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INTRODUCTION
Guest editorial

A special issue: human resources and workplace innovations: practices, perspectives and paradigms – a tribute and dedication to Professor Tom Redman

This special issue is dedicated to the late Professor Tom Redman (63), who died unexpectedly on 18 December 2015. He was the Editor of Personnel Review during 1995-2006, when he led significant improvements to the journal’s quality and reputation. Tom’s work was innovative in many ways. We think that he would have appreciated this special issue of Personnel Review and are very sorry that he is no longer with us in person to discuss it.

Tom was a Professor of Human Resource Management (HRM) at the Durham University; he spent the early part of his academic career at the Teesside University. He was a very kind and warm person who will be greatly missed. He was well known in the UK and internationally not only as an outstanding scholar, but also as a good and modest man. Although based in the UK for his whole academic career, Tom’s work was international in scope and he was a frequent visitor to other European countries, as well as to Asia, Australia, New Zealand and North America. He spent periods as a visitor, for example, in Hong Kong and Australian universities, where he was well liked and respected, not least for the time he generously devoted to helping students and junior colleagues.

His research, teaching and service was informed by his earlier experience as a practitioner. Tom had spent a decade working in industry in quality, production and HRM positions (mainly with Royal Worcester Porcelain) before he re-entered academic life. His research interests included industrial relations, union commitment and participation, employee commitment, age discrimination, and HRM. Most recently he was working on several projects on employee attitudes and service quality. That Tom’s passing was premature is illustrated by the fact that he left a significant body of work in progress and an active research programme. At least some of this work will still be published with co-authors, but the published work will be poorer for Tom’s absence.

Tom’s research was published in many leading journals including Journal of Applied Psychology, Journal of Vocational Behavior, British Journal of Management, Journal of

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Tom was a Lancashire man who had lived for many years in Yorkshire. He was a very successful academic and a lovely person. He died suddenly in Thailand, while on the way back to the UK from a research visit to China. He was there with Edwina, his wife. He is survived by Edwina and his two daughters, Rosie and Rachel. We offer our sincere condolences and sympathy to Tom’s family and many friends.

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HRM and workplace innovations: formulating research questions

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Abstract
Purpose – The purpose of this paper is to review the roles of human resource management (HRM) specialists in the contemplation and implementation of innovation in employing organisations and workplaces.

Design/methodology/approach – The authors review some of the literature and practice in this field as well as 11 other articles that are included in this special issue.

Findings – The authors propose six research questions. First, are HRM specialists analysing relevant trends and their implications for the future of work and the workforce? Second, are HRM specialists enabling employing organisations to identify and enable innovative ideas? Third, to what extent are HRM specialists leading partnership arrangements with organised labour? Fourth, what is the role of HRM specialists in creating inclusive work environments? Fifth, how should HRM specialists change to foster enterprise performance, intrapreneurship, agility, creativity and innovation? Sixth, to what extent is there an HRM function for line managers in coordination with HRM specialists in engendering innovation around “change agent” roles?

Originality/value – The authors argue that HRM specialists should embrace and enable innovation. The authors challenge HRM specialists to consider how they can contribute to facilitating innovation. The paper proposes further research on HRM and range of associated stakeholders who, together, have responsibility for innovating in the design and delivery of HRM to enrich our knowledge of HRM and workplace innovations.

Keywords Corporate social responsibility, Industrial relations, Mixed methodologies, Unions, Workplace change, Creativity, Disabilities, Change agents, Human resource management practices, Enterprise performance, Inclusive work environments, HRM skills

Paper type Conceptual paper

Introduction
There is increasing emphasis by governments, organisational leaders and scholars on the importance of creativity and innovation in workplaces, to help to challenge old ways of thinking and to identify new solutions to meet current challenges. While creativity can be defined as the generation of ideas, innovation is often seen as the “stage of implementing ideas towards better procedures, practices or products” (Anderson et al., 2014, p. 1297).
It is people who are at the heart of creativity and innovation; people develop new ideas and people put them into practice. However, human resource management (HRM) scholars and practitioners are rarely at the heart of such creativity and innovation debates. Instead, as Shipton et al. (2017b) argue, most of the innovation discourse takes place in other functions in parallel to HRM. Moreover, while there is a great deal of evidence linking people-management practices to organisational performance or effectiveness (Wright et al., 2005; Sun et al., 2007; Guest and Conway, 2011), there is very little evidence linking the more formal aspects of HRM policies, processes and practices and workplace innovation (Shipton et al., 2017a).

HRM research questions have largely focused around how the HRM-performance link takes place and to what extent it is generalisable across sectors and countries (Data et al., 2005; Boxall et al., 2011; Stanton et al., 2014), across organisations large and small, public, private or not-for-profit (Boxall and Purcell, 2016) and across different institutional and cultural contexts (Cooke, 2009), and different cohorts of employees (Cavanagh et al., 2017; Ang et al., 2013). More recently, there has been a focus on employee outcomes such as commitment, engagement and well-being (Guest and Conway, 2011; Boxall and Purcell, 2016; Ulrich, 2016). However, understanding the links between HRM and employee creativity or innovation is in its early stages and tends to focus on particular enabling practices such as learning and development or creative teams (Shipton et al., 2017a).

Exploring the relevance of particular HRM practices is valuable, but HRM theorists have stressed the importance of “bundles” of practices that work in tandem towards the same goals (MacDuffie, 1995). The logic is that these bundles lead to high-performance work systems (HPWSs), practices and structures which drive desired outcomes and behaviours (Combs et al., 2006; Takeuchi et al., 2009). Similarly, high-involvement work systems (HIWSs) bring together a suite of practices that engage employees in decision making, improve employee commitment and engagement and lead to overall improved organisational effectiveness. Debates also flourish around best practice or contingency approaches to HRM, cost reduction or commitment-based models and whether employing organisations use different approaches for different groups of employees depending on their strategic value (Lepak and Snell, 1999; Ang et al., 2013). Shipton et al. (2017b) argue that these top-down paradigms underpinning strategic HRM theory contrast with theories and practice of creativity and innovation which are based around individuals and teams coming together, often through informal collaboration as a “bottom-up emergence”. If this is the case and if creativity and innovation is valued or sought after in an employing organisation, then what is the role of HRM?

Shipton et al. (2017b) identify two distinct HRM configurations. One is underpinned by control from the top and the other by what they describe as an “entrepreneurial ethos” that promotes reflective innovative behaviour. In this paper, we explore these two configurations and ask, first, can HRM lead workplace innovation through top-down initiatives or, second, should HRM practices focus on fostering the conditions for creativity and innovation to emerge and thrive?

**Leading workplace innovation – is HRM a change agent?**

Bowen and Ostroff (2004) suggest that for it to be successful, HRM must be a strong system that is distinctive, consistent and based on consensus. They see a strong HRM system as one that signals to managers and employees what is expected, valued, and rewarded within the organisation. So, can such a strong HRM system lead workplace innovation from the top?

We often observe challenges, inconsistencies and contradictions in our own experiences of HRM as academic leaders, managers, employees or consultants. Despite the fact that HRM specialists often assume they are enablers of change, in practice HRM practitioners in large
employing organisations are often seen to be compliance focused; the people who tell you what you cannot do, not what you can! It is a paradox that many organisational development consultants and other change agents tend to see HRM specialists as a “stumbling block”; to be bypassed when trying to introduce workplace change and transformation. Change agents tend to see HRM specialists as “police-like enforcers” of “the rules” and procedures who assess the risk of change and often advise against it, or at the very least put constraints around it. Change often means that “the rules” and procedures have to be re-negotiated, revised or at least relaxed, rather than being rigidly policed. Risk aversion can stifle workplace creativity, innovation and transformation (Hodgson and Briand, 2013).

In reality, workplace change and innovation is often led by other parts of an organisation, rather than the HRM team. For example, in a recent study on the introduction of lean innovations in hospitals, we found that workplace innovations were led by consultants and/or by practitioners with lean management expertise, with little or no involvement of HRM specialists, unless an industrial relations issue emerged (Bamber et al., 2014). The people who led such workplace changes saw the innovations as their “territory” and outside the scope of the HRM function. Further, they did not see HRM specialists as part of “the solution” that is improved organisational processes, but rather as part of “the problem” of organisations having inefficient and counter-productive work processes. For instance, in one hospital the HRM director claimed to be one of the instigators of the intervention, however, this was not obvious to the others involved. In another hospital, the project sponsor did not understand why the research team wished to interview members of the HRM team, arguing that it was beyond the scope of the study. Similarly, members of the HRM team were unsure as to why they were being asked to be interviewed – what did this intervention have to do with them? These findings are in line with McBride and Mustchin’s (2013) findings that HRM departments in the healthcare sector may not be part of major workplace change initiatives.

In the current context (the transformation of work due to digital technologies, new forms of organisation and the importance placed on creativity, innovation and entrepreneurship), such attitudes are a concern. Does this reflect reality? Are HRM practitioners and HRM scholars deluding themselves regarding their relevance and importance? Our research experience in the above-mentioned study led to one of the key questions explored in this special issue: to what extent are human resources specialists involved in leading workplace innovations in practice?

**HRM as an enabler of innovation?**

Even if HRM specialists may not be leading transformations of workplaces, can they still encourage, nurture and promote practices that foster innovation? Perhaps they can by promoting HIWSs, or related practices that reward and encourage creative and innovative outcomes such as employee participation, collective learning and development. Could it be the role of HRM to be invisible, to be the practitioners who are working behind the scenes to foster organisational improvements? While Bowen and Ostroff (2004) see HRM visibility as an important feature of a strong HRM system, might it be a key attribute of successful HRM practitioners to remain invisible? Could a strong HRM system be the lubricant that keeps systems, process and people working in unison towards achieving organisational goals?

The answers to these questions are rather complex. The answers may reflect basic understandings of what HRM is and what are the perceptions of its relevance and value to senior organisational actors. If HRM is an enabler, not a leader, then it may be acceptable that the HRM department’s organisation development team is working behind the scenes, with managers and leaders who are representing the outward face of the organisation. It could be that if the HRM department is seen to be leading an initiative or intervention, it is likely to fail, as managers and employees see this as an intervention forced upon them rather than co-partnered or co-created. While such failures are often observed in reports of
research, they are not often a focus of research. This may be due to difficulty in getting such research access, or that it is challenging to get such studies published in leading academic journals. Moreover, it may not be in the interest of HRM practitioners to draw attention to their failures or shortcomings as HRM practitioners in organisations as they strive to demonstrate their relevance and value to attract the resources necessary to carry out their work. This raises an important question for HRM and management practitioners – how do you evaluate HRM effectiveness if you cannot see it? If much HRM work is not visible or understood by organisational actors, then how do HRM specialists raise their prestige, perceived value or credibility, within their organisations and more widely?

Academics and HRM specialists often think in terms of the HRM system or architecture (Paauwe et al., 2013; Ulrich, 2016). They see the big picture and look for strategic links vertically and horizontally between bundles of practices (Bowen and Ostroff, 2004; Stanton et al., 2010), but the experience of HRM by line managers and employees is often more transactional and task focused (Liu et al., 2015; Ang et al., 2013). For line managers, key issues might be: How do they commence the recruitment and selection process? Do they have to write the position description? How do they onboard staff after they have recruited them? Where do they start them on a pay scale? How should they deal with an industrial relations issue? How do they manage a difficult staff member? Or how do they deal with a disciplinary process? While many of these activities might require a problem-focused response from the HRM specialists they are not seen as strategic or not necessarily linked to other practices. Instead, they are often around compliance. Am I doing the right thing? Rather than an HRM business partner thinking strategically, line managers might prefer an HRM "handmaiden" – someone at their beck and call (Storey et al., 2013).

An employee might have a similar experience of HRM specialists. How do I apply for leave? How do I apply for promotion? What do I do if someone is bullying me or discriminating against me? What if I am being under-paid? The frequently asked questions of most HRM websites contain many variations of such concerns. Again, for employees, HRM is about rules, compliance and tasks.

Many of the things that we can infer from research on HRM can help to enhance employee satisfaction, commitment, productivity and performance, such as autonomy, empowerment and involvement in decision making. However, such activities may not be seen by employees to be in the domain or expertise of HRM. For example, job autonomy, empowerment and involvement in decision making is often seen by employees to either reflect the practice and ability of their immediate line managers, or the independence given by professional practice and status (Ang et al., 2013). There is much literature on the important role of line managers in engaging and developing staff. One of the recommendations emerging from this literature is that line managers need training and development and support. Who does this? Is it the role of HRM specialists? How effective and valued are the HRM specialists by end users?

Much of the current thinking and research on HRM is still based around large, formal employing organisations (Boxall and Purcell, 2016). There is an expanding quest for agility and entrepreneurial thinking, especially along with the growth of an atypical workforce through outsourcing and novel “platform” business models and the growth of independent professionals and micro businesses. Much of the HRM literature assumes that employees are standard as in the old model of manufacturing, but large parts of the workforce are in various forms of “atypical” relationships, for example, conducting periodic gigs with their “employers”. Increasingly we see “hybrid” workers who may also move in and out of employing organisations, at other times working for themselves in a range of “start-ups” or social enterprise activities (Wright et al., 2017). We have project-based organisations such as construction or performing arts companies, for instance, where the nature of the work is short term and where employees might see that their commitment is to the industry or the art rather
than the company. Many of these organisations are not large enough to have a specialist HR manager and the HRM function is carried out by one generalist manager or the functions are spread across a range of managers and in this way devalued. The transformation of organisational forms and modes of employment are creating a need for HRM specialists to respond in creative, flexible, agile and innovative ways to maintain relevance and contribute to the organisational goals.

Moreover, as we move towards an increasingly automated and robotised work environment, new jobs will be in the areas of creativity and innovation. This leads to new challenges for HRM theorists. How can employing organisations foster the conditions for creativity and innovation? Is this a whole-of-organisation approach? Or a team approach? Can HRM be agile enough to enable and support rather than stifle and smother? Research in the games industry suggests that, despite the rhetoric of enabling creativity, the business and financial reality of such enterprises is that there is still an emphasis on monitoring and control, which tends to undermine creativity and innovation (Hotho and Champion, 2011; Hodgson and Briand, 2013). Can HRM specialists challenge this approach by raising questions of motivation and commitment, or do they tend to stifle creativity by focusing on compliance?

Not only is the future of work being transformed, but also the future of the workforce. We are seeing increasing diversity, in terms of gender, ethnicity, age, disability and sexuality. On the one hand, many employing organisations are seeing the value of diversity and inclusion for creativity, innovation, new ways of thinking, as well as understanding their markets and consumers more than hitherto, not least by drawing on the increasing availability of data. Diversity and inclusion can also be a value-add. On the other hand, globally, we live in increasingly ugly times where blame for perceived ills can be blamed on other cultures, religions and races or migrants. Employing organisations are not immune from the context in which they operate and resentment and discrimination can spread into organisations, the results often have to be dealt with by HRM practitioners.

The questions above should be seen against a background that the field of HRM is in a state of flux. There are divisions, for example, between at least two approaches. First, some specialists advocate that field of HRM should be strategic and represented on corporate boards. However, as Bowen and Ostroff (2004) argue, representation alone does not lead to action. If HRM policy and practice is not distinctive (i.e. visible, relevant and understandable), it will not be recognised as valuable by other managers in the hierarchy or by other employees. Moreover, lack of understanding at the top is likely to lead to lack of consistency and consensus further down the organisation (Stanton et al., 2014). Second, others advocate that the role of HRM should be to conduct transactional aspects of people management, and that it could increasingly be outsourced. Will HRM itself become part of the emerging “gig” economy?

Perhaps HRM is losing its relevance and needs to change from compliance to enabling innovation and employee performance. HRM practice needs to enable not stifle performance and HRM specialists must understand the nature of the work or the service context.

Special issue articles

The articles in this special issue reflect some of the phenomena discussed above in this first article. The special issue includes a total of 12 articles each contributing perspectives to various facets of the role of HRM and workplace innovation.

The second article by Bos-Nehles, Renkema and Janssen is a systematic literature review of HRM and innovative work behaviour (IWB). Although we know that HRM practices can have a huge impact on employees’ IWB, we do not know exactly which practices make the difference and how they affect IWB. The aim of this paper is to determine the best HRM practices for boosting IWB, to understand the theoretical reasons for this, and to discover mediators and moderators in the relationship between
HRM practices and IWB. Based on a systematic review of the literature, the authors carried out a content analysis of peer-reviewed journal articles. They clustered HRM practices according to the ability-motivation-opportunity framework. The best HRM practices for enhancing IWB are training and development, reward, job security, autonomy, task composition, job demand and feedback. The results of this study provide practical information for those aiming to develop an HRM system that generates innovative employee behaviours that might help build an innovative climate. The authors present a framework that aggregates the findings and clarifies which HRM practices influence IWB and how these relationships can be explained.

The third article by Prus, Nacamulli and Lazazzara is another systematic literature review. This consolidates much research by proposing a comprehensive conceptual framework of workplace innovation and by outlining the research traditions on the phenomenon. The authors review the literature published over the past 20 years, based on a predefined research protocol. They explore dimensions of workplace innovation using a thematic synthesis and textual narrative synthesis. They identify four research traditions on workplace innovation: built container, humanised landscape, socio-material macro-actor, polyadic network – and each of them has its own set of assumptions, foci of study, and ontological bases. The findings suggest that workplace innovation is a heterogeneous process of renovation in eight dimensions: work system, workplace democracy, high-tech application, workplace boundaries, workspaces, people practices, workplace experience, and workplace culture. The article includes implications for developing and implementing workplace innovation programmes. Moreover, it discusses the role of HRM in the workplace innovation process. This paper clarifies the concept of workplace innovation; it discusses implications for future research and implications for HRM specialists.

The fourth article by Whitfield, Sengupta, Pendleton and Huxley examines employee share ownership (ESO) and organisational performance. A range of studies have shown that performance is typically higher in organisations that have innovated with ESO schemes in place. Many possible causal mechanisms explaining this relationship have been suggested. These include a reduction in labour turnover, synergies with other forms of productivity-enhancing communication and participation schemes, and synergies with employer-provided training. This paper empirically assesses these potential linkages using data from British Workplace Employment Relations Surveys. Substantial differences are found between the 2004 and 2011 results: a positive relationship between ESO and workplace productivity and financial performance, observed in 2004, is no longer present in 2011. In both years, ESO is found to have no clear relationship with labour turnover, and there is no significant association between turnover and performance. There is, however, a positive moderating relationship with downward communication schemes in 2004 and in 2011 in the case of labour productivity. There is no corresponding relationship for upward involvement schemes. The results are only partially supportive of extant theory and its various predictions, and the relationship between ESO and performance seems to have weakened over time. The study further questions much rhetoric in support of wider employee share ownership.

The fifth article by Meijerink and Maatman builds an analysis on the premise that HRM shared service centres (SSCs) innovate HRM service through the centralisation of resources and decentralising control, and in doing so, create value for their clients. However, it remains unclear as to how these two features of SSCs allow improvement in the value of HRM services. Based on a survey of business units in Dutch organisations, structural equation modelling reveals that the use of formal control mechanisms such as contracts and service level agreements are negatively associated with shared service value, but that this relationship becomes positive once mediated by informal control mechanisms such as trust and shared language. Moreover, they demonstrate that the dynamic HRM capabilities of SSCs relate
positively with shared service value for the business units, but only through their effect on operational HRM capabilities. Whereas previous studies into SSCs have examined the two antecedents independently, this study shows how organisational control mechanisms and HRM capabilities interrelate in explaining the value of HRM shared services.

The sixth article by Tang, Yu, Cooke and Chen examines the underlying mechanism through which HPWSs influence employee creativity. The authors investigate the contingent factors in the relationship between perceived organisational support and employee creativity. Based on a sample of employee and supervisor dyads from two companies in China, the study demonstrates that HPWSs enhance perceived organisational support, which in turn promotes employee creativity. Findings also show that devolved management positively moderates the relationship between perceived organisational support and employee creativity. This paper is valuable because it illustrates the importance of using HPWSs, in particular, the potential of devolved management to inspire creativity among employees in a Chinese manufacturing context. This is the first study that explores the mediating role of perceived organisational support in the HPWSs-employee creativity linkage. In addition, the study may provide the first test of the moderating role of devolved management.

The seventh article by Xiu, Liang, Chen and Xu examines the role of innovative HRM practices as an important mechanism through which strategic flexibility affects firm performance, as well as the role of female leadership on this relationship. Based on a sample of firms in China, Xiu and colleagues test a moderated mediation model. The authors report that organisations with a strong focus on strategic flexibility are more likely to adopt innovative HRM Practices. Moreover, innovative HRM practices were strongly associated with employee productivity. Interestingly, the authors also report that female leadership enhances the strategic flexibility-performance relationship. The article contributes to the literature in two ways. First, findings suggest that practitioners should put more emphasis on developing innovative HRM practices as they seem to be crucial for building strategic flexibility and effectively competing in the marketplace. Second, the presence of female senior leadership seems to enhance the positive impact of strategic flexibility on firm performance. We would encourage further research that unpacks how female senior leadership is different from male senior leadership, as well as the precise mechanisms by which gender may impact workplace innovation and performance. The results are of value to researchers, HRM managers, employees, and executives who are seeking to develop practices that are flexible and innovative to try to stay competitive in dynamic contexts.

The eighth article by Boyle, Malik and Mitchell uses a qualitative approach to study innovation in the resource-constrained context of India’s healthcare industry. The authors argue that organisational ambidexterity and HRM innovation holds significant promise in addressing Indian healthcare management challenges. Boyle and colleagues find evidence of the use of high-involvement HRM practices for exploration of new ideas and efficiency-driven HRM practices for creating contextual ambidexterity in the case organisations. Moreover, leadership style seemed to play an important role in creating trust, openness, risk taking and employee empowerment. Training and development was reported as central to creating ambidexterity to enhance workplace innovation among healthcare providers. This is a valuable study as it examines innovation in India’s healthcare sector through intersecting literatures of ambidexterity, innovation and HRM. Importantly, this study demonstrates how contextual idiosyncrasies enhance practitioner and scholar understanding of the role of HRM in facilitating innovation in emerging economies.

The ninth article by Meacham, Cavanagh, Shaw and Bartram is based on two Australian organisations and examines HRM management innovation programmes in the early stages of employment for workers with an intellectual disability (WWID). The first study is conducted in a large company where a film innovation programme was used to enhance the socialisation process of WWID. The second was at a five-star hotel in a large
city where a “buddy” system innovation programme was used in the induction and training process of WWID. This qualitative study is framed by socialisation and career construction theory and examines the ways in which socialisation and socially inclusive HRM practices enable WWID to achieve successful career paths. The authors show that these innovation programmes from the perspectives of participants enhanced creative opportunities for the social inclusion of WWID. The WWID displayed more confidence and independence in their ability and exhibited aspirations to advance and succeed in their roles. This paper is innovative in that it goes beyond traditional disability research that tends to focus on securing employment and disability accommodations rather than promoting the voices of WWID and HRM innovations that enable WWID to self-actualise in the workplace. The article argues that HRM professionals need to be more proactive in finding innovative ways to engage and enable WWID.

The tenth article by Peetz, Brabant, Muurlink, Townsend and Wilkinson examines the question: are new organisations at the cutting edge of employment relations innovation? This is an important question given that if new organisations are operating using leading-edge management practices, then it seems logical that they would be engaged in new methods of employment relations innovation. The authors ask, but are they? This paper includes the results of a national telephone survey of Australian business managers, and explores how the prevalence of particular ER features co-varies with employer characteristics, in particular the age of the firms. This study extends current research of employment relations in younger firms and compares responses from managers of firms of different ages, sizes and industry sectors. Results seem to suggest that within a short time, new firms come to largely resemble older firms, at least in terms of superficial implementation of ER practices. New firms are less likely to be unionised than older firms.

The 11th article by McKeown and Cochrane addresses the call to examine the “black-box” links between HRM innovations and organisational performance by investigating the perspective of a workforce often excluded from the HRM realm: professional independent contractors (IPros). They may play a vital role in achieving workforce flexibility and innovation. While the use of such arrangements has been examined often using a compliance-oriented lens, they explore the value of adding a commitment aspect. McKeown and Cochrane find that organisational support significantly predicted work engagement and affective commitment. Self-efficacy, age and gender were also significant predictors.

The study presents the views of a difficult-to-reach population and the findings suggest that by adopting an innovative hybrid commitment-compliance HRM configuration, practitioners may positively increase desirable contractor outcomes. Few investigations of the impact of high-commitment HRM practices have incorporated the perspective of professional, non-employees. While IPros are recipients of compliance-focused contractor management practices, carefully integrated commitment-based HRM aspects have the potential to deliver positive outcomes for individuals and employing organisations.

The 12th article by Plimmer, Bryson and Teo explores how HIWSs and other workplace innovations affect organisational ambidexterity. Given the demands on the public sector to manage conflicting objectives, and the need to do more with less in increasingly uncertain environments, this paper contributes to enhancing understanding of how HIWSs and organisation systems positively impact public-sector performance. Using a multi-level quantitative approach based on a large survey of supervisory staff, and non-supervisory employees across government organisations, the article identifies two paths to organisational performance; one through a direct HIWSs-performance link; and the second through a double mediation effect from HIWSs to organisational systems, to organisational ambidexterity and then performance. This study contributes to the HRM literature through being one of the first studies to explore how HIWSs can be used to develop collective capabilities in public-sector contexts.
Importantly, the study provides new insights into alternative approaches to improving public-sector performance, rather than through downsizing or restructuring that may not be effective.

Towards a research agenda
The articles in this special issue of Personnel Review, “Human resources and workplace innovations: practices, perspectives and paradigms”, demonstrate that the HRM profession needs to embrace and enable innovation and HRM practice needs to be re-thought to have innovation at its core. However, where is this happening and how does or could HRM specialists help to foster innovation? We can infer at least six areas for future research from these articles and from the above discussion.

First, there should be greater focus on the newer contexts and sectors to find out if HRM is part of the thinking in the development phase, or an afterthought where HRM practitioners are brought in to impose compliance and rules when things have already gone wrong. HRM specialists could be playing a strategic role and instead of waiting for organisational strategy to be developed, they could be part of strategy formulation. HRM specialists could identify new trends in the labour market, forecasting and investing in future skill requirements and encouraging the enterprise to take risks, thereby demonstrating their relevance and value. To do this successfully in a large organisation the HRM specialists need to have enough time and resources. HRM specialists have long fought for a role at the strategic level, but they should also be fighting to maintain relevance in relation to organisational and workplace innovation. In a small organisation, it would mean having someone with HRM knowledge and experience as part of the development team. Our first research question is as follows:

*RQ1.* Are HRM specialists analysing relevant trends and their implications for the future of work and the workforce?

Second, employees are at the heart of innovation. It is employees who can identify new ways of doing things that keep established enterprises alive and at the forefront of their context or sector. Operational employees may be in a good position to identify problems and see new opportunities. They should be valued, rewarded and motivated to contribute their ideas; HRM specialists should encourage organisational leaders to trust and listen to their employees. Employee involvement in decision making takes on greater importance in innovative organisations. A second research question is as follows:

*RQ2.* How are HRM specialists enabling employing organisations to identify and enable innovative ideas?

Third, the field of industrial relations has an important role in innovation. On the one hand, industrial-relations systems and the key institutions including trade unions can be blockages through adherence to formal rules and regulation and a backward-looking stance. Unions struggle to protect jobs in increasingly fragmented labour markets. However, as unions seek alternative modes of organisation to recruit those hybrid workers who may be in and out of employing organisations, who are sometimes employees and sometimes self-employed, there is scope for opening up dialogue with far-sighted employers. Ideally, discussions about innovation and change should take place outside of the heat of collective bargaining. Instead, employers could work with unions as partners; identifying new skills and providing training opportunities and new forms of employment security that are sustainable for all. A third research question, therefore, is as follows:

*RQ3.* Are HRM specialists leading partnership arrangements with organised labour?

Fourth, HRM specialists should see vulnerable groups through a different lens. People with a disability, either physical or mental, older workers, racial minorities and indigenous people
may experience the world of work in a different way. They have a “lived experience” that can be a source of value. Too often we see such groups as having a form of deficit in skills, ability or knowledge (Meacham et al., 2017a, b). We apply a welfare or a social-justice perspective to their employment – for example it is an element of an organisation’s corporate social responsibility to “do good”. However, if we look through different eyes we can see that some of the most creative and successful people in history had mental health challenges, there is a huge growth in successful Aboriginal and First Nations entrepreneurship and business development, and older workers may bring wisdom and experience to organisations (Cavanagh et al., 2017). So, inclusion can bring positive benefits to all and HRM specialists can enable this. The Fourth and fifth research questions are, therefore, as follows:

RQ4. What is the role of HRM specialists in creating inclusive work environments?

RQ5. How should HRM specialists change to foster enterprise performance, intrapreneurship, agility, creativity and innovation?

To what extent do they have the skills to support and enable innovation? Are they educated and trained appropriately to support and lead innovation? Does HRM need to be re-configured and re-conceptualised around innovation and if so, how to do this? Perhaps the research question here relates to the relevance of the HRM profession and future HRM skills. HRM specialists should be reflective and decide how they can enable HRM people to compete in the HRM labour market. How do HRM specialists maintain their relevance? We should think beyond notions of HPWSs, HIWSs and strategic HRM, which often assume a large enterprise context with full-time employees that are committed to one employing organisation. Business and employment modes have changed. HRM specialists and their set of skills must change too. How best can HRM specialists facilitate such changes?

Sixth, the HRM function should not be an island. Discussion of HRM and innovation has to extend well beyond the HRM specialist function. To foster innovation, HRM specialists should be part of a team, together with line managers and other stakeholders, in devising and implementing HRM policy and practices that help the enterprise to achieve strategic goals. Line managers might perform an “HRM role”, defined in terms of Ulrich’s framework (Ashkenas et al., 1995). For example, drawing on research in hospitals, Shipton et al. show that line managers performing an employee-champion role in combination with a strategic-partner role is optimum for employee commitment. This leads to a sixth research question:

RQ6. To what extent is there an HRM function for line managers in coordination with HRM specialists in engendering innovation through “change agent” roles?

We propose further research on the range of stakeholders who together have responsibility for innovating in the design and delivery of HRM. This would enrich our knowledge of HRM and workplace innovations and have significant practical implications.

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References


Further reading


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HRM and innovative work behaviour: a systematic literature review

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Abstract

Purpose – Although we know that HRM practices can have a huge impact on employees' innovative work behaviour (IWB), we do not know exactly which practices make the difference and how they affect IWB. Thus, the purpose of this paper is to determine the best HRM practices for boosting IWB, to understand the theoretical reasons for this, and to discover mediators and moderators in the relationship between HRM practices and IWB.

Design/methodology/approach – Based on a systematic review of the literature, the authors carried out a content analysis on 27 peer-reviewed journal articles.

Findings – Working with the definitions and items provided in the articles, the authors were able to cluster HRM practices according to the ability-motivation-opportunity framework. The best HRM practices for enhancing IWB are training and development, reward, job security, autonomy, task composition, job demand, and feedback.

Practical implications – The results of this study provide practical information for HRM professionals aiming to develop an HRM system that generates innovative employee behaviours that might help build an innovative climate.

Originality/value – A framework is presented that aggregates the findings and clarifies which HRM practices influence IWB and how these relationships can be explained.

Keywords Qualitative, Systematic literature review, HRM practices, Innovative work behaviour, AMO theory, Best practices for innovative work behaviour

Paper type Literature review

Introduction

Today, innovation is an indispensable factor in enabling organisations to adapt to rapid economic changes and gain a competitive advantage. Research has shown that innovation is beneficial for the performance of organisations (Damanpour, 1991; Jiménez-Jiménez and Sanz-Valle, 2011; Thornhill, 2006) because organisations can then respond to challenges faster and are better at exploiting new products and market opportunities. Despite the burgeoning research interest in innovation at the level of the firm, there is a dearth of knowledge about how innovation can be fostered at the individual level. However, this is the knowledge that is needed if organisations are to pursue innovative strategies and align
employee behaviours with that strategy. According to Agarwal (2014, p. 43), “one option for organisations to become more innovative is to encourage their employees to be innovative”.

This paper sets out to address this gap in understanding by providing a systematic review of the evidence on the link between HRM practices and innovative work behaviour (IWB) at the employee level. IWB can be characterised as “the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization” (Janssen, 2000, p. 288). Employees are able to initiate innovations because they are in frequent contact with processes and products and can detect potential improvements and opportunities for new developments. However, innovation only occurs if employees engage in activities aimed at generating and implementing ideas. Consequentially, management needs to know how IWB can be shaped and stimulated. Inter alia, the design of HRM practices has been identified as a factor in predetermining IWB (Laursen and Foss, 2003; Shipton et al., 2006).

Although many studies have found support for a linkage between HRM and innovation (Laursen and Foss, 2003; Messersmith and Guthrie, 2010; Jiménez-Jiménez and Sanz-Valle, 2008; Mumford, 2000; Shipton et al., 2006) by the former influencing and shaping individuals’ attitudes, behaviours and knowledge, they all link HRM to innovation on the organisational level. However, employees’ innovative behaviours are central to the innovative capacity of organisations as individuals can be seen as the cornerstone of every innovation. Despite its importance, knowledge about IWB and how it can be influenced is fragmented and inconsistent. As such, organisations may be restricted in their ability to innovate because they do not know how to trigger employees in a way that will encourage them to engage in IWB. For this reason, gaining deeper insight into the factors that influence IWB, and how they do this, is of great relevance as it will provide a more coherent picture of the relationship between HRM and IWB. This review contributes to the IWB literature in two ways. First, since it is crucial to understand the complex relationship between HRM and IWB, this paper clarifies which HRM practices are the best in terms of encouraging IWB. The literature already provides insights into the best practices for organisational performance, such as high-performance work practices (HPWPs) (e.g. Combs et al., 2006) and for employee commitment, such as high-commitment work practices (HCWPs) (e.g. Zhou et al., 2013). However, in this study, we are seeking to identify those practices that are most effective in enhancing innovation and, more specifically, the IWB of employees. Second, we provide a framework that aggregates the findings and investigates the mechanisms that can explain why as well as how and when HRM practices are linked to IWB (Seeck and Diehl, 2016) – that is, we aim to understand the theoretical reasons for and discover mediators and moderators in the relationship between HRM practices and IWB.

The systematic review of the HRM practices-IWB literature is based on 27 articles whose content has been carefully analysed to identify the best HRM practices for boosting IWB. We use the ability-motivation-opportunity (AMO) framework to structure our results and analyse which ability-enhancing, motivation-enhancing and/or opportunity-enhancing HRM practices are best when it comes to stimulating IWB (Bello-Pintado, 2015; Jiang et al., 2012). The AMO framework stresses that the combination of abilities, motivations and opportunities affects organisational performance through discretionary effort (Appelbaum et al., 2000). Here, we focus on IWB as a form of discretionary effort (e.g. Janssen, 2000). Since the AMO framework is argued to be a way to expand the theoretical underpinnings of the HRM-innovation relationship (Seeck and Diehl, 2016), we feel justified in using this framework for the HRM-IWB relationship.

In the remainder of the paper, we will present the research approach and carefully describe the review process. In the results section, we present the HRM practices that come out as best in terms of promoting IWB, provide evidence for the found relationships and explain the linkage based on various theoretical approaches. Combining the various...
findings results in a conceptual framework that highlights high-innovation HRM practices plus mediators and moderators that explain the HRM-IWB relationships and the relevant theoretical approaches. The practical implications, limitations and suggestions for future research will be addressed in the discussion section of the paper.

Methodology

Research approach

Since the objective of this study was to develop an integrated framework that includes the various relationships between all possible HRM practices and IWB. In order to derive this integrated framework, we performed a systematic literature review since this approach offers the possibility of analysing in-depth all the relevant articles on this topic, as well as having the potential to detect other unexplored concepts. Further, systematically reviewing a literature stream enhances the quality of the review process and outcomes by deploying a transparent and reproducible procedure (Tranfield et al., 2003) and by incorporating a comprehensive and unbiased search for identifying and evaluating an extensive amount of literature (Mulrow, 1994). For content analysing the final sample of articles we used an inductive research approach.

Description of the review-process: data collection

The Scopus, ISI Web of Knowledge, and Google Scholar databases were used as data sources. Scopus and ISI Web of Knowledge are the most comprehensive databases of peer-reviewed journals in social sciences, and Google Scholar is one of the largest databases available. For the initial search, we used the following search terms and keywords independently, and combined using the Boolean “AND” and “OR” operators: “innovative work behaviour (IWB)”, “employee innovative behaviour”, “individual innovation”, “HRM practice” and “human resource management (HRM)”.

Description of the inclusion criteria

The articles identified had to match certain criteria in order to be included in this review. Research on innovative behaviour has increased tremendously since Scott and Bruce’s (1994) seminal paper (Bonesso and Tintorri, 2014). Thus, for this systematic literature review, we only selected articles that were published from 1994 onwards. Further, the articles needed to: be published in peer-reviewed journals that had an impact factor since these are considered to provide valid data and therefore have the most influence in the field (Podsakoff et al., 2005); be written in English; contain research about IWB; investigate HRM practices -IWB relationships; and present the results of these individual relationships separately.

Data extraction procedure

The first step of the sample analysis included a check for redundant data. Following this, the abstracts were reviewed against the inclusion criteria. If the paper still appeared relevant, the methodology and discussion sections were then read and summarised including any impacts of HRM practices on IWB. An open coding procedure was executed leading to an inductive content analysis.

Figure 1 presents a flow chart visualising the selection process for articles to be included in this review. Step 1 identified a total of 796 articles (Google Scholar: 549; Scopus: 126; and ISI Web of Knowledge: 121 articles). Step 2 reduced the sample by 73 articles because of redundancies between the different search engines. In Step 3, the abstracts of the remaining 723 articles were checked regarding the inclusion criteria, leading to the removal of a further 645 articles, which left 78 articles.
methodology and discussion sections of these articles were checked in detail against the inclusion criteria (Step 4), leading to a further 51 articles being rejected. This final filter left 27 articles that fully met the inclusion criteria.

Description of the sample analysis
To ensure that the studies included used a consistent interpretation of IWB, the authors’ definitions were reviewed and the items used to measure IWB examined. After assuring ourselves that the IWB conceptualisation was consistent with what was required for inclusion in our review, the HRM practices investigated were evaluated as part of the content analyses. The articles were compared regarding the following factors: the research question/objective, the theoretical framework(s) adopted, the HRM practices considered, the sample employed, the research design and method and the key findings. The definitions adopted and the alignment of these definitions to the measures used were evaluated. This was to ensure that the HRM practices investigated by the various researchers were broadly similar. In this way, the identification of the best HRM practices for encouraging IWB is based on an inductive approach, which means that we did not develop a list of HRM practices a priori, but based our findings on those HRM practices that were found to affect IWB in our sample. The 27 articles
in our final sample highlighted several HRM-IWB relationships, and we clustered the independent variables around distinct HRM practices based on the conceptualisation of HRM in the original articles. For example, while Janssen (2005) and Ramamoorthy et al. (2005) describe the role of independence and freedom to carry out tasks, Fernandez and Moldogaziev (2013) examined empowerment. Based on the conceptualisations of these HRM variables, we clustered them together around job autonomy.

Results

IWB

In this review, IWB is defined as the intentional behaviours of individuals to produce and implement new and useful ideas explicitly intended to benefit the individual, group or organisation. This definition implies that IWB is more than creativity although creativity is a necessary part of IWB, especially in the beginning, in order to generate new and useful ideas (Scott and Bruce, 1994). However, IWB is broader than creativity as it also includes the idea promotion and implementation phase. As such, IWB is expected to generate innovative outputs and therefore benefit the individual, the group or the organisation. Innovative outputs can range from the expansion and renewal of products, services, procedures and processes to the evolution of new production methods and new management systems (Crossan and Apaydin, 2010; Tidd et al., 2001).

How to conceptualise and measure IWB has been the focus of a number of studies. For example, Dorenbosch et al. (2005) divided IWB into two main stages: the invention and then the implementation of ideas. Scott and Bruce (1994) split it into three stages: the generation of novel and useful ideas, the search for sponsorship and, finally, the implementation of generated and promoted ideas. However, the generation of ideas is a broad concept and De Jong and Den Hartog (2010) argue that it is also important to consider what gives rise to idea generation. They therefore came up with a fourth IWB stage: the recognition of opportunities or problems. Although IWB is described as a set of stages, De Jong and Den Hartog (2010) failed to find any evidence for the distinctiveness of the different phases. Rather, IWB could be characterised as a mix of discontinuous and interrelated behaviours, where individuals are most likely to be involved in any combination of these activities at any one time (Scott and Bruce, 1994). This is in line with previous investigations in which IWB is seen as a one-dimensional construct (Scott and Bruce, 1994; Janssen, 2000). Although IWB theoretically appears to be multidimensional, empirical evidence is difficult to collect because of the apparent high intercorrelations among the stages.

HRM practices and their effects on IWB

Having conceptualised HRM practices based on the AMO framework, we structure the results on the relationship between HRM practices and IWB as ability-enhancing HRM practices, motivation-enhancing HRM practices and opportunity-enhancing HRM practices (Jiang et al., 2012). Our analysis identified seven HRM practices that could be categorised as best in terms of encouraging IWB. We found one ability-enhancing HRM practice: training and development; two motivation-enhancing HRM practices: reward and job security; and four opportunity-enhancing HRM practices: autonomy, task composition, job demands and time pressure, and feedback.

Ability-enhancing HRM practice. Training and development. The HRM practice of “training and development” was found to significantly influence IWB in several studies (e.g. Knol and van Linge, 2009; Pratoom and Savatsomboon, 2012; Zhang and Begley, 2011) and all these studies found a direct positive effect. We also saw that “training and development” is a composite of various activities that aim to develop competence and knowledge within organisations. For example, a number of studies (Zhang and Begley, 2011;
Ong et al., 2003; Pratoom and Savatsomboon, 2012; Knol and van Linge, 2009) examined knowledge resources and knowledge management and their relationship with IWB, while others (e.g. Bysted and Jespersen, 2014; De Spiegelaere et al., 2012) interpreted training and development as covering competence and career enhancing practices.

The proposed theoretical relationship between “training and development” and IWB differed among the studies. Knol and van Linge (2009), Ong et al. (2003) and Pratoom and Savatsomboon (2012) explain the relationship from a human capital and knowledge perspective, in which training and development practices can help to increase employee knowledge, skills and abilities, that employees can then utilise to engage in IWB. Others, such as Sanders et al. (2010), explain the relationship between training and development and IWB as a social exchange phenomenon (Blau, 1964) in which employees understand training and development practices as the organisation’s personalised commitment to themselves, which they need to reciprocate through positive attitudes and behaviours that are not formally rewarded or contractually enforceable, such as IWB.

