

| | <i>Employee Performance</i> | | | <i>HR Performance</i> | | <i>Organizational Performance</i> | |
|-----------------|-----------------------------|---------------|---------------|-----------------------|---------------|-----------------------------------|---------------|
| | <i>Step 1</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 2</i> | <i>Step 3</i> | <i>Step 2</i> | <i>Step 3</i> |
| Firm age | -.134 | -.120 | -.134 | -.048 | -.058 | -.079 | -.077 |
| Firm size | .083 | -.017 | -.016 | -.117 | -.117 | .018 | .018 |
| Ownership | .031 | -.066 | -.080 | -.178* | -.189* | -.117 | -.114 |
| Unionisation | -.176 | -.090 | -.101 | .018 | .012 | -.112 | -.108 |
| HPWS | | .293** | .298** | .335*** | .336*** | .258* | .258* |
| Low cost | | -.088* | -.071 | .089 | .103 | -.023 | -.029 |
| HPWS x low cost | | | .148 | | .102 | | -.026 |
| R ² | .055 | .143 | .164 | .104 | .114 | .105 | .105 |
| ΔR ² | | .088 | .021 | .086 | .010 | .055 | .001 |
| F | | 3.743** | 3.746** | 2.645* | 2.492* | 2.259* | 1.933 |

* = p < .05 ** = p < .01 *** = p < .001 (standardised coefficients reported) N = 169

Ownership (1 = Irish owned; 0 = others); Unionisation (1 = union; 0 = non union)

Figure 2: Interactive effect of differentiation strategy and HRM on employee performance