The relationship between training and development practices and IWB has been found to be moderated by the organisational context. Bysted and Jespersen (2014) found that the relationship differs between private and public organisations, and that the effect on IWB of training and development practices is lower in public organisations than in private organisations. It was argued that training and development practices have less effect on idea generation and the realisation of innovative ideas for public employees because public employees are generally more highly educated than private employees and, therefore, further competence development in the form of training and development practices have less effect on IWB engagement in these organisations.

Motivation-enhancing HRM practices. Reward. Rewarding employees has been shown to affect employees’ engagement in IWB (e.g. Bysted and Jespersen, 2014; Sanders et al., 2010; Zhang and Begley, 2011). Although some researchers have labelled this HRM practice differently, the descriptions are similar. Labels range from expectancy clarity (Bysted and Hansen, 2015), where the focus is on the linkage between innovative performance and reward, to financial mechanisms (Bysted and Jespersen, 2014), and primary and secondary organisational rewards (Sanders et al., 2010; Zhang and Begley, 2011), which may include non-financial benefits as well as pay (Ramamoorthy et al., 2005).

Findings about the relationship between rewards and IWB are ambiguous. Most studies (e.g. Bysted and Hansen, 2015; Bysted and Jespesen, 2013; Dorenbosch et al., 2005; Sanders et al., 2010) found significant negative relationships between reward and IWB dimensions, but some also detected a significant positive linkage between financial and non-financial rewards and IWB. Ramamoorthy et al. (2005) explained the positive relationship by referring to psychological contracts in which employees and employers “have agreed” to get the best out of their relationship for both parties. Janssen’s (2000) findings are consistent with those of Ramamoorthy et al. (2005) in the sense that both suggest that the mutual relationship between the employer and employee influences IWB; however, Janssen (2000) further argued that perceptions of effort-reward fairness were necessary for this mutual relationship to emerge.

In trying to explain the relationship between rewards and IWB, authors mainly draw on insights from the self-determination theory (Gagné and Deci, 2005), but also from the social exchange theory (Blau, 1964). Depending on the theories used to explain the relationship, authors have selected mediators and moderators to explain how rewards and IWB are related, and how they contributed to establishing the link. Janssen (2000) heavily relies on social exchange theory arguments to support a relationship between rewards and IWB, and argues that employees who feel that their efforts are being fairly rewarded feel obliged to reciprocate through IWB. Inspired by this idea, Ramamoorthy et al. (2005)
used psychological contract arguments to select mediators such as “expectations met” and “obligation to innovate”.

Drawing on the self-determination theory, financial rewards (e.g., bonuses) and indirect financial rewards (e.g., health insurance) can be expected to reduce employees’ motivation to engage in IWB, at least when their motivations were intrinsic in nature (Sanders et al., 2010). Further, when rewards are based on performance, they have been found to especially inhibit IWB (Fernandez and Moldogaziev, 2012). Performance is usually defined in terms of short-term outputs and outcomes, and this signals to employees that it is better to focus on “proven ways of doing things” rather than engage in more risky means that challenge the status quo (Fernandez and Moldogaviez, 2012, p. 177). However, when employees are not intrinsically motivated to engage in IWB, but rather perceive IWB as an extra-role behaviour, they expect to be rewarded for such extra effort. This was shown by Zhang and Begley (2011) who found that when organisations used compensation systems to signal to their employees that extra-role behaviours, such as IWB, were recognised and valued, employees perceived their engagement in IWB as of value. However, employees tend to reciprocate with IWB when they feel fairly rewarded for their efforts (Janssen, 2000), when rewards are not based on cost reductions related to implementation, or when they feel they are rewarded for their contribution to the innovation process rather than its outcome (Fernandez and Moldogaviez, 2012). The extrinsic motivation argument would seem especially relevant to public organisations since innovation is considered to be a top-down process. Bysted and Jespersen (2014, p. 234) concluded that public employees needed a clear signal before they would indulge in IWB because they considered IWB to be risky behaviour and thus “it has to be ordered and paid for by the system”.

Job security. Based on the social exchange theory, one would expect a positive relationship between job security and IWB because people would reciprocate the job security with discretionary efforts. However, this HRM practice was the least studied in our survey with only two papers referring to it (Bommer and Jalajas, 1999; De Spiegelaere et al., 2012). Moreover, the data in our review only provided evidence for job insecurity having an effect on IWB. Employees perceive job insecurity for various reasons; for example, they may be afraid of being laid off due to downsizing or restructuring within the organisation. Fears surrounding events could also arise and be dispersed throughout the organisations when co-workers are affected by downsizing (Bommer and Jalajas, 1999). Based on the job demands-resources theory (Bakker and Demerouti, 2007), job insecurity is usually treated as a job demand and this explains the negative hypotheses.

From the creativity literature, we know that job insecurity is negatively related with creativity (Probst et al., 2007; Sverke et al., 2002) as it reduces the long-term engagement and commitment of employees to their work. Bommer and Jalajas (1999) hypothesised that feeling threatened would lead to mixed behavioural and motivational outcomes regarding IWB. It was suggested that, on the one hand, employees’ performance would decrease in the sense that they would be less willing to make suggestions or fear taking risks; on the other hand, it was posited that employees would be more motivated to perform well so that they would lower the risk of being laid off (Bommer and Jalajas, 1999). Thus, job insecurity could lead to either higher or lower levels of IWB. Both hypotheses are based on fear, which in general would not be seen as a strong motivation for IWB. De Spiegelaere et al. (2012) studied insecurity over job content: that employees fear that the content of their work might change, rather than employment insecurity (fear of losing one’s job). In this respect, they were able to show evidence for both the positive and negative hypotheses of the influence of job security on IWB. Job content insecurity led to lower levels of IWB for blue-collar workers, but to higher levels of IWB for white-collar workers, which was explained by blue-collar workers being motivated to engage in IWB by extrinsic aspects of their work,
such as job security, whereas white-collar workers are motivated by intrinsic motivational aspects, such as autonomy or work content.

**Opportunity-enhancing HRM practices.** Autonomy. Although authors label this HRM practice in different ways in the various papers, they all describe “job autonomy” in a very similar way. Most of the studies describe autonomy as the degree of independence and freedom that employees experience in how they carry out their tasks and roles (e.g. Janssen, 2005; Ramamoorthy et al., 2005).

A number of studies (Fernandez and Moldogaziev, 2012; Knol and van Linge, 2009; Marane, 2012) have investigated the concept of empowerment, which consists of two main types: psychological empowerment and structural (i.e. through leadership) empowerment. This empowerment refers to perceptions of psychological state or of leadership style rather than HRM practices as outlined above. However, two of Spreitzer’s (1995) four features of psychological empowerment, “self-determination” and “impact”, reflect experiences of the working environment and can be related to autonomy (Knol and van Linge, 2009; Fernandez and Moldogaziev, 2012). “Self-determination” is defined as “the freedom that people have in deciding how to do their work” and “impact” is described as the extent to which “the organization takes employees’ ideas seriously” (Knol and van Linge, 2009, p. 361).

Our analysis revealed that when the effect of autonomy on IWB was tested, autonomy was most often found to have a direct effect on IWB, although four articles considered autonomy as an intervening variable and proposed an indirect influence on IWB. Nearly all the studies found a significant positive relationship between autonomy and IWB. It seems that the more employees are independent and free to determine how they compose their job, the more they will engage in IWB. As such, autonomy is an important HRM practice for multiple dimensions of IWB since it is significantly positively related to idea generation and idea realisation (Bysted and Jespersen, 2014).

The effect of autonomy on IWB can be explained by various theories, most notably by the social exchange theory (Blau, 1964), self-determination theory (Gagné and Deci, 2005), cognitive evaluation theory (Deci and Ryan, 1985) and job demand-resources (JD-R) theory (Bakker and Demerouti, 2007). The social exchange theory argues that autonomy, or employee empowerment, work as a motivational factor in triggering IWB (Marane, 2012; Ramamoorthy et al., 2005). Marane (2012), for example, argues that where employees trust their top management, in the sense that they feel that their organisation cares for them, they feel obligated to reciprocate value in terms of IWB, and thus trust functions as a mediator. Ramamoorthy et al. (2005) used the psychological contract between employer and employee to explain the social exchange, thereby adding “obligation to innovate” as a mediator in their research. However, they found that the direct effect of autonomy on IWB was stronger than the mediated effect.

Based on ideas from the self-determination theory, several authors see intrinsic motivation as an explanation for the relationship between autonomy and IWB (De Spieghelaere et al., 2012; Ohly et al., 2006; Sanders et al., 2010). Ohly et al. (2006), for instance, argue that empowered employees are more intrinsically motivated and this, in turn, triggers proactive behaviours such as IWB. Sanders et al. (2010) and De Spieghelaere et al. (2012) also see intrinsic motivation as behind the positive influence of autonomy on IWB. They further argue that different occupational groups perceive different levels of intrinsic motivation and that this moderates the effect of autonomy on IWB.

Based on the ideas of the cognitive evaluation theory (Deci and Ryan, 1985), Abstein and Spieth (2014) provide an explanation for why intrinsic motivation contributes to the positive autonomy-IWB link. This theory argues that, when they are involved in decision making, employees gain a feeling of having self-determination and competence that, in turn, fosters their intrinsic motivation.
The JD-R theory considers autonomy to be a job resource and thus hypothesises a positive effect between autonomy and IWB. Evidence of this effect has been found by various researchers including De Spiegelaere et al. (2012) and Ramamoorthy et al. (2005).

The effect of autonomy on IWB has been found neither to differ between public and private organisations (Bysted and Hansen, 2015) nor between sectors (Bysted and Jespersen, 2014), but it does differ between organisations that have different home countries (Zhang and Begley, 2011). A company’s home country was shown to moderate the relationship between autonomy and IWB in that the empowerment conceptualisation of autonomy was significant positively related to IWB for employees working in US-owned companies in China but not significantly related for employees of Chinese-owned firms. In addition, there is evidence that autonomy has a stronger effect on IWB for those employees who have opportunities to learn and develop (Fernandez and Moldogaziev, 2012).

Task composition. Task composition is widely considered to be an important HRM practice in determining IWB (e.g. Dorenbosch et al., 2005; Ohly et al., 2006). Although studies use terms such as task variety, job complexity and routine vs non-routine tasks, we label this variable “task composition” since this better reflects aspects of job design other than autonomy and also includes routinisation as part of job complexity.

Based on ideas from the self-determination theory (Gagné and Deci, 2005) and cognitive evaluation theory (Deci and Ryan, 1985), appropriate task composition could help motivate employees to carry out complex jobs in which they obtain considerable job-related knowledge and skills that help generate and implement new ideas (Noefer et al., 2009; Urbach et al., 2010). In our sample, the findings regarding the relationship between the composition of tasks and IWB were mixed. Challenging and stimulating jobs were argued to trigger the intrinsic motivation of employees, which was considered important for engagement in IWB (Noefer et al., 2009; Sanders et al., 2010). Although positive relationships were hypothesised, most studies tended to find only that routine tasks had a negative effect on IWB. Employees do not seem to consistently perceive a varied job as stimulating or satisfying, maybe because it gives rise to additional tasks that might lead to work overload (De Jong et al., 2015). As such, it could be argued that complex jobs should also involve some degree of routinisation in the form of pre-determined tasks that can be repeatedly and predictably accomplished. Tasks that are particularly routine can help preserve important cognitive and time resources that are necessary to generate and implement useful ideas (Ohly et al., 2006).

Job complexity has been shown not to have a significant impact on creativity (Ohly et al., 2006) or on idea generation (Urbach et al., 2010), but to significantly affect implementation (Ohly et al., 2006; Urbach et al., 2010). Ohly et al. (2006) explain these findings with the suggestion that employees who frequently carry out particular tasks can use their spared cognitive and time resources to generate and implement new and useful ideas. Further, they argue that this might only be the case when routinisation appears in specific tasks, not in job content, because repetition in the latter dimension might lead to tedium. Job complexity is assumed to affect the implementation of ideas because employees who fulfil complex jobs might have appropriated the necessary know-how to implement their ideas through a broad acquisition of knowledge and skills. De Spiegelaere et al. (2012) found differences in the effect of routine tasks on IWB for white-collar and blue-collar workers. The authors suggested that stimulating and challenging jobs might be more important for motivating white-collar employees than for blue-collar employees to engage in IWB, and therefore the more routine tasks that white-collar employees have to fulfil, the less IWB they will show.

Job demands and time pressure. Based on JD-R theory (Bakker and Demerouti, 2007), job demands have been investigated as a possible antecedent of IWB (e.g. Janssen, 2000; De Spiegelaere et al., 2012; Wu et al., 2014). Job demands are considered in terms of a heavy
workload resulting from too much work to do within a restricted timeframe (Janssen, 2000). The literature views such time pressure as an important job demand (Noefer et al., 2009; Ohly et al., 2006; De Spiegelaere et al., 2012; Wu et al., 2014) and it is thus considered as a job challenge (De Spiegelaere et al., 2012).

Several studies have investigated possible intervening variables such as effort reward fairness, job resources and occupational groups (Janssen, 2000; Martin et al., 2007; De Spiegelaere et al., 2012). The findings regarding linkages between job demands and IWB were mixed. Job demands were only positively related to IWB when reward fairness was apparent or when job resources, such as structured work with clear goals, were inherent to one’s job. In terms of time pressures, a moderate level was considered optimal in triggering employees’ innovative behaviours, because excessive time pressure may lead to cognitive overload and an overly low level may not provoke sufficient cognitive and behavioural activation within employees to trigger IWB (Ohly et al., 2006). Noefer et al. (2009) added to these findings that time pressure has a negative impact on idea generation, but a positive one on idea implementation. These authors argue that balanced time pressure activates problem coping strategies, which lead to quicker implementation of ideas in order to more rapidly eliminate inefficient work processes.

Feedback. Feedback has been proposed as an important factor in influencing IWB for various reasons. First, feedback has been considered as a valuable source of information regarding how tasks should be accomplished and whether an employee’s performance is appropriate for achieving desired goals. Thus, with feedback, employees are better able to detect problems and opportunities. Second, armed with this information, employees might be able to implement more effective and efficient ways of working. Since IWB involves a complex pattern of behaviours, gaining different views – at least from a second source – could help employees successfully engage in such complex behaviours. Of our sample, only Knol and van Linge (2009) investigated feedback as potentially having a direct influence on IWB, while other studies treated feedback as a moderating variable, meaning that factors such as time pressure, skill variety, resistance to change and psychological contract, and their relationship with IWB, were influenced by feedback from the job itself or from colleagues or supervisors (e.g. Battistelli et al., 2011; Chang et al., 2013; Noefer et al., 2009).

The theories used to explain the various relationships uncovered included the trait activation theory (Lievens et al., 2006) and the idea that the social side of one’s job (i.e. feedback from colleagues and supervisors) was important since this could weaken the negative effects of a transactional contract and increase the positive effects of a relational contract on IWB (Noefer et al., 2009).

Feedback from supervisors regarding work processes and performance was found to positively influence IWB by enhancing job-related knowledge and self-confidence (Knol and van Linge, 2009). Feedback was especially found to encourage IWB among employees who were rather resistant to change (Battistelli et al., 2011) by reducing their feelings of lacking confidence and thereby influencing their adaption to changes through IWB. In this respect, Noefer et al. (2009) only found a significant impact of supervisory feedback on the implementation-oriented stages of IWB. They argued that feedback helped employees to keep track of work proceedings, enabling them to structure their tasks more effectively, thereby reducing time pressure and creating space for employees to implement their ideas.

Discussion

Theoretical implications

The aim of this study was to establish which HRM practices influence IWB, and to better understand these relationships. Based on the AMO conceptualisation of Jiang et al. (2012), this systematic review revealed that the best HRM practices in terms of boosting IWB
consist of one ability-enhancing HRM practice (training and development), two motivation-enhancing HRM practices (rewards and job security) and four opportunity-enhancing HRM practices (autonomy, task composition, feedback and job demand and time pressure). As such, most of the relevant HRM practices are related to enhancing opportunity, and focussed on the job design. Job design is generally considered as an important resource when it comes to employees’ motivation to innovate (De Jong et al., 2015; De Spiegelaere et al., 2012; Dorenbosch et al., 2005; West and Farr, 1990), and our results confirm the important role that job characteristics such as autonomy, task composition and feedback play in establishing employees’ IWB.

The best HRM practices in terms of encouraging IWB are predominantly found in high-commitment work systems (HCWSs). The systematic literature review by Seeck and Diehl (2016) indicated the importance of HCWSs for innovation, and our review comes to a similar conclusion for HCWPs and IWB. Zhou et al. (2013) argued that a high-commitment philosophy is beneficial in achieving innovation outcomes because practices such as employment security establish employees’ psychological commitment to the organisation and motivate employees to take risks.

Having identified the best HRM practices for IWB, we further aimed to discover why – that is to understand the theoretical bases for the HRM-IWB relationship, and the how and when – that is to understand the role of mediators and moderators in this relationship (Seeck and Diehl, 2016). Our framework, presented in Table I, summarises the best HRM practices for encouraging IWB based on the AMO framework, the moderators and mediators involved and the theories used in coming to these relationships.

Motivation-enhancing HRM practices were found to have a debatable influence on IWB, with most related findings suggesting a negative relationship. This negative relationship was usually explained using the self-determination theory, in which motivation-enhancing HRM practices will only affect the IWB of people who are extrinsically motivated. If their company offered motivation-enhancing HRM practices, such as rewards or job security, intrinsically

<table>
<thead>
<tr>
<th>AMO factors</th>
<th>Best HRM practices for IWB</th>
<th>Mediators</th>
<th>Moderators</th>
<th>Theories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability-enhancing HRM practices</td>
<td>Training and Development (+)</td>
<td>Knowledge transfer</td>
<td>Occupational groups; public/private sector; company’s home country</td>
<td>Social exchange theory; human capital theory; knowledge perspective</td>
</tr>
<tr>
<td>Motivation-enhancing HRM practices</td>
<td>Reward (+/-)</td>
<td></td>
<td>Company’s home country; public/private sector</td>
<td>Social exchange theory; self-determination theory; job design-resources theory</td>
</tr>
<tr>
<td></td>
<td>Job insecurity (+/-)</td>
<td></td>
<td>Occupational groups</td>
<td></td>
</tr>
<tr>
<td>Opportunity-enhancing HRM practices</td>
<td>Autonomy (+)</td>
<td>Obligation to innovate; Psychological contract</td>
<td>Company’s home country; occupational groups; trust; LMX; opportunity to learn and develop</td>
<td>Social exchange theory; self-determination theory; cognitive evaluation theory; job design-resources theory</td>
</tr>
<tr>
<td></td>
<td>Task composition (+/-)</td>
<td>LMX</td>
<td>Occupational groups; feedback from supervisor; LMX</td>
<td>Self-determination theory; job design-resources theory; knowledge perspective</td>
</tr>
<tr>
<td></td>
<td>Job demands (+/-)</td>
<td></td>
<td>Occupational groups; feedback from supervisor; job resources; effort-reward fairness</td>
<td>Self-determination theory; job design-resources theory</td>
</tr>
<tr>
<td>Table I.</td>
<td>Feedback (+)</td>
<td>Psychological contract; traits</td>
<td></td>
<td>Trait activation theory</td>
</tr>
</tbody>
</table>

Table I. HRM-IWB framework
motivated employees would react by reducing their engagement in IWB. This finding is contradictory to the results for performance outcomes, as presented by Jiang et al. (2012), who viewed motivation-enhancing HRM practices as a valuable tool in increasing individual or organisational performance. Discretionary efforts, such as IWB, are usually not anticipated, and also not rewarded, and thus cannot be assured through motivation-enhancing HRM practices. Other studies have found similar results for other motivation-enhancing HRM practices, such as performance-related pay, which can also result in less innovation when pay is based on short-term performance and the financial benefits of implemented innovations (e.g. Fernandez and Moldogaziev, 2012). These findings call for different motivation-enhancing HRM practices, ones that do not appeal to employees’ external motivation. Possibilities include non-material incentives (Li et al., 2006), recognition (Cooke and Saini, 2010) and learning-oriented appraisals (Shipton et al., 2006).

Ability-enhancing and opportunity-enhancing HRM practices were generally found to have positive effects, not only on performance but also on IWB. However, for those HRM practices that can be categorised as job demands, such as job complexity and time pressure, it seems that a moderate level of demands can be positive for IWB, but that high levels of job demands can have negative consequences for IWB. Here, Ohly et al. (2006) found that a moderate level of time pressure was best for activating IWB, since high levels of time pressure may result in cognitive overload and low levels may be insufficient to incite cognitive and behavioural activation within employees to engage in IWB. A notable observation concerning ability- and opportunity-enhancing HRM practices is the lack of research into whether ability-enhancing HRM practices such as selection and staffing (Shipton et al., 2006), and opportunity-enhancing HRM practices, such as employee involvement and teamwork (Seeck and Diehl, 2016), have a role in determining IWB. While there is evidence that these practices are important for innovation (e.g. Seeck and Diehl, 2016), further research is necessary to determine whether this is also true for IWB.

The effect of HRM practices on IWB is most often explained through three theoretical approaches: the self-determination theory, job demands-resources theory and social exchange theory. According to the self-determination theory (Gagné and Deci, 2005), certain HRM practices, such as autonomy or task complexity, increase the intrinsic motivation of employees, which then results in higher IWB engagement. For employees who are not intrinsically motivated, motivation-enhancing HRM practices could be used to motivate them to engage in IWB. The job demands-resources theory (Bakker and Demerouti, 2007) distinguishes between job demands and job resources. Job demands are aspects of the job that require physical and mental effort and therefore have physical and psychological costs, while job resources are those aspects of a job that help to achieve goals, reduce demands or stimulate personal development (Bakker and Demerouti, 2007). Job resources, such as autonomy, would then usually result in higher levels of IWB. IWB could appear to be a solution for those whose jobs have moderately high demands, because employees could use IWB to cope with the demands. However, if job demands become too high, employees will engage less in IWB. In comparison, social exchange theory (Blau, 1964) will always hypothesise higher levels of IWB because the theory assumes that employees perceive HRM practices as investments in themselves, which they will then reciprocate with something of value to the organisation, such as IWB.

Whereas current papers argue that moderators and mediators deserve more attention in the HRM and innovation research (e.g. Seeck and Diehl, 2016), our findings show that there is still limited attention for contingencies that explain HRM-IWB relationships. Three moderators stand out as influencing the HRM-IWB relationship: occupational groups (De Spiegelaere et al., 2012); public/private organisations (Bysted and Hansen, 2015; Bysted and Jespersen, 2014); and differences in organisations’ home country (Zhang and Begley, 2011).
Research shows that employees of different occupational groups react differently to job demands. For example, job security positively affects IWB for white-collar workers but negatively for blue-collar workers (De Spiegelaere et al., 2012). Research on HRM practices-IWB relationships also found differences between the public and the private sector. Employees in the public sector do not seem to be less innovative than their colleagues in the private sector (Bysted and Hansen, 2015), although there are differences regarding the HRM practices-IWB relationship across sectors. Here, motivation-enhancing HRM practices, such as rewards, were found to have a positive effect for public employees, but not for private employees, since public employees regard IWB as an extra-role behaviour for which they need clear signals and expect to be rewarded (Bysted and Jespersen, 2014). The last moderator that we found in our review was the organisation’s home country. For example, Zhang and Begley (2011) found that empowerment practices had a stronger effect on the IWB of China-located employees of a US-owned multinational than those of a Chinese-owned equivalent.

**Practical implications**

Before implementing HRM practices with the goal of boosting IWB, organisations need to decide for which occupational groups and units they want to encourage such behaviours. Research shows that the impact of HRM practices on IWB can differ depending on task and job types (Scott and Bruce, 1994). If employers want to encourage the IWB of their knowledge workers, they should implement empowering practices by expanding the decision latitude of these employees in terms of the composition and organisation of their tasks (e.g. De Jong and Kemp, 2003). The jobs of these employees need to be designed to include challenge and stimulation. Additional financial rewards should only be implemented with caution since they might undermine the intrinsic motivation of knowledge workers. However, with blue-collar workers, financial rewards do seem to be beneficial in boosting IWB (De Spiegelaere et al., 2012).

Adopting practices that enhance the abilities (i.e. training) and opportunities (i.e. autonomy) of employees may help organisations to foster the IWB of targeted employees. When striving to increase IWB, organisations should be cautious when adopting motivation-enhancing HRM practices since these can have mixed effects on IWB. Further, our literature research has shown that the effect of many practices is context-dependent and, therefore, practitioners should carefully analyse which practices align with their organisational context. Nevertheless, providing employees with autonomy in their jobs does seem to consistently be one of the very best practices for boosting IWB and can therefore be viewed as a crucial practice in improving the IWB of employees.

**Limitations**

This research is not without its limitations. On a micro-level, the contents of each article could have influenced the results. The articles reviewed were sorted based on the HRM practices investigated in order to conduct an in-depth content analysis aimed at answering the research question. However, this classification could have been biased since there is a lack of universally agreed definitions for particular HRM practices, and authors use various wordings for the same HRM practice. We tried to resolve this problem by closely inspecting the measurements linked to individual HRM practices, and thereby maximise our objectivity. However, as even the items used sometimes varied from one article to another in their precise terminology, this still required some interpretation. As such, the method is not free of bias and will be influenced by previous experiences and existing knowledge, and has the danger of equating matters that might not have been meant in exactly the same way. Therefore, in order to reduce this potential diffusion, further research is encouraged that more clearly determines the distinct HRM practices. Furthermore, our analysis could only draw on practices that have been reported in the existing HRM-IWB literature. There might
well be other best practices that have not been reported. For example, recruitment and selection, as well as employee involvement, were not included in our analysis as these practices have not been tested in relation to IWB. Nevertheless, since selectivity in staffing and employee involvement are considered to be HPWPs (Combs et al., 2006), they could easily have an impact on IWB.

Since IWB is a multidimensional construct consisting of various IWB dimensions, a limitation of this research is the focus on IWB rather than on its different dimensions. Research has indicated that HRM practices can have different effects on idea generation and on idea implementation. Our analysis has shown, for example, that task complexity has a negative effect on creativity and idea generation, but a positive effect on idea implementation (Ohly et al., 2006; Urbach et al., 2010). A more recent study (Veenendaal and Bondarouk, 2015) shows that perceptions of training and development have a significant effect on idea generation but not on idea promotion and idea implementation. However, since the focus of our research is on IWB, and we aimed to discover the HRM practices that significantly affect IWB, we limited our selection to articles that investigated IWB or innovative behaviours. Most of the 27 articles included treated IWB as a one-dimensional construct, although eight did differentiate between distinct dimensions of IWB as discussed in our results.

Suggestions for future research
The literature review we have undertaken supports the conclusion that HRM practices affect IWB. However, the different methods used for measuring and interpreting IWB in the articles have a major influence on the reported findings. One danger is that asking employees to rate their IWB could lead to socially desirable answers. For example, Janssen (2000) found different effects on self-rated and on leader-rated IWB. Especially when employees perceived IWB as a measurement tool for determining career development, they were likely to overestimate their innovative potential. Future research should address this issue by using triangulation in order to more reliably evaluate the innovative behaviours of employees.

As already noted, most articles considered IWB as a one-dimensional construct (see also De Jong and Den Hartog, 2010; Bonesso and Tintorri, 2014). However, some scholars, such as Noefer et al. (2009), treated IWB as a two-dimensional construct and found that HRM practices had different effects on idea generation and on idea implementation. Given this distinction, future research could usefully explore IWB based on it having these two dimensions since this could produce more insightful results on how HRM practices affect IWB. Recently, Veenendaal and Bondarouk (2015) tested the separate effects of four HRM practices on idea generation, idea promotion and idea application and confirmed that the effect of HRM practices on IWB differed per dimension. There is evidence that implementing innovative ideas is a complex process that requires the involvement of various stakeholders and needs to be supported in different ways than the generation of innovative ideas (e.g. Bos-Nehles et al., 2017).

In this research, we focused on the IWBs of individual employees. Future research could address how the IWBs of employees on the individual level affect the innovation output and performance at the organisation level. This would require a multilevel approach to HRM-innovation research (Shipton et al., 2016) that examines how HRM practices can facilitate the process by which innovations move up from individual initiatives on the work floor. It has been argued that HRM practices that are targeted at integrating knowledge across the organisation must be present for innovations to emerge (Lin and Sanders, 2017) since these will generate an environment in which individuals can pursue their innovative initiatives (Shipton et al., 2016). Future research should therefore assess on which organisational level HRM practices are most effective.
Finally, recent reviews of the HRM-innovation relationship have shown that bundles of HRM practices are more strongly linked to organisational innovation than single practices (Seeck and Diehl, 2016). For example, Laursen and Foss (2003) found support for the view that complementarities between HRM practices can enhance innovation performance. While our literature review was focused on identifying best individual HRM practices, future research could focus on bundles of HRM practices and their influence on IWB. Possibly, the best HRM practices identified in this study could together form a “High-Innovation HRM System” that includes ability-, motivation- and opportunity-enhancing HRM practices that encourage IWB. In combination, these best practices may be more strongly related to IWB because of complementarities and synergies among them.

References
*Marked articles were included in the systematic review.


*Noofer, K., Stegmaier, R., Molter, B. and Sonntag, K. (2009), “Great many things to do and not a minute to spare: can feedback from supervisors moderate the relationship between skill variety, time pressure and employees’ innovative behavior?”, *Creativity Research Journal*, Vol. 21 No. 4, pp. 284-293.


Further reading


Corresponding author

Anna Bos-Nehles can be contacted at: a.c.nehles@utwente.nl
<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Research title</th>
<th>Sample</th>
<th>Research method</th>
<th>IWB explored in…</th>
<th>HRM practices</th>
<th>Other influences/underlying theory</th>
<th>Most important findings</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstein and Speth (2014)</td>
<td>Exploring HRM Meta-features that foster employees' innovative work behaviour in times of increasing work-life conflict</td>
<td>21 companies in Germany</td>
<td>Semi-structured interviews (qualitative)</td>
<td>One-dimension</td>
<td>Autonomy</td>
<td>Cognitive evaluation theory</td>
<td>Autonomy of employees influences IWB positively and can enhance individual innovative performance through involvement and cognitive evaluation theory</td>
<td>Creativity and Innovation Management</td>
</tr>
<tr>
<td>Battistelli et al. (2011)</td>
<td>The impact of feedback from job and task autonomy in the relationship between dispositional resistance to change and innovative work behaviour</td>
<td>1 University in Florence; 270 employees</td>
<td>Survey</td>
<td>One-dimension</td>
<td>Autonomy</td>
<td>Trait activation perspective</td>
<td>Autonomy does not moderate the relationship between dispositional resistance to change and IWB; feedback, in contrast, moderates the relationship between resistance to change and IWB (high feedback leads to a positive relationship between resistance to change and IWB)</td>
<td>European Journal of Work and Organizational Psychology</td>
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<tr>
<td>Bommer and Jakias (1999)</td>
<td>The threat of organisational downsizing on the innovative propensity of R&amp;D professionals</td>
<td>150 R&amp;D employees of 15 different firms</td>
<td>Survey</td>
<td>Two dimensions</td>
<td>Job (in)security Model</td>
<td>Risk culture Room for innovation (organisational support/innovative climate) Intrinsic motivation Sector type</td>
<td>Insecurity is significantly negative related to willingness to take risks as well as significantly negative related to willingness to make suggestions</td>
<td>R&amp;D Management</td>
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<tr>
<td>Bysted and Hansen (2015)</td>
<td>Comparing public and private sector employees' innovative behaviour</td>
<td>8310 employees from Denmark, Norway, Sweden</td>
<td>Survey</td>
<td>One-dimension</td>
<td>Reward (expectancy clarity) Autonomy</td>
<td>Risk culture Room for innovation (organisational support/innovative climate) Intrinsic motivation Sector type</td>
<td>Autonomy influences employees' IWB positively (no difference between private and public sector employees was found; less clarity between innovative performance and reward is negatively related to IWB, this relationship is more apparent for public sector employees</td>
<td>Public Management Review</td>
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<tr>
<th>Author (Year)</th>
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<th>Most important findings</th>
<th>Journal</th>
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</thead>
<tbody>
<tr>
<td>Bysted and Jespersen (2014)</td>
<td>Exploring managerial mechanism that influence innovative work behaviour: comparing private and public employees</td>
<td>8,310 employees from Denmark, Norway, Sweden</td>
<td>Survey</td>
<td>Two-dimensions</td>
<td>Reward Competition development Autonomy</td>
<td>Intrinsic motivation Sector type</td>
<td>Autonomy is significantly positive related to IWB irrespective of sector type; competence development is significantly positive related to IWB, but sector type moderates this relationship; reward is negatively related to IWB, however, public sector employees respond well to reward when IWB is expected</td>
<td>Public Management Review</td>
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<tr>
<td>Chang et al. (2013)</td>
<td>Psychological contracts and innovative behaviour: a moderated path analysis of work engagement and job resources</td>
<td>267 dyads of employees and their related supervisors of 30 high-tech firms in Taiwan</td>
<td>Survey</td>
<td>One-dimension</td>
<td>Supervisor feedback</td>
<td>Work engagement Transactional and relational contracts Social side of innovation perspective</td>
<td>The mediated relationship between transactional and relational contracts and IWB via work engagement is each moderated by feedback of supervisors</td>
<td>Journal of Applied Social Psychology</td>
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<tr>
<td>Dorenbosch et al. (2005)</td>
<td>On the job innovation: The impact of job design and human resource management through production ownership</td>
<td>132 employees of a Dutch government organisation</td>
<td>Survey</td>
<td>Two dimensions</td>
<td>Training and Development Multifunctionality Feedback Reward</td>
<td>Multifunctionality is significantly positive related to IWB as a whole as well as to the implemented oriented stage, but is not significantly positive related to the creativity oriented variable</td>
<td>Creativity and Innovation management</td>
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<tr>
<td>Fernandez and Moldogaziev (2012)</td>
<td>Employee empowerment, employee attitudes, and performance: testing a causal model</td>
<td>197,446 US federal employees</td>
<td>Survey</td>
<td>One-dimension</td>
<td>Reward training and development Empowerment</td>
<td>Job satisfaction Empowerment is significantly positive related to IWB; empowerment might also increase job satisfaction, which in turn might improve IWB</td>
<td>Public Administration Review</td>
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<th>Author (Year)</th>
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<th>Most important findings</th>
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<tbody>
<tr>
<td>Janssen (2000)</td>
<td>Job demands, perceptions of effort-reward fairness and innovative work behaviour</td>
<td>170 employees of 1 Dutch organisation (from the food sector)</td>
<td>Survey</td>
<td>One dimension</td>
<td>Effort Reward fairness Job demand</td>
<td>Social exchange theory</td>
<td>Job demand is significantly positive related to IWB when employees perceive their efforts as fairly rewarded</td>
<td><em>Journal of Occupational and Organizational Psychology</em></td>
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<tr>
<td>Janssen (2005)</td>
<td>The joint impact of perceived influence and supervisor supportiveness on employee innovative behaviour</td>
<td>170 employees from 1 Dutch Company</td>
<td>Survey</td>
<td>One dimension</td>
<td>Perceived influence</td>
<td>Supervisor supportiveness Sociopolitical approach</td>
<td>Perceived influence is significantly positive related to IWB and supervisor supportiveness moderates this relationship</td>
<td><em>Journal of Occupational and Organizational Psychology</em></td>
</tr>
<tr>
<td>De Jong <em>et al.</em> (2015)</td>
<td>Entrepreneurial behaviours in organisations: does job design matter?</td>
<td>179 employees from 1 Dutch company</td>
<td>First Survey ($n = 179$ employees) Second Survey three years later ($n = 83$ peers)</td>
<td>One dimension</td>
<td>Autonomy</td>
<td>Job variety</td>
<td>Autonomy increases perceived control over the work environment which in turn enhances motivation and willingness to engage in entrepreneurial behaviours; job variety was not found to enhance entrepreneurial behaviours, maybe due to perceived extra work (horizontal enlargement) instead of perceived enlargement of decision-making tasks (vertical scope)</td>
<td><em>Entrepreneurship Theory and Practice</em></td>
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<td>Knol and von Lange (2009)</td>
<td>Innovative behaviour: the effect of structural and psychological empowerment on nurses</td>
<td>519 registered nurses in the Netherlands</td>
<td>Survey</td>
<td>One dimension</td>
<td>Empowerment practices Feedback Opportunity and information</td>
<td>Cognitive mediation theory</td>
<td>Both empowerment (structural) (SE) and psychological (PE) have a significant positive impact on IWB; PE mediates the relationship between SE and IWB, explained by the cognitive mediation theory; further, feedback as part of SE is significantly positive related to IWB</td>
<td><em>Journal of Advanced Nursing</em></td>
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<tr>
<td>Lu et al. (2012)</td>
<td>Goal orientation and innovative performance: The mediating roles of knowledge sharing and perceived autonomy</td>
<td>248 part time MBA students from a university in China, who also work part time in different companies</td>
<td>Survey</td>
<td>One dimension</td>
<td>Perceived autonomy</td>
<td>Learning Goal orientation</td>
<td>Information also seen as part of SE is significantly positive related to IWB</td>
<td>Journal of Applied Social Psychology</td>
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<td>Marane (2012)</td>
<td>The mediating role of trust in organisation on the influence of psychological empowerment on innovative behaviour</td>
<td>245 managers from manufacturing companies</td>
<td>Survey</td>
<td>One dimension</td>
<td>Empowerment</td>
<td>Social exchange theory</td>
<td>Psychological empowerment (PE) has a significant positive impact on IWB, trust partially mediates this relationship</td>
<td>European Journal of Social Sciences</td>
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<tr>
<td>Martin et al. (2007)</td>
<td>Job demands, job resources and individual innovation at work: going beyond Karasek’s model</td>
<td>244 employees from 12 Spanish firms</td>
<td>Survey</td>
<td>One dimension</td>
<td>Job demands</td>
<td>Problem coping strategy Job resources</td>
<td>Job demand and IWB are significantly negative related, Job resources have a marginally moderating effect on this relationship, but turns it into a positive one</td>
<td>Psychotema</td>
</tr>
<tr>
<td>Messmann and Mulder (2016)</td>
<td>Exploring the role of target specificity in the facilitation of vocational teachers’ innovative work behaviour</td>
<td>230 vocational teachers from German vocational colleges</td>
<td>Survey</td>
<td>Four dimensions</td>
<td>Perceived impact</td>
<td>Intrinsic task motivation</td>
<td>Perceived impact is positively related to IWB; intrinsic task motivation is found to be a key antecedent for IWB and partially mediates the relationship between perceived impact and IWB</td>
<td>Journal of Occupational and Organizational Psychology</td>
</tr>
<tr>
<td>Noefer et al. (2009)</td>
<td>Great many things to do and not a minute to spare: Can feedback from supervisors moderate the relationship between skill variety, time</td>
<td>81 employees of a German university</td>
<td>Survey</td>
<td>Two dimensions</td>
<td>Job variety Feedback</td>
<td>Activation theory</td>
<td>Skill variety is significant positive related to idea generation as well as to idea implementation; supervisor feedback does not moderate the relationship between skill variety, time and IWB</td>
<td>Creativity Research Journal</td>
</tr>
</tbody>
</table>

Table A1. HRM and IWB (continued)
<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Research title</th>
<th>Sample</th>
<th>Research method</th>
<th>IWB explored in…</th>
<th>HRM practices</th>
<th>Other influences/underlying theory</th>
<th>Most important findings</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohly et al. (2006)</td>
<td>Routinisation, work characteristics and their relationships with creative and proactive behaviours</td>
<td>278 employees of 1 German high-tech company</td>
<td>Survey</td>
<td>Two dimensions Job control, Job complexity, Routinisation, Time pressure</td>
<td>Supervisor support, Activation theory, Intrinsic motivation</td>
<td>relationship between skill variety and idea generation, only idea implementation increased under high feedback; Job control significantly predicts creativity and proactive behaviours; routinisation is significantly positive related to creativity and proactive behaviours, whereas job complexity, in contrast, is only significantly positive related to proactive behaviours, but not to creativity; time pressure and its relation to creativity and proactive behaviours shows an inverted U-shape; supervisor support was neither significantly positive related to creativity nor to proactive behaviours</td>
<td>Journal of Organizational Behaviour</td>
<td></td>
</tr>
<tr>
<td>Ong et al. (2003)</td>
<td>Factors affecting individual innovation: an examination within a Japanese subsidiary in Singapore</td>
<td>190 employees of a Japanese subsidiary</td>
<td>Survey</td>
<td>Two dimensions Challenging tasks, Training &amp; Development (Knowledge structure)</td>
<td>Leadership Organisational support</td>
<td>Challenging tasks are neither significantly related to idea generation nor to idea implementation; training and development (knowledge structure) is significantly positive related to ideation as well as to implementation; leadership is neither significantly related to idea generation nor to idea implementation, the same was found for organisational support</td>
<td>Technovation</td>
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</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Research title</th>
<th>Sample</th>
<th>Research method</th>
<th>IWB explored in…</th>
<th>HRM practices</th>
<th>Other influences/underlying theory</th>
<th>Most important findings</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pratoom and Savatsomboon (2012)</td>
<td>Explaining factors affecting individual innovation: the case of group members in Thailand</td>
<td>1,526 employees from 138 producer groups in 19 different provinces in Northeast Thailand</td>
<td>Survey</td>
<td>One dimension</td>
<td>Training &amp; Development (Knowledge management)</td>
<td>Not mentioned</td>
<td>Knowledge management is significantly positive related to IWB</td>
<td>Asia Pacific Journal of Management</td>
</tr>
<tr>
<td>Ramamoorthy et al. (2005)</td>
<td>Determinants of innovative work behaviour; development and test of an integrated model</td>
<td>204 employees from manufacturing organisations in Ireland</td>
<td>Survey</td>
<td>One dimension</td>
<td>Autonomy</td>
<td>Psychological contracts (expectations met and obligation to innovate)</td>
<td>Autonomy is directly positive related to IWB as well as indirectly via obligation to innovate; reward is directly positive related to IWB and also indirectly related to IWB via expectations met and obligation to innovate</td>
<td>Creativity and Innovation Management</td>
</tr>
<tr>
<td>Sanders et al. (2010)</td>
<td>How to support innovative behaviour? The role of LMX and satisfaction with HR practices</td>
<td>272 employees of 1 Dutch and 3 German technical organisations</td>
<td>Survey</td>
<td>One dimension</td>
<td>Employees influence</td>
<td>Work content</td>
<td>Social exchange theory</td>
<td>Satisfaction with influence and work content is positively related to IWB; primary rewards are significantly negative related to IWB, secondary rewards do not affect IWB significantly, the same appears for HR flow; LMX is significantly positive related to IWB and influence, primary rewards and work content mediates the relationship between LMX and IWB</td>
</tr>
<tr>
<td>Scott and Bruce (1994)</td>
<td>Determinants of innovative behaviour: a path model of individual innovation in the work place</td>
<td>172 employees of a R&amp;D company in USA</td>
<td>Survey</td>
<td>One dimension</td>
<td>Job variety</td>
<td>Supportive climate</td>
<td>LMX</td>
<td>Leader role expectations</td>
</tr>
<tr>
<td>Author (Year)</td>
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<td>Sample</td>
<td>Research method</td>
<td>IWB explored in...</td>
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<td>Other influences/underlying theory</td>
<td>Most important findings</td>
<td>Journal</td>
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<tr>
<td>De Spieghelsere et al. (2012)</td>
<td>Extending the job design perspective on individual innovation; exploring the effect of group reflexivity</td>
<td>893 employees of 17 companies in Belgium</td>
<td>Survey</td>
<td>One dimension</td>
<td>Autonomy; Routine Tasks; Time pressure; Job content insecurity; Learning opportunities</td>
<td>Occupational groups; Intrinsic motivation</td>
<td>Pygmalion effect IWB; support was significantly positive related to IWB, however, resource supply was significantly negative related to IWB. Autonomy leads to positive employee outcomes (IWB) and is positively related to IWB for white-collar workers and negatively for blue-collar workers. Routine tasks have a negative effect for white-collar workers and rather positive effects (ns) for blue-collar workers. Job content insecurity and its relation to IWB is positive for white-collar workers and strongly negative for blue-collar workers. Time pressure was not significantly related to IWB. No difference between white- and blue-collar workers was found; learning opportunities are significantly related to IWB. Occupational groups matter.</td>
<td>Journal of Entrepreneurship, Management and Innovation</td>
</tr>
<tr>
<td>Urbach et al., (2010)</td>
<td>Extending the job design perspective on individual innovation; exploring the effect of group reflexivity</td>
<td>85 employees from 1 software company in Poland</td>
<td>Survey</td>
<td>Two dimensions</td>
<td>Job control; Job complexity</td>
<td>Not mentioned</td>
<td>Job control is significant positively related to ideation, but only marginally significant linked to implementation; job complexity does not predict ideation, but affects idea implementation positively</td>
<td>Journal of Occupational and Organizational Psychology</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Research title</th>
<th>Sample</th>
<th>Research method</th>
<th>IWB explored in…</th>
<th>HRM practices</th>
<th>Other influences/underlying theory</th>
<th>Most important findings</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wu et al. (2014)</td>
<td>Need for cognition as an antecedent of individual innovation behaviour</td>
<td>179 employees of a research and consultancy firm in the Netherlands</td>
<td>Survey</td>
<td>One dimension</td>
<td>Job autonomy, Time pressure</td>
<td>Interactionist model of personality</td>
<td>Job autonomy and time pressure moderate the relationship between need for cognition and IWB in the sense that low job autonomy strengthens the positive relationship and high job autonomy weakens it. Regarding time pressure, the results reveal a same pattern, low levels of time pressure strengthen the positive relationship between “need for cognition” and IWB.</td>
<td>Journal of Management</td>
</tr>
<tr>
<td>Zhang and Begley (2011)</td>
<td>Perceived organisational climate, knowledge transfer and innovation in China-based research and development companies</td>
<td>327 employees of 5 Chinese and 5 US R&amp;D companies located in China</td>
<td>Survey</td>
<td>One dimension</td>
<td>Empowerment, Reward, Knowledge resources and knowledge transfer</td>
<td>Company’s home country Organisational climate</td>
<td>Empowerment is significantly positive related to IWB within American owned firms in China, but is not significantly related to IWB within Chinese-owned firms, which implies a moderator effect of culture; the link between knowledge resources and knowledge transfer is tightly related for American owned companies and the relationship between knowledge transfer and innovation is fully mediated by Chinese-owned companies</td>
<td>The International Journal of Human Resource Management</td>
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</table>
Disentangling workplace innovation: a systematic literature review

Iryna Prus, Raoul C.D. Nacamulli and Alessandra Lazazzara
Department of Human Sciences for Education,
Universita degli Studi di Milano-Bicocca, Milan, Italy

Abstract

Purpose – The purpose of this paper is to consolidate the state of extant academic research on workplace innovation (WI) by proposing a comprehensive conceptual framework and outlining research traditions on the phenomenon.
Design/methodology/approach – This paper systematically reviewed the literature published over the past 20 years, basing on a predefined research protocol. The dimensions of WI were explored with the help of thematic synthesis, while the research perspectives were studied by means of textual narrative synthesis.
Findings – The analysis suggests that there exist four research traditions on WI – built container, humanized landscape, socio-material macro-actor, and polyadic network – and each of them comprises its own set of assumptions, foci of study, and ontological bases. The findings suggest that WI is a heterogeneous process of renovation occurring in eight different dimensions, namely work system, workplace democracy, high-tech application, workplace boundaries, workspaces, people practices, workplace experience, and workplace culture. The analysis showed that over years the meaning of innovation within these dimensions changed, therefore it is argued that research should account for the variability of these categories.
Practical implications – The paper includes implications for developing and implementing WI programs. Moreover, it discusses the role of HR in the WI process.
Originality/value – This paper for the first time systematically reviews literature on the topic of WI, clarifies the concept and discusses directions and implications for the future research.

Keywords Qualitative, Workspace, Work practices, Workplace innovation, Workplace design, High-performance work systems (HPWS), Working life development

Paper type Literature review

Introduction

Nowadays organizations are operating and competing in a rapidly changing, hypercompetitive, and unpredictable environment. In order to develop competitiveness in these conditions, it is claimed that innovation is paramount and imperative for success (Tushman and O'Reilly, 1996; Dess and Picken, 2000; Friedman, 2011). Whereas for years the only domain of innovation was technology, product and service, recently new domains of innovation have appeared (e.g. social innovation, organizational innovation, grassroots innovation, user innovation). Among these, workplace innovation (henceforth WI) has gained much attention and was recognized as a main driver of economic growth (Dhondt and Totterdill, 2014). European Commission made WI a priority in the reinforced EU Industrial Policy Communication (Kesselring et al., 2014), and different countries recognized the importance of the WI in their policy agenda on the national level (Alasoini, 2009).

Despite an enormous amount of writings on WI, up to today there is no clear conceptualization of WI. Different authors include under this umbrella-term modernization aspects of management, organization, space, skills, labor relations, workplace culture, HR
practices, etc. (Eckelaert et al., 2012; Kesselring et al., 2014). Such polysemy and low conceptual development is a serious impediment for the consolidation of the field of WI, as it drives to fragmentized knowledge, difficulties with the development of measurement scales, and theorizing problems. Moreover, WI seems to involve disparate or dual tendencies (Oeij and Vaas, 2016), thus it can be distorted if relying on a single and overly simplified model. Therefore, it is important to outline the conceptual framework that can account for the internal contradictions of the phenomenon of WI.

In HRM literature there is a general consensus to consider WIs as a bundle or system of practices (Lepak et al., 2006). However, considering all practices is impossible, while considering only some of them requires applying certain selection criteria. Moreover, the logic of a system raises the problem of how different components are related to each other. Past research proved that the interdependence between different practices may produce a significant effect on performance (Delery and Gupta, 2016). Therefore, at one hand, we cannot neglect the inter-relatedness, but at the other hand, there is no theoretical framework for understanding whether some practices are redundant, complementary to others, significant for performance, unnecessarily constrained, etc.

In order to take the configurational perspective on HRM practices, we need to understand how researchers’ attention should be allocated. With this intent scholars have developed numerous typologies and categories of innovative practices (MacDuffie, 1995; Totterdill and Exton, 2014). Given the multifaceted role of practices, the creation of meaningful categories is still challenging. Traditionally in management studies, the categorization has been based on prototype theory (i.e. consensus on definitional properties) (Durand and Paolella, 2013). Yet, such approach cannot explain the fuzziness of categories. More recent approaches see fuzziness as inherent in the category itself. This means that categories may extinguish, and their boundaries may extend either horizontally (i.e. growing to encompass new situations) or vertically (i.e. repositioning within a hierarchical structure of a field) (Delmestri and Greenwood, 2016). Therefore, if we admit that there may exist some categories that help to elucidate the concept of WI, their variability should be addressed as well.

Moreover, in HRM literature, scholars usually approach workplace as a social system without taking into account the interplay of spatial and material factors (Kornberger and Clegg, 2004). But the field of socio-material studies of organizations highlights that practices are deployed within a material and symbolic space (de Vaujany and Mitev, 2013). To deepen this perspective, HRM field may benefit from integrating a place-based view on practices and entering in dialogue with such fields as, for example, architecture, ergonomics, science and technology studies, etc. This implies that some common ontological, epistemological and methodological bases in different disciplines shall be established first. With this purpose, the identification of different research traditions on WIs within the management field is an essential step in creating an interdisciplinary dialogue.

Basing on these premises, the purpose of this paper is to provide a comprehensive understanding of the WI concept by answering the following questions:

**RQ1.** How has the concept of WI been approached in the academic literature?

**RQ2.** What are the dimensions through which WI has been explored?

**RQ3.** How have the meaning and contents of these dimensions changed over years?

In order to answer these research questions, we applied the systematic literature review. We investigated different academic databases for a series of WI-related keywords and retrieved citations on topic from 1996 to 2016. We then applied the methodology of narrative synthesis and thematic analysis to qualitatively interpret the findings. After presenting initial theoretical insights into WI, we introduce our findings on four research traditions on WI.
We then propose eight dimensions through which WI has been explored in the literature and examine the variability of these dimensions. Finally, we critically discuss our findings, propose directions for future research and a series of implications for HR practitioners.

Toward the definition of WI

Prior to reviewing the existing literature on WI, it is important to understand the meaning of two main words it is composed of, i.e., workplace and innovation. The debate over the concept of workplace is complex and full of various nuances. As a rule, workplace is defined as the outcome of the social process of valuing workspace (Meskell and Preucel, 2004; Cresswell, 2015). It describes the whole network of social, organizational, and design elements that constitute the context in which the work is realized. The concept of workplace expresses the spatiality enacted by organizational members and/or the material space constituting an organization in concrete terms (de Vaujany and Mitev, 2013). In organization studies the research on workplace is inspired by multiple perspectives: environmental psychology, sociology of space, sociology of architecture, socio-materiality, etc. The general claim of scholars is to treat the concept as multifaceted (Delbridge and Sallaz, 2015).

The idea of place thickness has been promoted years ago by human geographers, claiming that place cannot be reduced to a dimension-less point as it contains a number of features that cannot be spatially merged with one another (Cresswell, 2015). Similarly, Foucault drove attention to the multidimensionality of the place when he spoke about heterotopia (Foucault and Miskowiec, 1986), i.e., places that function in non-hegemonic conditions, with simultaneous co-existence of different dimensions (e.g. physical, mental, psychological).

If the static view of workplace analyses it as physical boundaries of social life, the dynamic view of workplace explores the process of its construction and renovation. Thus, according to this view, workplaces are dimensions of, and (re)produced through, processes of innovation and creativity. With the advent of the innovation studies, there has been an attempt to understand how these processes occur and how to manage them. Yet, as long as the innovation became sense-deprived and abused word, it was difficult to establish it in the workplace discourse. Since early 1990s when the WI started to emerge as a discourse, there was no settled meaning of it (Ichniowski, 1996). What diverse definitions of WI had in common is that they departed from the stereotyped traditional Fordist idea of workplaces. All non-traditional initiatives in the workplace were collectively defined as “WI”. Even if the emergence of innovative working practices had origins already in the 1960s, they were not common or widely adopted due to the underdeveloped technologies and cultural unreadiness, and so had not been defined as innovations (Ruostela et al., 2015). As we know, innovation always expresses a new form of social value – from slightly incremental to radical and breakthrough. At the same time, innovation does not require absolute novelty of an idea, simply that the idea be new to the relevant unit of adoption (Zaltman et al., 1973). As such, the unique characteristics of innovation can be described in this way: it involves new and creative knowledge, it derives from a conscious inventive effort, it expresses the actual utilization and it encompasses a created value.

Many studies do not precisely identify what kind of innovation they refer to. Innovation may refer to: a substantive (new ideas, practices, and objects), a verb/an action (introducing or adopting something new), an outcome (the result of introducing novelties), and a process (a sequence of activities from generating ideas to their use in practice) (Van de Ven et al., 1999). In any case, the majority of studies on WI seem to stick to the “atomic” idea of innovation, and define innovations as new organizational solutions (Tidd, 2006). Yet, the temporality and perpetual change of innovations-as-solutions makes them difficult to grasp. Instead, innovation as a process is understood as a flux, a tendency of directing practices and reshaping places toward continuous improvement, which can bring benefits to the employee, the group, organization or wider society.
To sum up, in organization studies there exists a plurality of approaches on WI. No unified definition has been advanced yet. The concept describes a more comprehensive, if compared to simple improvements, redesigning of the workplace with the intent of questioning the suitability of existing work realities. Still, it is difficult to accurately distinguish what counts as a WI and what does not. Embracing the idea of multiple dimensions of workplace and their instability in time may be an important step ahead in clarifying the concept. The future research should account for the tensions internal to the conceptual apparatus of WI and distinguish different research approaches and traditions on the topic.

Research framework and methodology
In order to address our research questions, we selected the method of systematic literature review for coping with the elevated number of papers published in this area. Although this method was developed in medical discipline, it has already gained awareness and recognition in the management research field (Tranfield et al., 2003; Barnett-Page and Thomas, 2009). Traditional narrative literature review is criticized for being highly subjective and open to potential biases (Mulrow, 1994; Borenstein et al., 2009), whereas systematic reviews aim at presenting evidence-informed summary of the literature. In the first stage of the review, a scoping study was carried out with the purpose to prepare the background of the review (Arksey and O’Malley, 2005). We retrieved from search engines Scopus and Web of Science citations containing primary keywords “workplace AND innovation”. We then constructed bibliometric networks of term co-occurrence contained by citation titles, abstracts and keywords. Basing on these networks, journal descriptions and keywords, we created thematic clusters and organized them into a disciplinary mindmap. This helped us to gain a sense of volume, obtain a visual overview of different thematic clusters, and set parameters for future systematic literature review.

The scoping study showed that there exist three different perspectives on the phenomenon of WI, treating different topics and having different focus, namely: national policy (e.g. enabling factors of the WI on political/economic/law/environmental level, involving country-level stakeholder groups into the WI discourse); economics (e.g. results, impact and indicators of the WI, measuring WI, linking WI to the economic performance); organization (e.g. typologies and dimensions of WI, stages of the WI process, enabling factors of the WI on individual/work/organizational level, good practice examples). Our decision was to concentrate on only the organization perspective as the one regarding our disciplinary interest and competence, while other perspectives were added to the exclusion criteria. The non-uniformity in the use of the terminology on WI, as well as the absence of theoretical framework, were a serious impediment for the systematic review. We decided to consider WI as a broad concept. The main outset of the scoping study was the definition of the bundle of synonyms and the decision on what organizational phenomenon and initiatives to be included in the term “WI”.

A review panel was formed to provide narrative and methodological expertise, and cross-check the quality of the review protocol. The research protocol comprised several sections: inclusion and exclusion criteria, relevance and quality criteria, guidelines for thematic and narrative synthesis, quality criteria of the review synthesis (see Tables A1 and AII). During the whole research process, adjustments to the review protocol were introduced to enhance the quality of the study. Initially keywords for the review were identified in a brainstorming session. Others were added after checking the thesaurus function of some databases. The keywords formed two groups basing on the semantic type (e.g. new, modern, twenty-first century, alternative, innovat*, transform*, chang*, improve*, etc. and workplace, work practice, ways of working, work system, workspace, etc.) that were translated into the research strings. It was decided to use the Boolean operator of proximity searching between two semantic groups of keywords in order to reduce noisy results.
We used this algorithm to interrogate two search engines (Scopus – Area of Social Sciences & Humanities, Web of Science – Web of Science Core Collection), and ten databases (EbscoHost Business Source Complete, International Bibliography of the Social Sciences, Applied Social Sciences Index and Abstracts, PsycINFO, Periodicals Index Online, MEDLINE®, Sociological Abstracts, EconLit, ERIC, and PsycARTICLES). The search strings were used only within the title, as the abstract and keyword searches produced extremely high number of irrelevant citations. The databases/search engines were mined for citations from 1995 to present, with filters used according to the inclusion and exclusion criteria. Studies published before 1995 were excluded on the assumption that managerial responses to the changing context were too protean to hold direct relevance for our purposes. The last citation extraction was done in June 2016. At this point, the citations were examined to identify duplicates, book reviews and anonymous authors. As a result of this stage, 2,205 citations were obtained. We imported them to the web-based service DistillerSR, a software for citations screening and multiple-reviewers coding. Three stages were undertaken to reduce the number of citations.

The first stage analyzed the titles of articles against inclusion and exclusion criteria. This approach of limiting the review to title screening has been recognized to have weaknesses but at the same time to be useful when a systematic review is faced with overwhelming lists of citations to review (Pittaway et al., 2004). If the relevance of a study was unclear from the title, then the abstract was analyzed. The process of title screening yielded 754 citations.

The second stage analyzed the abstracts against inclusion criteria and resulted in 315 citations. Citations were then divided into two lists: A – relevant studies, B – less relevant studies. If the relevance of a study was unclear from the abstract, then the full article was analyzed. A review panel was invited to cross-check and assess the veracity of the A list of studies. As a result of the final stage, 75 studies were considered pertinent to this literature review. At the third stage the full texts of the studies were reviewed in-depth to extract data for future synthesis.

In order to find answers to our research questions, we adopted the methods of thematic and narrative synthesis (Arai et al., 2007; Lucas et al., 2007; Thomas and Harden, 2008; Rodgers et al., 2009). The thematic analysis was useful to explore the multidimensional nature of the concept of WI. It involved the development of the descriptive themes and the generation of analytical themes. The narrative synthesis was used to explore the heterogeneity of multiple studies. It involved a commentary reporting on different study characteristics. In order to synthesize the findings, more homogenous groups were formed and then analyzed on the between-group scope, differences and similarities. The narrative synthesis, due to the fact that it clears the context and characteristics of each study, was useful to identify the research traditions on WI. Finally, in order to assess the quality of our review, we identified some quality assessment criteria. First, our study tries to assure validity by overcoming source bias and triangulating databases and search engines. It also tries to overcome debriefing bias by triangulating researchers and peer debriefing. The reliability of our study is assured by the degree of methodological transparency, protocol development, and reliability of selection principles. Finally, we tried to guarantee the conformability of our findings by reporting references used for meta-synthesis.

**Literature review and analysis**

The literature review revealed that WI studies are maturing as a research field and becoming more discipline-like. Our data set demonstrated that there is the phenomenon of the “disciplinarization” of the field, as the majority of studies belong to the area of business & management (\( n = 35 \)). Other fields interested in the topic are: sociology (\( n = 15 \)), architecture, design, ergonomics (\( n = 12 \)), science and technology (\( n = 8 \)), and organizational psychology (\( n = 5 \)). Most of the papers are conceptual (\( n = 30 \)), the fact that underlines the
need for theoretical clarifications. Empirical papers almost equally use qualitative ($n = 23$) and quantitative ($n = 19$) research, while the use of mixed methods is quite rare ($n = 3$). Almost all studies are concerned with the organizational level of analysis ($n = 60$), while individual and inter-organizational level are almost neglected ($n = 7$ and $n = 8$ respectfully). Moreover, the process view of WI is still poor compared to the “atomic” view (25 percent compared to 75 percent of citations) (see Table AIII). Most of the studies are lacking of theoretical foundations, only 15 percent of citations clearly referred to a theory. Among theoretical perspectives that have generally (but not exclusively) informed research activity on WI: contingency theory, flexible accumulation theory, resource-based view, action-regulation theory, socio-technical systems, institutional theory, theory of social transformation, and dynamic capabilities.

Research traditions on WI

In order to synthesize the findings, we analyzed the citations with the method of narrative synthesis. The aim was to understand whether the range of the research questions, ontological and epistemological premises, as well as methodologies, can be meaningfully grouped into research traditions. Our finding suggested that there exist at least four research traditions, having their own system of meanings (see Table I). We attributed them names based on their understanding of workplace. These are: built container; humanized landscape; socio-material macro-actor; and polyadic network. Even if boundaries of different traditions are not always easily recognizable, in our research process we tried to associate every citation with one of the research traditions (see Table AIII).

Workplace as a built container

The first research tradition refers to the idea of workplace as a built container (Cresswell, 2015). According to this tradition, workplaces have delimited boundaries, and work systems are encapsulated within workplaces. Workplaces inherit from organizations their formal purpose and meaning. As such, workplaces are updated from the organizational context. The construction and the innovation of workplace is hegemonic, conceived by dominant groups and imposed to other members by a cascading process. In this sense, workplace serve as an attraction pole and lead to the confinement of individuals inhabiting the workplace. The dominant group is assumed to provide goals, define rules and routines, constrain or enable work practices, and create an infrastructure (e.g. physical, material, technological, semiotic) to provide the context for work. Thus, WI is conceived as the optimization in accordance with centrally defined organizational goals (Winter et al., 2014). This research tradition has epistemological basis of realism and behaviorism. As the analysis of citations showed, its disciplinary origin derives from business and management. Within the discourse of WI, it privileges such topics as: process innovation, work organization, quality management, effective human resources management, job design, etc.

<table>
<thead>
<tr>
<th>Type of workplace construction</th>
<th>Built container</th>
<th>Humanized landscape</th>
<th>Socio-material macro-actor</th>
<th>Polyadic network</th>
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<tbody>
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<td>Hegemonic and given Hegemonic and given Hegemonic and given Hegemonic and given</td>
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<tr>
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Table I. The comparison of the four research traditions on workplace innovation
Workplace as a humanized landscape

The second research tradition refers to the idea of workplace as a humanized landscape (Relph, 1976; Canter, 1977; Lefebvre, 1991). The workplace here is understood as the result of different human agencies that are characterized by social gestalt. The construction and the update of workplace is partly hegemonic: dominant groups create the initial workplace, while leaving a window for negotiation with other workplace actors. Therefore, this research tradition moves away from normative prescription toward explanations of different social agencies. WI is understood as the result of the intentions, representations, perceptions and actions of all actors inhabiting the workplace. The technical-material world is understood here only from the structurationist perspective: different spatial affordances and properties restrict and create possibilities for different human behaviors. In this sense, workplace is both socially produced and socially producing. Studies rooted in this tradition see WI as a joint optimization in accordance with the combined multiple human and organizational goals. This research tradition has epistemological basis of phenomenology, hermeneutics and social constructivism, and bases on the foundational ideas of psychology. It takes for granted anthropocentrism and privileges the human-social dualism. The topics that are approached in this tradition are: work practices, teamwork, community development, quality of working life, workplace relationships, employees’ upskilling, etc.

Workplace as a socio-material macro-actor

The third tradition is connected with the idea of workplace as a socio-material macro-actor (Dale, 2005). What differentiates this tradition from the previous one is that the material world here is considered equally agentic player as human beings. Thus, the construction and innovation of workplace is a simultaneously combined product of multiple human and non-human agencies (Winter et al., 2014). WI occurs when the results of certain socio-material arrangements enable new socio-material arrangements, influencing the trajectory of WI. This research tradition has epistemological basis of socio-technical systems and socio-materiality (Orlikowski and Iacono, 2001). It is associated with such disciplines as architecture, design, ergonomics and IT science. The topics that are more commonly approached in this tradition are: e-working, spatial and technological arrangements of work, technology-based collaboration, etc. Moreover, this tradition explores the topic of workplace experience from a qualitative point of view: not a degree of satisfaction but the mechanisms of sensemaking, proposing a more nuanced dynamic picture of WI.

Workplace as a polyadic network

The fourth tradition refers to the idea of workplace as a living system (O’Mahony and Lakhani, 2011). This tradition considers workplaces as embedded into a network of relations in wider cultural, economic, historical, political, technological and social contexts. Such assumption implies that workplaces not only are characterized by their internal properties, but also demonstrate transcendent properties that arise from the relationships/interactions that the workplace is embedded in. WIs emerge from a fluidity of human and non-human trajectories, occurring inside and outside the organizational boundaries (Winter et al., 2014). This tradition inherits epistemological stances from complex systems and actor-network-theory (ANT) and originates on disciplinary basis of natural sciences. The topics that are approached in this tradition are: environmental forces in WI, organizational flexibility and adaptability, transorganizational work, etc.

Identifying dimensions of WI

In order to synthesize the findings on WI dimensions, we analyzed the citations with the method of thematic synthesis. The aim was to understand whether it is possible to identify
the dimensions through which WI has been explored in the academic literature. Our study outlined eight WI dimensions, namely work system ($n = 64$), workplace democracy ($n = 15$), high-tech application ($n = 29$), workplace boundaries ($n = 6$), workspaces ($n = 17$), people practices ($n = 29$), workplace experience ($n = 25$), and workplace culture ($n = 12$). As a rule, different studies treat WI as a bundle of these dimensions (see Table AIII). We can note that different research traditions have tended to privilege different categories. For instance, a “built container” tradition has concentrated attention on the work system ($n = 10$) and people practices ($n = 8$); the “landscape” tradition has explored mostly the categories of the work system ($n = 35$), people practices ($n = 19$), and workplace experience ($n = 17$); the “macro-actor” tradition has explored equally the categories of the work system ($n = 11$) and high-tech application ($n = 11$); while “polyadic network” tradition is the only one to have approached, even if with different intensity, all eight categories. The narrative overview within a single thematic group, combined with a temporal ordering, permitted us to understand how the meaning and the contents of these dimensions changed over last 20 years.

**Work system: from control approach to high-performance approach**

Work organization over last 20 years abandoned rigid and routine-intensive Fordist views of work organization toward more flexible and participative. The first-generation innovations in this domain came from the manufacturing sector and were mostly concerned with work processes (e.g. total quality management, lean production, just-in-time production). These process-concerned innovations were focused on cutting costs and partly belonged to the Fordism ideology, as they focused on quantification of production standards and on a standardization of work methods. These innovations required employee involvement, but the involvement was normally initiated by management with the intent to solicit employees advise on job-related matters only. Even if these new work systems blurred the division of labor between management and production workers, they still had rigid control mechanisms and limits to the discretionary power of employees (Vallas, 1999). The switch to teamwork was a way of changing the mechanism of control. If in Fordist paradigm, management was in charge of the autocratic internal regime, in a new paradigm teams – or cross-functional quality circles, problem-solving groups – maintained hierarchical patterns of authority in a non-bureaucratic way (e.g. social and peer control). Greater employee involvement implicitly built on job redesign practice (e.g. job rotation, large job autonomy), stressed the accumulation of intra-organizational pressures, and compelled organizations to adopt more egalitarian practices.

The second-generation innovations in this domain came with the raise of the service sector. The interactive nature of service work, its unpredictable and customer-driven workflows, and the process of “co-production” with customers required new forms of work organization for ensuring service quality (Hunter, 2000). At this point, greater employee participation in business and decision process sounded as an optimal solution. The emerging model of work organization was aiming at high performance and required high commitment and trust. Organizations embraced more consensual form of decision making in lieu of the tradition rule by command. In these work systems, the authority is based less on formal rank and more on dialogue and consensual legitimacy. Such new work systems are based on the entrepreneurial spirit, and thus are more organic, characterized by developmental orientation, and are deeply associated with organizational culture and values (Savolainen, 2000). These innovations enhanced the neo-craft paradigm of work organization (Vallas, 1999), resulting in structural reforms (e.g. autonomous teams, cross-functional teams, corporate ventures). At the same time, the satisfaction of ephemeral customer needs required greater functional and work time flexibility (Martinez-Sánchez et al., 2008).
Workplace democracy: from collective rights to individual needs
At the beginning the workplace democracy was associated with welfare, expression of complaints or grievances, improvement of working conditions, and demand for relatively egalitarian distribution of wages and opportunities (Hazarika, 2013). It was guaranteed by cooperative forms (e.g. trade unions, collective bargaining), and the main mechanisms for requiring democracy existed outside the workplace. With the advent of new work systems, the relatively stable boundaries of hegemonic organizational culture weakened and a new post-modern paradigm arose: it celebrated difference and ephemerality. The employee participation in the decision-making process had the spillover effect and resulted in general democratization of workplaces. The first step was the consideration of fundamental values of democracy in different spheres of organizational life: work processes, division of work, organizational structures, political representation, etc. Greater participation and equality status resulted in programs of profit and gains sharing, promoting thus the idea of collective ownership. Such a shift in workplace democracy improved trust between an employee and an employer. Trust-based relationships marginalized cooperative forms of workplace democracy and empowered the individual negotiations and idiosyncratic deals (Rousseau, 2005). Moreover, technological breakthroughs and social media have inspired new ways for employees to voice their satisfaction and dissatisfaction (Miles and Muuka, 2011).

High-tech application: from efficiency to flexibilization
If in traditional workplaces technology was intended to save costs and boost productive efficiency (Barrett and Walsham, 1999), new workplaces started to employ technologies to rethink completely the work systems. On early stages of paperless office, ICT infrastructures (e.g. intranet, applications, storage) were aiming at processing and managing information, but later technological and digital developments shaped the possibilities for radical innovations in different domains of the organizational life (Hunter, 2000). ICT-based work altered the constraints of working together, changing who can participate, when participation can occur, and where it can occur (Olson, 1998). Developments in mobile technologies gave rise to a series of e-working styles (Lim et al., 2009), specifically they enabled employees to work distantly from office some days in a week, to deliver the service to clients instantly, to fulfill work-related activities during work journeys, to avoid traffic congestion, and to plan work during business travels in a geo-efficient way. At the same time big data, cloud computing, and search-based applications further enabled the idea of virtual office. More recent concepts of virtual office implied the integration of different enterprise platforms and services into an ecosystem with global navigation and consistent design (i.e. digital workplace).

Workplace boundaries: from well-defined to blurred boundaries
If in traditional workplaces the boundaries were well defined, innovative workplaces blur them in different ways. First of all, empowered by high tech, organizations participate more frequently in collaborative networks and open platforms (e.g. industrial districts, trans-organizational platforms etc.), where they enter in dialogue with different actors (Winter et al., 2014). This trend is not about eliminating workplace boundaries but rather about momentarily crossing them and reconnecting with the context that previously was considered vacuum. At the same time, the rush for flexibility requires temporal extension of the workplace boundaries, when addictive workforce is acquired with the intent to face the need of the moment (i.e. disposable workplace). Finally, there is an emerging type of network-enterprise with unstable boundaries. It is called knotworking (Engestrom, 2000), it has no center and fixed end points, and it is organized as rapid, distributed and partially improvised orchestration of collaborative performance between otherwise loosely connected actors (e.g. company, customer, suppliers, partners, product, service) and activity systems, characterized by a continuous movement of tying, untying and retying. In knotworking
there is a high interdependency between multiple producers forming a strategic alliance, supplier network, or other such patterns of partnership which collaboratively puts together a complex product or service.

Workspaces: from single space to pluralistic spatial hybridity
If in manufacturing setting architects, ergonomists and industrial psychologists were working on designing the work environment that could guarantee space efficiency, health issues and control mechanisms, in new work systems the concept of work environment became obsolete (Baldry et al., 1997). With the advent of knowledge-based work, there raised an attention to the qualitatively different organization of workspaces (Cole et al., 2014). Workspaces were called to reflect a greater balance of improvisation, coordination and trust across time and space and lesser degrees of bureaucracy and rationalization. The flexibility in the workspace became an important issue: space facility started to be seen as support for work flexibility (Ruostela et al., 2015). Compared to traditional rigid layouts, contemporary workspaces were compelled to flexible layouts that could foster creativity, collaboration and information sharing. Workspace became an important vehicle of organizational culture and a well-being promotion tool (e.g. active design, green building, standing desks, leisure spaces, etc.). Moreover, enhanced by high tech, the idea of spatial hybridity emerged (Halford, 2005); combining cyberspaces, organizational spaces, domestic spaces, other social and urban spaces (cars, restaurants, trains, co-working spaces). In the modern workplace, space is not a singular location anymore, as it uses spaces both inside the corporate organization (in “the office”) and “outside” (“in the city”) in third places. The emerging landscape (or “workscape”) of work is that of distributed virtually connected workspaces that match the fluid and dynamic nature of networked knowledge work (Harrison et al., 2003).

People practices: from administrative to experience management
As a rule, changes in people practices have always been complementary to the implementation of other types of WIs. For instance, new work systems based on higher employee participation were associated with programs for employee motivation (Leigh and Gifford, 1999; Martin and Healy, 2009). Profit sharing, pay-for-performance wages were introduced as a necessary condition for fostering employee commitment. As organizations opened up greater space for the exercise of judgment and discretion, there was an increased emphasis upon upskilling, learning and development (Vallas, 1999). High employee participation and work flexibilization influenced also staffing practices, resulting in major use of internal labor markets and flexible staffing. Flexibilization also re-invented work scheduling and brought new employment forms (Hunter, 2000). If on early stages, people practices were organization centered, only recently they have turned to experience centered. For instance, a series of people practices have been reshaped on the basis of gamification idea (Oprescu et al., 2014), e.g., game-based recruitment and selection, serious training games, etc.

Workplace experience: from duty to integrated life experience
Traditional workplaces were organized around the idea that work is a duty and an economic function. They heightened materialism, marginalized sharing and caring, and weakened community. Post-modern workplaces, instead, yearned for high quality of working life, community and spiritual nourishment. New work systems helped individuals to acquire a sense of deeper purpose in work. On the other hand, with the first generation of innovative work systems, work intensification and flexible work generated an urgent call to fix work-family balance and face the privacy needs. Moreover, HRD programs naturally resulted in the transformational movement, and offered what every employee appears to be seeking: holistic living, meaningful and purposeful work (Fenwick and Lange, 1998).
In a moment when organizations embraced the strategy of sensemaking, it heightened employees’ consciousness (Biberman and Whitty, 1997). Higher consciousness drove the recognition of needs and raised the expectations toward positive experience.

**Workplace culture: from achievements to enjoyment**

With the advent of the Japanese production system, the kaizen philosophy penetrated into the workplace. It brought the focus on continuous improvement, resulting in a company-wide intention to use gradual step by step innovation. As a consequence, workplace culture started to evolve toward more open, with focus on information sharing and collaboration. Moreover, as a natural outgrowth of HRD’s humanistic caring of employees the paradigm of workplace spirituality emerged (Fenwick and Lange, 1998). This new paradigm encouraged people in organizations to trust each other, share information, cooperate, accomplish mutual objectives, to empower other people, and to use intuition and emotions in reaching decisions. In contrast to Fordist scarcity belief, new workplace culture promoted the “abundance” mentality – a belief that there are abundant resources available to all, so that there is no need to compete for them. Moreover, such cultural transformation enhanced the prophetic imagination, and enabled the thought that there can be the end of the present order and give expression to collective hopes and yearnings. It also brought the dimension of happiness and enjoyment in the workplace, based on the idea of conscious choices and authentic relationships (Vijay and Vazirani, 2011).

**Discussion and future research agenda**

Our study showed that up to today, on the ontological level there exist serious discrepancies within four research traditions. Scholars from the “container” tradition refer to WI as to an objective stance, a physical milieu of social action, and propose a bureaucratic view of workplaces. In this tradition, innovation is more exogenous than endogenous to the system, which seems a paradox. Scholars from “landscape” tradition take into account objectivity and subjectivity of workplaces; their vision of workplaces is more humanized; and innovation is understood as the result of human actions. In management literature, this tradition is more orthodox as compared to others. Yet, in this tradition, organizations are reduced to the actions of individuals. Such a view ignores the organizational origins of innovation and the interactionist perspective (Courvisanos, 2007), limiting WI to a peripheral role. Scholars from “macro-actor” and “network” tradition try to overcome this limit. While the first treat objectivity and subjectivity of workplaces, along with the visible and the invisible, the second propose an evolutionary view of workplaces. Both traditions are based on the idea of the emergence of novelty (Garud et al., 2015). What is interesting about the “network” tradition is that it uses the whole to explain the parts, and parts to explain the whole. Thus, under this perspective innovation is the result of the collective human agency, even if the actor is a single agent. We invite future research to explore in a more detailed way these four research traditions by bringing examples, highlighting pitfalls, opportunities, possible biases, etc.

In order to face the conceptual fuzziness and instability of WI, the future research may privilege context-aware view of innovation. Scholars may learn more about possible ways to identify and justify relevant boundaries for analysis of WI. One of the possibilities is to account for larger networks (e.g. ecosystems, platforms, communities of practice, foundations, consortia), or to use some available tools for alternative boundaries definition, such as Ulrich’s critical systems heuristics (Ulrich and Reynolds, 2010) and boundary critique (Midgley et al., 1998). Future research may explore the boundaries of the concept in relation to the cases of boundaryless, ubiquitous and digital workplaces.
Moreover, as long as WI has the institutionalized nature, the neo-institutional theory may contribute by explaining the driving forces coming from the organizational environment and the dynamics of innovation within a certain organizational infrastructure (Powell and DiMaggio, 2012).

Given the ephemeral nature of categories, through which the concept of WI is understood, there exists a series of challenges for operationalizing the concept. In order to overcome them, researchers may incorporate context into the analysis, involve repeated observations, or apply comparative analysis (e.g. case study, longitudinal study, cross-sectional study). As our study was explorative in nature, further studies are necessary to support our findings on eight WI dimensions. Scholars may test them either quantitatively (e.g. cluster analysis) or explore qualitatively (e.g. testing with case studies). Qualitative research may contribute by better defining horizontal and vertical boundaries of each category. For researchers working with a bundle approach (Lepak et al., 2006), it may be useful applying our categories on a meso-level to account for the inter-relatedness of different practices by means of qualitative comparative analysis. Different kinds of inter-relatedness between categories may explain a certain pattern of strategic configuration of an organization (e.g. customer orientation, innovation, safety, design).

One of the fundamental prerequisites for understanding the “black box” of WIs is the robust conceptual development. As the existent theoretical framework does not permit to overcome aged dichotomies between micro- and macro-, mental and material, qualitative and quantitative, observation and intervention (Engestrom, 2000), future theoretical advancement is necessary in order to connect different research traditions in a meaningful and coherent manner, and to produce clear and non-chimerical findings.

**Practical implications and the role of HR practitioners in the WI**

WI has always been ascribed as an HR domain of influence (Howaldt et al., 2016). Yet, it is not clear what is the role of HR practitioners in the WI process and how their efforts are distributed along different dimensions of WI. The wide and comprehensive understanding of the WI process reveals that there are different professional groups working in this field. These professionals form loose and weakly institutionalized group of collective designers, with ill-defined areas of intervention (Badham and Ehn, 2000), and often without any connection point. HR can certainly play an important role in this group by bringing its unique competence (e.g. knowledge of human factor issues, change agency, organizational development, etc.). Basing on insights from our literature review, it is possible to state that there exist many new opportunities for HR to work on WI initiatives in each of the eight dimensions.

As organizations switched from control approach to high employee participation, HR practitioners may act as mediators in reconciling pluralistic views and dilemmas of work organization. Since employees are asked to bring their whole selves at work, there is a call for major consideration of their needs. HR in this sense can promote workplace dialogue and enact the democratic principles. It is as much important for HR to instill a shared vision, promote a collective mindset, and encourage ego-less behaviors in employees. According to the emerging flexibilization trend, HR practitioners may take the opportunity to improve their service in flexible staffing, work scheduling, constant learning, and re-spatialization of work. Moreover, HR service may be delivered 24/7 ensuring the instant support.

While the boundaries of workplaces expand and blur, HR practitioners may account for a wider group of stakeholders and facilitate their engagement in the workplace activities. Furthermore, HR practitioners may work to build relationships with external actors and negotiate the organizational interest in these relationships. The spatial hybridization is a great opportunity for HR practitioners to start collaborating with
workplace designers, IT specialists and facility managers. Experience management, which bases on empathy and meaningfulness, may become a springboard for HR to propose holistic services aiming at sustainability and well-being. As long as in the context of blurred boundaries and flexibility, values are acquiring the role of gravity center, HR department may become the main value champion. Moreover, the evidence on trends in workplace culture is an opportunity to promote within the world of business positive and ethical values of work.

To sum up, HR department along with its traditional functions may acquire the role of a workplace strategist. Working with innovation will require from HR a mastery of reflexive interventions (Schulz et al., 2015), future scenario tools (Saurin et al., 2008; Saurin and Ratcliffe, 2011), as well as competency in work practices development (Nathanael and Marmaras, 2008), participatory methods (Kogi, 2006), and interdisciplinary knowledge.

Other WI professionals may use our findings to introduce informed practices of WI. First of all, our study suggests that practitioners should be attentive to the pro-innovation bias. WI may only be a part of the solution, as it requires the alignment of the whole system – or not even the solution at all. Moreover, it is important to remember that the “universalist” approach to WI cannot work. Research shows that much may depend on the specific combination of initiatives adopted, and there are multiple contingent factors influencing the success of a certain initiative. WI initiatives should have clear objectives and desired outcomes. For this, the study of “demand” or needs may be useful.

Conclusion
In this paper, we do not claim for the comprehensive review of the field of WI as our study has several limitations inherent in the systematic review process. First of all, it is important to keep in mind that WI is just a “black box”, made of bundles of different innovations. There may be a huge amount of innovation literature that is being published using different terminology to denote the phenomenon of the study, therefore WI can remain what we might describe as “dark innovation”. Second, as in any systematic literature review, there is a danger of leaving outside important works because paper titles could not correspond to the contents, and abstracts could have provided not sufficient description. However, our goal was not to provide solutions as how best to study WIs; rather, our goal was to explore many ontological, epistemological and theoretical issues regarding the topic. In conclusion, by building on the major achievements of previous two decades, we may define WI as an intentional comprehensive process of renovation that alters structural, organizational, cultural and experiential characteristics of workplaces with the purpose of bringing new social value. There are many opportunities enclosed in this renovation process and we hope our paper will generate interest and alternative perspectives on addressing WIs in future studies.

References


**Appendix 1**

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<th>Criteria</th>
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<td>Publication date</td>
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<td>Before 1996</td>
<td>To focus on literature that regards contemporary challenges, but at the same time to trace evolutionary pattern</td>
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<td>Occupational medicine, political science, law, macroeconomics, others</td>
<td>To gain a wide picture on the phenomenon of workplace innovation from organizational perspective</td>
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<td>Document type</td>
<td>Scholarly and peer-reviewed articles</td>
<td>Magazines, books, dissertations, periodicals, symposiums, trade magazines, workshops notes</td>
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**Disentangling workplace innovation**

**Table AI.** Inclusion and exclusion criteria
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<td>Contribution</td>
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<td>Construct validity</td>
<td>Did the researchers put the construct they intended to study within a semantic net? Did they identify correct operational measures for the construct?</td>
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<td>Does the article report sufficient information in methodological choices for the study to be replicated?</td>
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<td>Data quality</td>
<td>Did they researchers explore different sources of knowledge? Does data strongly support arguments?</td>
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<td>Do researchers make explicit the process by which they move from data to explanation/understanding and theory building? Is the conclusion logically supported by the obtained results?</td>
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<td>Confirmability</td>
<td>Did the researchers ground their conclusions in data by showing where the data came from and how they were transformed into findings?</td>
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About the authors

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Employee share ownership and organisational performance: a tentative opening of the black box

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Cardiff Business School, Cardiff University, Cardiff, UK
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Durham University Business School, University of Durham, Durham, UK
Sukanya Sengupta
Department of Management, Royal Holloway College, University of London, London, UK, and
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Wales Institute of Social and Economic Research, Data and Methods, Cardiff University, Cardiff, UK

Abstract
Purpose – A range of studies have shown that performance is typically higher in organisations with employee share ownership (ESO) schemes in place. Many possible causal mechanisms explaining this relationship have been suggested. These include a reduction in labour turnover, synergies with other forms of productivity-enhancing communication and participation schemes, and synergies with employer-provided training. The paper aims to discuss these issues.

Design/methodology/approach – This paper empirically assesses these potential linkages using data from the 2004 and 2011 British Workplace Employment Relations Surveys, and provides comparisons with earlier analyses conducted on the 1990 and 1998 versions of the survey.

Findings – Substantial differences are found between the 2004 and 2011 results: a positive relationship between ESO and workplace productivity and financial performance, observed in 2004, is no longer present in 2011. In both years, ESO is found to have no clear relationship with labour turnover, and there is no significant association between turnover and performance. There is, however, a positive moderating relationship with downward communication schemes in 2004 and in 2011 in the case of labour productivity. There is no corresponding relationship for upward involvement schemes.

Research limitations/implications – The results are only partially supportive of extant theory and its various predictions, and the relationship between ESO and performance seems to have weakened over time.

Originality/value – The study further questions the rhetoric offered in support of wider ESO.

Keywords Quantitative, Organisational performance, Strategic HRM

Paper type Research paper

Introduction
Tom Redman was very sceptical about the power of financial participation schemes, and employee share ownership (ESO) in particular, to leverage higher organisational performance. His view was that, at the very least, such schemes needed to be part of a
coherent HRM package to have any chance of improving the organisational bottom line. Our attempts at trying to convince him that he was, perhaps, a little overly sceptical were typically met with a request to show him the evidence, much of which he found less than compelling. Unearthing new material on this relationship has therefore motivated much of our work. Every nugget of information that suggested that maybe financial participation mattered was seized on to present to Tom on the next occasion we had the pleasure of spending time in his company. Our discussions with him undoubtedly made us more circumspect in our support for a set of practices that we felt, in principle, should help organisations achieve their goals, and more discriminating in our approach to their analysis. This paper is the result of our latest work at this coal face.

Recent years have seen the advent of a wide range of worker-focused, holistic approaches by firms in search of improved competitive performance in their product markets (Appelbaum and Batt, 1994; Paauwe, 2004; Whitfield and Poole, 1997). Amongst these practices, ESO has been accorded a key role in the process of leveraging improved performance via human resource management. It is seen as encouraging employees to identify more closely with their employing organisations, taking on board their values more fully, and thereby making a stronger contribution to their continued development (Blasi et al., 2016; Kurtulus and Kruse, 2017; Blasi et al., 2003; Gamble et al., 2002; Pendleton, 2006; Kaarsemaker et al., 2009; Robinson and Wilson, 2006; Kruse, 2016). It is believed that these processes will lead to enhanced organisational performance (Bryson and Freeman, 2010; Kruse et al., 2012; Poutsma and Braam, 2012; Robinson and Wilson, 2006; Sesil and Kroumova, 2007). As a result, ESO schemes have been promoted by policy makers and consultants in many countries.

Whilst there is widespread evidence that organisations with ESO schemes in place do indeed have higher performance (Fernie and Metcalf, 1995; McNabb and Whitfield, 1998; Pendleton and Robinson, 2010; Sengupta, 2008; Kurtulus and Kruse, 2017), there is considerable debate as to how share ownership plans promote these favourable effects. Several explanations can be found in the literature. Possibly the most common explanation is what has been a “golden path” approach. This suggests that ESO schemes have their main impact upon performance through improving affective commitment (employees’ emotional attachment to, identification with and involvement in the organisation). An alternative view suggests that share ownership schemes are primarily an effective worker retention tool, and reduce labour turnover by making it financially lucrative for workers to remain in the firm and costly to exit (Marsden, 1999; Morris et al., 2006). Labour retention facilitates the development of human capital within the firm, leading to higher levels of employee and organisational performance. This has been called the “golden handcuffs” hypothesis.

The most common theoretical perspective in the ESO literature has drawn on principal-agent theory, suggesting that employee share schemes align the interests of workers with those of their firms. However, a widely recognised limitation is the 1/n or “free rider” problem that applies to all group incentives. To counter this, it has been argued that ESO needs to operate in conjunction with employee involvement and participation in decisions (Weitzman and Kruse, 1990). A synergistic relationship between ESO and these other forms of involvement have therefore been widely predicted, and there is evidence to support this. Finally, more recent contributions have highlighted the synergistic combination of ESO and training. Here it is argued that ESO can potentially signal mutual commitment and therefore encourage employers to offer training to employees (Pendleton and Robinson, 2011; Blasi et al., 2016).

The Workplace Employment Relations Surveys (WERS) of 2004 and 2011 provide good opportunities to examine these alternative processes through which ESO can influence performance. Furthermore, enhancements to the employee ownership questions in the 2004
and 2011 surveys enable a more precise evaluation of the role of share ownership than in preceding WERS surveys by listing specific share-ownership schemes, thereby allowing a more accurate representation of whether a workplace has such a scheme or not.

This paper evaluates the various ways that ESO is predicted to impact on workplace performance, and provides a comparative assessment of these routes. It provides indications of both contrasts and continuities with earlier results. In contrast to results from 1998, ESO is seen to have no significant relationship with labour turnover in either 2004 or 2011. Similar to studies using the 1998 data, however, there is evidence of synergy between ESO and downward communication, though this is stronger in 2004 than 2011. Upward participation is seen to have no independent or moderator effects on performance, echoing earlier studies. Finally, there is some modest evidence of synergies between levels of training and ESO in 2004, but this disappears by 2011. It is also clear that the effects of ESO are less potent in 2011. It seems that the recession of 2008-2009 may have been important here. It is noteworthy too that the coverage of ESO is considerably lower in 2011 than 2004: the proportion of private sector workplaces with ESO fell from 19 to 10 per cent. The paper makes a contribution by updating earlier analysis of ESO using WERS and also by systematically comparing the role of potential moderators which, hitherto, have been evaluated separately.

Background

ESO plans provide a means for employees to acquire equity in their employing firms. They can take several different forms, including share purchase schemes, free share awards, and stock options. Where shares are purchased, or options exercised by employees, it is common for discounts or matching shares to be offered by the employer as an incentive to join the plan and to mitigate risk. In many countries, employees participating in share ownership schemes also benefit from tax concessions, such as exemption from income tax on the benefit of acquiring shares at nil cost or a discount. The motives for promoting share ownership schemes vary between countries but a common objective is to provide employees with an incentive to work harder and smarter, by aligning their interests with those of their employer, thereby contributing to the improved performance of their company.

There has been extensive interest in the organisational impact of ESO plans in recent years, especially in the USA and UK (where these schemes are particularly widespread). Most of the empirical evidence has indicated that ESO plans have favourable effects on workplace and organisational performance (Kruse et al., 2012; Pendleton and Robinson, 2010; Pendleton, 2006; Blasi et al., 2016; Kurtulus and Kruse, 2017). The most common explanation for this finding has been located in principal-agent theory and focusses on the alignment of worker and organisational interests via share ownership encouraging agents (workers) to expend effort to achieve the principal's objectives. Since workers will benefit from high performance by the receipt of shares, dividends based on the shares and increases in the market value of the shares, they have an incentive to aim for high levels of performance. Although research in the economics tradition has typically been silent on the psychological processes involved, there is nevertheless an extensive body of literature on the impact of ESO on employee attitudes and behaviour. Commencing with the late Richard Long towards the end of the 1970s (Long, 1978a), this literature has either compared the attitudes and behaviour of share-owners/scheme-participants against non-participants within firms, across firms, and before and after scheme implementation.

This literature typically focusses on the effects of share ownership on the identification with and commitment of employees to their organisations. Long (1978a), for example, argued that share ownership increases organisational identification, which in turn has a positive impact upon firm performance. Rhodes and Steers (1981) comparative analysis of
a worker-owned firm and a conventional firm in the plywood industry in the US reported higher commitment levels in the former. Furthermore, Pierce et al. (1991) and Pendleton et al. (1998) have drawn attention to the notion of psychological ownership, or feelings of ownership which, if present, can be expected to lead to higher commitment.

Not all of the evidence, however, has been so supportive. Gamble et al. (2002) found lower levels of commitment amongst employee shareholders, whilst other studies have found small and insignificant differences between share plan participants and non-participants (Baddon et al., 1989). Sengupta et al. (2007) found little evidence of a relationship between employee share schemes and organisational commitment. Some studies have suggested that schemes need to generate financial returns to employees (French and Rosenstein, 1984; Buchko, 1992) or provide employees with a role in decision making (Dube and Freeman, 2010; Kruse et al., 2012; Sengupta, 2008) to be effective. Others argued that these schemes should co-exist with high performance work practices (employee involvement, job security and training) to be effective (Kruse et al., 2010; Kurtulus and Kruse, 2017; Pendleton and Robinson, 2010).

A more general problem with the literature on the posited attitudinal effects of ESO is that it is extremely difficult to demonstrate linkages with organisational performance, even where there is strong evidence of positive relationships between ESO and employee attitudes (Pendleton et al., 1998). The range and levels of data necessary to systematically and convincingly demonstrate linkages between ESO and performance via the mediating role of employee attitudes has not been readily available. The British WERS have the range of workplaces to do this, and an employee survey linked to the workplace survey. However, since the employee survey does not observe share ownership any attempt to link ESO directly to commitment has to be treated with great caution.

For this reason, much of the research on the effects of ESO that uses the WERS surveys focusses directly on relationships between ESO and performance outcomes, and of mediating and moderating factors related to other organisational practices, rather than on the attitudinal states that ESO may bring about. In terms of the direct relationship between ESO and performance, the predominant approach draws on principal-agent theory to emphasise the potential alignment of employee and company interests. Against this, ESO clearly has some limitations. The potential for a free-rider effect may limit performance effects whilst transferring risk may impose some costs on employers (risk premiums). Most of the evidence from studies directly evaluating the links between ESO and performance finds positive effects of ESO (Bryson and Freeman, 2010; Kaarsemaker et al., 2009; Kruse et al., 2012; Kalmi et al., 2006; Poutsma and Braam, 2012; Robinson and Wilson, 2006; Sesil and Lin, 2011; Sesil and Kroumova, 2007; Blasi et al., 2016). A recent meta-analysis of 102 studies, representing over 56,000 firms, found that employee ownership has a small but positive and statistically significant relation to firm performance (O’Boyle et al., 2016). Focussing more narrowly on the WERS studies in the UK, conducted periodically since 1980, a series of studies have shown positive relationships between the use of ESO plans and workplace productivity and performance over the years (Gregg and Machin, 1988; Fernie and Metcalf, 1995; Pendleton, 1997; Heywood et al., 1997; McNabb and Whitfield, 1998; Addison and Belfield, 2000; Robinson and Zhang, 2005; Sengupta, 2008).

Based on these previous findings, coupled with the theoretical basis for predicting positive outcomes of ESO schemes, we propose:

**H1.** Workplaces with ESO schemes will exhibit higher levels of performance than those without.

Although the discussion above does not consider the means by which ESO may affect performance, it is nevertheless pertinent to enquire about the means through which such an
outcome may be realised. Leaving aside the potential effects of ESO on employee attitudes, which cannot be directly tested using WERS, it is possible that ESO works through changes in employee behaviour (observed at the workplace rather than individual level). One approach suggests that share ownership schemes function primarily as a worker retention tool, and reduce labour turnover by making it financially lucrative for workers to remain in the firm and costly to leave it (Marsden, 1999; Morris et al., 2006; Pendleton and Robinson, 2011). Such an approach has been dubbed the “golden handcuffs hypothesis” (Sengupta et al., 2007). Share ownership plans typically have deferral characteristics which mean that the value of a particular tranche of shares is typically not realised for three to five years. In the UK Save As You Earn scheme, for example, employees can sign-up for options and saving schemes of three or five years duration, and do not receive any shares, should they choose to exercise the options, until then. Although participants in the Share Incentive Plan (SIP) become beneficial owners of their shares straight away, they are held in trust for at least three years. In many companies, any free or matching shares that are acquired through the SIP are forfeited if the employee leaves without good reason within three years. In the case of the Company Share Ownership Plan, options cannot be exercised until three years have elapsed.

The mechanics of share plans, then, serve to lock-in employees to the firm offering the share plan. Furthermore, in so far as grants of shares or options boost total wages above labour market norms, share plans can make it costly for employees to leave their employment. There is also a further reverse possibility in that, if employees select into optional share plans, share plan participation can reflect a reduced propensity to exit (Éwan and Macpherson, 2005).

There have been relatively few studies of the relationship between share plans and labour turnover, though the evidence is generally supportive of an inverse relationship (Fernie and Metcalf, 1995; Wilson et al., 1990; Robinson and Wilson, 2006). Other studies have found a reduced propensity to quit when data has been collected at the employee level (Blasi et al., 2008; Rhodes and Steer, 1981), though Gamble et al. (2002) found lower levels of behavioural commitment (intention to stay in the firm) amongst share plan participants. In the most recent study of ESO and turnover, using the 1998 WERS, Sengupta et al. (2007) found a significant negative relationship between share plan presence and labour turnover. On this basis, we advance our second hypothesis:

H2. Workplaces with share-ownership schemes will have lower turnover rates, other things being equal.

A critical issue is why lower levels of employee turnover might be associated with higher levels of organisational performance. Lower levels of employee turnover, encourage greater firm-specific and general human capital investment which contributes towards greater labour productivity and subsequently higher financial performance (Lincoln and Kalleberg, 2003; Richardson and Nejad, 1986). Sengupta et al. (2007) found considerable support for these propositions. ESO had a significant negative effect on labour turnover. When the relationship between ESO and performance was tested, a significant positive effect was observed: moreover, when the fitted values from the turnover regression were inserted into the performance equation, the ESO coefficient fell, whilst the residual inserted from the labour turnover regression was significant in the predicted direction. As a result, it can be anticipated that any positive association between share-ownership and performance would be lower in analyses where the impact of turnover had been allowed for, reflecting the mediating influence of the latter.

This is expressed in our third hypothesis:

H3. Part of any positive association between share-ownership and performance can be attributed to a negative impact of share-ownership on labour turnover.
An alternative approach to investigation of the ways in which ESO affects workplace or company performance focusses on the moderating effects of other human resource practices (Kaarsemaker and Poutsma, 2006). This is based on the notion that practices will complement each other and that performance will benefit from these synergies. The ESO literature has focussed on two main sets of potential complements to ESO: training and employee involvement in decision making. Of the two, training is the less common and has been the subject of analysis only comparatively recently. Most of the limited literature in this area has been published since 2000.

Recent WERS-based studies have shown that ESO is associated with higher levels of training within the firm (Pendleton and Robinson, 2011; Robinson and Zhang, 2005). A study based on the French REPONSE survey has shown that relatively high levels of training expenditure within the establishment have a positive impact on the introduction of ESO plans (Guery and Pendleton, 2016).

There are also grounds for anticipating that there will be a synergistic effect of training and ESO on performance. This is based on the “lock-in” capabilities of share plans and the capacity of share plan provision by management, along with involvement in the plans by employees, and reciprocal signals about commitment. Managers signal that they will not expropriate all the gains from training, whilst employees show that they will remain with the firm, thereby mitigating the risks for management of investing in training.

Based on this reasoning, we hypothesise that:

**H4. Training will moderate the relationship between ESO and performance.**

A long-standing perspective in the ESO literature argues that ESO will be more effective when combined with forms of employee participation in decision making. Analyses of such forms of participation generally identify a broad range of employee involvement practices, ranging from the provision of information by managers over and above a hypothetical minimum, through to a capacity or opportunity for employees to influence management decisions. The moderation effect of such practices is theoretically underpinned by the weaknesses of agency theory in accounting for incentive effects of ESO. Since ESO is a group incentive, in theory its effectiveness may be undermined by the $1/n$ issue. It is argued that combining ESO with various other forms of employee involvement will counter the $1/n$ effect by showing over time (“repeated games”) that effort and commitment are worthwhile (Kruse and Weitzman, 1990) and, if this fails to work, there is the potential for peer pressure via the institutions of employee involvement (Kruse et al., 2010). There is also a strain of literature, beginning with the “bundles” literature in the 1990s (e.g. MacDuffie, 1995), that argues that HRM practices will be more effective if they present a consistent approach to HRM (Ostroff and Bowen, 2000). On this basis, provision of greater information is consistent with the use of share ownership schemes, which require communication to employees on scheme details and share price performance.

WERS-based research over the years has provided partial support for these suppositions. Using the 1990 survey (WERS3), McNabb and Whitfield (1998) found that the effects of downward communication (briefing groups/team briefing, regular meetings between senior managers and the workforce, and regular newsletters) on financial performance was greater when operated in tandem with financial participation schemes in place (including ESO). Share ownership workplaces had positive effects on financial performance when combined with downward communication, but negative effects when these forms of downward communication were absent. By contrast, there were no effects on financial performance of operating upward forms of communication (quality circles and suggestion schemes), or representative participation (joint consultative committees). A replication of the McNabb and Whitfield study by Addison and Belfield using 1998 WERS generated rather different results. Share ownership was more likely to have a
positive effect on financial performance when upward communication was absent, indicating the opposite of complementarities, whilst share ownership had more or less similar effects on performance irrespective of the presence or absence of downward communication. Representative participation continued to have no effects. The implication of this is that share ownership plans impacted on performance in their own right.

Pendleton and Robinson (2010) found that share ownership had a positive relationship with above average levels of labour productivity in its own right especially where there were high levels of involvement in the share scheme. Downward communication could add to these effects whereas upward communication weakened the marginal effects of the share ownership scheme.

Based on these findings from various versions of the WERS survey, we hypothesise the following:

\( H_5 \). The combination of ESO plans and downward communication schemes will have positive effects on workplace performance.

\( H_6 \). The combination of ESO plans and upward communication schemes will have no significant effects on workplace performance.

Methods

Data

The analysis uses the workplace-level surveys (“the Management Questionnaire”) from the 2004 and 2011 Workplace Employee Relations Surveys. The WERS data-sets provide comprehensive information on a nationally representative sample of firms in Britain. The Management Questionnaire was based on face-to-face interviews with senior managers in 2,295 establishments (response rate 64 per cent) in 2004 and 2,680 (response rate 46.3 per cent) in 2011. Data on the establishments include information on their structural characteristics, management employment practices, product markets, labour force composition and the nature of their collective employment relations.

The overall approach to test the hypotheses is to examine the effects of ESO on labour turnover, labour productivity, and financial performance in both years of observation, controlling for relevant characteristics such as sector and workplace size. Insertion of the fitted values derived from labour turnover regressions into performance regressions enables us to evaluate the moderating role of turnover. Then, we evaluate the potential moderating effects of upward involvement, downward communications, and training.

Defining ESO

The ESO measure records the presence of an ESO plan, that is, available to employees in the workplace. It takes the value 1 if any of the specified ESO plans in the survey are present in the workplace, 0 otherwise. It is a somewhat blunt measure of ESO but this form is adopted to permit comparability with the earlier studies of ESO, which also use a simple presence dummy. Two of the tax-approved schemes included in the measure are all-employee schemes, which are required to be open to all eligible employees (typically those with one year’s tenure but sometimes less). The third is a discretionary scheme, which companies can restrict to selected employees, but most workplaces with these schemes operated them as all-employee schemes (Pendleton, 2007).

The percentage of private sector workplaces with share ownership plans in 2004 was 19 per cent, more or less the same as in 1998 (Kersley et al., 2006). However, the incidence had fallen to 10 per cent by 2011 (Van Wanrooy et al., 2013).
Turnover variable

The turnover variable is based on a question asked of the manager most responsible for personnel about the number of permanent employees who stopped working at the workplace in the last five years because they resigned voluntarily. The variable used in the analysis is the turnover rate – the number of permanent employees leaving the workplace divided by the number of permanent employees at the time of the survey. The variable is expressed in logarithmic form (natural log) to reflect bunching at one end of the distribution.

Performance variables

In both WERS2004 and WERS2011, the measures of performance are qualitative, and are derived from manager assessments of what is happening in their own establishment relative to what they believe is happening in other establishments in the same industry. Two dimensions of performance are considered, financial performance and labour productivity. The variables used in the performance analyses are binary, taking the value “1” if the workplace has above average performance and “0” otherwise. Though both surveys allow the option of using objective measures of performance the preference was to rely on the subjective performance measures for several reasons. First, several studies have validated the reliability of the subjective performance measures (Machin and Stewart, 1996). Second, the objective performance measures were available for only around 40 per cent of workplaces in comparison to the subjective performance measures that were available for 2,295 workplaces, thereby restricting the sample size considerable. Besides, the subjective measures are a useful alternative to objective performance measures which have limitations of their own (Machin and Stewart, 1996).

The moderating variables are based on those used in McNabb and Whitfield (1998), which in turn were based on well-established conceptualisations in the literature. Upward involvement is a composite dummy variable recording the presence of quality circles, problem-solving groups, or suggestion schemes. It does not include representative forms of involvement in decisions or formal means for influencing management decisions such as consultative committees (previous analyses of ESO have found these have no effects on workplace performance). Downward communication records the presence of team briefings, newsletters, and meetings held by senior managers with all employees. The training variable records how much off-the-job training is offered to members of the largest occupational group in the workplace, with the value set at 1 where employees receive five days or more each year, 0 otherwise. We experimented with an alternative measure of training, based on the proportion of employees who receive training each year, but the results were not materially different, and hence are not reported here.

Statistical methods

All of the analysis is based on a sub-set of the WERS workplaces – those that are to be found in the private trading sector ($n = 635$ in 2004, 653 in 2011). This provides continuity with earlier analyses against which the results are compared. All regressions utilise the workplace weights supplied with the WERS data, and include a vector of control variables based on previous research in the area. Since the dependent variables are binomial, the performance regressions use probit analysis, whilst the regression of quits on ESO uses ordinary least squares (OLS) analysis. The moderation analysis is conducted using interaction terms which, since they are based on dummies, take a categorical form. As the dependent variables are binomial, this obviates the need to plot the values of the interaction terms at each level of the dependent variable, and hence the main results are relatively straightforward to present.
Results

Share ownership and performance

The baseline results for the performance relationships are presented in Tables I and II. The first of these tables presents results for ESO and labour productivity, whilst the second displays the results for ESO and financial performance. The headline result is that, controlling for sector, size and various other forms of employee participation, ESO has a significant positive relationship with both labour productivity, consistent with other studies in this area (Pendleton and Robinson, 2010), and financial performance in 2004. However, in 2011, ESO has significant relationships with neither labour productivity nor financial performance, interrupting a tradition of observed positive associations of ESO dating back to the 1990 WIRS. The coefficients for upward involvement downward communication, and for training, are mostly insignificant in these models.

On the basis of these results, we judge $H1$ to be partially supported.

$H2$ proposes that workplaces with ESO will have lower levels of turnover than those without, after controlling for other workplace characteristics that may be associated with labour turnover. The results for the regressions evaluating the relationship between ESO and turnover are found in Table III.

<table>
<thead>
<tr>
<th>Independent and control variables</th>
<th>WERS2004</th>
<th>WERS2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of share ownership</td>
<td>0.451**</td>
<td>−0.004</td>
</tr>
<tr>
<td>Establishment characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognised union at establishment</td>
<td>−0.089</td>
<td>0.033</td>
</tr>
<tr>
<td>Level of technology: Percentage of unskilled workers</td>
<td>−0.182</td>
<td>−0.055</td>
</tr>
<tr>
<td>Establishment age: &gt; 20 years</td>
<td>−0.035</td>
<td>0.201</td>
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<tr>
<td>Number of employees (multiplied by 1000)</td>
<td>0.008</td>
<td>−0.003</td>
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<tr>
<td>Establishment status: Independent establishment</td>
<td>0.563***</td>
<td>0.156</td>
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<tr>
<td>Sectors</td>
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<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>−0.543</td>
<td>0.027</td>
</tr>
<tr>
<td>Public administration</td>
<td>−0.064</td>
<td>−0.635</td>
</tr>
<tr>
<td>Education</td>
<td>−1.036*</td>
<td>0.440</td>
</tr>
<tr>
<td>Health</td>
<td>−0.236</td>
<td>0.136</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>−0.115</td>
<td>−1.33***</td>
</tr>
<tr>
<td>Construction</td>
<td>−0.818</td>
<td>0.742</td>
</tr>
<tr>
<td>Wholesale and retail</td>
<td>−0.328</td>
<td>0.420</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>−0.205</td>
<td>0.366</td>
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<td>Transport and communications</td>
<td>−0.218</td>
<td>0.588</td>
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<tr>
<td>Financial services</td>
<td>−0.970*</td>
<td>0.490</td>
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<tr>
<td>Other business services</td>
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<td>0.131</td>
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<td>Market characteristics</td>
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<tr>
<td>Market growth</td>
<td>0.163</td>
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<tr>
<td>International market</td>
<td>0.353*</td>
<td>0.418*</td>
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<tr>
<td>Product market competition (high competition for main product or services)</td>
<td>−0.299</td>
<td>−0.091</td>
</tr>
<tr>
<td>Human resource practices</td>
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<tr>
<td>Upward communication</td>
<td>−0.118</td>
<td>0.037</td>
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<td>Downward Communication</td>
<td>−0.173</td>
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<td>Training</td>
<td>0.202</td>
<td>0.143</td>
</tr>
<tr>
<td>Constant</td>
<td>0.289</td>
<td>−1.06*</td>
</tr>
<tr>
<td>Number of observations</td>
<td>635</td>
<td>653</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>0.07</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Table I.
Probit analysis of employee share ownership and labour productivity

Notes: ***, **Significant at 10, 5 and 1 per cent levels, respectively
The results presented in Table III suggest that there is a negative, but insignificant, relationship between ESO and employee turnover, other relevant factors being controlled for. The possibility that the lower levels of employee turnover in share ownership establishments are attributable to the high wages paid in these establishments (Blair and Kruse, 1999) is tested by controlling for the proportion of full-time employees earning below £9000 pa and above £29000 pa. Neither variable is significant at the ten per cent level.

On the basis of these results, it is safe to conclude that \( H_2 \) is not supported. The suggestion therefore that the often-found positive relationship between share ownership and performance could result from its influence on the quit-rate, by helping the firm to economise on hiring/firing costs and protecting valuable investments in firm specific human capital, is not supported by these results. There seems to be little evidence of ESO functioning as “golden handcuffs” (Sengupta et al., 2007).

\( H_3 \), that the performance effect of ESO operates in part via lower labour turnover, becomes somewhat redundant given the results above. However, for completeness we report the results for regressions of performance on ESO with the residual values from the labour turnover regressions inserted. In this way, we are controlling for the indirect effect of share ownership on performance via its effect on employee turnover. The coefficients on share ownership then measure the direct or net effect on performance.

<table>
<thead>
<tr>
<th>Independent and control variables</th>
<th>WERS2004</th>
<th>WERS2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of Share-Ownership</td>
<td>0.604***</td>
<td>0.283</td>
</tr>
<tr>
<td>Establishment characteristics</td>
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<tr>
<td>Recognised union at establishment</td>
<td>−0.429*</td>
<td>0.076</td>
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<td>Level of technology: Percentage of unskilled workers</td>
<td>0.017</td>
<td>−0.243</td>
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<td>Establishment age &gt; 20 years</td>
<td>0.005</td>
<td>0.282</td>
</tr>
<tr>
<td>Number of employees (multiplied by 1000)</td>
<td>0.002</td>
<td>0.009</td>
</tr>
<tr>
<td>Establishment status: independent establishment</td>
<td>0.003</td>
<td>−0.233</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>−0.118</td>
<td>0.406</td>
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<tr>
<td>Public administration</td>
<td>−0.184</td>
<td>0.617</td>
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<td>Education</td>
<td>−0.539</td>
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<td>Health</td>
<td>0.257</td>
<td>0.484</td>
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<td>Electricity, gas and water</td>
<td>0.723</td>
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<tr>
<td>Construction</td>
<td>0.092</td>
<td>0.364</td>
</tr>
<tr>
<td>Wholesale and retail</td>
<td>−0.027</td>
<td>0.796**</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>0.657</td>
<td>0.686</td>
</tr>
<tr>
<td>Transport and communications</td>
<td>0.554</td>
<td>1.03***</td>
</tr>
<tr>
<td>Financial services</td>
<td>0.206</td>
<td>1.29***</td>
</tr>
<tr>
<td>Other business services</td>
<td>−0.394</td>
<td>0.603**</td>
</tr>
<tr>
<td><strong>Market characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market growth</td>
<td>0.298*</td>
<td>0.097</td>
</tr>
<tr>
<td>International market</td>
<td>−0.063</td>
<td>0.065</td>
</tr>
<tr>
<td>Product market competition (high competition for main product or services)</td>
<td>−0.452***</td>
<td>−0.189</td>
</tr>
<tr>
<td><strong>Human resource practices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upward Communication</td>
<td>0.044</td>
<td>−0.231</td>
</tr>
<tr>
<td>Downward Communication</td>
<td>−0.212</td>
<td>0.253</td>
</tr>
<tr>
<td>Training</td>
<td>0.238</td>
<td>−0.174</td>
</tr>
<tr>
<td>Constant</td>
<td>0.305</td>
<td>−0.719</td>
</tr>
<tr>
<td>Number of observations</td>
<td>635</td>
<td>653</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.09</td>
<td>0.06</td>
</tr>
</tbody>
</table>

**Notes:** *, **, ***Significant at 10, 5 and 1 per cent levels, respectively

The results presented in Table III suggest that there is a negative, but insignificant, relationship between ESO and employee turnover, other relevant factors being controlled for. The possibility that the lower levels of employee turnover in share ownership establishments are attributable to the high wages paid in these establishments (Blair and Kruse, 1999) is tested by controlling for the proportion of full-time employees earning below £9000 pa and above £29000 pa. Neither variable is significant at the ten per cent level.

On the basis of these results, it is safe to conclude that \( H_2 \) is not supported. The suggestion therefore that the often-found positive relationship between share ownership and performance could result from its influence on the quit-rate, by helping the firm to economise on hiring/firing costs and protecting valuable investments in firm specific human capital, is not supported by these results. There seems to be little evidence of ESO functioning as “golden handcuffs” (Sengupta et al., 2007).

\( H_3 \), that the performance effect of ESO operates in part via lower labour turnover, becomes somewhat redundant given the results above. However, for completeness we report the results for regressions of performance on ESO with the residual values from the labour turnover regressions inserted. In this way, we are controlling for the indirect effect of share ownership on performance via its effect on employee turnover. The coefficients on share ownership then measure the direct or net effect on performance.
Unsurprisingly, the fitted values have insignificant effects on labour productivity and financial performance in both years and the ESO coefficients changes little from those reported in Tables I and II. H3 is therefore not supported.

H4 - H6 make a series of predictions about the moderating effects of other HRM practices. The extent of moderation is shown using interaction terms whereby the variables of interest are multiplied by the ESO variable. The results are presented for both years of observation in Tables IV and V. The first column for each year presents the coefficients for the constituent variables of the interaction term, whilst the second column presents the coefficients for the interaction term and the constituent items once the interaction term has been inserted.

Looking at labour productivity first in Table III, the moderation of ESO by downward communication is strongly significant, with the ESO constituent term becoming significantly negative in 2004. This suggests that the positive effects of ESO are concentrated in cases where there is also downward communication. ESO on its own, without downward communication, has negative effects on productivity. A positive
interaction effect is also observed in 2011, alongside a negative effect of ESO when communication is absent.

Neither upward involvement nor training has significant moderating effects on the effects of ESO on labour productivity, in either 2004 or 2011. The upward involvement results are consistent with those observed in earlier analyses including those using 2004. The results for training are more novel but, in conjunction with the labour turnover results, they provide little support for those theoretical perspectives emphasising the role of ESO in developing human capital.

In Table V the results for the moderating effects of upward involvement, downward communication, and training in relation to financial performance are less clear-cut than those relating to labour productivity. The interaction terms for ESO and downward communication, and for training and ESO, are positive and significant in 2004 but there are no positive moderation effects in 2011.

On the basis of these results we can claim that H4 (training) is partially supported, H5 (downward communication) is supported except for financial performance in 2011, and H6 (upward involvement) is not supported in any instance.

Summarising these results, the following claims can be made. ESO has positive performance effects on both labour productivity and financial performance in 2004 but not 2011, suggesting that the effects of ESO have weakened over time or because of some event or changes that have occurred between 2004 and 2011. There is no evidence of ESO reducing labour turnover, and hence it is unlikely that the positive effects of ESO observed
in 2004 are secured via this route. Thus the “golden handcuffs” perspective is not supported. Finally, there is evidence consistent with the earlier WERS studies that ESO has a synergistic relationship with downward communication but not upward involvement. As for training, there is not a great deal of evidence for the view, recently expressed in the literature, that ESO may achieve its effects via a synergistic relationship with employer-provided training.

Conclusions, implication and limitations

The findings in this paper contribute to the academic debate on ESO and performance in a number of ways. In many respects, our findings add weight to the scepticism, voiced by Tom Redman, about the power of share-ownership to leverage high organisational performance, either in its own right or in combination with other HR practices. Primarily, the paper challenges conventional wisdom that ESO schemes impact upon performance by acting as an effective retention tool by making it more lucrative for employees to remain with the firm. These findings call into question the findings from the previous research using the WERS 98 data set (Sengupta et al., 2007). Instead, attention is diverted to the contingency argument which emphasises the importance of the presence of supportively workplace practices that need to be in place (such as employee involvement, job security, training and low supervision). However, it is only some practices seem to have this effect. It has been argued elsewhere that without such supportive policies ESO schemes may have lower satisfaction and higher employee turnover (Kruse, 2016). ESO schemes without the presence of supportive workplace policies may be viewed as an attempt to shift financial risk onto the workers rather than to empower them (Kruse, 2016; Kruse et al., 2010; Kruse and Kurtulus, 2017). Our results are consistent with this argument in that the use of ESO schemes without downward communication is negatively related to productivity in both 2004 and 2011, and with financial performance in 2004.

These effects are likely to be more pronounced during recession. We find that ESO has insignificant associations with labour productivity and financial performance in 2011. This finding is consistent with the view that during recession the relative productivity advantage of ESO firms declines because employee ownership firms lay off fewer workers during recession. The lack of higher productivity may be due to retaining workers who receive new training or otherwise invest in activities that bolster long-term but not short-term productivity (Kruse, 2016, p. 5). This finding also lends further support to the evidence which shows that economic conditions could impact labour productivity in ESO firms, thus drawing attention to the role of contextual factors in shaping ESO effectiveness.

The findings also have implications for managerial practitioners and companies considering the implementation of a share scheme. The results would enable them to have a more realistic view of the expected benefits and the costs associated with the different types of share ownership schemes, thereby influencing their decision on whether to invest in a share scheme. The findings have implications for policy-makers who determine the incentives that should be given to encourage companies to adopt share ownership schemes. When the mere existence of share schemes is no guarantee for boosting organisational performance, bringing about a more equitable distribution of wealth, policy-makers may wish to reconsider whether or not to encourage their adoption or to advocate tax breaks.

Some caution must; however, be applied to the conclusions reached in this study. This particularly applies to the cross-sectional nature of the data-set and the potential for reverse causality especially regarding financial performance. The problem of causality can be addressed by using panel data, or by designing longitudinal studies with different samples. Qualitative data could add value by providing insights into the causal processes. A case is thereby made for encouraging a tradition of collaborative research employing both quantitative and qualitative analysis techniques. We hope that Tom would have approved.
References


**Further reading**


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Why sharing is synergy
The role of decentralized control mechanisms and centralized HR capabilities in creating HR shared service value

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Abstract
Purpose – HR shared service centers (SSCs) have been claimed to innovate human resource management service delivery by centralizing resources and decentralizing control and, in doing so, create value for other business units. In response, to explain the value of HR shared services for the business units served, the purpose of this paper is to test hypotheses on the joint influence of HR SSC operational and dynamic capabilities and of control mechanism usage by the business units.
Design/methodology/approach – A survey methodology was applied to collect data among business unit representatives from 91 business units in 19 Dutch organizations. The data were analyzed using structural equation modeling in AMOS.
Findings – This study found that the use of formal control mechanisms (e.g. contracts, service-level agreements) relates negatively with HR shared service value, but that this relationship becomes positive once mediated by informal control mechanisms (e.g. trust and shared language) and operational HR capabilities. Furthermore, it shows that the dynamic capabilities of HR SSCs relate positively to HR shared service value for the business units, but only because of their effect on operational capabilities.
Originality/value – Whereas previous studies into HR SSCs have examined the two antecedents independently, this study shows how organizational control and capabilities interrelate in explaining the value of HR shared services.
Keywords Quantitative, Dynamic capabilities, Value, Control mechanisms, HR capabilities, HR shared service centers
Paper type Research paper

Introduction
Increasingly, organizations are centralizing human resource management (HRM) activities in an HR shared service center (SSC) (Farndale et al., 2009; Richter and Brühl, 2017). In the literature, the HR SSC is defined as a hybrid organizational unit that bundles resources (e.g. human capital, information technologies, and organizational processes) to perform consolidated HR activities that are controlled by those it serves: the decentralized business units (Farndale et al., 2009; Maatman et al., 2010; Meijerink, Bondarouk, and Kees Looise, 2013). Driven by the belief that HR SSCs increase the quality of HRM services and simultaneously reduce their costs (Cooke, 2006; Janssen and Joha, 2006), academic studies started to examine HR shared service value, which refers to the utility of the services provided by an HR SSC in terms of the trade-off between their benefits and their costs (Meijerink et al., 2016). Indeed, empirical studies have provided initial evidence that HR SSCs do increase the value of HRM services (Redman et al., 2007; McCracken and McIvor, 2013;
Hofman and Meijerink, 2015) and, in so doing, help HR business partners to adopt a more strategic role (Farndale et al., 2009; Meijerink and Bondarouk, 2013) and support the business units served in committing and retaining their employees (Wildes and Parks, 2005; Gilbert et al., 2011).

Despite highlighting the relevance of maintaining high levels of HR shared service value, these studies have examined selected antecedents in isolation when seeking to explain the value of HR shared services (Richter and Brühl, 2017). This is striking given that research suggests that the value-creating potential of HR SSCs lies in their hybrid nature and, specifically, in the fact that they integrate centralization and decentralization models (Ulrich, 1995; Janssen and Joha, 2006; Meijerink, Bondarouk, and Kees Looise, 2013). HR SSCs integrate both approaches in that they centralize resources for the consolidated provision of HR services, but decentralize the control over these services to the business units served (Strikwerda, 2004; Maatman et al., 2010). Accordingly, some researchers have examined the centralization features of SSCs in terms of how they bundle, integrate, and hence advance resources for creating high-level value (Cooke, 2006; Maatman and Bondarouk, 2014). Others have examined the control (or governance) mechanisms that are used in decentralizing control and thus ensuring that HR SSCs create value for the business units served (Farndale et al., 2009; Coelho et al., 2012). Although these studies have empirically uncovered the resources and control mechanisms of HR SSCs, we know relatively little about how they interrelate in explaining the value of HR shared services (Richter and Brühl, 2017). Without gaining a better understanding of how HR SSCs, through integrating these centralization and decentralization features, provide high value to the local business units, it is likely that managers and employees will remain suspicious about the advantages of HR SSCs and may have to engage in guesswork in deciding which HR SSC features (centralization, decentralization, or both) they should invest in to ensure that their HR SSC provides high value.

To gain a better understanding of the features that enable HR SSCs to create high value, we examine how centralized resource deployment and decentralized control interrelate in explaining HR shared service value. In doing so, we formulate and test hypotheses on the joint relationships between HR SSC operational and dynamic capabilities and control mechanism usage by the business units in determining HR shared service value for business units.

The contributions of this paper are threefold. First, we add empirical nuances regarding the interrelationships among dynamic capabilities, operational capabilities, and value. Some have suggested an explicit direct link between dynamic capabilities and value (Griffith and Harvey, 2001; Helfat and Peteraf, 2009), whereas others have questioned the existence of such a linkage (Bowman and Ambrosini, 2003; Ambrosini and Bowman, 2009). We contribute by addressing whether dynamic capabilities directly, or indirectly through the mediating effect of operational capabilities, relate to HR shared services value. Second, this paper provides further insight into the role of various control mechanisms. While some have argued that formal controls (e.g. service-level agreements) and informal controls (e.g. tie strength, trust) are alternatives (Farndale et al., 2010), others have claimed that both are necessary and interdependent in creating high value (Meijerink and Bondarouk, 2013). Here, this study contributes by showing how formal and informal control mechanisms interrelate in explaining HR shared service value. Finally, previous studies into HR SSCs have independently examined capabilities and control whereas, in theory, organizational control and resources may be interrelated in explaining value (Mahoney and Pandian, 1992; Bergh, 1995). By studying both antecedents in an integrated way, we shed more light on how organizational control and capabilities interrelate in explaining value creation for the business units served by an HR SSC.
This paper proceeds as follows. First, we conceptualize HR shared service value and explain how HR SSCs integrate centralization and decentralization models to justify our focus on the link between capabilities, control mechanisms, and value. We then proceed to construct hypotheses on these linkages (as shown in Figure 1), followed by a discussion on our methodology. After presenting the research results obtained from a survey among 91 business units in 19 organizations that operate HR SSCs, we conclude with a discussion on the implications of our study.

Theoretical background and hypotheses

**Conceptualizing HR shared service value**

HR shared service value refers to the utility of the services provided by an HR SSC in terms of the trade-off between their benefits and costs to a business unit (Meijerink *et al.*, 2016). This definition highlights two important features of HR shared service value. First, it is the clients of the HR SSC that benefit from, and incur the costs of, HR shared services. In the literature, the decentral business units are considered to be the clients of the HR SSC because they control the HR SSC’s activities, finance the HR SSC’s operations, and decide which services the HR SSC should provide to meet their needs (Ulrich, 1995; Maatman and Bondarouk, 2014). Here, the decentral business units refer to the organizational units that are grouped on the basis of a selected business function, region/market segment served, or product/service provided. As such, the decentral business units that are served by an HR SSC are part of the organization’s “operating core” which is tasked with the provision of products and/or services to external clients (Mintzberg, 1979). Research has shown that these business units are largely provided with so-called “transactional” HRM shared services, such as personnel record keeping, payroll administration, and information provision, that aim to meet the administrative needs of the business units (Farndale *et al.*, 2009; Meijerink, Bondarouk, and Maatman, 2013).

Second, HR shared service value amounts to a trade-off between the benefits that business units receive from transactional HR shared services vs the costs they incur in obtaining these benefits. In the first place, these benefits involve the HR SSC performing transactional HR activities in an errorless, reliable, and timely manner (Cooke, 2006). Furthermore, the transactional HR activities of HR SSCs can also provide strategically important benefits to the business units. For example, several studies have found that local HR business partners are provided the opportunity to spend more time on providing strategic advice to business unit managers when the HR SSCs provide their services in a timely and reliable manner (McCracken and McIvor, 2013; Maatman and Bondarouk, 2014). Furthermore, research has shown that providing high-quality transactional HRM services enables the business units to better commit and retain their employees (Wildes and Parks, 2005; Gilbert *et al.*, 2011).

At the same time, realizing these benefits comes at a cost to the business units, in the first place because they pay a monetary fee for the services provided by an HR SSC (Strikwerda, 2004). Furthermore, the business units incur so-called non-monetary costs reflecting the time,
effort, and energies they spend on, for example, controlling the SSC’s operations or negotiating
with the HR SSC which services it ought to provide and against which conditions to ensure
that the HR SSC provides the desired benefits. Consequently, the value of HR shared services
increases when the HR services provided by an HR SSC meet the administrative and/or
strategic needs of the business units and/or reduce the monetary and non-monetary costs for
meeting these needs.

Identifying centralization and decentralization features that affect HR shared service value
A model that is popular in explaining the value of (HR) shared services is the so-called
critical success factor model. As noted in a recent literature study by Richter and Brühl
(2017)[1], this model has gradually developed through multiple exploratory case studies that
empirically derived success factors for an effective SSC. Many critical success factors have
been identified including intensive collaboration between the HR SSC and the business units
(Farndale et al., 2009; McCracken and McIvor, 2013), standardization of HR processes
(McIvor et al., 2011), best practice sharing within the HR SSC (Cooke, 2006), updating HR SSC
staff skills (Redman et al., 2007), and involving end-users (Meijerink and Bondarouk, 2013).
Although this model presents a comprehensive overview of critical success factors, it does not
categorize and prioritize these factors in terms of creating high HR shared service value.
Therefore, we follow others in arguing that, to synthesize these dispersed factors in explaining
HR shared service value, the value of HR shared services depends on two key factors:
the centralization of resources and the decentralization of control (Maatman et al., 2010;
Meijerink and Bondarouk, 2013).

This focus is in line with the conceptual notion that HR SSCs improve HR service
delivery by integrating centralization and decentralization models (Ulrich, 1995; Janssen and
Joha, 2006). That is, when establishing HR shared services, organizations centralize
resources and activities in a (semi-) autonomous business unit: the HR SSC. One the one
hand, this should reduce costs by eliminating duplications across business units while, on
the other, it should improve HR service delivery by pooling dispersed resources in creating
an advanced capability-base (Maatman and Bondarouk, 2014). At the same time, the
bundling of resources and activities into an HR SSC does not amount to a centralized
organizational model since, at least in theory, a corporate entity does not decide on, or
control, the activities performed by the HR SSC (Ulrich, 1995; Strikwerda, 2004). Instead, the
decentral business units served are in control. This involves the business units choosing,
together with the HR SSC, “the type, level, and quality of services they want from the center,
at the price they are willing to pay” to ensure that the SSC meets their needs (Quinn et al.,
2000, p. 13, italics added). On this basis, proponents have argued that HR SSCs combine the
benefits of the centralization and decentralization models, while reducing their drawbacks
and, in doing so, improve the benefits and reduce these costs dimensions of HR service value
(Janssen and Joha, 2006; Farndale et al., 2010). In line with these conceptual insights, we
focus on the decentralization and centralization features of HR SSCs, in terms of the control
mechanisms used by the decentral business units and the central bundling of resources in
an HR SSC, as critical success factors that explain the value of HR shared services.

Decentralized control and HR shared service value: the role of control mechanisms
A major reason why the decentralization of control helps to secure high-level HR shared
service value is because it ensures compliance on the part of the HR SSC (Farndale et al.,
2010). This idea is consistent with agency theory which proposes that agents (here the HR
SSCs) are opportunistic and thus would, if pursuing goals that conflict with those of
the principal (here the business units), engage in self-serving behavior at the expense of the
principal’s interests (Jensen and Meckling, 1976; Eisenhardt, 1985). In HR SSC
environments, goals are likely to conflict for three reasons. First, the HR SSCs might
operate on the basis of a different logic than the business units served. As an example, conflicts in interests might occur when the HR SSC management desires to create strategic value by acting as a strategic business partner, whereas the business units simply request efficient HR services against low costs (Farndale et al., 2009). Second, HR SSCs serve multiple business units which differ in their expectations and therefore require an HR SSC to pursue different goals, for example, to reduce costs or to innovate HR services (Redman et al., 2007; Knol et al., 2014; Hofman and Meijerink, 2015). Finally, HR SSCs often have to satisfy the interests of other stakeholders (e.g. board of directors) that have different interests than those pursued by the local business units (Strikwerda, 2004; Meijerink, Bondarouk, and Maatman, 2013). As a result of these conflicting goals, misalignment might occur, and only limited value created for specific business units.

To ensure compliance, the decentral business units can use two types of control mechanisms: formal and informal controls (Jaworski and MacInnis, 1989). Formal controls represent “arm’s length” relationships where an agent is constrained through output controls. In HR SSC environments, these formal controls involve the use of service-level agreements that specify criteria against which services should be delivered as well as user surveys and performance data that measure criteria such as frequency, quality, and costs (Redman et al., 2007; Farndale et al., 2009, 2010). Informal controls, on the other hand, aim to nurture the relationship between the agent and the principal (Koulifikoff-Souviron and Harrison, 2006) and secure the agent’s performance through collaboration, integration, and joint decision making by the principal and the agent (Germain et al., 2008). In an HRM environment, the business units rely on informal controls to govern the relationship with the HR SSC, for example by jointly developing and improving HR shared services to ensure that these services match their needs (Reilly and Williams, 2003; Meijerink and Bondarouk, 2013).

Although it is tempting to assume that both formal and informal control mechanisms are directly related to HR shared service value, the reality is more complex. Formal controls are best used when the principal is not dependent on the agent, and thus is able to keep the agent at arm’s length (Dyer, 1996; Uzzi, 1997). However, in HR SSC environments, there are two reasons why the business units are not independent of the HR SSC. First, most organizations adopt a “truck system” where the business units are only allowed to purchase HRM services from the HR SSC, and thus cannot easily sanction the SSC by switching to another service provider (Strikwerda, 2004; Farndale et al., 2009; Meijerink and Bondarouk, 2013). Second, the business units and the HR SSC are highly interdependent since centralized and decentralized processes provide mutual inputs (Redman et al., 2007; McCracken and McIvor, 2013; Meijerink and Bondarouk, 2013). This reciprocal interdependence (Thompson, 1967) between the HR SSC and the business units makes the use of arm’s length control less effective. Instead, the SSC and the business units have to collaborate and share information to achieve the common goals that follow from their interdependent relationship (Thompson, 1967; Jaworski and MacInnis, 1989; Koulifikoff-Souviron and Harrison, 2006). It is therefore in the interest of the business units to draw on informal relationships, which leads us to assume that the degree of informal control applied by a business unit relates positively and directly to the HR value of shared services for the business unit.

However, the interdependent nature of the HR SSC – business unit relationship – does not make formal controls redundant. Formal controls could serve as a support function in implementing informal controls. For example, service-level agreements and end-user surveys can signal to the business units whether bottlenecks are occurring in interdependent HR processes. As such, the assessment of service quality, as a use of formal control, could serve as the starting point for collaboration between the business units and the SSC in developing a joint understanding of how to improve HR service delivery. Therefore, although formal controls are unlikely to relate directly with value for the business units through sanctioning/rewarding the behavior of the SSC, they may well relate
indirectly with HR shared service value through enabling the business units to better enact informal control mechanisms:

H1. The use of informal control mechanisms by a business unit fully mediates the positive relationship between the use of formal controls by the business unit and HRM shared service value for the business unit.

Centralized resources and HR shared service value: the role of capabilities

Another reason why HR SSCs can create high-level value is because they bundle, integrate, and hence advance resources such as human capital (i.e. knowledge and skills of HR professionals) and organizational capital (i.e. knowledge codified in HR databases, processes, or manuals) (Meijerink, Bondarouk, and Kees Looise, 2013). Various researchers have however argued that bundling valuable resources is not sufficient to create high-level HR service value and that these resources should instead be deployed in performing value-creating activities (Espino and Padrón, 2006; Sparrow and Braun, 2008; Lockett et al., 2009). Accordingly, value is seen as being created when organizations deploy capabilities that are built through bundling, structuring, and leveraging resources (Sirmon et al., 2007).

In line with these ideas, we study whether the value of HR shared services follows from the capabilities of HR SSCs, which refer to their capacity to purposefully perform a specific task or activity (Maatman and Bondarouk, 2014). The words “capacity” and “purposefully” have two important implications. First, capacity refers to the ability (derived from the integrated resources) to perform an activity to the minimum acceptable level and, moreover, it implies a minimum level of reliable replication. As such, one can only infer a capability when the HR SSC demonstrates that it is able to repeatedly carry out selected activities. Second, the word “purposefully” implies a degree of intent, meaning that the capabilities are reflected in repeated demonstrations of the ability to engage in deliberate activities. As already noted, HR SSCs perform such activities for the decentral business units (Strikwerda, 2004; Knol et al., 2014). However, HR SSCs have a limited resource capacity and, therefore, have to be selective in allocating resources and/or offering a selected set of HR services to a particular business unit (Redman et al., 2007). Research has shown that business units compete to obtain beneficial resources from the SSC (Knol et al., 2014) and differ in their reports of the HR SSC’s capabilities (Maatman and Bondarouk, 2014). As such, HR SSC capabilities are salient to the extent that an HR SSC demonstrates the capacity to repeatedly and purposefully perform activities for a specific business unit.

HR SSCs engage in a wide range of activities and thus can rely on a variety of capabilities for performing them (Farndale et al., 2009; Meijerink, Bondarouk, and Maatman, 2013). To increase clarity, we follow others in distinguishing two types of capabilities: operational capabilities and dynamic capabilities (Teece and Pisano, 1994; Helfat and Peteraf, 2009). Operational capabilities refer to the capacity of an organization to repeatedly perform its day-to-day activities. For HR SSCs, these day-to-day activities involve carrying out transactional HRM activities, such as record keeping, payroll administration, and answering employees’ questions on the usage of HR information technologies. Therefore, the operational capabilities of the HR SSC describe the capacity to repeatedly and purposefully perform administrative activities for a business unit (Maatman et al., 2010; Maatman and Bondarouk, 2014). Helfat and Peteraf (2009) describe dynamic capabilities as the capacity of an organization to purposefully create, extend, or modify its resource base to respond to environmental changes. The administrative needs of the business units will be subject to such changes. As an example, changes in labor laws and regulations will require the HR SSC to update its service portfolio to ensure that the organization and its business units are compliant (Paauwe and Boselie, 2003). Furthermore, technological advancements create opportunities for increased efficiency in day-to-day HRM service provision (Bondarouk and Ruel, 2009).
Most importantly, the needs of the business units for selected HRM services may change when their strategic goals, to which HRM services contribute, alter. To meet these changes, HR SSCs need dynamic capabilities, that is, the capacity to repeatedly and purposefully expand and/or renew the HR services provided to the business units (Maatman et al., 2010; Maatman and Bondarouk, 2014).

Given the administrative nature of the work that most HR SSCs engage in, it is natural that an HR SSC requires operational capabilities to provide value to its clients since it needs such abilities to support the SSC on a day-to-day basis. The relationship between dynamic capabilities and HR shared service value is likely to be somewhat indirect (Bowman and Ambrosini, 2003; Ambrosini and Bowman, 2009) because although an HR SSC might possess the ability to sense improvement opportunities, this will be of limited value unless the HR SSC is capable of translating these opportunities into new HR services which it can be offered effectively on a day-to-day basis. That is, a changed resource base is an insufficient condition for creating value since renewed resources will not meet client needs unless they are effectively leveraged (Bowman and Ambrosini, 2003). As such, changes to the resource base only help to create value to the extent that this enables the HR SSC to provide its day-to-day services in a more efficient or better manner to the business units. In other words, dynamic capabilities support value creation for the business units to the extent that they improve the operational capabilities of an HR SSC (Maatman and Bondarouk, 2014). Therefore, we hypothesize that dynamic capabilities are likely to be indirectly related to service value through building operational capabilities:

\[ H2. \] The operational capabilities of an HR SSC fully mediate the positive relationship between its dynamic capabilities and HR shared service value for the business unit.

In addition to explaining why dynamic capabilities affect HR shared service value, we also expect operational capabilities to explain why informal control mechanisms are related to HR shared service value, for two reasons. First, informal control mechanisms likely contribute to maintaining and extending the operational capabilities of the SSC since capability building requires collaboration and knowledge exchange. In HR shared service environments, knowledge exchange is necessary for capability building because the interdependencies between the HR SSC and the business units mean that input from the business units is required to provide the HR SSC with the capacity to serve them on a day-to-day basis (Meijerink and Bondarouk, 2013). Previous research has shown that interpersonal trust is strongly associated with knowledge sharing (Uzzi, 1997; McEvily et al., 2003). In particular, Uzzi (1997) found that social relationships characterized by high levels of trust are significantly more effective in stimulating knowledge transfer than arm’s length relationships. Furthermore, several studies have shown that trust is significantly and positively related to HR capability building (Sumelius et al., 2008; Mäkelä et al., 2012). Since informal control mechanisms are conducive to building trusting and strong relationships, we would expect them to relate positively with the operational capabilities of the HR SSC.

Second, a key feature of operational capabilities is that they involve the capacity of the HR SSC to perform day-to-day activities for a specific business unit. Due to the limited resource capacities, HR SSCs will have to select which capabilities to deploy and thus differentiate in the degree to which they support individual business units (Redman et al., 2007; Knol et al., 2014). Therefore, it is in the interest of each business unit to do its best to ensure that the HR SSC deploys its capabilities for that business unit. One way in which this can be achieved is through using informal control mechanisms that enable the business unit to trust that the SSC will leverage its scarce resources appropriately. As an example, supply chain management researchers have shown that strong and trusting relationships are positively associated with the degree to which a supplier is willing to share its scarce resources with a focal client (Pulles et al., 2014). Since informal control mechanisms help to
develop trust, we assume that the use of informal controls increases HR shared service value for the specific business unit through its capacity to ensure that the HR SSC is willing to leverage their resources into operational capabilities that benefit that business unit.

In fact, we assume that the relationship between informal control mechanisms and HR shared service value is mediated by the operational capabilities of the HR SSC. Namely, as noted by others, control mechanisms are effective to the extent that they influence the behavior of the agent (Eisenhardt, 1985; Germain et al., 2008; Farndale et al., 2010). This implies that the use of control mechanisms by a business unit only impacts the value of HR shared services when it motivates the HR SSC to engage in value-creating behavior. As noted before, one of these value-creating behaviors of the HR SSC is the bundling, structuring, and leveraging resources to repeatedly and purposefully perform administrative activities for a business unit (Sirmon et al., 2007; Maatman et al., 2010; Maatman and Bondarouk, 2014). Accordingly, the use of informal control mechanisms likely influences HR shared service value to the extent that it motivates the HR SSC to deploy its operational capabilities for a selected business unit. There are however additional value-creating behaviors that may be impacted by informal control mechanism usage. For instance, an HR SSC might be more willing to customize its HR services to the unique needs of a business unit it has strong and trusting relationships with (Knol et al., 2014) or decide to take over additional HRM services which reduces the non-monetary costs incurred by the business units for having their administrative needs satisfied (Redman et al., 2007). As these examples suggest, informal control mechanisms can impact HR shared service value through multiple pathways other than the leveraging of operational capabilities by an HR SSC. Accordingly, we expect that operational capabilities play a partial mediating role in explain the relationship between informal control mechanisms and HR shared service value:

H3. The operational capabilities of an HR SSC partially mediate the positive relationship between the use of informal control mechanisms by a business unit and HR shared service value for that business unit.

Methodology

Study design and participants

In order to test our hypotheses, we drew on survey data from a sample of business unit representatives from 19 Dutch organizations that have an HR SSC. In line with the notion that the use of control mechanisms and the deployment of capabilities can vary across business units (Knol et al., 2014; Hofman and Meijerink, 2015), we decided to collect data at the business unit level. Previous research has shown that, in most cases, control over the HR SSC is exercised by an HR professional (e.g. HR director, HR manager, or HR advisor) who is affiliated with a specific business unit in developing service-level agreements or user satisfaction surveys, and who collaborates with the HR SSC to improve and develop new services (Redman et al., 2007; Meijerink, Bondarouk, and Maatman, 2013). Further HR professionals, as content experts as well as formal client representatives, are considered the most appropriate source to report on the degree to which the HR SSC repeatedly and purposefully engages in HR activities for the selected business unit (Sumelius et al., 2008). Therefore, in addition to obtaining information on the HR shared service value for the business units, we surveyed one HR professional for each business unit for information on the use of control mechanisms and the capabilities of the HR SSC.

To avoid having to rely on a convenience sample, we first constructed a sampling frame of Dutch organizations with an HR SSC. This was based on personal contacts and referrals, enquiries through LinkedIn, and snowball sampling. This resulted in a sampling frame of 95 organizations. The sampling procedure itself consisted of two phases. First, personal invitations were sent to the HR director or manager of the HR SSC of each of the 95 organizations inviting
them to participate in the research. In total, 19 organizations agreed to participate, an inclusion rate of 20 percent. The sample means of the 19 participating organizations were compared to those of 27 that reported back to us and decided not to participate to address concerns over potential sampling bias. Results from $t$-tests and $\chi^2$ tests indicated that the participating organizations did not differ significantly from those that did not in terms of the number of years of HR SSC operation ($t(42) = 0.583, p = 0.56$), number of workers served by the HR SSC ($t(42) = 1.11, p = 0.27$), and industry ($\chi^2(1) = 3.04, p = 0.08$). All the participating organizations were operating in the Netherlands, with five of them being subsidiaries of foreign-owned multinationals, five subsidiaries of a domestic-owned multinational corporation, and nine being an indigenous organization. The majority of the indigenous organizations were public organizations, including three municipalities, two ministries, and two semi-public transport organizations. Of the 12 privately owned organizations, seven were operating in the service industry, including telecommunications, corporate advisory services, and retailing, and five were operating in manufacturing industries such as aviation, steel, and electrical systems. The participating organizations had HR SSCs that employed between 5 and 500 HR SSC service professionals ($\mu = 86; SD = 123$) and served between 5 and 40 business units ($\mu = 13, SD = 9$) with between 1,300 and 130,000 workers working across these business units ($\mu = 18,818; SD = 32,430$). As in previous HR SSC studies, the HR SSCs in our sample mainly offered transactional HR services, such as personnel record keeping, payroll administration, and information provision. Given the relative novelty of the shared services concept, the HR SSCs had been in operation for only four years on average ($SD = 2$).

During the second phase of sample identification, all 129 business units of the 19 organizations were potential participants. These 129 business units were operating in different regions of the Netherlands. Therefore, we relied on an online survey methodology, involving the use of web-based surveys, as this allows to collect data from respondents that operate in different locations against low costs, yet with running the risk of having insufficient response rates (Couper, 2000; Cobanoglu et al., 2001). Accordingly, we invited the HR professionals who were formally responsible for controlling the HR SSC’s operations for each of these business units to complete an online survey. Invitations were sent by e-mail which included a link to the online questionnaire. A potential risk involved in sending e-mail invitations is that they end up in the respondents’ spam/junk mail folders (Couper, 2000). To avoid this risk, we pilot tested our web-based approach among all 19 organizations and found that our invitation was directly sent to the respondents’ e-mail inbox (rather than junk mail). The business unit representatives had four weeks to complete the online questionnaire and received two reminders by e-mail. Respondents might perceive a risk that their online responses are “intercepted” by their employer (Couper, 2000). Therefore, we informed the business unit representatives that their completed surveys were delivered directly to the research team to assure them of the confidentiality of their responses. Similar to other web-based surveys, we used a forced-entry technique to avoid missing values. To reduce the likelihood that this forced-entry technique would induce non-differentiation between questions in a respondent’s ratings, we kept the survey as short as possible and placed each of the items for measuring a specific variable on different webpages. Furthermore, for each respondent, we calculated the standard deviation of the items for each variable since a standard deviation of “0” would signal potential “straightlining” of answers. In this check, none of the respondents’ responses had a 0 standard deviation for any of the variables, which suggests that they did not “straightline” their answers.

To maximize the response rate, we employed various response techniques such as sending pre-notification e-mails one week prior to the survey, publicizing the goals and importance of the research, adding a covering letter to the survey (stating the organization’s commitment to the research, guaranteeing anonymity, and sponsorship of the HR SSC management), and sending two follow-up reminders. In total, 91 of the 129 invited business
unit representatives (i.e. HR professionals) completed the survey, a response rate of 71 percent. The business units included, and represented by the HR professionals, had an average size of 1,919 employees ($SD = 3,483$) and had been making use of shared HR service delivery for an average of 4 years ($SD = 2$ years).

**Measurement of the main variables**

Unless stated otherwise, established scales were used to measure the variables of interest, with answers based on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Two researchers, both proficient in Dutch and English, translated the established items from English into Dutch and back again to ensure that the items were correctly represented. The Appendix provides an overview of the measurement scales used for the independent and dependent variables.

**Capabilities of the HR SSC.** We were unable to identify an existing scale to measure the dynamic and operational capabilities of HR SSCs. Several studies had developed scales that measured the strategic HR capabilities of subsidiaries in multinational corporations (Mäkelä et al., 2012) and corporate HR departments (Park et al., 2004). However, none of these scales measured the capabilities of HR SSCs, let alone differentiated between their operational and dynamic capabilities. As already noted, HR SSCs mostly execute transactional/operational HRM activities (Farndale et al., 2009; Meijerink, Bondarouk, and Maatman, 2013) and therefore rely on different capabilities than, for example, corporate HR departments which mainly engage in transformational/strategic HRM activities (Mäkelä et al., 2012). As such, given our interest in both the dynamic and operational capabilities of HR SSCs, we decided to develop a new scale to measure both types of HR SSC capabilities.

We based our capabilities scale on a case study we undertook of a Dutch HR SSC that involved interviews with nine of its managers. In line with the conceptualizations of Helfat and Peteraf (2009), Teece and Pisano (1994), and Maatman et al. (2010) who define capabilities as the capacity to purposefully perform a specific task or activity, these interviews focused on both the resources deployed as well as the activities performed by the HR SSC. From this, we developed two scales. The first, the operational capability scale, measures the capacity of the HR SSC to provide day-to-day administrative services for the business unit (three items, e.g. “In my view, the HR SSC demonstrates the capacity to repeatedly and purposefully provide administrative HR services to my business unit”). The second, the dynamic capability scale, measures the capacity of the HR SSC to repeatedly and purposefully expand and/or renew the HR services provided to the business units (three items, e.g. “In my view, the HR SSC demonstrates the capacity to repeatedly and purposefully develop new HR services). After this item generation procedure, we asked four HR SSC experts (two academics and two experienced HR SSC managers) to review the items and assess the scales’ content validity. Later, using think-out-loud procedures, we pre-tested the items among four business unit representatives. We made small adjustments to the items after each pre-test session where necessary. We next conducted a confirmatory factor analysis to check the consistency of the operational and dynamic capability scales. To test whether the capability scales indeed measured two conceptually distinct constructs, we estimated a confirmatory factor model of two inter-correlated factors. This two-factor model had an acceptable fit ($\chi^2_{(88)} = 0.98; NFI = 0.97; GFI = 0.97; \text{root mean square error of approximation (RMSEA)} = 0.01$) and therefore was retained for testing our hypotheses. Both the operational and dynamic capability scales had acceptable Cronbach’s $\alpha$s (0.80 and 0.89, respectively).

**Control mechanisms used by the business unit.** The scales of Jaworski and MacInnis (1989) and Kale et al. (2000) were used to determine the extent to which the business units’ representatives relied on formal and informal control mechanisms, respectively. Originally, these scales had been used to measure the output control of either individual employees or
alliances and, therefore, were reworded to fit the HR SSC context. For example, one of the items “If my performance goals were not met, I would be required to explain why” was changed to “The business unit I represent requires an explanation if the established goals of the HR SSC are not met.” One item from the Jaworski and MacInnis (1989) scale (“My pay increases are based upon how my performance compares with my goals”) was excluded because the pay increases and annual budgets of an HR SSC and its managers are usually determined by a corporate department and not by the business units (Meijerink, Bondarouk, and Maatman, 2013). As such, the scales were adapted to measure the extent to which business units rely on formal and informal control mechanisms for controlling HR SSC operations. We estimated a confirmatory factor model of two inter-correlated factors to assess the consistency of the formal and informal control scales, and these were reflected by four and five items, respectively. This model however had a poor fit ($\chi^2_{(25)} = 1.98$; NFI = 0.89; GFI = 0.89; RMSEA = 0.10), largely because one item (“The business unit I represent establishes specific goals for the HR SSC”) had a poor factor loading of 0.45. On the basis that, conceptually, this item measures the development of output criteria, rather than the output of an HR SSC that the formal control variable is intended to measure, we concluded that it was acceptable to delete this item. The revised two-factor model, without this item, then had an acceptable fit ($\chi^2_{(18)} = 1.18$; NFI = 0.95; GFI = 0.95; RMSEA = 0.04) and was therefore retained for testing our hypotheses. Both the operational and dynamic capability scales had acceptable Cronbach’s $\alpha$ (0.82 and 0.91, respectively).

**Control variables**

We controlled for the confounding effect of two variables which we had asked the business unit representatives to report.

*Years served by the SSC.* Research shows that, business units differ in the length of time they have been served by the HR SSC because most organizations phase in the going live of their HR SSC (Farndale et al., 2009; Meijerink and Bondarouk, 2013). We would expect that the longer a business unit has made use of HR shared services, the more experience it has with how to control the HR SSC’s operations. Furthermore, capability building is dependent on the experience of the client (Mäkelä et al., 2012). Consequently, we control for the years that a business unit has been served by the HR SSC because we expect this to have a confounding effect.

*Business unit size.* We expect business units that employ a large number of employees to have more power (Ferner et al., 2012) than smaller business units in enacting control mechanisms, and thus to be better able to ensure that the SSC leverages its capabilities to meet their own interests. Therefore, we control for business unit size, which we measure as the number of employees working within a business unit.

**Data analysis**

We employed structural equation modeling (SEM) to test our hypotheses. It is possible that we relied on a nested data structure given that the observations of the business unit
representatives are not independent while they share an HR SSC. Therefore, to first test for independence, we used Hierarchical Linear Modeling (Raudenbush and Bryk, 2002) to estimate a null model in which independent variables were not specified, and determined the significance level of the organizational-level variance ($\tau^2_0$) and the business unit-level (or residual) variance ($\sigma^2$) of the intercept of the HR shared service value construct. Only the residual variance was found to be significant ($\tau^2_0 = 0.17, p = 0.10, \sigma^2 = 0.56, p < 0.001$), indicating that organizations do not significantly differ in terms of the average value of HR shared services for the business units. In other words, our observations on the business unit level are independent and, therefore, we are justified in applying traditional SEM using AMOS.

SEM is particularly suited for testing our mediating hypotheses since it allows to simultaneously estimate different regression equations and test the significance of indirect effects involving path models. We used maximum-likelihood estimation and report on the $\chi^2$ statistics and significance levels. Since $\chi^2$ significance is affected by the sample size and correlational effect sizes, we also used Hu and Bentler’s (1999) fit criteria, including the comparative fit index (CFI), Tucker-Lewis index (TLI), and the RMSEA. A well-fitting model was defined as one that had an RMSEA below 0.06, and CFI/TLI values above 0.95.

**Findings**

**Descriptive statistics**

The means, standard deviations, and correlations among the capabilities, control mechanisms, and HR shared service value are presented in Table I. Most of the proposed independent variables are indeed significantly and positively related to HR shared service value, the notable exception being formal control which is negatively, albeit not significantly, related to HR shared service value. Furthermore, formal and informal control mechanisms are significantly and positively related to each other, as are operational and dynamic capabilities. Finally, the use of informal control mechanism and operational capabilities are significantly and positively correlated. Although these findings provide preliminary support for all our hypotheses, what is not clear from Table I is the degree to which there is full or partial mediation among the variables of interest. For this, we need to compare models and consider the path analysis results.

**Model comparisons and overall model fit**

Our hypothesized model (Figure 1) implies that informal control mechanisms and operational capabilities mediate the relationships between both formal control mechanisms and dynamic capabilities and HR shared service value. To analyze whether full or partial mediation was present in our model, we examined whether two alternative models that included direct paths from formal control mechanisms (Alternative Model 1) and from dynamic capabilities (Alternative Model 2) to HR shared service value would lead to a

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Years served by the SSC</td>
<td>4.27</td>
<td>2.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Business unit size</td>
<td>1.919</td>
<td>3.483</td>
<td>−0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Formal control</td>
<td>3.06</td>
<td>0.96</td>
<td>0.01</td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Informal control</td>
<td>2.93</td>
<td>0.94</td>
<td>0.12</td>
<td>−0.03</td>
<td>0.32**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Dynamic capabilities</td>
<td>3.14</td>
<td>0.98</td>
<td>0.20</td>
<td>0.16</td>
<td>−0.04</td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Operational capabilities</td>
<td>3.29</td>
<td>0.88</td>
<td>0.21**</td>
<td>0.12</td>
<td>−0.18</td>
<td>0.21**</td>
<td>0.37**</td>
<td></td>
</tr>
<tr>
<td>7. HR shared service value</td>
<td>2.98</td>
<td>0.84</td>
<td>0.23**</td>
<td>0.02</td>
<td>−0.20</td>
<td>0.39**</td>
<td>0.28**</td>
<td>0.51**</td>
</tr>
</tbody>
</table>

Table I. Descriptive statistics and correlations among the study variables

**Notes:** $n = 91$ business units. *$p < 0.05$; **$p < 0.01$
significant improvement in model fit compared to our hypothesized model (i.e. Figure 1). Table II presents the fit statistics for these alternative models.

As can be seen from Table II, our hypothesized model already fitted the data very well. In Alternative Model 1, we added a direct path from formal control mechanisms to HR shared service value. Adding this path significantly improved the model fit (Δχ²(1) = 10.37, p < 0.01), indicating that informal control mechanisms partially mediate the relationship between formal control mechanisms and HR shared service value. We then proceeded to extend this model further by including a direct path from dynamic capabilities to HR shared service value (i.e. Alternative Model 2). As shown in Table II, Alternative Model 2 did not fit the data significantly better than Alternative Model 1 (Δχ²(1) = 1.45, p = 0.23). Furthermore, the direct relationship between dynamic capabilities and HR shared service value in Alternative Model 2 was not significant (β = 0.12, p = 0.22), implying that the two variables are, at most, indirectly related. On the basis of the model comparisons, we concluded that Alternative Model 1 was the best fitting model (χ²(128) = 139.14, p = 0.24; CFI = 0.99; TLI = 0.98; RMSEA = 0.03) and therefore used this for testing our hypotheses. This alternative model is shown in Figure 2.

Testing the hypotheses

H1 states that a business unit’s use of informal control mechanisms fully mediates the positive relationship between its use of formal control mechanisms and the value it obtains from the HR shared services. As Figure 2 shows, there is a significant and positive

<table>
<thead>
<tr>
<th>Model</th>
<th>χ²</th>
<th>df</th>
<th>Δχ²</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesized model</td>
<td>149.51</td>
<td>129</td>
<td></td>
<td>0.97</td>
<td>0.97</td>
<td>0.04</td>
</tr>
<tr>
<td>Alternative Model 1a</td>
<td>139.14</td>
<td>128</td>
<td>10.37**</td>
<td>0.99</td>
<td>0.98</td>
<td>0.03</td>
</tr>
<tr>
<td>Alternative Model 2b</td>
<td>137.69</td>
<td>127</td>
<td>1.45</td>
<td>0.99</td>
<td>0.98</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Notes: n = 91 business units. aAdds the direct path from formal control mechanism usage to HR shared service value; badds the direct path from dynamic capabilities to HR shared service value. **p < 0.01

Table II. Model comparison

Why sharing is synergy

Figure 2. Estimated path coefficients for the final model

Notes: n = 91 business units. Fit indexes: χ²(128) = 139.14, p = 0.24, CFI = 0.99, TLI = 0.98, RMSEA = 0.03. Measurement model not shown due to space restrictions. *p < 0.05; **p < 0.01; ***p < 0.001
relationship between formal control usage and informal control usage ($\beta = 0.35, p < 0.01$) as well as between informal control usage and HR shared service value ($\beta = 0.45, p < 0.001$). The fact that the direct path between the use of formal control mechanisms and HR shared service value is significant and negative ($\beta = -0.37, p < 0.001$) is an indication of partial rather than full mediation. We therefore conducted a Sobel test, which confirmed that the positive relationship between formal control usage and HR shared service value is indeed significantly reduced by the mediating role of informal control usage ($z = 2.20, p < 0.05$). Therefore, $H1$ is supported.

$H2$ states that the operational capabilities of an HR SSC fully mediate the relationship between its dynamic capabilities and HR shared service value for a business unit. As Figure 2 shows, there is a significant and positive relationship between dynamic capabilities and operational capabilities ($\beta = 0.30, p < 0.05$) and another between operational capabilities and HR shared service value ($\beta = 0.42, p < 0.001$). The fact that adding a direct path between dynamic capabilities and HR shared service value did not improve the structural model (as described in the previous section) is indicative of full rather than partial mediation. A Sobel test confirmed that the strength of the relationship between dynamic capabilities and HR shared services value is significantly reduced by the full mediating role of operational capabilities ($z = 1.95, p < 0.05$). As such, $H2$ is supported.

$H3$ states that the operational capabilities of an SSC partially mediate the relationship between a business unit’s use of informal control mechanisms and the HR shared service value to that business unit. As Figure 2 shows, there is a significant and positive relationship between informal control usage and operational capabilities ($\beta = 0.24, p < 0.05$) and another between operational capabilities and HR shared service value ($\beta = 0.42, p < 0.001$). The significant and positive ($\beta = 0.45, p < 0.001$) direct path between the use of informal control mechanisms and HR shared service value is indicative of partial rather than full mediation. A Sobel test confirmed that the strength of the relationship between informal control mechanisms and HR shared service value is significantly reduced by the mediating role of operational capabilities ($z = 1.66, p < 0.05$). These findings support $H3$.

Discussion and conclusions
Researchers, motivated by promises that HR SSCs create value for decentral business units by integrating centralization and decentralization models, have studied the capabilities and control mechanisms of HR SSCs. Some studies have shown that HR SSCs do indeed improve HR service value for local business units (Redman et al., 2007; McCracken and McIvor, 2013; Hofman and Meijerink, 2015). Although HR SSCs combine centralization and decentralization models, it remains unclear how an HR SSC’s capabilities and control mechanisms interrelate in explaining HR shared service value. To explore this issue, we examined the interrelationships among an HR SSC’s operational and dynamic capabilities and the usage of control mechanism by business units in an attempt to explain the value of HR shared services for the business units they serve. Below, we discuss the theoretical and practical implications of our results.

Implications for research and practice
First, a key finding of our study is that formal control mechanisms only positively contribute to HR shared service value when they are used for building trusting and collaborative relationships. As such, our study contributes to resolving the literature debate on how different means of controlling an HR SSC’s operations relate to one another. While some have argued that formal and informal control mechanisms can substitute for each other (Farndale et al., 2010), others have claimed that they are interdependent in generating high HR shared service value (Meijerink and Bondarouk, 2013). We add to this debate by showing that neither view is entirely valid insofar as our results imply that formal control
mechanisms are dependent on the use of informal control mechanisms for bringing about high-level HR shared service value, but not the other way around.

Furthermore, our results highlight the dual nature of formal control mechanisms in that their direct relationship with HR shared service value is negative. This duality implies that there is a need to theorize upon and study what we call "control-in-use"; that is, how control mechanisms are put into action by business units. It seems that formal control mechanisms are unlikely to increase the benefits obtained from HR shared services if they are merely used as a sanctioning device. In practice, business units cannot effectively sanction the HR SSC because of the use of truck systems and interdependent HR delivery processes that make them dependent on the HR SSC (Meijerink and Bondarouk, 2013; Knol et al., 2014). Under these conditions, practitioners can best use formal control mechanisms as a "signaling device" to inform both the SSC and their clients that the shared service processes have become stuck. In this way, formal mechanisms can serve as a driver for collaborative initiatives (i.e. the use of informal control mechanisms). Given this finding, we recommend future studies seeking to explain the value of HR shared services to differentiate between two types of formal control-in-use: one that is aimed at sanctioning the HR SSC and another that aims to signal whether the business unit and the HR SSC need to collaborate for solving mutual problems, while recognizing that only the latter is likely to positively contribute to HR shared service value.

Second, our results suggest that adopting a social capital perspective can be highly instrumental in improving and explaining HR shared service value. This claim is motivated by our finding that the use of informal control mechanisms is directly and positively related to HR shared service value. The implication for HR SSC practitioners is that they should rely on informal controls to build strong and trusting relationships. This can be effectuated through installing user boards or employing account managers (Meijerink and Bondarouk, 2013). In fact, in some cultures, building trusting relationships is key to organizational success. For example, research has shown that Chinese people stress the necessity of guanxi to note that firms (or business units in our case) cannot access resources without building reciprocal relationships with those that supply needed resources (Davies et al., 1995). Accordingly, although our results stress the importance of relying on informal control mechanisms, we expect these control mechanisms most strongly add to high HR shared service value in countries where relationships are strongly conducive to business success. According to social capital theorists (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998), the relationship between social actors is multidimensional in nature and can be described in terms of structural features (e.g. tie strength), relational features (e.g. trust, reciprocity), and cognitive features (e.g. shared language and norms). Each of these three features is embedded in the use of informal control mechanisms, where they aim to develop strong and trusting relationships that allow principals and agents to develop common goals and a shared language (Jaworski and MacInnis, 1989; Koulikoff-Souviron and Harrison, 2006; Germain et al., 2008). Previous research has shown that these distinct dimensions synergize and reinforce one another in predicting desired outcomes (Tsai and Ghoshal, 1998), which probably explains why informal control mechanisms are so effective in explaining HR shared service value. Therefore, in explaining why the decentralization of control helps create high-level HR shared service value, future studies could benefit from breaking down the structural, relational, and cognitive dimensions of informal control mechanisms and examine their interplay.

Third, our results show that operational capabilities partially mediate between the use of informal control mechanism and HR shared service value. This implies that building trusting relationships influences HR shared service value by motivating the HR SSC to leverage its scarce resources for those business units they have strong relationships with. At the same time, the observed partial mediating effect also implies that mediators, other than operational capabilities, explain how informal controls and HR shared service value are related. Here we can think of other value-creating HR SSC activities that result from
informal control mechanisms, such as HR SSCs that customize their HR services to the unique needs of a business unit they have strong relationships with (Knol et al., 2014) or perform additional HRM services which reduces the non-monetary costs incurred by the business units for having their administrative needs satisfied (Redman et al., 2007). As such, we hope that future studies build on our results by uncovering additional pathways that explain how the usage of informal controls results into high HR shared service value.

Fourth, our study adds to the literature on dynamic capabilities. In this literature stream, some have proposed a direct link between dynamic capabilities and value (Griffith and Harvey, 2001; Helfat and Peteraf, 2009), whereas others have questioned the existence of such a linkage (Bowman and Ambrosini, 2003; Ambrosini and Bowman, 2009). Our results support the latter view and imply that dynamic capabilities indirectly influence service value for clients by allowing the HR SSC to improve and renew its day-to-day operations. This implies that HR SSCs should not only invest in their operational capabilities, but should also invest in their dynamic capabilities (Maatman et al., 2010; Maatman and Bondarouk, 2014). Previous research has shown that HR service providers can build their capabilities by hiring workers that have ample experience with enacting HRM roles (Mäkelä et al., 2012). Furthermore, our results show that business units’ managers can contribute to capability development by building strong and trusting relationships with the HR SSC. This is also in line with research showing that innovation performance (which likely is a prerequisite for building dynamic capabilities) is a function of the intensity of social relationships (Tsai and Ghoshal, 1998). As such, both the recipient and provider of HR shared services have to contribute to building the dynamic capabilities of an HR SSC. At the same time, we should acknowledge that we restrictively viewed dynamic capabilities as the capacity of an HR SSC to improve and expand its own operations. It is however possible that HR SSCs develop other types of dynamic capabilities, such as ones to improve the operations of the business units served. This is most likely to take place within HR SSCs that provide transformational HR services such as organizational development or management development since it is these activities that help to transform/ change the human capital base of their clients (Maatman et al., 2010; Meijerink, Bondarouk, and Maatman, 2013). As such, it is likely that the dynamic capabilities of transformational HR SSCs relate directly with HR shared service value for the business units. As such, future studies could build on our results by assessing whether the type of HRM service provided determines whether the effect of dynamic capabilities on HR shared service value is direct or indirect.

Finally, an important implication of our research is that the centralization and decentralization features of an HR SSC are interdependent in explaining HR shared service value. Whereas previous studies have focused on isolated antecedents of HR shared service value (Richter and Brühl, 2017), our results highlight that centralization features (i.e. operational capability deployment) mediate the positive relationship between decentralization features (i.e. formal and informal control usage by the business units) and HR shared service value. This suggests that business unit managers should primarily use their decentralized control rights to monitor HR SSC performance and to collaborate with HR SSC managers because this will ensure that the HR SSC develops and leverages its knowledge of HR policies and regulations, management information, and consolidated business processes (Meijerink and Bondarouk, 2013; Maatman and Bondarouk, 2014). Mediating effects have frequently been studied in strategic HRM research to uncover the contents of the black box between HRM practices and performance (Paauwe and Boselie, 2003). In HRM shared service research, this black box remains largely unopened, although key success factors have been uncovered but without explaining why they have a positive effect on HR shared service value. Although we have lifted the lid of this black box, future studies can extend our model by including additional success factors related to centralization (e.g. balancing standardization vs customization of HRM processes or best practice sharing) to explain why the decentralization of control boosts the value of HR shared services.
Limitations and future research

As with any study, the results and implications of our study should be interpreted in light of its limitations. First, within each business unit, information on all our variables was reported by a single respondent, and this exposes our results to the risk of common method bias. However, the survey included additional variables, such as the number of shared services provided, co-production by employees, and the degree of HR service customization, which reduces the risk of common method bias that could follow from testing of respondents’ implicit theories to an acceptable level.

Second, because we used cross-sectional data to test our hypotheses, one should not draw any conclusions on the causality in the observed relationships. For example, it is likely that the negative relationship between the level of HR shared service value and the use of formal control mechanisms is caused by a high level of the former resulting in a reduced felt need for the latter. Similarly, it seems reasonable that operational capabilities could influence the dynamic capabilities of the SSC since existing knowledge is supportive in the search for and absorption of new knowledge. Therefore, we would encourage research that uses longitudinal data to hopefully confirm our findings and suggestions regarding causality.

Finally, we studied the degree to which business units rely on specific control mechanisms. However, it is possible that HR SSC managers do not experience the presence of these controlling forces, and thus are not motivated to align their interests with those of a business unit. Furthermore, business unit representatives might fail to use the control mechanisms at their disposal effectively (Meijerink and Bondarouk, 2013), and thus the degree to which control mechanisms affect the creation of HR shared service value may be limited. Therefore, it would be valuable if future research were also to assess the degree to which HR SSC management experiences the use of control mechanisms by the decentralized business units.

Conclusions

In this study, we have attempted to explain how the centralization and decentralization features of HR SSCs interrelate in explaining the value of HR shared services for the business units. In so doing, we have shown that the consolidated dynamic capabilities of an SSC are positively related to service value through improving its operational capabilities. Furthermore, the results show that the use of formal control mechanisms by the business units positively contributes to shared service value through their capacity to institute the use of informal control mechanisms. As such, we believe that our study offers an enhanced insight into the creation of HR shared service value and paves the way for future research into how SSCs and their business units can together improve performance through the centralization of resources and the use of decentralized control mechanisms.

Note

1. See also the work of Knol et al. (2014) for a review of the SSC literature.

References


Appendix. Measurement scales used

**Formal control mechanisms**
- The business unit I represent establishes specific goals for the <HR SSC> (e.g. SLAs, contracts, or service charters).
- The business unit I represent monitors the extent to which the <HR SSC> achieves the established goals.
- The business unit I represent requires an explanation if the established goals of the <HR SSC> are not met.

**Informal control mechanisms**
- In my view, at different levels, there is close, personal interaction between representatives from the <HR SSC> and my business unit.
In my view, at different levels, the relationship between <HR SSC> and my business units is characterized by mutual respect.

In my view, at different levels, the relationship between <HR SSC> and my business units is characterized by mutual trust.

In my view, at different levels, the relationship between <HR SSC> and my business units is characterized by intensive collaboration among representatives of both parties.

In my view, the relationship between <HR SSC> and my business unit is characterized by high reciprocity between both parties.

**Dynamic capabilities**

- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully extend the number of HR services provided.
- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully expand its HR service delivery scope.
- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully develop new HR services.

**Operational capabilities**

- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully provide administrative HR services to my business unit.
- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully relieve my business unit from the processing of HRM administration.
- In my view, <HR SSC> demonstrates the capacity to repeatedly and purposefully process data to provide HR management information to my business unit.

**HR shared service value**

- In my view, the value of <HR SSC>’s service delivery for my business unit is very high.
- Compared to what my business unit has to give up (the sum of effort, money, time, and energy), the extent to which the service delivery by <HR SSC> satisfies its HR-related needs is very high.

**Why sharing is synergy**

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High-performance work system and employee creativity

The roles of perceived organisational support and devolved management

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Abstract
Purpose – The purpose of this paper is to examine the underlying mechanism through which high-performance work system (HPWS) influences employee creativity. In addition, this paper aims to examine contingent factors in the relationship between perceived organisational support and employee creativity.

Design/methodology/approach – The sample of the study included 268 employees and matched supervisors from two pesticide chemical companies in China. Hypotheses were tested with linear regressions.

Findings – The study shows that HPWS enhances perceived organisational support, which in turn promotes employee creativity. Moreover, the results also indicate that devolved management positively moderates the relationship between perceived organisational support and employee creativity.

Research limitations/implications – The unique environment of China may limit the generalisability of the findings. Future studies can extend these findings by conducting studies in other societal contexts.

Practical implications – When trying to inspire employee creativity, organisations need to pay attention to employees’ perception of organisational support. One way of enhancing perceived organisational support is to implement HPWS. In addition, organisations need to encourage devolved management in order to inspire more creative behaviours.

Originality/value – This is the first study that explores the mediating role of perceived organisational support in the HPWS–employee creativity linkage. In addition, the study provides what is believed to be the first test of the moderating role of devolved management.

Keywords China, Quantitative, Employee creativity, High-performance work systems (HPWSs), Perceived organizational support, Devolved management

Paper type Research paper

Introduction
In the past decade or so, a great deal of research has been conducted on the individual and organisational outcomes of high-performance work systems (HPWSs), such as job performance (Shih et al., 2013), voluntary turnover (Selden et al., 2013), discretionary behaviour (Elorza et al., 2016) and firm performance (Messersmith and Guthrie, 2010) (see also Kaufman, 2015 for an overview and critique). However, comparatively few studies have...
investigated the influence of HPWS on employee creativity (Chiang et al., 2015). This is in spite of the fact that employee creativity contributes substantially to organisational innovation and competitive advantage (Amabile, 1988). This is an important research gap considering that sustainable organisational performance is hinged on organisational innovativeness and a highly skilled and committed workforce (e.g. Ehnert et al., 2016; Pfeffer, 2010; Shipton et al., 2016).

Another development in the field of HPWS-performance research is the focus on how and why HPWS influences employee attitudes and behaviour, rather than simply documenting this direct relationship (e.g. Messersmith et al., 2011; Paauwe et al., 2013; Shen et al., 2014; see also Ostroff and Bowen, 2016 for a review). According to social-exchange theory, human resource management (HRM) practices that are perceived by employees to demonstrate organisations' commitment to staff will be reciprocated with positive attitudes and behaviour (Whitener, 2001; Zacharatos et al., 2005). However, there remains insufficient research on the mechanisms through which HRM systems influence employee attitudes and behaviour, especially in the Chinese context (Shen et al., 2014). Therefore, we explore the mediating role of perceived organisational support in the relationship between HPWS and employee creativity.

Furthermore, according to the interactionist perspective (Woodman and Schoenfeldt, 1990; Woodman et al., 1993), employee creativity can be influenced by interaction among various factors, such as social (e.g. socio-emotional resource) and contextual components (e.g. management approach). Therefore, we can expect perceived organisational support and devolved management to interact to influence employee creativity. Devolved management requires giving employees more power and autonomy (Tang et al., 2015). Employees working in organisations implementing devolved management can experience a high level of autonomy (Tang et al., 2015), which inspires their creative behaviours (Zhang and Bartol, 2010). Under this condition, employees perceiving high level of organisational support are more willing to reciprocate through creativity. However, previous studies have paid little attention to the moderating role of devolved management in the relationship between perceived organisational support and employee creativity.

Our study fills the above research gaps, and therefore contributes to existing knowledge on HPWS-performance links, in three ways. First, we consider HPWS as an important antecedent of employee creativity. HPWS is an effective system that leads to superior organisational performance, yet few studies have focussed on its effect on employee creativity. Second, we examine the mediating role of perceived organisational support in the HPWS-employee creativity linkage, identify a new path through which HPWS inspires employee creativity (Chiang et al., 2015), and provide further empirical evidence for social-exchange theory. Third, our study broadens the understanding of the impact of devolved management by exploring the moderating role of devolved management in the perceived organisational support-employee creativity linkage. The conceptual model of this study is summarized in Figure 1.

**Literature review and hypotheses development**

**HPWS and employee creativity**

A high-performance work system is a bundle of HRM practices designed to promote employees’ skills, motivation and involvement to enable a firm to gain a sustainable competitive advantage...
(Datta et al., 2005; Guthrie, 2001; Huselid, 1995), which includes employment security, extensive training, teams and decentralised decision making, information sharing and so on (Zacharatos et al., 2005). HPWS can promote information exchange among employees, inspiring employees to generate creative ideas (Chiang et al., 2015). Previous studies have suggested that firms that implement HPWS are more likely to invest in their employees; to value employees’ participation in decision making; and to meet employees’ need for promotion and development (e.g. Giannikis and Nikandrou, 2013; Rose and Wright, 2005). Therefore, we argue that the implementation of HPWS plays an important role in fostering employee creativity.

Employee creativity refers to the generation of novel and useful ideas by employees. It has been suggested to greatly influence organisational innovation (Amabile et al., 1996; Jiang et al., 2012) or firm performance (Gong et al., 2013). Given the importance of employee creativity, numerous researchers have examined its antecedents, such as empowering leadership (Harris et al., 2014), team-member exchange (Liao et al., 2010), job dissatisfaction (Zhou and George, 2001) and employee learning orientation (Gong et al., 2009). As employees are members of their respective organisations and experience many management practices, we expect employees’ attitudes and behaviour to depend on management systems (Chiang et al., 2015). Therefore, it is vital to examine the influence of management systems, such as HRM systems, on employee creativity. As systems of work practices that make a great contribution to superior organisational performance (Boxall and Macky, 2009), HPWS have been found to inspire creative ideas (Chiang et al., 2015) and innovation (Messersmith and Guthrie, 2010). Therefore, we expect the implementation of HPWS to have a positive effect on employee creativity.

Among the affordances of an HPWS, employment security can encourage employees to adopt a long-term perspective on their careers (Pfeffer, 1998), take the initiative (Bartram et al., 2014) and engage in creative behaviour. The provision of extensive training can broaden the knowledge and skills necessary for creativity (Amabile, 1983) and help employees to establish connections between their existing knowledge and new knowledge, leading to creative ideas and solutions (Chang et al., 2014). The opportunity to participate in decision making promotes the acquisition, sharing and combining of knowledge, which encourages learning behaviour (Edmondson, 1999) and thereby facilitates creative behaviour (Hirst et al., 2009). Information sharing can help employees to absorb new ideas and knowledge from others, which helps them to generate more creative ideas (Chiang et al., 2015). High-quality work is another important component of HPWS. A well-designed job can make employees get more autonomy and feedback, and perceive the significance of their work, and thereby enhance their intrinsic motivation and encourage them to generate creative ideas (Shalley et al., 2004). Therefore, we propose the following hypothesis:

H1. HPWS has a positive effect on employee creativity.

The mediating role of perceived organisational support in the relationship between HPWS and employee creativity

Perceived organisational support refers to employees’ evaluation of the extent to which their organisation values their contribution and cares about their well-being (Bowen and Ostroff, 2004; Eisenberger et al., 1986). It represents the exchange between employees and organisations (Eisenberger et al., 1986). Employees’ perceptions of organisational support depend on their firm’s readiness to reward employees’ job involvement and meet their need for praise and approval (Eisenberger et al., 1986). HRM practices that emphasise investment in employees, participatory decision making and the provision of growth opportunities lead employees to feel supported by their firms and to consider themselves part of a social-exchange relationship (Allen et al., 2003; Paauwe et al., 2013). Therefore, employees within an effective HPWS are more likely to perceive their organisations as supportive and are better able to exhibit creativity and innovation.
In addition, some components of HPWS may positively affect perceived organisational support. For example, employment security encourages employees to feel that their organisations take a long-term perspective on their careers and invest time and resources in their development (Zacharatos et al., 2005), enhancing perceptions of organisational support. The provision of extensive training is a form of investment in employees, again leading to stronger perceptions of organisational support (Wayne et al., 1997). The opportunity to participate in decision making signals to employees that firms value their input (Allen et al., 2003). This can enhance perceptions of justice (Bowen and Ostroff, 2004; Cohen-Charash and Spector, 2001), making employees feel that their organisations care about their well-being (Eisenberger et al., 1986). Information sharing fosters a sense of trust and mutual support (Ghosal and Bartlett, 1994). Sharing views on performance, rewards and perceived fairness (Aggarwal et al., 2007) leads employees to believe that firms value their contribution (Robinson et al., 1994). High-quality work, a key element of HPWS (Zacharatos et al., 2005), also makes employees feel that they are valued (Pfeffer, 1998). Therefore, we expect the implementation of HPWS to predict perceived organisational support, as follows:

**H2.** HPWS has a positive effect on perceived organisational support.

According to social-exchange theory, employees who receive socio-emotional benefits from their organisations are more likely to feel obligated to reciprocate these benefits in the form of positive attitudes and behaviour (Allen et al., 2003; Maden, 2015). As a socio-emotional resource provided by the organisation (Wong et al., 2012), perceived organisational support is expected to be associated with positive attitudes and behaviour, such as employee creativity. Previous studies have found that employees who perceive their organisations to be highly supportive are more likely to generate creative ideas and engage in creative activities (e.g. Eisenberger et al., 1990; Ramus and Steger, 2000; Yu and Frenkel, 2013).

When employees perceive their organisations to be highly supportive, they are more likely to exhibit trust and confidence (Rich et al., 2010), fostering their willingness to propose creative ideas and suggestions. As such organisations are perceived to tolerate failure and approaches based on trial and error (Edmondson, 1999), and to endorse creativity and risk-taking behaviour, employees are more likely to feel psychologically secure in taking the initiative (Kahn, 1990) or engaging in creative practices. Employees receiving a high level of organisational support are also more likely to exhibit a positive mood (Eisenberger et al., 2001), which in turn facilitates creativity (Judge and Ilies, 2004). In addition, they are more willing to communicate and interact with others (Erdogan et al., 2004), thereby gaining more information and knowledge and generating more creative ideas (Chiang et al., 2015). They tend to feel more engaged with their work (e.g. Hakanen et al., 2008; Rich et al., 2010; Salanova et al., 2005), which leads them to enthusiastically promote creative ideas (Chang et al., 2013). In contrast, employees who perceive their organisations as relatively unsupportive tend to believe that their organisations do not appreciate their creative input (Luksyte and Spitzmueller, 2016), and thus invest less effort in creative behaviour. As perceived organisational support prompts employees to propose creative ideas, we propose the following hypothesis:

**H3.** Perceived organisational support has a positive effect on employee creativity.

In sum, the implementation of HPWS in firms can foster employees’ perception of organisational support, which in turn promotes employee creativity. According to social-exchange theory, employees view HPWS as manifestations of organisational support, and thus reciprocate by engaging in creative activities. Combining the above arguments, we propose the following hypothesis:

**H4.** The positive effect of HPWS on employee creativity is mediated by perceived organisational support.
The moderating role of devolved management

From the interactionist perspective (Woodman and Schoenfeldt, 1990; Woodman et al., 1993), individual creativity is the product of a complex interaction between myriad factors, such as social dynamics (e.g. socio-emotional resources) and contextual factors (e.g. management approaches). As outlined previously, perceived organisational support elicits confidence, positive attitudes and knowledge sharing, and thus promotes employee creativity. Although employees who perceive themselves to receive more organisational support are more likely to exhibit creative behaviour, the potential for creativity also depends on managers’ behaviour (Amabile et al., 1996; Choi et al., 2016). One of the factors determining employee creativity is the choice of management approach. Devolved management, an important approach, involves giving employees more power and autonomy, flattening the organisation’s structure and encouraging communication (Tang et al., 2015), all of which have important effects on creativity (e.g. Harris et al., 2014; Woodman et al., 1993; Zhang and Bartol, 2010). Therefore, we expect devolved management to interact with perceived organisational support to influence employee creativity.

In a devolved-management system, employees have more power and autonomy and thus more discretion in determining their own work; as a result, they are more likely to feel free of external controls or restrictions (Deci et al., 1989; Spreitzer, 1995) and to believe that managers have faith in their decision-making abilities (Haar and Spell, 2009). To reciprocate these benefits, employees who perceive high levels of organisational support are more willing to adjust their work, think freely, take risks and solve problems, and consequently generate more creative ideas (Wang and Cheng, 2009). Therefore, we posit that devolved management strengthens the relationship between perceived organisational support and employee creativity.

Conversely, when managers do not implement devolved management, employees have less job autonomy, preventing them from determining their own work tasks (Amabile et al., 1996; Oldham and Cummings, 1996). A lack of job autonomy can hinder creativity (Wang and Cheng, 2009). Under these circumstances, even if employees receive support and socio-emotional benefits from their organisations, they are less inclined to reward their organisations with creativity. In addition, an absence of devolved management may lead employees to believe that their decision-making abilities are not appreciated by managers. This perceived lack of appreciation is inconsistent with perceived organisational support, which may lead to frustration and confusion among employees. Such negative attitudes are likely to impede effort and persistence (See et al., 2004), reducing employees’ engagement in creative behaviour. Therefore, we expect devolved management to positively moderate the relationship between perceived organisational support and employee creativity, as indicated in the following hypothesis:

\[ H5. \] Devolved management positively moderates the relationship between perceived organisational support and employee creativity.

Methods

Sampling and procedure

We collected data from two companies in China. All the two companies are pesticide chemical firms located in Shandong Province. The participants were employees and matched supervisors. They were invited to participate in the survey and assured of confidentiality of their responses.

We collected two waves of data to reduce the potential common method bias (Podsakoff et al., 2003). In the first wave, we administered 350 questionnaires to employees, and asked them to report their own demographics (e.g. sex and education background), their perception of HPWS, perceived organisational support and devolved management. About 40 days later, in the second wave, questionnaires were distributed to 80 supervisors.
who are the leaders of the employees that have answered the questionnaires in the first wave data collection, asking them to rate their subordinates’ creativity. Given the incompleteness of some instruments and the confidentiality policy of some companies, we excluded 82 questionnaires answered by employees and 10 questionnaires answered by supervisors with missing values. We finally received 268 matching questionnaires.

Measurement items
In order to ensure the validity, we used items in measures developed by previous studies. A five-point Likert scale was used to measure all variables. Considering the validity of measurement scales, all the scales were derived mainly from English literature. We used a back-translation technique (Brislin, 1980) to translate the questionnaire in English to Chinese. A bilingual management professor checked both the English and Chinese versions of the questionnaire and provided feedback on content validity and clarity of instructions, which also lead to several changes in item wording for the final version of the questionnaire.

HPWS. Various measures of HPWSs have been developed by previous studies. The HPWS measure adopted from Guthrie (2001) and Huselid (1995) was used in this study. Sample items include: our firms always provide training opportunities for us. The Cronbach’s $\alpha$ for this measure was 0.88, suggesting acceptable measurement reliability.

Perceived organisational support. We selected four high-loading items from the source article (Eisenberger et al., 1986) that seemed applicable to Chinese employees to measure perceived organisational support. A sample item was “our firms cares about employees’ safety and health”, the Cronbach’s $\alpha$ for this measure was 0.86.

Devolved management. A three-item scale developed by Tang et al. (2015) was used to measure devolved management. A sample item was “In our firms communication between upper and lower level employees were frequent”. The Cronbach’s $\alpha$ for this measure was 0.81.

Employee creativity. We measured employee creativity using a 13-item scale from Zhou and George (2001). A sample item was “This employee suggests new ways to achieve goals or objectives”. The Cronbach’s $\alpha$ for this measure was 0.83.

Control variables. We introduced several employees’ characteristics as control variables. These included: employees’ sex, education background, supervisors’ education background and so on. Specifically, we controlled tenure by controlling for the years since the manager worked. According to Gong et al. (2012), employee’s proactive behaviour would affect employee creativity, so we also controlled for employee’s proactive behaviour using the five-item scale from Parker et al. (2006) ($\alpha = 0.92$).

Data analysis and results
Testing the measurement model
Prior to hypotheses testing, confirmatory factor analyses (CFAs) were first conducted to evaluate the distinctiveness of the key variables, treating HPWS, perceived organisational support, devolved management and employee creativity as four distinct factors. As shown in Table I, this model fitted the data well: $\chi^2 (129) = 313.96$, $p \leq 0.001$; comparative fit index $= 0.92$, Tucker-Lewis index $= 0.91$, root mean square error of approximation $= 0.07$. In addition, all of the loadings of indicators were significant, indicating convergent validity (Hair et al., 2010).

To test the distinctiveness of the key four variables, we examined the four-factor CFA model in addition to alternative three-, two- and one-factor models. The model comparison results (see Table I) show that the four-factor model fit the data considerably better than alternatives, supporting the distinctiveness of the four variables. Thus, all the four variables were used in subsequent analyses. Table II reports the descriptive statistics and correlation matrix.
Testing the hypotheses

Using stepwise regression to test hypotheses including interactive effects has become the tendency in recent studies. As linear regression can produce accurate estimates of the strength of the relationships between interaction products without losing power, it is argued that linear regression is the better approach to test moderating relationships than SEM which requires a relatively large sample size (Goodhue et al., 2007).

Table III shows the results of these regression results. Models 1 and 2 show the impacts of the control variables and HPWS on perceived organisational support, respectively. Then, we developed four additional models to test the mediating hypotheses. Model 3 specifies a regression equation on employee creativity with control variables. In Model 4, we added HPWS based on the control variables. In Model 6, we tested HPWS with perceived organisational support on employee creativity. Moreover, we developed two further models to test the moderating hypotheses. We added devolved management in Model 7, and the interaction in Model 8.

As Table III shows, the results in Model 4 indicate that HPWS has a significant and positive effect on employee creativity ($\beta = 0.41, p < 0.01$). The explanatory power of the equation is significant ($R^2 = 0.16, F = 9.12, p < 0.01$). Thus, $H1$ was supported. The results in Model 2 indicate that HPWS has a significant and positive effect on perceived organisational support ($\beta = 0.44, p < 0.01$). The explanatory power of this equation is significant at the 0.01 level (with $\Delta F = 62.19$), thereby supporting $H2$. In Model 5, perceived

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four-factor model</td>
<td>313.96</td>
<td>129</td>
<td>0.91</td>
<td>0.92</td>
<td>0.07</td>
</tr>
<tr>
<td>Three-factor model 1: HPWS and perceived organisational support combined</td>
<td>629.01</td>
<td>132</td>
<td>0.75</td>
<td>0.79</td>
<td>0.12</td>
</tr>
<tr>
<td>Three-factor model 2: perceived organisational support and employee creativity combined</td>
<td>504.39</td>
<td>132</td>
<td>0.82</td>
<td>0.84</td>
<td>0.11</td>
</tr>
<tr>
<td>Three-factor model 3: employee creativity and devolved management combined</td>
<td>497.44</td>
<td>132</td>
<td>0.82</td>
<td>0.84</td>
<td>0.11</td>
</tr>
<tr>
<td>Two-factor model 1: HPWS, perceived organisational support and employee creativity combined</td>
<td>834.39</td>
<td>134</td>
<td>0.66</td>
<td>0.70</td>
<td>0.14</td>
</tr>
<tr>
<td>Two-factor model 2: perceived organisational support, employee creativity and devolved management combined</td>
<td>667.51</td>
<td>134</td>
<td>0.74</td>
<td>0.77</td>
<td>0.12</td>
</tr>
<tr>
<td>One-factor model</td>
<td>996.82</td>
<td>135</td>
<td>0.58</td>
<td>0.63</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Notes: TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation

Table I. Results of confirmatory factor analysis for four variables studied

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>7</th>
<th>8</th>
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<th>10</th>
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</thead>
<tbody>
<tr>
<td>1. Sex</td>
<td>–</td>
<td>–</td>
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<tr>
<td>2. Education</td>
<td>0.06</td>
<td>–</td>
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<td></td>
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<tr>
<td>3. Years working with leader</td>
<td>0.04</td>
<td>–0.05</td>
<td>–</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>4. Supervisor’s education</td>
<td>0.01</td>
<td>–0.04</td>
<td>–0.04</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Supervisor’s tenure</td>
<td>–0.03</td>
<td>0.01</td>
<td>0.17**</td>
<td>–0.18**</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Employee’s proactive behaviour</td>
<td>–0.03</td>
<td>–0.08</td>
<td>–0.01</td>
<td>0.09</td>
<td>–0.11</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. HPWS</td>
<td>0.12**</td>
<td>–0.05</td>
<td>0.09</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>(0.88)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Perceived organisational support</td>
<td>–0.04</td>
<td>–0.13*</td>
<td>0.02</td>
<td>0.05</td>
<td>–0.02</td>
<td>0.05</td>
<td>0.44**</td>
<td>(0.86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Devolved management</td>
<td>–0.01</td>
<td>–0.12*</td>
<td>0.05</td>
<td>0.07</td>
<td>–0.03</td>
<td>–0.01</td>
<td>0.23**</td>
<td>(0.81)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Employee creativity</td>
<td>–0.01</td>
<td>–0.11</td>
<td>–0.01</td>
<td>0.09</td>
<td>0.02</td>
<td>0.14*</td>
<td>0.41**</td>
<td>0.60**</td>
<td>0.49**</td>
<td>(0.83)</td>
</tr>
<tr>
<td>Mean</td>
<td>1.39</td>
<td>3.94</td>
<td>2.60</td>
<td>3.79</td>
<td>7.42</td>
<td>4.03</td>
<td>3.62</td>
<td>3.87</td>
<td>3.76</td>
<td>3.83</td>
</tr>
<tr>
<td>SD</td>
<td>0.49</td>
<td>0.88</td>
<td>4.84</td>
<td>5.54</td>
<td>7.10</td>
<td>0.75</td>
<td>0.62</td>
<td>0.80</td>
<td>0.84</td>
<td>0.67</td>
</tr>
</tbody>
</table>

Notes: $n = 268$. Cronbach’s $\alpha$ appears along the diagonal in the brackets. *$p \leq 0.05$; **$p \leq 0.01$
organisational support has a positively significant effect on employee creativity ($\beta = 0.59$, $p < 0.01$). The explanatory power of this equation is significant at the 0.01 level (with $\Delta F = 140.31$), thus $H3$ was supported.

According to Baron and Kenny (1986), the mediation test should meet three conditions in the regression analyses: the relationship between the independent variable (i.e. HPWS) and the mediator (perceived organisational support) is significant; the relationship between the independent variable and the dependent variable (employee creativity) is significant; and when the mediator is present, if the independent variable is not significantly related to the dependent variable, full mediation is supported. If the relationship between the independent variable and the dependent variable is still significant but weaker, then partial mediation is supported. The results presented in Table III show that Condition 1 is supported, as HPWS was positively related to perceived organisational support ($\beta = 0.44$, $p < 0.01$, Model 2). Condition 2 is also supported, HPWS was positively related to employee creativity ($\beta = 0.41$, $p < 0.01$, Model 4). Condition 3 is supported, the relationship between HPWS and employee creativity is still significant when perceived organisational support was entered into the model ($\beta = 0.19$, $p < 0.01$, Model 6). Thus $H4$ was supported.

Then, we carried out regression analyses to examine the moderation hypothesis ($H5$). In order to minimise multicollinearity, all interaction variables were standard centred. $H5$ predicts that devolved management moderates the relationship between perceived organisational support and employee creativity. As shown in Table III, the interaction between perceived organisational support and devolved management was positively related to employee creativity ($\beta = 0.10$, $p < 0.05$, Model 8). In order to determine the nature of the

<table>
<thead>
<tr>
<th>Control variables</th>
<th>HPWS</th>
<th>Perceived organisational support</th>
<th>Employee creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td>Model 1 0.04</td>
<td>Model 2 -0.09</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>Model 1 -0.11</td>
<td>Model 2 -0.09</td>
</tr>
<tr>
<td>Years working with supervisor</td>
<td>0.02</td>
<td>Model 1 -0.01</td>
<td>Model 2 -0.01</td>
</tr>
<tr>
<td>Supervisor’s education</td>
<td>0.04</td>
<td>Model 1 0.02</td>
<td>Model 2 0.08</td>
</tr>
<tr>
<td>Supervisor’s tenure</td>
<td>-0.02</td>
<td>Model 1 -0.03</td>
<td>Model 2 0.05</td>
</tr>
<tr>
<td>Employee’s proactive behaviour</td>
<td>0.04</td>
<td>Model 1 0.02</td>
<td>Model 2 0.13*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent variable</th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>HPWS</td>
<td>0.44**</td>
<td>0.41**</td>
<td>0.19**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived organisational support</td>
<td>0.59**</td>
<td>0.51**</td>
<td>0.51**</td>
<td>0.56**</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Moderator</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Devolved management</td>
<td>0.18**</td>
<td>0.18**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Interaction</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>POS x DM</td>
<td>0.10*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.02</td>
<td>0.21</td>
<td>0.04</td>
<td>0.20</td>
<td>0.37</td>
<td>0.40</td>
<td>0.40</td>
<td>0.41</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>0.02</td>
<td>0.19</td>
<td>0.04</td>
<td>0.16</td>
<td>0.34</td>
<td>0.37</td>
<td>0.27</td>
<td>0.01</td>
</tr>
<tr>
<td>$F$</td>
<td>0.88</td>
<td>9.82**</td>
<td>1.59</td>
<td>9.12**</td>
<td>22.14**</td>
<td>21.59**</td>
<td>21.64**</td>
<td>19.87**</td>
</tr>
<tr>
<td>$\Delta F$</td>
<td>0.88</td>
<td>62.19**</td>
<td>1.59</td>
<td>52.39**</td>
<td>140.31**</td>
<td>78.74**</td>
<td>78.94**</td>
<td>3.80*</td>
</tr>
</tbody>
</table>

Notes: $n = 268$. *$p < 0.05$; **$p < 0.01$
moderating effect, we computed slopes 1SD above and below the mean of devolved management to plot the interaction. Figure 2 shows this interaction pattern. Consistent with H5, perceived organisational support had a stronger positive relationship with employee creativity when the degree of devolved management was high (β = 0.45, p < 0.01) rather than low (β = 0.33, p < 0.01).

In addition, the direct effect of HPWS on employee creativity was significant (β = 0.41, p < 0.01, Table III, Model 4). Notably, we not only explore the direct effect of HPWS on employee creativity, but also examine the mechanisms between the HPWS-employee creativity. Based on our hypotheses, we would infer that HPWS would have a significant indirect effect on employee creativity via perceived organisational support. Thus, next, we examined whether HPWS was indeed associated with perceived organisational support and whether the indirect effect on employee creativity was significant.

In predicting employee creativity, we treated HPWS as the predictor, perceived organisational support as the mediator and devolved management as the moderator. We included the same list of control variables as above including employee’s proactive behaviour. We used the PROCESS macro method developed by Hayes (2012) with 5,000 times resampling under Model 14 specification. That is, devolved management only moderated the link between perceived organisational support and employee creativity. Consistent with the finding above, when devolved management is low (1SD below the mean, indirect effect: B = 0.11, SE = 0.03, BC 95% CI = [0.07, 0.16]), high (1SD above the mean, indirect effect: B = 0.16, SE = 0.04, BC 95% CI = [0.11, 0.24]) and mean (indirect effect: B = 0.14, SE = 0.03, BC 95% CI = [0.10, 0.19]), HPWS had a significant indirect effect on employee creativity. Table IV summarises the moderated mediation analysis of this model. In sum, H5 is supported.

Discussion
Contributions to knowledge
This study makes several contributions. First, it enriches existing literature on employee creativity by showing that the implementation of HPWS inspires employee creativity. To our knowledge, previous studies have explored the relationship between HRM practices and employee creativity (e.g. Chang et al., 2014; Chiang et al., 2015; Jiang et al., 2012). However, few studies in the HRM literature have focussed on the impact of HPWS
which may lead to superior organisational performance (Combs et al., 2006). Although Chiang et al. (2015) have proposed that HPWS promotes information exchange among employees that prompts them to engage in creativity, they have not examined the direct effect of HPWS on employee creativity. Our study demonstrates that HPWS have a positive effect on employee creativity.

Second, we demonstrate the mediating role of perceived organisational support in the HPWS-employee creativity relationship. Previous studies have suggested that it is crucial to explore mechanisms through which HRM systems influence employee attitudes and behaviour (e.g. Shen et al., 2014). Partly motivated by this call to fill a gap in the literature, we propose and test a hypothesis regarding the influence of HPWS on employee creativity via perceived organisational support. The findings extend previous research on the relationship between HPWS and employee creativity (Chiang et al., 2015). In addition, our observation that employees regard HPWS as a manifestation of organisational support and reciprocate with creative behaviour provides further empirical evidence for social-exchange theory.

Third, to gain in-depth insights into the relationship between perceived organisational support and employee creativity, we explore the positive moderating role of devolved management. Guided by the interactionist perspective, we find that the interaction between perceived organisational support and devolved management influences employee creativity. This finding also adds to the literature on devolved management (Tang et al., 2015).

Fourth, this study contributes to the knowledge of HRM in China in general, which has become an important field of HRM research (Cooke, 2009). While a number of studies have highlighted the uniqueness of China as a context for people management due to its institutional and cultural characteristics (e.g. Cooke et al., 2014; Warner, 2008), recent studies have also shown that certain HPWS practices may have universal effect on the Chinese workforce, particularly the younger generation (e.g. Qiao et al., 2009; Shen et al., 2014; Zhang and Li, 2009). Our study demonstrates that the positive effect of HPWS, such as development-oriented HR practices, and organisational support is also evident in the Chinese context, at least in the companies which we have studied.

**Practical implications**

The findings of this study have implications for management practice. First, our study suggests that the implementation of an HPWS plays an important role in the generation of novel and useful ideas. Therefore, it is important for firms to inspire employee creativity by implementing HPWS. For example, by promoting extensive training, firms can help employees develop knowledge and skills necessary for creativity, and thus to generate more innovative ideas.

Second, we find that perceived organisational support mediates the relationship between HPWS and employee creativity. This finding indicates that perceived organisational support, which is enhanced by HPWS, inspires employee creativity. Accordingly, organisations should develop management practices to engender employees’ positive

<table>
<thead>
<tr>
<th>Indirect effect</th>
<th>SE</th>
<th>95% Confidence interval</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple paths for low devolved management</td>
<td>0.11</td>
<td>0.03</td>
<td>0.07</td>
<td>0.16</td>
</tr>
<tr>
<td>Simple paths for mean devolved management</td>
<td>0.14</td>
<td>0.03</td>
<td>0.10</td>
<td>0.19</td>
</tr>
<tr>
<td>Simple paths for high devolved management</td>
<td>0.16</td>
<td>0.04</td>
<td>0.11</td>
<td>0.24</td>
</tr>
</tbody>
</table>
perception of organisational support to inspire employee creativity. Once HPWS has been implemented, employees should be encouraged to feel as supported as possible by their organisation, leading to more creative behaviour.

Third, our finding that devolved management contributes to employees’ positive perception of organisational support and employee creativity suggests that even when employees perceive high levels of organisational support, management approaches still have an important influence on creativity. Therefore, organisations should give employees more power and autonomy, rather than imposing external controls and constraints. As Cooke and Saini’s (2010) study revealed, the majority of managerial respondents from China and India believed that more autonomy and empowerment, amongst other HR practices, were needed from their firm for its HR strategy to support its innovation-oriented business strategy more effectively.

Limitations and future research
This study contains a number of potential limitations. The first relates to its finding that HPWS positively affects employee creativity. Although an HPWS is a bundle of HRM practices, the focus of the study is HRM content. Compared with HRM content, HRM processes are more difficult to imitate, and are thus more likely to create a sustained competitive advantage (Barney, 1991; Boxall and Steeneveld, 1999). In the past few decades, HRM researchers have turned their attention to HRM processes (e.g. Bednall et al., 2014; Bowen and Ostroff, 2004; Hauff et al., 2017). However, more studies are needed to broaden our understanding of the relationship between HRM processes and employee creativity.

Second, our study indicates that perceived organisational support only partially mediates the relationship between HPWS and employee creativity. Various other factors are responsible for mediating the relationship between HPWS and employee creativity. For example, a previous study showed that HPWS can promote information exchange, which fosters employee creativity (Chiang et al., 2015). Further examination of other mediating variables may provide a more comprehensive picture of the above relationship. Future research should thus examine other mechanisms through which HPWS promotes employee creativity.

Third, our study investigates the moderating role of devolved management in the relationship between perceived organisational support and employee creativity. This represents only a preliminary exploration of devolved management. Future research should pay more attention to devolved management, especially its antecedents and consequences.

Fourth, the generalisability of our findings is limited, as our study was conducted only in certain locations and industrial sectors in China. Future studies should attempt to replicate our conclusions in other contexts, both in China and outside, to generalise our findings. Finally, also methodologically, future study can consider or control other kinds of employee or supervisor personalities in examining factors or mechanisms boosting individual creativity.

Conclusions
This study contributes to the HRM literature by investigating the relationship between HPWS and employee creativity and the mechanisms underlying this relationship. The results indicate that HPWS enhances employees’ perception of organisational support, which in turn promotes employee creativity. In addition, devolved management is found to positively moderate the relationship between perceived organisational support and employee creativity.
References


**HPWS and employee creativity**


**Further reading**


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Strategic flexibility, innovative HR practices, and firm performance

A moderated mediation model

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Xin Liang
University of Minnesota Duluth, Duluth, Minnesota, USA
Zhao Chen
China Center for Economic Studies, Fudan University, Shanghai, China, and
Wei Xu
Changzhou Institute of Technology, Changzhou, China

Abstract

Purpose – The purpose of this paper is to examine the role of innovative HR practices as an important mechanism through which strategic flexibility affects firm performance as well as the role of female leadership in this relationship.

Design/methodology/approach – Data were gathered from a sample of 113 firms in China. The authors collected information on organizational strategy, HR practices, CEO information, corporate social responsibility and other firm characteristics in terms of firm age, location, and financial performance. Conditional procedural analysis was conducted to test the model.

Findings – The authors found strong evidence in support of the mediation relationship in which organizations with a strong focus on strategic flexibility are more likely to adopt Innovative HR Practices. Furthermore, the authors found that the extent to which firms have adopted innovative HR practices has a strong effect on employee productivity. In addition, the authors found that female leadership enhances strategic flexibility-performance relationship.

Research limitations/implications – Information on strategic flexibility, HR practices and firm performance was collected at the same time. Future studies based on panel data would be helpful to establish the causal relationships in the model.

Practical implications – The authors’ findings suggest that practitioners should put more emphasis on developing innovative HR practices, as they are required by strategic flexibility.

Social implications – Firms pursuing strategic flexibility should feel more confident when appointing a female CEO, because the results show that female leadership may enhance the positive impact of strategic flexibility on firm performance.

Originality/value – This research study is the first empirical examination of the mediating influence of innovative HR practices on the relationship between strategic flexibility and firm performance. The study also shows that female leadership benefits an organization in implementing strategic flexibility. The results are of value to researchers, human resource management managers, employees, and executives who are seeking to develop practices that are flexible and innovative in order to stay competitive in dynamic environments.

Keywords Quantitative, Firm performance, Strategic flexibility, Female leadership, Innovative HR practices

Paper type Research paper
Introduction

Rapid development in technologies, intense competition, and increasing globalization has fundamentally reshaped the external environment of business, making it dynamic, complex, and unpredictable to business administration. In some countries, such as China, where the institutional environment is also changing dramatically, volatility has been challenging the leaders of businesses. To stay competitive and relevant in intensely dynamic environments characterized by discontinuities, innovation, and institutional uncertainties, firms need to develop strategic flexibility to adapt to unprecedented changes (Hitt et al., 1998). Strategic flexibility refers to a firm’s ability to modify its strategic course in order to stay competitive in substantial, uncertain, and rapidly occurring environmental changes that impact firm performance (Aaker and Mascarenhas, 1984; Evans, 1991). Empirical evidence reported in the literature shows that strategic flexibility has a positive impact on firm performance in dynamic environments (Grewal and Tansuhaj, 2001; Nadkarni and Narayanan, 2007; Worren et al., 2002) through various mechanisms, from modularity in product design (Sanchez, 1995) and organizational forms (Schilling and Steensma, 2001) to contingent alliance development (Young-Ybarra and Wiersema, 1999). In this study, we propose that in addition to these efforts and mechanisms, organizations in China that adopt strategic flexibility are more likely to use innovative HR practices, and in so doing, strategic flexibility leads to better firm performance. We are also interested in the role of gender-based leadership in this relationship.

Researchers have increasingly emphasized that both the firm’s strategic type and strategic orientation should affect the choice of the set of HRM practices (Schuler and Jackson, 1987). Specifically, some have advocated that organizations need to develop HR practices that are flexible and innovative in order to adapt to changing environmental contingencies (Delery and Doty, 1996; Way et al., 2015; Wright and Snell, 1998). In the past three decades in China’s economic reform, Chinese firms have gradually shifted away from the traditional personnel administration to innovative HR practices (Chow, 2004; Wei and Lau, 2005; Zheng et al., 2009). Such innovative HR practices include free market selection and recruitment, incentive rewards, performance evaluation and promotion, training and development, and worker participation in the decision-making process that are closely associated with human resource outcomes and firm performance (Zheng et al., 2009).

While strategic flexibility is beneficial for business in dynamic environments, developing and maintaining strategic flexibility would also call for a unique leadership that endorses appropriate operational practices and policies in support of strategic flexibility. After all, organizations are the reflection of their top leaders’ attributes (Hambrick and Mason, 1984). It has been found that leaders’ commitment to status quo and past strategy increases as they get older and get saddled in their positions (Miller, 1991; McClelland et al., 2010), suggesting that leadership attributes do affect firm adaptation and strategic flexibility. As an important attribute of top management, leadership provides strategic nuances such as vision, motivation, role modeling, and social values that develop organizations strategically. To cultivate strategic flexibility, certain leadership in particular leadership that is versatile and considerate would outperform leadership that is rigid-minded and ignorant.

This renders a promising direction for studying leadership’s impact on strategic flexibility from a gender-based demarcation due to advantages associated with gender-based leadership. In particular, female leadership may have an advantage over male leadership in promoting strategic flexibility in an organization. Female leaders are believed to follow a more participative, interactional, and relational style of leading (Fondas, 1997; Adler, 1997). Fondas (1997) observes that findings on female leadership built upon feminine advantages (Chodorow, 1999; Helgesen, 1990) show that:

when juxtaposed against calls for companies to improve their competitiveness by transforming themselves into learning, self-managing, empowering, and continuously improving organizations – transformations that rely upon more interactional, participative, and relational management style – lead
some writers to conclude that [...] (Aburdene and Naisbitt, 1992; Godfrey, 1996; Grant, 1988).

The above discussion points to the value of studying strategic flexibility, human resource practices, and gender-based leadership collectively in how they affect performance in a dynamic environment. Unfortunately, such a study is absent in the literature in fields of strategic management, human resource management, and leadership studies. This research intends to fill such a gap in the literature relevant to all three fields of management science. Specifically, we sought to find answers to the following questions: Do innovative HR practices serve as a mechanism through which organizations’ emphasis on strategic flexibility affects firm performance? How does the difference of gender-based leadership style matter in facilitating the process of implementing strategic flexibility and innovative human resource management practices?

With our research focus, this study made three contributions. First, the study contributes to the literature on strategic human resource management (SHRM) by examining firm strategy from a fresh angle: strategic flexibility (Sanchez, 1995). Previous SHRM research has mainly adopted the Porter’s (1985) conceptualization of competitive strategy or the Miles and Snow’s organizational strategy typology (1978) in conceptualizing strategies. These two strategy schemes, however, treat strategies as mutually exclusive categories. This treatment omitted another avenue delineated by Wright and Snell (1998) that strategic HRM affects firm performance through enabling flexibility in organizations. In our study, we conceptualize firm strategy as a continuum demonstrated as the firms’ focus on flexibility in manipulating multi-facet advantages. We find that organizations’ emphasis on strategic flexibility affects their adoption of innovative human resource management practices. This new evidence puts the proposed relationship between strategy and HRM (see Schuler, 1992) on more solid ground.

In addition, we find that strategic flexibility is a very important context for examining the impact of human resource management practices. In particular, we find that innovative human resource management practices are effective in mediating the relationship between strategic flexibility and employee productivity. This finding helps unpack the black box of how firm strategy affects firm performance through its influence on human resource management. We rationalize a possible role played by innovative HRM practices in the relationship between strategy and firm performance and verify it with our data.

Lastly, by incorporating female leadership in the relationships among strategy, HRM, and firm performance, we extend the previous research in a novel direction that has never been explored. While we did not find a moderating effect by CEO gender on the strategy-HR relationship, the empirical results demonstrate that female leaders matter in the relationship between strategic flexibility and employee productivity. The evidence shows that the gender-based leadership is worthy of discussion in exploring the relationships among strategic flexibility, innovative human resource practices, and employee productivity in a dynamic world.

Theoretical development and hypotheses

Strategic flexibility and innovative HR practices

Strategic flexibility is “the capability of the firm to proact or respond quickly to changing competitive conditions and, thereby, develop and/or maintain competitive advantage” (Hitt et al., 1998). Firms with a strong focus on strategic flexibility are more likely to use innovative HR practices to develop and nurture dynamic core competencies that are of great importance to achieve competitive advantages in a rapidly changing environment. Such unique resources are invisible assets that can be leveraged to not only develop new products and
services but also influence and shape the environment in which firms operate and compete. Then the question is how to build such dynamic core competences.

Organizations with a strategy to promote their flexibility and responsiveness to environmental changes would benefit from adopting innovative HR practices that include selective hiring, extensive and well-designed training, self-managed teams and decentralization of decision making, information sharing throughout the organization, comparatively high compensation, and compensation contingent on organizational performance (Hitt et al., 1998; Pfeffer, 1998). Drawing from the resource-based view (RBV), these HRM practices can enhance firm performance by developing a unique and valuable pool of human capital that cannot be easily imitated (Beltran-Martin et al., 2008; Collins and Clark, 2003; Zheng et al., 2009).

Organizations faced with dynamic environments characterized by unprecedented and unpredictable events require flexibility to respond to such complex and changing requirements (Snow and Snell, 1993; Wright and Snell, 1998). The key feature of innovative HR practices is to develop employee skills and behavioral repertoires that can provide a firm with sustainable competitive advantages. In pursuit of strategic flexibility, organizations seek flexibility in HR by adopting innovative HR practices. Beltran-Martin et al. (2008) developed an important and useful framework on high performance work systems (HPWS), HR flexibility and performance, which shows that the use of comprehensive staffing, extensive training, development performance appraisal, and equitable reward systems significantly increases organizations’ HR flexibility, and, as a result, leads to better organizational performance. Flexible HR has three components: skill malleability, functional flexibility, and behavior flexibility (Beltran-Martin et al., 2008; Riley and Lockwood, 2006; Wright and Snell, 1998; Way et al., 2015). To adapt to changes in the environment, organizations need their employees to be able to learn new tasks quickly (skill malleability), to accomplish diverse tasks and assume responsibility for tasks from other jobs (functional flexibility), and to adjust their behavior in different circumstances (behavioral flexibility).

Organizations’ emphasis on strategic flexibility promotes firms to adopt training and staffing activities oriented toward personal growth that enable organizations to “have the right numbers of the right types of people to the right places at the right times” (Dyer and Ericksen, 2005) and prepare employees for the rapidly changing environment characterized by the rapid process of knowledge and skill obsolescence (Beltran-Martin et al., 2008; Bhattacharya et al., 2005). Developmental activities are likely to help employees gain skills needed to fulfill a variety of tasks and under diverse circumstances, corresponding to the idea of functional flexibility. Employees can also improve their skill malleability and behavioral flexibility by learning alternative problem-solving methods when attending developmental activities offered by organizations (Beltran-Martin et al., 2008). In fact, research has shown that development culture leads to employee growth, flexibility, and adaptability (Lau and Ngo, 1996), which are positively related to employees’ creativity and firms’ innovation performance (Lau and Ngo, 2004). In today’s competitive environment characterized by increasing innovation and continuous learning (Hitt et al., 1998), organizations aiming to respond quickly to changing competitive conditions (i.e. emphasizing strategic flexibility) are more likely to design and implement effective training and development activities.

The employee involvement component of innovative HR practices is also required in organizations’ pursuit of strategic flexibility. Employee involvement practices, such as the use of self-managing teams and information sharing throughout the organization, not only allow individual workers some degree of autonomy in decisions related to their work methods and work process but also helps to identify and eliminate barriers to performance improvement (Macky and Boxall, 2007). Employees with extended roles in organizations are more willing to develop heterogeneous skills and competencies (Wright and Snell, 1998; Beltran-Martin et al., 2008) and assume responsibilities for a wider range of tasks (Parker, 2000). Several authors argue that HR practices that emphasize employee
involvement promote initiative and flexibility required from employees to respond to today’s highly dynamic and competitive business environment (Cordero et al., 2005; Ketkar and Sett, 2009).

Moreover, organizations pursuing strategic flexibility are more likely to provide employees with leading market compensation and adopt performance-contingent pay plans. Provision of leading market compensation helps an organization attract versatile employees who possess high qualifications, varied knowledge, and multiple abilities that are needed to perform effectively in a changing environment. In fact, in response to increasing uncertainties in changing environmental situations, organizations inevitably would engage in more reorganization, relocation of roles and responsibilities, and redesign of jobs, which may produce higher work demands and stressful work situations (Cartwright and Cooper, 1997). Organizations that pursue high organizational strategic flexibility tend to require employees’ willingness to perform various tasks and, therefore, need to compensate employees for their effort to move across different tasks and jobs (i.e. functional flexibility) as well as for the demanding and stressful work situations with which they need to cope. Furthermore, the use of performance-related pay signifies organizations’ intention to provide equitable rewards for employees’ performance and helps to create a workforce with higher initiative and flexibility (Beltran-Martín et al., 2008).

Based upon the prior reasoning, we propose that organizations that emphasize flexibility and innovation will rely on innovative HR practices to build their competitive advantages. This leads to the following hypothesis:

\[ H1. \text{Organizational strategic flexibility is positively related to the use of innovative HR practices.} \]

**Innovative HR practice and firm performance**

Most research in the strategic HRM field has shown that innovative HR practices are positively associated with organizational performance (e.g. Delaney and Huselid, 1996; Evans and Davis, 2006; Huselid, 1995; Messersmith et al., 2011; Zheng et al., 2009). Combs et al. (2006) aggregated the results of 92 empirical studies on the HR practices-performance relationship and estimated that the correlation between the two constructs is sizably around 0.20. More recently, the underlying mechanisms that enable this connection have been analyzed in more detail. It has been argued that innovative HR practices enhance organizational performance by increasing individual-level attitudinal factors, such as employee satisfaction, organizational commitment, psychological empowerment, and trust in management (Macky and Boxall, 2007; Messersmith et al., 2011; Ramsay et al., 2000) as well as by directing employees’ behavior toward organizational goals via better employee-management relationships (Ramsay et al., 2000), occupational safety (Zacharatos et al., 2005), and improved organizational citizenship behavior (Sun et al., 2007). In addition, Evans and Davis (2005) argued that innovative HR practices lead to better firm performance by positively influencing the internal social structure (e.g. network ties, norms of reciprocity, shared mental models, and role taking) of an organization. Similarly, Takeuchi et al. (2007) showed that innovative HR practices are positively related to organizational performance by creating a higher level of collective human capital and inspiring a high degree of social exchange within an organization.

However, although most studies in the literature have shown that innovative HR practices can provide an economically significant contribution to firm performance, the conclusion has to be drawn with caution. There is still much that researchers do not know about the...
contingencies and mediating links in the relationship between innovative HR practices and different aspects of organizational performance (Bamber et al., 2014; Boxall and Macky, 2007). We argue that when innovative HR practices are driven by the organizations’ pursuit of strategic flexibility, it will lead to greater employee productivity and firm performance. In fact, Beltran-Martin et al. (2008) found that HR practices influence firm performance through their impact on the firm’s HR flexibility. Recent studies have reported that HR practices that support strategic flexibility have positive impact on organizations’ market performance (Ngo and Loi, 2008), financial performance (Bhattacharya et al., 2005; Ketkar and Sett, 2009), and customer service effectiveness (Beltran-Martin et al., 2008).

In connection with H1 whereby strategic flexibility leads to the use of innovative HR practices, we propose that firms that adopt strategic flexibility are more likely to use innovative HR practices, and in so doing, strategic flexibility leads to better firm performance:

H2. Innovative HR practices mediate the relationship between strategic flexibility and firm performance.

The impact of CEO gender

The afore-established relationship between firm strategic flexibility and performance may be most evident when the “soft” environment of a firm is supportive of strategic flexibility. Often technical aspects of strategic adjustment are feasible, but employees involved in the adjustment may not be willing to make the adjustment due to some cognitive or psychological barriers to change. To remove these cognitive and psychological barriers to frequent strategic adjustments, a firm needs to develop a “soft” environment that facilitates the implementation of technical flexibility. Such an environment is usually characterized by a high level of diversity, transparency, and democracy, because strategic changes impose heavy decision loads and collaboration. As such, the efforts and commitment of most organizational members are needed to take initiative in providing timely feedback and adjustment to strategic decisions. Nurturing and maintaining such an environment favoring strategic flexibility is dependent heavily upon the leadership of a firm (Nadkarni and Herrmann, 2010). In this regard, female leaders may have an advantage over their male counterparts in facilitating strategic flexibility due to cognitive, social, and behavioral differences between genders.

Shimizu and Hitt (2004) argue that one barrier to strategic flexibility is the top managers’ insensitivity to negative feedback from the market. Inability to attend to negative feedback blocks an organization from making timely adjustments to strategy and from its ability to learn. Research on investment decisions has shown that females are more cognizant of negative cues, which males are likely to ignore (Graham et al., 2002). Because of their attention to negative cues, female leaders are able to catch both positive and negative signals of strategic actions. This is important for enacting strategic flexibility because balanced attention creates checking points for the development of cognitive inertia in decision makers.

In addition, organizations with female CEOs may embrace and induce diversity better than male CEOs because females are more sensitive to homogeneity in a work environment (Chatman and O’Reilly, 2004). Diversity produces a wider range of behavioral scripts among employees that prompt behavioral flexibility for organizations (Wright and Snell, 1998). Diversity has in general been associated with high levels of creativity and innovation (Wiersema and Bantel, 1992). Recent research on leadership style based on gender difference indicates that female leaders and managers tend to enact an environment of equality and transparency more effectively than their male counterparts due to their behavioral differences in embracing diversity (Rosener, 1990; Eagly and Carli, 2003). In a synthesis of empirical evidence on gender-based leadership style difference, Eagly and Carli (2003) concluded that female leaders exhibit a more democratic leadership style than male leaders in the behaviors related to the exercise of power. Democratic leadership style promotes
sharing task-related information (Daily and Dalton, 2003), thereby making an organization more effective in facilitating timely adjustment.

This gender-based leadership difference is due to: women possessing more social skills that facilitate the development of collaborative, demographic leadership behaviors (Eagly and Karau, 2002); and female leaders intentionally relying more on these social skills in extending their leadership. Besides the social skills, female leaders also play a symbolic role in inducing a sense of diversity and equality in their organizations (Eagly and Carli, 2003). With women’s visibility as occupants of top positions in organizational hierarchy, organizations send a message that top management endorses equitable opportunities. This message would be especially motivating for those employees hesitant to take initiative, or engage in discretionary behavior because they are afraid that their efforts may not be compensated well due to potential discrimination. Based on a meta-analysis of 99 independent samples in 95 studies, Paustian-underdahl et al. (2014) found that women leaders are rated as significantly more effective by others while men rate themselves as significantly more effective than women rate themselves. In addition, research has shown that more women in the upper echelons of the corporate world help business develop a broader focus on long-term goals rather than being constrained to short-term profit maximization (McElhaney and Mobasseri, 2012) and that the advantage of female CEOs is more evident when an organization pursues an innovation strategy (Dezsö and Ross, 2012).

The above features of female leadership will translate into climates that benefit organizations designed to pursue strategic flexibility. We propose that cognitive and social skills, symbolic advantages, and greater levels of perceived leadership effectiveness make females better CEOs for organizations designed to pursue strategic flexibility in an uncertain environment:

\[ H3. \] The relationship between strategic flexibility and firm performance is stronger in organizations with female CEOs.

Following the Upper Echelon’s perspective that organizations are reflections of their top managers (Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984), we further argue that strategy-HRM-performance linkage would be tighter when female leadership is in control. In the case of strategic flexibility and HR practices, existing literature suggests that gender-based leadership differences would draw a fine line between the effective and ineffective HR practices. Female leaders are more likely to adopt a transformational leadership style in delivering the organizational goals (Eagly et al., 2003; Bark et al., 2016), which in turn might lead to a greater use of innovative HR practices in order to motivate and empower followers (Zhu et al., 2005). Female CEOs might be more likely to adopt innovative HR practices because doing so promotes the congruency between their organizational roles and social roles as female leaders. Existing literature on role congruity theory has shown that female leaders can be disliked if they display a higher level of authority, adopt a dominant style of communication, or use a transactional leadership style (Eagly and Karau, 2002). In contrast, women lead more effectively and receive less resistance when they display communality and warmth (Carli, 2001) by showing their care to employees’ needs for achievement and growth, for participation in decision making, and for a higher performance-based compensation system. On the other hand, researchers have found evidence of a female leadership advantage by showing that women tend to be more effective leaders in contemporary organizations in a dynamic environment (Eagly and Carli, 2003; Rosette and Tost, 2010). Communal Leadership behavior and approaches associated with business success today, such as intellectual stimulation, inspirational motivation, and participatory decision-making, are more commonly found among female leaders (Eagly et al., 2003; Williams, 2012). In fact, Rosette and Tost (2010) indicated that employees today greatly value these leadership skills that focus on relationships and not just traditional...
agentic leader characteristics that are masculine. Furthermore, because of the perception that women may face a double standard for competence and, therefore, have to meet or exceed stricter standards and overcome exceptional challenges to become female executives (Foschi, 1996, 2000), research has shown they are rated as more competent than male counterparts by employees, especially women leaders at top-level positions, such as CEOs (Rosette and Tost, 2010; Paustian-underdahl et al., 2014).

Research in the field of top management team demography has shown that female-led businesses tend to implement organizational strategies with more emphasis on innovative HR practices, such as rewarding employees for appropriate performance, encouraging employee participation in decision-making processes, fostering cooperative efforts, and motivating and developing subordinates (Eagly et al., 2003; Paustian-underdahl et al., 2014). Zenger and Folkman (2012) conducted a survey of 7,280 leaders and found that women leaders are more suited to the style of leadership needed in organizations with a changing environment. Women excel in the areas of developing others and building relationships compared to their male counterparts. Authors such as McElhaney and Mobasseri (2012) indicated that one of the key mechanisms that female leaders execute in organizations' pursuit of strategic flexibility is through the use of innovative HR practices. Companies with female leaders are more likely to provide competitive employee pay and benefits, offer performance incentives, implement formalized programs, and proactively manage human capital development through implementing formalized training programs and actively measuring employee satisfaction (McElhaney and Mobasseri, 2012). Businesses with women leaders are more likely to implement employee participation and information sharing programs compared to their male counterparts (Rosener, 1990). Therefore, we expect the effect of strategic flexibility on the adoption of innovative HR practices to be stronger in organizations led by female CEOs:

H4. The relationship between strategic flexibility and innovative HR practices is stronger in organizations led by female CEOs.

The four hypotheses are summarized in Figure 1.

Method and results

Sample and data collection

We contacted 598 small and medium-sized firms from a list of registered businesses obtained from the local small and medium enterprise (SME) Bureau in the Yangtze Delta region and sent out questionnaires. The questionnaire contains information on corporate social responsibility, human resource management practices, organizational strategy, CEO information, and other firm characteristics in terms of firm age, location, and financial performance. A total of 598 questionnaires were distributed, of which 307 were returned and 113 firms provided valid answers to the key questions used in this study. The effective response rate is 18.9 percent.

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**Figure 1.**
Strategic flexibility, innovative HR practices, and firm performance: A moderated mediation model
Chinese firms were selected because the environment in which they are located met the desired context to test the hypotheses. In the past three decades or so, China has experienced unprecedented economic, political, institutional, and technological changes. China’s GDP grew from RMB 364 billion in 1978 to RMB 74,413 billion in 2016, a growth of 204 folds (National Bureau of Statistics China, 2016). The Chinese environment is certainly dynamic and unpredictable with tremendous uncertainties surrounding the political regime and institutional environment.

Measures
Strategic flexibility: we measure strategic flexibility by adapting Grewal and Tansuhaj (2001)’s four items scale and Nadkarni and Herrmann (2010)’s five items scale. The five items of this scale were: “We regularly share costs across business activities;” “We frequently change our strategies and structures to derive benefits from environmental (political, economic, and financial) changes;” “Our strategy emphasizes exploiting new opportunities arising from environmental changes;” “Our strategy reflects a high level of flexibility in managing political, economic, and financial risks;” and “Our strategy emphasizes versatility and empowerment in allocating human resources.” We used confirmative factor analysis to assess the validity and reliability of this measurement model. The goodness of fit statistics demonstrates adequate level of fit ($\chi^2 = 24.157$, CFI = 0.973, RMSEA = 0.077), and the five factors’ loadings range from 0.72 to 0.91. The coefficient $\alpha$ reliability for the scale was 0.92.

Innovative HR practices: modern HRM theories and practices in hiring, compensation, and training are still relatively novel to an economic system where state-owned enterprises dominate. To the extent that our targeted contributions are significant for the field of HRM and strategic management, they are even more important in the transitioning economic environment of China. While a considerable deregulation of the employment system has called for individual firms to adopt professional HRM practices to attract and retain talents, the intricacies in the unstable laws and national retirement systems calls for innovative application of these HRM practices (Zheng et al., 2009). Thus, many of the modern HRM practices, especially HPWS, represent innovative HRM practices in China, mostly in Chinese context (Kim et al., 2010).

Considering the unique context of China, we constructed a scale that measures the adoption of innovative HR practices by adapting Pfeffer’s (1998) measure on HPWS scale and Zheng et al.’s (2009) measure on innovative HR practices. In particular, the scale consists of eight items that measure various aspects of innovative HR practices: free market recruitment and selection; the use of self-managed teams; decentralized decision making and employee participation; extensive training and development; job rotation; information sharing and open communication; compensation contingent on performance; and competitive compensation. The factor loadings range from 0.63 to 0.85. The coefficient $\alpha$ reliability for the scale was 0.90.

Firm performance: we used three established firm performance measures: employee productivity (Huselid et al., 1997), operational profit margin (pretax profit margin), and returns on assets (ROA). Following Huselid (1995) and Huselid et al. (1997), we calculated the logarithm of net sales per employee to measure employee productivity. Operational profit margin is measured using the ratio of pretax profits to sales, while ROA is measured using post-tax profit divided by assets.

Control variables: we use five firm characteristics (firm size, firm age, R&D intensity, corporate social responsibility, and market scope) as controls. Firm size is measured in terms of both the natural logarithmic transformation of the assets and the number of employees. According to the RBV, larger firms with more resources (Barney, 1991) have more advantage than do small firms in implementing strategic plans through various
HRM practices. We measured firm age as the number of years since the firm was founded. According to earlier studies (Miller and Chen, 1996; Delaney and Huselid, 1996), younger firms are more likely to shift their strategies frequently and less likely to have mature HRM systems. R&D intensity is measured based on whether or not the firm is classified as an “R&D firm” by a state-led program that gives policy intervention to improve the overall innovation environment and to influence the formation of a local innovation system (Wu, 2007). We also controlled two variables that measure the extent to which the firms have initiatives to promote corporate social responsibility – a dummy variable on whether the firm regards corporate social responsibility as part of its long-term strategy and a dummy variable on whether the firm has someone who is accountable for corporate social responsibility. Prior studies have shown a positive relationship between corporate social responsibility and firm financial performance (Margolis and Walsh, 2003; Orlitzky et al., 2003), and such relationship is influenced by intangible resources such as human capital (Surroca et al., 2010) and the firm’s HRM practices (Sharma et al., 2011). In addition, we controlled for the firm’s market scope – within the province, national, and international.

Results
Table I presents descriptive statistics, including the means, standard deviation, correlations, and inter-item reliabilities, calculated from the data. We performed regression analysis and Hayes’s (2014) conditional process analysis for testing the moderated mediation relationships in the hypothesized model shown in Figure 1.

Table II shows the regression results for H1 and H4. The parameter estimates are unstandardized coefficients, standard errors for the unstandardized coefficients, and symbols showing coefficient significance at different levels. There are three steps in the regression analysis. As shown in Table II, in Step 1, all of the control variables, including firm size, firm age, R&D intensity, corporate social responsibility, and market focus variables, were entered. In Step 2, strategic flexibility ratings were inserted. In the third step, an interaction term between innovative HR practices and CEO gender was further included in the analysis.

H1 states that organizational strategic flexibility is positively related to the use of innovative HR practices. As shown in Table II, the control variables as a set accounted for 27.2 percent of the variance, $F(9, 103) = 4.28, p < 0.01$. In Step 2, the firm strategic flexibility ratings explained 26.5 percent additional variance, $\Delta F(1, 102) = 58.19, p < 0.01$. The coefficient of strategic flexibility ratings was significant and positive ($\beta = 0.549, p < 0.01$). The 95 percent CI did not include zero (0.37 to 0.63), and the lower bound CI is not near zero. Together, these results support H1.

H4 proposed that the relationship between strategic flexibility and innovative HR practices is stronger in organizations with a female CEO. In the third step, an interaction term between female CEO and strategic flexibility ratings was entered. As shown in Step 3, Table I, this interaction term explains 0.7 percent additional variance, $\Delta F(1, 101) = 1.51, p > 0.05$, in the innovative HR practices ratings with insignificant $\beta$’s ($\beta = 0.269, p > 0.1$). Furthermore, the 95 percent CI included zero (−0.116 to 0.492). These results do not support H4.

Table III shows the regression results for H2 and H3 using employee productivity as the firm performance measure. The analysis was conducted in four steps. In Step 1, all of the control variables were entered, in Step 2 the strategic flexibility was entered, and in Step 3, the innovative HR practices rating were entered. In the last step, an interaction term between strategic flexibility and female CEO was entered.

We expected that organizational strategic flexibility is positively related to firm performance. As shown in Table III, the control variables as a set accounted for 37 percent of the variance, $F(9, 103) = 6.07, p < 0.01$, in the dependent variable (employee productivity) with a significant $\beta$ for firm size ($\beta = 0.878, p < 0.01$), CEO gender ($\beta = 0.249, p < 0.01$), and
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<td>(1) Number of employees in 100</td>
<td>1.01</td>
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<td>(2) Ln(asset)</td>
<td>6.97</td>
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<td></td>
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<td>(3) Female CEO</td>
<td>0.17</td>
<td>0.38</td>
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<td>(4) Firm age</td>
<td>10.72</td>
<td>7.15</td>
<td>0.225*</td>
<td>0.385**</td>
<td>0.231*</td>
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<td>0.40</td>
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<td>(12) Employee productivity</td>
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<td>0.442**</td>
<td>0.112</td>
<td>0.064</td>
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<td>(13) ROA</td>
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<td>010</td>
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<td>0.252**</td>
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Notes: *p < 0.05; **p < 0.01
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<td>b  SE    p</td>
<td>95% CI</td>
<td>β   SE    p</td>
</tr>
<tr>
<td>Female CEO</td>
<td>-0.060 0.228 0.795</td>
<td>[-0.513,0.393]</td>
<td>-0.023 -0.301 0.184 0.278</td>
</tr>
<tr>
<td>Number of employees</td>
<td>-0.006 0.077 0.939</td>
<td>[-0.002,0.001]</td>
<td>-0.01 0.015 0.062 0.808</td>
</tr>
<tr>
<td>Ln(assets)</td>
<td>0.023 0.076 0.764</td>
<td>[-0.127,0.173]</td>
<td>0.042 -0.017 0.061 0.780</td>
</tr>
<tr>
<td>Firm age</td>
<td>0.019 0.013 0.158</td>
<td>[-0.007,0.044]</td>
<td>0.139 0.027 0.011 0.013</td>
</tr>
<tr>
<td>Market scope-national</td>
<td>-0.418 0.197 0.036</td>
<td>[-0.810,-0.027]</td>
<td>-0.218* -0.300 0.159 0.062</td>
</tr>
<tr>
<td>Market scope-international</td>
<td>-0.124 0.262 0.636</td>
<td>[-0.643,0.395]</td>
<td>-0.053 -0.153 0.210 0.409</td>
</tr>
<tr>
<td>New tech firm</td>
<td>0.435 0.312 0.167</td>
<td>[-0.184,1.053]</td>
<td>0.15 0.285 0.251 0.259</td>
</tr>
<tr>
<td>CSR strategy</td>
<td>-0.064 0.247 0.111</td>
<td>[-1.130,-0.149]</td>
<td>-0.286* -0.414 0.200 0.012</td>
</tr>
<tr>
<td>CSR accountability</td>
<td>-0.284 0.185 0.128</td>
<td>[-0.651,0.083]</td>
<td>-0.148 -0.178 0.149 0.235</td>
</tr>
<tr>
<td>Strategic flexibility</td>
<td>0.498 0.065 0.000</td>
<td>[0.369,0.628]</td>
<td>0.549** 0.453 0.075 0.000</td>
</tr>
<tr>
<td>Strategic flexibility×Female CEO</td>
<td>0.188 0.133 0.222</td>
<td>[-0.116,0.492]</td>
<td>0.289</td>
</tr>
<tr>
<td>Constant</td>
<td>3.363 0.510 0.000</td>
<td>1.865 0.454 0.000</td>
<td>2.018 0.469 0.000</td>
</tr>
</tbody>
</table>

R squared 0.272 0.537 0.544

Notes: n = 113. *p < 0.05; **p < 0.01
Table III. The effects of strategic flexibility on firm performance (employee productivity)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Step 1: Controls only</th>
<th>Step 2: Strategic flexibility</th>
<th>Step 3: Strategic flexibility and HR</th>
<th>Step 4: Interaction with female CEO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>SE</td>
<td>95% CI</td>
<td>β</td>
</tr>
<tr>
<td>Number of employees</td>
<td>-0.278*</td>
<td>3.008</td>
<td>-13.187, -1.256</td>
<td>-0.266*</td>
</tr>
<tr>
<td>Ln(asset)</td>
<td>0.878**</td>
<td>2.945</td>
<td>14.336, 26.018</td>
<td>0.853**</td>
</tr>
<tr>
<td>Female CEO</td>
<td>0.249**</td>
<td>8.897</td>
<td>8.904, 44.193</td>
<td>0.230**</td>
</tr>
<tr>
<td>Firm age</td>
<td>-0.292**</td>
<td>0.510</td>
<td>-2.647, -0.623</td>
<td>-0.271**</td>
</tr>
<tr>
<td>Market scope – national</td>
<td>-0.072</td>
<td>7.686</td>
<td>-29.988, 29.501</td>
<td>-0.05</td>
</tr>
<tr>
<td>CSR strategy</td>
<td>0.111</td>
<td>9.630</td>
<td>-8.746, 29.453</td>
<td>0.146</td>
</tr>
<tr>
<td>CSR accountability</td>
<td>0.078</td>
<td>7.204</td>
<td>-8.038, 20.536</td>
<td>0.097</td>
</tr>
<tr>
<td>Strategic flexibility</td>
<td>0.192*</td>
<td>3.105</td>
<td>1.142, 13.460</td>
<td>0.192*</td>
</tr>
<tr>
<td>Innovative HR practices</td>
<td>0.227*</td>
<td>4.636</td>
<td>0.288, 18.682</td>
<td>0.227*</td>
</tr>
<tr>
<td>Strategic flexibility×Female CEO</td>
<td>0.508**</td>
<td>7.124</td>
<td>0.736, 18.682</td>
<td>0.508**</td>
</tr>
</tbody>
</table>

| Notes: | n = 113. *p < 0.05; **p < 0.01 |
firm history ($\beta = -0.292, p < 0.01$). In Step 2, the strategic flexibility ratings explained 3 percent additional variance, $\Delta F(1,102) = 5.53, p < 0.05$. The coefficient estimate for strategic flexibility (Step 2) was significant and positive ($\beta = 0.192, p < 0.05$). The 95 percent CI did not include zero (1.14 to 13.46), and the lower bound of the CI did not approach zero. Together, these results provide support for the positive relationship between strategic flexibility and firm performance.

$H2$ states that the use of innovative HR practices mediates the relationship between strategic flexibility and firm performance. We tested the mediation model in a more rigorous manner in the next section using conditional process analysis. Here we illustrated partial evidence of mediation. If such mediation relationship does exist, we expect to see that the direct effect of strategic flexibility will be weakened after HR practices ratings are entered into the regression. Following the analysis above, in the third step, we further entered the rating of innovative HR practices. As shown in Table III, for employee productivity, innovative HR practices ratings explained 2.3 percent, $\Delta F(1,101) = 4.19, p < 0.05$ of incremental variance in employee productivity with significant, positive $\beta$ ($\beta = 0.227, p < 0.05$). The coefficient of strategic flexibility became insignificant when both innovative HR practices and strategic flexibility variables are entered. These results provide support for $H2$.

$H3$ proposes that the relationship between strategic flexibility and firm performance is stronger in organizations with a female CEO. To test this relationship, in the next step, an interaction term between strategic flexibility and female CEO was entered in Step 4, and this interaction term explained 2.4 percent of additional variance, $\Delta F = 5.28, p < 0.05$. For the parameter estimate, the interaction term has a positive and significant $\beta$ of 0.508 ($p < 0.05$). Moreover, the 95 percent CI did not include zero (0.736 to 29.005). These results provide support for $H3$. In total, the variables added in Steps 2, 3, and 4, explain approximately an additional 8 percent of the variance in the dependent variable (employee productivity). The results show that strategic flexibility, HR practices, and the interaction term between strategic flexibility and female CEO further explain a significant, though moderate, amount of variance in employee productivity, compared to the baseline model in Step 1.

Finally, the mediating effect of innovative HR practices on the relationship between strategic flexibility and firm performance in terms of employee productivity and the moderation effect of a female CEO on both the direct and indirect (via innovative HR practices) effects of strategic flexibility on employee productivity were examined. According to Baron and Kenny’s (1986) causal steps approach, in order for innovative HR practices to be considered as a mediator of the effect of strategic flexibility on firm performance, there are three criteria. First, the independent variable (i.e. strategic flexibility) and the dependent variable (i.e. employee productivity) are associated. The second criterion is that the effect of the independent variable (i.e. strategic flexibility) has a significant effect on the mediator (i.e. innovative HR practices). The third criterion is that the mediator (i.e. innovative HR practices) affects the dependent variable (i.e. employee productivity) controlling for the independent variable (i.e. strategic flexibility). If all three criteria are met, the direct effect of the independent variable (i.e. strategic flexibility) when the mediator effect is controlled for is compared to the total effect of the independent variable (strategic flexibility) when the mediator (i.e. $\beta$) is not entered in the regression. If the direct effect is smaller than the total effect and is not statistically significant, then it is claimed that the mediator (i.e. innovative HR practices) fully mediates the independent variable (i.e. strategic flexibility) on the dependent variable (i.e. employee productivity). By contrast, if the direct effect is smaller than the total effect but still statistically significant, then it is claimed that the mediator partially mediates the effect of the independent variable on the dependent variable.

The results in Table III (Step 2) show that strategic flexibility was significant and positively related to employee productivity ($\beta = 0.192, p < 0.05$), satisfying the first criterion. The second condition was also satisfied given the support found in $H1$ that
organizational strategic flexibility is positively related to the use of innovative HR practices ($\beta = 0.549, p < 0.05$). Furthermore, the third criterion is also met. As shown in Table III, innovative HR practices have a positive and significant effect on employee productivity ($\beta = 0.227, p < 0.05$). Finally, the coefficient estimate of the independent variable (i.e. strategic flexibility) became smaller and insignificant when the mediator (i.e. innovative HR practices) was included in the model in Table III (from $\beta = 0.192, p < 0.05$ to $\beta = 0.07, p > 0.05$), indicating that innovative HR practices fully mediates the effect of strategic flexibility on employee productivity.

We further conducted the conditional process analysis using Hayes’s (2014) conditional process analysis for testing the mediation effect of innovative HR practices on the relationship between strategic flexibility and employee productivity, as well as testing whether a female CEO mediates the direct and indirect effects of strategic flexibility. The conditional process analysis is a recently developed and approved approach that allows for estimating the moderation and mediation effects simultaneously, and it yields estimates of the conditional indirect and conditional direct effects. Such analysis is particularly useful for the purpose of this study. We used statistical syntax, PROCESS, to conduct the statistical analysis. Based on the proposed model (Figure 1), we developed the regression equations and conducted the conditional process analysis accordingly. We present the details of this process at the bottom of Table V.

The results shown in Tables IV and V provide support for a moderated mediation model. We first examined the simple mediation model without considering the moderating effect (shown in Table IV) and then tested the moderated mediation model considering the conditional direct effect and indirect effect of strategic flexibility on employee productivity at different values of the moderator (i.e. male vs female CEO).

$H2$ proposed that innovative HR practices as a whole serve as a mediator of the effect of strategic flexibility on firm performance. More specifically, firms emphasizing strategic flexibility are more likely to perform better because these firms are more likely to employ innovative HR practices. As shown in Table IV, the total effect of strategic flexibility on employee productivity is 7.301. Two firms that differ by one unit in the strategic flexibility ratings are estimated to differ by 7.301 units in the calculated employee productivity. This effect is significantly different from zero, $t = 2.35, p < 0.05$, or between 1.142 and 13.460 with 95 percent CI. The indirect effect of 4.725 means that two firms that differ by one unit in strategic flexibility are estimated to differ by 4.725 units in their calculated employee productivity as a result of the tendency for those emphasizing strategic flexibility to implement innovative HR practices, which in turn translates into higher employee productivity. This indirect effect is statistically different from zero, the normal theory-based Sobel test showed $Z = 1.961, p < 0.05$, and the 95 percent bias-corrected bootstrap confidence interval is entirely above zero (0.458 to 11.871). The direct effect of strategic flexibility ($b = 2.573, p > 0.05$) is the estimated difference in employee productivity between two firms that adopted same levels of innovative HR practices but that differ by one unit in their reported strategic flexibility ratings. The coefficient is positive, meaning that firms emphasizing more in strategic flexibility but equally implementing innovative HR practices are estimated to be 2.573 units lower in the measured employee productivity. However,

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>t/z</th>
<th>P</th>
<th>LL CI</th>
<th>UL CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total effect</td>
<td>7.301*</td>
<td>3.105</td>
<td>2.35</td>
<td>0.021</td>
<td>1.142</td>
</tr>
<tr>
<td>Direct effect</td>
<td>2.573</td>
<td>3.832</td>
<td>0.672</td>
<td>0.503</td>
<td>−5.027</td>
</tr>
<tr>
<td>Indirect effect</td>
<td>4.725*</td>
<td>2.7594</td>
<td>1.961</td>
<td>0.049</td>
<td>0.458</td>
</tr>
</tbody>
</table>

Notes: $n = 113$. *$p < 0.05$, **$p < 0.01$
as can be seen in Table IV, this direct effect is not statistically different from zero, $t = 0.672$, $p > 0.05$, with a 95 percent CI from $-0.843$ to 7.581. Consistent with the results of regression analysis, these results provide support for $H2$.

In the second step, we tested the full conditional process model shown in Figure 1, allowing both the direct and indirect effects of strategic flexibility on employee productivity contingent upon CEO gender. $H3$ proposes that the effect of strategic flexibility on employee productivity is conditional on the CEO gender. As one of the indirect effect components is conditional, then so is the indirect effect, itself. We then conditioned the discussion of the mediation effect on the moderator, CEO gender. The conditional indirect effect of the independent variable (i.e. strategic flexibility) on the dependent variable (i.e. employee productivity) through the mediator (i.e. ratings) conditioned on the moderator (i.e. CEO gender), in this case refers to the amount by which two firms with a given condition of CEO gender (female or male CEO) that differ by one unit on strategic flexibility ratings, are estimated to differ on employee productivity indirectly through the effect of emphasis on strategic flexibility on the use of innovative HR practices, which in turn influences employee productivity. As shown in Table V, in firms with female CEOs, the firm with one unit higher in strategic flexibility ratings is estimated to be 5.335 units higher in employee productivity as a result of the greater use of innovative HR practices promoted by more emphasis on strategic flexibility, which in turn enhances employee productivity. In firms with a male CEO, the indirect effect is still positive and statistically significant (95 percent CI from 0.394 to 14.135) but is smaller than in firms with female CEOs. The direct effect of strategic flexibility on employee productivity is also hypothesized to be moderated by CEO gender ($H3$). As show in Table IV, the direct effect is statistically significant and positive ($b = 14.447$, $p < 0.05$, 95 percent CI from 9.099 to 27.985) in firms with female CEOs but not significant in firms with male CEOs ($b = -0.423$, $p > 0.05$, 95 percent CI from $-0.843$ to 7.581). Viewed together, these results show that the use of innovative HR practices in an
establishment mediated the relationship between strategic flexibility and employee productivity both in firms with male CEOs (full mediation) and female CEOs (partial mediation), thereby providing support for \( H2 \) and \( H3 \).

We followed the same procedure examining the hypotheses using ROA and operational profit margin as dependent variables. Regression results are shown in Table VI. Neither the total effect of strategic flexibility on ROA or operational profit margin is significant. Further conditional process analysis indicated no statistically significant direct or indirect effect of strategic flexibility on ROA or operational profit margin.

Discussion and conclusions

The main objective of this study is to examine the role of innovative HR practices as an important mechanism through which strategic flexibility affects organizational performance, as well as the role of gender-based leadership in this relationship. First of all, our results provide support for the mediated relationship in which strategic flexibility is associated with employee productivity indirectly through innovative HR practices. As far as we know, this is one of the first studies to investigate this mediating mechanism. This finding contributes both theoretically and empirically to the SHRM literature by examining the flexibility advantage in HRM practices induced by firm strategy (Wright and Snell, 1998). We found that firm strategy can affect firm performance directly through innovative HR practices in addition to the channels identified in earlier studies, such as resource flexibility and coordination flexibility of the firm in using its available resources in product markets (Sanchez, 1995), market orientation (Grewal and Tansuhaj, 2001), diversified organizational forms (Schilling and Steensma, 2001), and contingent alliance development (Young-Ybarra and Wiersema, 1999).

In addition, our study also sheds light on the intricate role that CEO gender plays in the Strategy-HRM-performance linkage. Literature on gender difference has implied, but not explicitly stressed, the different effect of gender-based leadership on this linkage. We extended the theories on female leadership by proposing a moderating effect of leaders’ gender on the relationship between organizations’ focus on strategic flexibility and firm performance. Our empirical results suggest that the gender-based leadership makes a difference in connecting strategic flexibility and firm performance. In particular, the effect of strategic flexibility on firm performance is greater in organizations with a female CEO than a male CEO. This finding is consistent with a recent report that shows female representation in TMT of a firm improves firm performance when a firm’s strategy is focused on innovation (Dezsö and Ross, 2012). While Dezso and Ross conducted their analysis based upon S&P 1,500 companies in the USA, we found that the same relationship exists in private firms in Chinese cultural and institutional environments. Thus, evidence converged in support of the female leadership advantage in a particular strategy context – one that emphasizes innovation and flexibility. As a result, our study enriches the theories of gender-based leadership and HR by expanding the territory of gender influence and HR influence on firm performance as well as by explicating the mechanism through which the influence happens.

Although we found a positive relationship between strategic flexibility and firm performance measured as employee productivity and the role of innovative HR practices as a mediator in this relationship, these relationships are not significant when a firm’s financial performance was used as a dependent variable. This insignificant relationship is indeed consistent with the contention that operational effects of HR practices are greater than the financial effect (Dyer and Reeves, 1995; Huselid, 1995). A second limitation stems from the common research method. The measures for innovative HR practices and strategic flexibility were collected and then aggregated from the same sets of firms. Future research that includes separate measures of the independent variable and the mediating variable within in the same firms would be useful to better understand the causal relationship in the
Table VI. The effects of strategic flexibility on firm performance (ROA and OPM)

<table>
<thead>
<tr>
<th></th>
<th>Model1</th>
<th>Model2</th>
<th>Model3</th>
<th>Model4</th>
<th>Model5</th>
<th>Model6</th>
<th>Model7</th>
<th>Model8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Controls only</td>
<td>Strategic HRF</td>
<td>HR practices</td>
<td>Interaction</td>
<td>Controls only</td>
<td>Strategic HRF</td>
<td>HR practices</td>
<td>Interaction</td>
</tr>
<tr>
<td>Number of employees</td>
<td>0.021** (0.008)</td>
<td>0.021** (0.008)</td>
<td>0.022** (0.008)</td>
<td>0.025** (0.008)</td>
<td>0.013 (0.013)</td>
<td>0.013 (0.013)</td>
<td>0.014 (0.013)</td>
<td>0.018 (0.013)</td>
</tr>
<tr>
<td>ln(asset)</td>
<td>-0.042** (0.008)</td>
<td>-0.041** (0.008)</td>
<td>-0.043** (0.008)</td>
<td>-0.042** (0.008)</td>
<td>-0.027 (0.014)</td>
<td>-0.026 (0.014)</td>
<td>-0.027 (0.015)</td>
<td>-0.025 (0.014)</td>
</tr>
<tr>
<td>Female CEO</td>
<td>0.022 (0.024)</td>
<td>0.024 (0.025)</td>
<td>0.019 (0.025)</td>
<td>0.143 (0.086)</td>
<td>0.061 (0.038)</td>
<td>0.066 (0.039)</td>
<td>0.060 (0.039)</td>
<td>0.272* (0.128)</td>
</tr>
<tr>
<td>Firm age</td>
<td>-0.002 (0.001)</td>
<td>-0.002 (0.001)</td>
<td>-0.002 (0.001)</td>
<td>-0.002 (0.001)</td>
<td>-0.001 (0.002)</td>
<td>-0.001 (0.002)</td>
<td>-0.000 (0.002)</td>
<td>-0.001 (0.002)</td>
</tr>
<tr>
<td>Market scope-national</td>
<td>0.021 (0.021)</td>
<td>0.020 (0.021)</td>
<td>0.011 (0.022)</td>
<td>0.013 (0.021)</td>
<td>-0.007 (0.034)</td>
<td>-0.010 (0.034)</td>
<td>-0.018 (0.035)</td>
<td>-0.018 (0.034)</td>
</tr>
<tr>
<td>Market scope-national</td>
<td>0.015 (0.027)</td>
<td>0.012 (0.027)</td>
<td>0.012 (0.027)</td>
<td>0.014 (0.027)</td>
<td>-0.033 (0.043)</td>
<td>-0.032 (0.043)</td>
<td>-0.035 (0.043)</td>
<td>-0.035 (0.043)</td>
</tr>
<tr>
<td>New tech firm</td>
<td>0.044 (0.033)</td>
<td>0.044 (0.033)</td>
<td>0.051 (0.033)</td>
<td>0.045 (0.033)</td>
<td>0.063 (0.053)</td>
<td>0.064 (0.053)</td>
<td>0.071 (0.053)</td>
<td>0.059 (0.053)</td>
</tr>
<tr>
<td>CSR strategy</td>
<td>-0.069* (0.026)</td>
<td>-0.063* (0.026)</td>
<td>-0.074** (0.027)</td>
<td>-0.068* (0.027)</td>
<td>-0.039 (0.042)</td>
<td>-0.047 (0.043)</td>
<td>-0.066 (0.045)</td>
<td>-0.046 (0.045)</td>
</tr>
<tr>
<td>CSR accountability</td>
<td>0.017 (0.020)</td>
<td>0.017 (0.020)</td>
<td>0.011 (0.020)</td>
<td>0.016 (0.020)</td>
<td>0.038 (0.031)</td>
<td>0.037 (0.031)</td>
<td>0.032 (0.032)</td>
<td>0.042 (0.032)</td>
</tr>
<tr>
<td>Strategic flexibility</td>
<td>-0.005 (0.009)</td>
<td>0.007 (0.012)</td>
<td>0.012 (0.012)</td>
<td>0.015 (0.014)</td>
<td>-0.003 (0.018)</td>
<td>-0.006 (0.018)</td>
<td>-0.003 (0.018)</td>
<td>-0.006 (0.018)</td>
</tr>
<tr>
<td>Innovative HRF</td>
<td>-0.022 (0.014)</td>
<td>-0.017 (0.014)</td>
<td>-0.002 (0.022)</td>
<td>-0.014 (0.022)</td>
<td>-0.022 (0.022)</td>
<td>-0.014 (0.022)</td>
<td>-0.014 (0.022)</td>
<td>-0.014 (0.022)</td>
</tr>
<tr>
<td>Strategic flexibility x Female CEO</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
<td>-0.035 (0.023)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.349** (0.054)</td>
<td>0.363** (0.061)</td>
<td>0.409** (0.068)</td>
<td>0.406** (0.072)</td>
<td>0.240* (0.100)</td>
<td>0.284* (0.108)</td>
<td>0.334** (0.119)</td>
<td>0.250 (0.128)</td>
</tr>
<tr>
<td>R²</td>
<td>0.307</td>
<td>0.309</td>
<td>0.326</td>
<td>0.343</td>
<td>0.130</td>
<td>0.139</td>
<td>0.167</td>
<td>0.167</td>
</tr>
<tr>
<td>N</td>
<td>101</td>
<td>101</td>
<td>101</td>
<td>101</td>
<td>104</td>
<td>104</td>
<td>104</td>
<td>104</td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; **p < 0.01
present model. In addition, the use of cross-sectional data is a limitation of this study. Future longitudinal research will further elucidate whether firms’ emphasis on strategic flexibility and innovative HR practices will have a long-term impact on firm performance.

Implications for research and practice

The findings of this study show that firms that emphasize strategic flexibility rely on HR practices to achieve competitive advantages. This finding is of importance to firms emphasizing strategic flexibility in their organizations. Given that in today’s world of increasing uncertainty, flexibility almost becomes a necessity for firms in order to sustain and maintain their competitive advantages. Our findings suggest that practitioners should put more emphasis on developing innovative HR practices to stay competitive in a rapidly changing business environment.

Second, corresponding to the effort in strategy literature that shows effects of CEOs’ individual characteristics in terms of demographics (e.g. Carpenter and Geletkanycz, 2004; Hambrick and Mason, 1984) and personalities (e.g. Nadkarni and Herrmann, 2010) on the organizational outcomes, this study tried to seek evidence on whether the direct and indirect effect of strategic flexibility on firm performance varied in firms with a male vs a female CEO. Our findings on female CEOs offer some insights for the board of directors to select CEOs who match their organizational strategy. Firms pursuing strategic flexibility should feel more confident when appointing a female CEO, because our results show that female leadership may enhance the positive impact of strategic flexibility on firm performance.

References


Further reading


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Contextual ambidexterity and innovation in healthcare in India: the role of HRM

Ashish Malik
Newcastle Business School, University of Newcastle, Ourimbah, Australia, and
Brendan Boyle and Rebecca Mitchell
University of Newcastle, Callaghan, Australia

Abstract
Purpose – The purpose of this paper is to examine innovation in the resource-constrained context of India’s healthcare industry. It is argued that the process of innovation in addressing healthcare management challenges in such a context occurs through organisational ambidexterity and that human resource management (HRM) plays an important role.

Design/methodology/approach – A qualitative research methodology is applied to explore the role of HR practices in facilitating contextual ambidexterity and subsequent innovations in healthcare in India. The unit of analysis is the “case” of healthcare providers in India and in-depth interview and documentary data in two case sites are analysed to reveal the role of HRM in facilitating contextual ambidexterity and innovation. Data analysis was undertaken first at a within-case and then at a cross-case analysis level using interpretive manual coding based on how the data explained the role of HRM in delivering innovative outcomes and supporting organisational ambidexterity.

Findings – The authors found evidence of the use of sets of high-involvement HRM practices for exploration of new ideas and efficiency-driven HRM practices for creating contextual ambidexterity in the case organisations. Further, managerial/leadership style was found to play an important role in creating cultures of trust, openness, risk-taking and employee empowerment, supported by an appropriate mix of intrinsic and extrinsic rewards. Finally, training was also reported as being central to creating an ambidextrous context for delivering on various innovations in these healthcare providers.

Originality/value – This study represents an exploration of innovation in the context of India’s healthcare sector through intersecting literatures of ambidexterity, innovation and HRM practices. In light of the emerging economy research context, an important empirical contribution is palpable. Moreover, through a study design which included collecting data from multiple informants on the role of human resources in facilitating innovative outcomes, the authors reveal the role of HR-related initiatives, beyond formal HR practices in creating contextual ambidexterity. This study also reveals the degree to which contextual idiosyncrasies enhance our understanding of the role of HR in facilitating innovation in emerging economies.

Keywords Innovation, Qualitative, Healthcare, Ambidexterity

Paper type Research paper

Introduction
India is a populous nation that faces numerous social challenges, including that of providing access to quality and affordable healthcare (International Institute for Population Sciences and Macro International (IIPSMI), 2007). In addition to the scale of its healthcare challenges, unlike Anglo-Saxon nations that rely extensively on public healthcare infrastructure, the Indian context is unique in its extensive reliance on non-subsidised, privately funded healthcare. Reliance on private healthcare providers is as high as 70 per cent in urban areas and 60 per cent in rural areas (IIPSMI, 2007). The quality of care, though of a variable standard, comes at a cost that most Indians find difficult to afford. Until the mid-2000s, there was no
comprehensive national health insurance scheme for those living at the bottom of the economic pyramid (the “BoP”; earning less than USD5,000 per annum); this further compounded the challenge of accessing healthcare. Despite the recent development of a national scheme, access to quality healthcare is still a challenge for most. Furthermore, with the Indian healthcare industry now worth over USD110 billion in revenue and growing at a compounded annual rate of 16.5 per cent (IBEF, 2016), different classes of providers offering services to India’s burgeoning middle class (referred to as the “middle of the pyramid” (MoP) are rapidly emerging. This has led to the rise of innovative tertiary and quaternary speciality hospitals to serve the MoP segment, which demands high-quality healthcare at reasonable costs. MoP providers have employed frugal, context-specific innovations in their business models and processes to help provide quality affordable care. They have implemented process and clinical innovations to simultaneously balance the exploration of new ideas with the exploitation of existing resources to provide a higher-end service within the resource constraints of a developing country (Prahalad and Lieberthal, 1998; Tiwari and Herstatt, 2012).

In a scholarly context, the simultaneous pursuit of exploration and exploitation of resources and knowledge has been defined as organisational ambidexterity, a characteristic central to innovation (O’Reilly and Tushman, 2008; Raisch and Birkinshaw, 2008). O’Reilly and Tushman (2008) define “ambidexterity” as organisation’s ability to simultaneously develop learning processes by engaging in experimentation while also aligning with current goals, through refinement, efficiency and strong implementation routines. This ambidexterity leads to innovations that are both technological and administrative in nature (Raisch and Birkinshaw, 2008). Organisational ambidexterity is vital for achieving a variety of innovations; however, its role in facilitating administrative innovations (relating to processes, people and business models) are comparatively under researched (O’Reilly and Tushman, 2008; Raisch and Birkinshaw, 2008; Evans, 1966). Moreover, we would argue that the implementation of new technologies often brings about changes to a firm’s service offerings or the way in which such services are delivered (Damanpour, 1987; Totterdell et al., 2002). Thus, innovation is defined in line with this study’s goals and follows a broader management conceptualization, encompassing all new-to-firm changes in structures, processes and practices (Damanpour and Aravind, 2012) that are intended to achieve these healthcare organisation’s goals. Innovation includes new activities by individuals, teams and users, which improves a health system’s performance or caters to an unmet market need (Ansari et al., 2010). Such innovations in a healthcare context encapsulates developing new hospital processes, clinical procedures or a new business model for creating and capturing value for patients and the stakeholders through context-specific human resource (HR) and organisational management practices for delivering such innovations.

Additionally, the literature classifies innovations as administrative which occur when organisations change their processes and structure to implement new ideas, for example, by making changes to “the recruitment of personnel, the allocation of resources, the structuring of tasks, of authority, of rewards” (Evans, 1966, p. 51). Such innovations can be incremental (minor) and/or radical (significant) in nature. As explained by Tushman and O’Reilly (1996, p. 24), ambidexterity includes the “ability to simultaneously pursue both incremental and discontinuous innovation”. In this context, exploitation often involves seeking improvements and refinements (incremental innovations) to the existing service portfolio, wherein the nature of change is generally minor and serves existing or similar markets, whereas exploration involves looking for variation in existing routines (discontinuous innovation) that is major or radical and leads to new products/services or the serving of new markets or customers.

Ambidextrous organisations are those that are successful in “simultaneously exploiting existing competencies and exploring new opportunities” without affecting their core business (Raisch et al., 2009, p. 685). There are inherent tensions in managing such a duality (March, 1991), and research into how firms manage these tensions is
Growing (Bledow et al., 2009; Cantarello et al., 2012; O’Reilly and Tushman, 2011), especially regarding organisations that face resource constraints – both internal and external. Such contexts amplify the need to balance exploration activities with the incremental exploitation of current activities (Cao et al., 2009). Thus, India’s MoP healthcare providers serve as a “critical case” example of a context conducive to, and likely to benefit from, ambidexterity.

Finally, because ambidexterity is vital for achieving a variety of innovations, recent research has attempted to isolate specific mechanisms for achieving contextual ambidexterity, many of which point to the role of human resource management (HRM) practices and people management more broadly. For example, Caniels and Veld (2016) found that high levels of simultaneous pursuit of exploratory and exploitative learning foster innovation. In another study, employees’ functional tenure was found to be significant predictors of ambidexterity at the individual level (Mom et al., 2015). Similarly, Kapoutsis et al. (2016) highlighted a manager’s political skills in balancing exploration and exploitation to be critical for achieving ambidexterity. People management and empowerment have been stressed through managerial capacity to take initiative (Frese et al., 1996), skills for negotiating and brokering change (Hargadon, 2002), tension resolution (O’Reilly and Tushman, 2011), willingness to empower others (Prieto and Pilar Pérez Santana, 2012), willingness to undertake risks (Chang and Hughes, 2012; Jansen et al., 2008, 2009) and facilitation of opportunities for employees to directly challenge the status quo (O’Reilly and Tushman, 2011). All of these mechanisms point to a role for HRM practices and people management in innovation.

Cognisant that management research consistently supports the role of innovation in organisational performance (Jiang, Wang, and Zhao, 2012; Jiang, Lepak, Hu and Baer, 2012; Prajogo and Ahmed, 2006; Smith et al., 2012), that ambidexterity is vital for achieving innovation through the simultaneous exploitation of existing resources in new ways and exploration of new opportunities (Raisch et al., 2009) and, finally, that mechanisms for achieving ambidexterity point to a critical role for HRM, we ask:

RQ1. What role do HR and management practices play in delivering innovative outcomes by simultaneously supporting the development of exploratory and/or exploitative learning (or ambidexterity) amongst Indian healthcare providers?

In answering the above research question, this paper seeks to add context-rich insights into the role of HR in ambidexterity and innovation, recognising two significant gaps in extant understandings. First, we note the equivocal existing evidence regarding the relationship between ambidexterity and performance across different contexts (Junni et al., 2013), which indicates the importance of context in examining this relationship. Some relevant research on healthcare firms catering to the BoP has been undertaken (Prahalad and Lieberthal, 1998; Tiwari and Herstatt, 2012). However, there is limited knowledge of how large super-speciality hospital chains catering to the innovative MoP segment simultaneously balance the exploration and exploitation of resources to deliver high quality but affordable healthcare. This gap remains despite the recent, dynamic growth of this segment in emerging economies, especially India. The paradox of managing high-growth rates in the presence of institutional voids presents a fertile opportunity for studying innovation and organisational ambidexterity amongst healthcare providers in a context more amiable to innovation than the highly regulated healthcare context of developed countries.

Second, we note that while research reveals that human and managerial factors can act as both catalysts and impediments to innovation (Prajogo and Ahmed, 2006; Smith et al., 2012); it is not clear how innovative firms foster the ambidexterity central to innovation or the role played by HR practices to this end. Moreover, reviews that have tried to identify the linkages between HRM and innovation (De Leede and Looise, 2005;
Laursen and Foss, 2014; Seeck and Diehl, 2016) have shown that most studies have been undertaken in the USA, the UK and Europe, revealing a lacuna of research in developing country contexts.

The paper is organised as follows: we begin by providing a rationale for the research setting by reviewing the literature on innovation in healthcare in India. Next, we provide a review of the limited literature that connects HRM and ambidexterity to innovation. This is followed by a description of our methodology, findings, discussion and conclusion.

Innovation in healthcare services in emerging economies: India’s challenges

With nearly four billion people (or nearly two-third of the world’s population) living at the BoP, innovation to support affordable access to quality healthcare services in developing and emerging economies is particularly important. India ranks 171st globally in terms of public spending on healthcare, and its doctor to patient ratio is 1:1,674, as compared to the World Health Organisation’s average of 1:1,000 (IBEF, 2016). India has just 0.7 beds per 1,000 people, and 66 per cent of hospital beds are in urban areas whereas 69 per cent of the population resides in semi-urban and rural areas; therefore, the challenges to deliver affordable and quality healthcare are immense (Ramdorai and Herstatt, 2013).

However, research indicates that this challenging context can be conducive to innovation. The need to focus on developing context-specific innovations using technologies and process innovations appropriate to a given context has been widely acknowledged by scholars for some time (Schumacher, 1973), and evidence suggests that context-specific innovations are a feature of developing country markets and exist at the sharper and cost-effective end of disruptive innovations (Christensen and Rosenbloom, 1995; Prahalad and Hart, 2002). For example, through business model innovations, indigenous healthcare firms in India such as Aravind Eye Care Systems and Narayana Hrudayalaya offer highly efficient medical eye care costing from USD10 and open heart surgery for about USD2,000, respectively (Govindarajan and Trimble, 2012). Similarly, large MNCs such as GE Health Care, a research and development centre in India, has developed an inexpensive ECG (costing USD535) for the Indian market.

Although there is a growing body of research emanating from India’s healthcare industry that focusses on, for example, “frugal” technological innovations (Tiwari and Herstatt, 2012), there is comparatively less research on administrative innovation or the role HRM plays in this context, despite the fact that so much of the productive output of hospitals is based almost entirely on the knowledge and care provisions of its HR.

Finally, we argue that the MoP segment of emerging economies is worthy of particular attention for a number of reasons. The MoP market segment consists of individuals earning between Indian Rupees (INR) 200,000 and 500,000 per annum, representing the second largest group and comprising 243 million people (USF, 2016). Firms severing this segment must simultaneously address the cost pressures of the BoP segment while meeting the lower end of the premium segment and accompanying demands for quality differentiation. Thus, they operate in a context necessitating both cost-effective innovation as well as innovation that adds value to consumers with higher expectations of quality. Competition, a known driver of innovation (Schumacher, 1973), is also intense, as most healthcare service providers operating in the Indian MoP segment are greenfield ventures initiated by large, highly competitive Indian business houses. The potential rewards for firms in the MoP segment are also noteworthy. The burgeoning middle class makes this a lucrative business venture; India’s share of the global MoP segment is expected to rise from 11 per cent in 2020 to nearly 23 per cent in 2030 (Kharas, 2010, 2011). The value proposition of “affordable high-quality healthcare” in the MoP segment necessitates the delivery of a sustained level of innovative outcomes and “a powerful means for developing and broadening new markets” (Govindarajan and Kopalle, 2006, p. 190). This does not necessarily mean the delivery of contextually specific innovations.
healthcare innovations with high-end technologies but could include stripped-down and context-specific adaptations of existing technologies and/or innovative high-quality service provision. Competing in this segment requires healthcare firms to efficiently exploit existing resources whilst simultaneously exploring new learning for innovation. People are central to this process, and, therefore, developing an understanding of how HRM practices can create a context for innovation is highly relevant in India’s competitive but resource-constrained healthcare system.

HRM, ambidexterity and innovation outcomes

Though previous research provides broad knowledge on how HR and organisational performance are operationalised in financial terms, the role of HRM in innovation and the mechanisms that affect ambidexterity are relatively underexplored (Shipton et al., 2006). More specifically, little is known about the role HRM plays in developing organisational ambidexterity (Prieto and Pilar Pérez Santana, 2012), which leads to innovation. While early management research on ambidexterity referred to the potential role of HRM practices, subsequent studies have failed to take advantage of this potential, and research is scarce on role of HRM in ambidextrous learning (Prieto and Pilar Pérez Santana, 2012).

Much of the literature exploring this topic focusses broadly on the impact of various bundles of HRM best practices or a configuration of HRM practices in performance (Boxall and Purcell, 2015; Delery and Doty, 1996). Following their review of the linkages between HRM and innovation, Seeck and Diehl (2016) argued that the assumptions underlying the relationship between HRM and performance are mirrored in the HRM-innovation link. Further, they noted that much of the research in this area has focussed on analysing the impact of universalistic best-practice bundles or a configurational approach to explaining innovation outcomes (Seeck and Diehl, 2016). Several HRM practices have been identified in the literature as having an impact on innovation (Beugelsdijk, 2008; Ceylan, 2013; Jain et al., 2012; Mumford, 2000; Schuler and Jackson, 1987) and ambidextrous learning (O'Reilly and Tushman, 2008; Lichtenhaler, 2009; March, 1991; Raisch and Birkinshaw, 2008). Consistent with the common argument in innovation literature that an organisation’s ability to learn and integrate new ideas is central to innovation, studies focussing on HR have highlighted the role of specific HRM practices in achieving this goal such as training, performance management, reward systems and a learning culture (Foss and Laursen, 2003; Gupta and Singhal, 1993; Storey et al., 2002). These act as the key stimuli for developing a firm’s learning and thus its innovative capacity. Scholarly literature in this area points to both the direct and indirect effects of HRM on innovation.

HRM practices and innovation: direct effects

Studies in various contexts examining the direct effects of HR on innovation suggest a positive impact of HR practices. For example, using survey data from 1,900 Danish firms, Laursen and Foss (2003) found that from a bundle of nine HRM practices, seven were more conducive to innovation in manufacturing firms whereas two practices – internal and external training – were more important for innovation in service sector firms. Evidence from 173 Spanish firms supports a similar relationship (Jiménez-Jiménez and Sanz-Valle, 2008). Similarly, Lau and Ngo (2004) found a set of HRM practices to have a positive impact on product innovation in Hong Kong. Scholars focussing on the UK (Shipton et al., 2005) and Belgium (De Winne and Sels, 2010) noted that bundles of HRM practices act as the key determinants of innovation. Analysing the impact of HRM on technological and administrative innovations in China, Zhou et al. (2012) found a positive influence of both commitment-oriented and collaboration-oriented practices. In the HRM best-practice tradition, a study from India found a positive impact of training, employee involvement, performance management and employee welfare schemes on creating an innovation-oriented strategy (Cooke and Saini, 2010). However, while there are some similarities in the HRM requirements of firms operating in
developing and developed countries, recent research also suggests marked differences, thus necessitating a context-specific understanding of the role HRM plays in supporting innovation (Srinivasan and Chandwani, 2014). Indeed, a variety of mediating and moderating factors might be considered based on insights from extant research.

HRM practices and innovation: indirect effects
Another stream of research in the literature explores the influence of various moderating and mediating factors. Key mediators include variables such as employee perception of high-commitment and high-involvement practices, creativity, work engagement and knowledge management (Seeck and Diehl, 2016). A behavioural perspective is often noted to reveal a mediating or moderating influence on the HRM bundle’s overall impact on innovation (Mumford, 2000; Jiang et al., Wang, and Zhao, 2012; Jiang, Lepak, Hu and Baer, 2012; Schuler and Jackson, 1987). Amongst the earliest contributors to this field of research, Schuler and Jackson (1987) argued that empowerment-and trust-based job designs are conducive to the development of new ideas. Common moderators identified in the literature include the industry, culture, organisational structure and employees’ task structures (Seeck and Diehl, 2016).

Because industry is identified as a moderator of HR’s impact on innovation, we postulate that in a knowledge-intensive service industry such as healthcare, people and HR practices may play a particularly strong role in facilitating innovation, despite a growing understanding that leveraging HRM advantages remains particularly challenging in this context (McBride and Mustchin, 2013). Perhaps as a consequence of this challenging context, there is a growing recognition of the need for effective people management practices in healthcare to improve organisational efficiency and patient outcomes, in part through innovative approaches to service delivery worldwide (Bartram et al., 2007).

However, we argue that while the importance of effectively managing HR is now entrenched in healthcare policy discourse internationally (Australian Government Productivity Commission, 2005; Cabinet Office, 2006; World Health Organization, 2006), few comparisons can be drawn between the challenges in developed and developing country contexts. While the former have a long history of state investment and tight regulation at the high end, developing countries like India face unique HR, resourcing and demand challenges and consequently have an amplified need for ambidexterity. Therefore, we must carefully consider what is currently known about HRM’s role in creating ambidexterity, i.e., an organisation’s ability to simultaneously develop learning processes of exploration and exploitation (to refine and realign existing resources).

HRM practices and ambidexterity
A recent review exploring the relationship between ambidexterity and HRM suggests there are numerous HRM and organisational practices that act as antecedents for the creation of an ambidextrous context conducive to innovation (Junni et al., 2015). Junni et al.’s (2015) review points to multiple levels of influence, suggesting that employee, leader- and HRM practice-level influences interact with organisational-level variables such as structure, culture and other contextual variables, which combined create an ambidextrous context. More recently, high-involvement and high-performance work systems have been noted to create a social climate that supports an ambidextrous context through a number of ability-, motivation- and opportunity-enhancing HRM practices (O’Reilly and Tushman, 2011; Patel et al., 2013; Prieto and Pilar Pérez Santana, 2012; Prieto-Pastor and Martin-Perez, 2015).

For example, in a survey of 215 SMEs from the USA, Patel et al. (2013) found that disparate sets of HRM practices can deliver both alignment and adaptability for achieving ambidexterity. Prieto and Pilar Pérez Santana (2012) found in their study of 198 Spanish firms that high-involvement HR practices facilitate the creation of a social climate, which fosters ambidexterity. Prieto-Pastor and Martin-Perez’s (2015) study of 182 Spanish
firms found management support plays a moderating role in the relationship between high-involvement HRM practices and ambidextrous learning. Ahammad et al. (2015) study of Israeli banks found that motivation-enhancing HRM practices helped create an ambidextrous context, while Rao-Nicholson et al. (2016) found a positive influence of HRM on ambidexterity, moderated by distributed leadership.

While the above research linking ambidexterity with HRM and innovation in developed country contexts provides some universal insights into this relationship (Ahammad et al., 2015; Prieto and Pilar Pérez Santana, 2012; Rao-Nicholson et al., 2016), there are continued calls to explore how firms create an ambidextrous context through HRM (Junni et al., 2015), in part due to the disproportionate focus on quantitative measurements of direct effects related to innovation, a limited understanding of process-related factors (Seeck and Diehl, 2016) and an absence of research in developing country contexts. Recent research on the process-related factors that might better explain the role of HRM in facilitating effective and innovative resource utilisation has pointed to the importance of ambidexterity (Burgess et al., 2015). Thus, we argue that in the absence of a firm understanding of HR’s role in creating contextual ambidexterity, our understanding of HR’s impact on innovative outcomes is limited. In their discussion of contextual ambidexterity, Gibson and Birkinshaw (2004) explain that when employees can simultaneously exercise “alignment and adaptability”, the former facilitates the exploitation of existing routines and knowledge to execute an organisation’s goals, whereas adaptability allows employees to explore new knowledge conducive to renewing existing routines. Such an approach requires employees to simultaneously undertake both modes (exploitative and explorative) of learning in their daily routines, therefore incurring significantly less coordination costs. This approach to ambidexterity assumes that through individual decisions on how to allocate time and resources firms can manage the duality of the two learning modes (Tushman and O’Reilly, 1996). This clearly places HR and people at the core of organisational ambidexterity. It is ultimately the people in the organisation who possess knowledge and the means by which new and context-appropriate applications of learning and resources can be exploited; their brains are the “repositories of an accumulation of how things work” (Marsick and Watkins 1999, p. 208), and their actions are the exploitation of learning in practice. Thus, though few studies have explored the topic, especially in a healthcare context, the role of HR and their management in creating ambidexterity is incontrovertible.

In healthcare, research has emphasised the potential of ambidexterity to facilitate both the exploitation of existing knowledge and the exploration of new approaches to meet the increasing demand and more complex care needs emerging internationally (Burgess et al., 2015). This ambidexterity has even greater potential in developing countries such as India, where existing demand already heavily outweighs resource availability (Ramdorai and Herstatt, 2013). However, research in this area is still in its infancy. We ask:

RQ1. What role do HR and management practices play in delivering innovative outcomes by simultaneously supporting the development of exploratory and/or exploitative learning (or ambidexterity) amongst Indian healthcare providers?

Research methodology

Yin (2003) explains that research aimed at answering “what” and “how” questions should use qualitative methods in order to deal with processes that need to be linked. A priority for this study was to identify a methodology that acknowledges context specificity. To this effect, Yin (2003), who defines a case study as an empirical investigation into contemporary phenomenon operating in a “real-life context”, highlights some relevant considerations.

A qualitative case-based approach is particularly valuable where the kind of control present in a laboratory is not feasible or justifiable and when an understanding of context that incorporates the views of the “actors” is sought (Yin, 2003).
In keeping with our discussion above, the unit of analysis is the “case” of MoP healthcare providers in India. Following Yin (2003), our study aims at theoretical and literal replications; therefore, data collection took place at two case sites. In-depth interview data with key informants from the two sites were collected in addition to documentary data from both organisations. The interview questions were developed based on the review of the literature summarised above. While data collection was informed by prior research (Dubois and Gadde, 2002), our analysis sought to critically appraise its applicability/boundaries in our specific research context. That is, while the extant degree of theoretical guidance available for the study was sufficient to focus the collection of data within a defined unit of analysis, guided by current theorizing, this research was exploratory in our developing country context.

Data collection
Semi-structured interviews were conducted in two highly innovative and high-growth MoP healthcare firms in India. The study employed purposive sampling to select highly innovative firms using insights from expert informants (Eisenhardt and Graebner, 2007). Through the researchers’ professional networks established over nearly two decades of research in India, HR managers and consultants offering HR, management and other consulting services in the healthcare industry in India were asked to identify large super-speciality hospital chains that have implemented some form of innovation. A total of six hospital chains were identified by these experts, and invitations for access was sought. In-depth interviews, ranging from 60 to 120 minutes in length, were conducted at the two case organisations that agreed to participate and with nine key informants, including the most senior HR manager in each case site, the CEO, business development managers, nurses, clinicians and site heads. The interviews were transcribed verbatim, yielding a total of 172 pages of transcripts and 60,606 words of textual data. Additional secondary data from the public domain, organisational documents and policies were reviewed.

A maximum variation purposive sampling logic was followed to recruit interviewees to access multiple perspectives on the role of HRM and HR in ambidexterity and innovation in these case sites. The selection of organisations also included “peer nomination” by our expert informants as such an approach has been described as a “reliable and valid technique” (Howell and Higgins, 1990, p. 326). People tasked with overseeing an HR process, service or business model innovation were specifically selected for interviews. Multiple perspectives on the role of HR, HRM and management practices in facilitating ambidexterity were sought beyond those provided by the most senior HR manager at the two case sites. Because HR activity is often devolved, site/unit head, nurses, physicians, surgeons, a training manager, CEO and even a project manager’s perspective were included (because each had previously been tasked with overseeing the innovation taking place at the case sites). As a knowledge-and service-intensive industry, HRM is central to healthcare provision, and therefore, our analysis would have been limited if we had chosen to only interview the hospitals’ HR managers.

Data analysis followed a cumulative process from basic pattern analysis to interpretive coding at a within- and cross-case level, which focussed on how the data addressed the research question. A constant interplay between theories that informed the empirical context led to the exploration of sub-categories and categories for developing first- and second-order concepts and themes, as well as a focus on the aggregate dimensions that the data set supported. This is a vital step in strengthening internal validation (Eisenhardt, 1989). The iterative process of coding the raw data, linking it back to the literature on high-involvement work systems, ambidexterity and innovation (Van Maanen et al., 2007) and looking for extensions in existing literature allowed us to balance the acknowledgement of existing theoretical insights while maintaining sufficient “theoretical detachment” (Andersen and Kragh, 2010) to explore the phenomena in its real-life, developing country context consistent with the study design.
Through this systematic “combining”, we were able to transparently report the data while developing a new organising framework for identifying key HRM practices that support ambidexterity and innovation (Gioia et al., 2012).

To add further enhance clarity, the two-step manual coding process is presented in Figure 1. The first-order-subcategory concepts represent the pattern analysis of activities that underlie innovation in the case sites. The second-order categories are the aggregate coding that encapsulates the HRM practice represented by these activities. This step is intended to integrate appropriate insights for the extant literature. With this technique, the analytic process involved both reporting of raw data provided by interviewees, as their examples of innovative activities, and the application of concepts from the literature now shown to analytically relevant, e.g. such as what is known about empowerment and job design that can now help embed our finding with previous research. This technique provides transparency to the role of the researcher in the analysis of the data and provides clarity in relation to what is contextually different about this data and what can be appropriately integrated with the existing insights from the literature (Bryman and Burgess, 1994).

Themes emerging from the data are presented in **bold and italics** in our findings and discussion section that follows, while illustrative interview quotes are presented in **italics**.

**Findings and discussion**

In summary, both cases demonstrated the creation of an ambidextrous context by investing in appropriate employee behaviours and supportive high-involvement HRM practices. This helped achieve a number of innovation outcomes. Certain HRM practices were seen as critical enablers of what respondents called *appropriate soft technology* that allowed the formation of an ambidextrous culture. As one interviewee explained that this was about *behavioural training* through formal or informal peer interaction as well as formalised training. More specifically, HRM practices in each firm supported exploration and exploitation activities through connecting mechanisms what we coded as *behavioural bridges* (see Figure 1) for achieving ambidexterity and innovation. These bridging mechanisms included the presence of *ambidextrous managerial/leadership behaviour* to create room for experimentation while still placing appropriate boundaries on resource use. This is similar to O’Reilly and Tushman’s (2011) toleration and resolution of the tensions in facilitating ambidexterity, the difference here being that this was deliberate and planned. Another major theme across both cases were the role of employee

**Figure 1.**

Conceptual model mapping the relationship between high-involvement HRM work system, ambidexterity and innovation.
empowerment and acceptable risk (similar to Prieto and Pilar Pérez Santana’s, 2012 and Chang and Hughes’ 2012 expectations). This gave employees leeway to experiment in process and business model innovations. Finally, another major theme across the data for both cases was the importance of allowing employee voice to challenge the status quo. This occurred through suggestion schemes and employee initiated quality improvement programs, as well as through offering differentiated rewards and benefits for those willing to innovate. Employees were found to be motivated to balance experimentation in parallel with the existing core business practices. The following section provides a detailed case-level analysis of how these themes were manifest in the data. We begin by providing an overview of these hospitals and then provide a thematic cross-case analysis of how HR and management practices created an ambidextrous context as depicted in Figure 1.

Case 1 overview: a maternity care hospital chain in India
Employing about 1,400 employees, this hospital chain specialises in providing innovative and specialised mother and child care in five of the largest cities in India. The hospital offers several new to market and new to country innovations in this market segment. These include in addition to specialised foetal medicinal and advanced intensive care, educational classes for the young parents, family support systems, hospitality and extended care at home for the new parents who are typically living away from their homes in larger cities. In recognition of its service and innovative approach to what is essentially a very established and basic surgical procedure, this hospital chain has received dozens of national awards.

Case 2 overview: a super-speciality hospital chain in India
As a super-speciality chain of nine hospitals operating, in the main, in Tier 2 metropolitan and tourist cities, this chain also acquired brownfield sites and gradually converted them into super-speciality hospitals. By focussing on three to four core specialities, this chain has achieved the efficient exploitation of core specialisations. This also helped establish routines for scaling this approach across the entire chain. This hospital employs local nursing and allied staff; however, to differentiate itself through innovative and affordable high-quality services, partnered with Harvard Medical School and recruited Indian specialists living overseas who were keen to return to the country.

Creating an ambidextrous context
Patient- and business-centric values
Interviewees explained that HRM practices focussed on creating a work culture that reinforces the values emphasising the personal credibility of nurses and clinical staff; developing a strong bias-for-action and employing what was termed behavioural coaching for both managers and employees as a way to reinforce these values. Interviewees stressed that personal credibility was developed through ethical practice explaining that right from the way we treat our employees, the way we value and treat our customers, everything is ethical. It was reported that the personal credibility of employees and ethical practices have served as the foundational stone for delivering innovative services in these healthcare organisations. It was stressed that this values approach also created a basis for action (i.e. to learn and innovate because they could be trusted) as exemplified in the following quotes:

I would say integrity the way we have defined it is doing the right thing whether someone is watching or not [...] Credibility it comes from that, personal credibility right. And I will do the right thing to whoever, no matter what. The second is, so what do I do? Is bias for action, which is the
second value, which is I will not wait for permission or to be told to do something. I just go ahead and do it because I feel it’s the right thing.

When it comes to having a bias for action, interviewees explained that this requires that the core ethical values that are embedded in the organisation makes this possible:

And ethics are very important. There have been circumstances of people getting on the ethical side or on the personal side, the right kind of decisions have been taken, and those people have been asked to leave the organisation immediately, so that the right signals are sent to people.

Some interviewees explained that it is ethics that led to innovation, ethical treatment:

Yeah so we found that there are ten basic areas where we make things different or better for our customers, right? So, some of them, one is of course integrity, our ethical treatment.

It was very apparent that these values promoted by the owners helped create a culture where innovation could be pursued. This was also evident in the words of a consultant gynaecologist/obstetrician who confirmed management’s perspective, when suggesting it was the cornerstone of working in the hospital and the patient experience:

I am delighted to be associated with X hospitals. Providing exceptional, personalized care, within a culture that fosters new ideas and continuous innovation, is the cornerstone of the experience we are looking forward to deliver to our patients and their families at X hospital

Additionally, by developing respect for all employees and adopting a customer-centric value system, the organisation has achieved an empowerment-based culture. Much idea generation is bottom-up (through employees balancing their personal credibility and bias-for-action), as well as through suggestions from service end-users, i.e., expectant mothers and their families. This was evidence in nurses being able to take customer-centric actions, adding initiatives that they felt reflected this value. As interviewees noted:

So here you have you know a customer service excellence [...] We had an event where you know the first babies who were born, the first 100 babies, the premies, they were all invited back and you know we had a little celebration. [Referring to those who took these actions the interviewee stressed] I mean they’re people who have been able to master the process [of customer-centricity] [...] because they have a very clear customer mandate or a customer promise right, and all their systems and processes are aligned to business systems, strategies and leadership.

Others were very explicit that the values, empowerment and culture had but one objective:

Our purpose is customer-centricity. So the whole idea is to do, give the customer the best experience [...].

In this hospital it was reported that new ideas generated by nurses through their interactions with service users are subsequently evaluated and, where appropriate, integrated into daily routines through the organisational value of compassion. This value was explicitly connected to innovation with an interviewee stressing that:

Innovation in my context, it really comes from a very deeply held value and practice of compassion, okay [...] I would say closer to the customer, closer to the core is compassion [...].

Routine idea sharing between hospital sites, as well as between clinicians, has also enabled improvements in clinical practice. Through the adoption of a sharing and an empowerment-focused approach, high-involvement HRM practices have supported the exploitation of existing resources and routines for realising efficiency gains and achieving standardisation (see Figure 1). At the organisational level, for example, the decision to convert existing brownfield sites into maternity hospitals allowed for a shorter time-to-market, as well as standardised care and care packages in the heart of the city.
Role of high-involvement and empowerment-focused HRM practices in innovation

In terms of the specific HRM practices, hiring, employee involvement, benefits and differentiated rewards were stressed as both innovative in using HR, but also essential to learning and to process and business model innovations (see innovation outcomes Figure 1). Learning and development also played a vital role in expanding the capability of individuals to engage in the design and delivery of process and clinical innovations creating what interviewees in Case site 1 described as clinical and business model innovations.

Focused hiring for innovation
The data coded under this theme reflected differentiated hiring practices for different professional groups in the case sites. The recruitment strategy for nurses was reported as a HR innovation in itself, while the recruitment of outside top talent (to bring in new ideas was considered essential to innovation at the organisational level). The focus on hiring nursing staff from local and regional areas helped reduce costs and retain nurses over a longer term in a market where there is a shortage of nursing talent. It was explained that while:

"Some recruitments are done at the national levels […] we prefer local recruitments because for one thing is local recruitments tend to stay longer“. "And again, if we're recruiting from outside, and especially if you want an experienced nurse OT nurse I'll give you an example. MICU, nurse. Then we pay them additional based on the skills".

In contract, the hiring of specialists was focussed on recruiting top talent that could bring in ideas based on international experience. This recruitment was directly related to innovation by interviewees, for example:

In terms of clinical innovation most of our super specialists are people who have trained at very good centers, and like for example our joint replacement surgeon he did the training in the UK for five years, then the urologist also now has got training in the UK for about four years […] Our neurosurgeon has done a fellowship in the US, so these people what they do is whatever is [...] going on abroad they try and do it here as long as the cost is within the reach of the patient[s].

The empowerment of this talent to innovate was related explicitly to the recruitment discussion (i.e. hire top talent and give them some freedom). However, the empowerment of other categories of health professions, such as the abovementioned nurses was also stressed. That is, this theme of empowerment-focused work design for process and clinical innovations was reported as important across all categories of staff not just the top talent. An important finding in a cultural context like India’s, traditionally characterised by significant hierarchy.

Empowerment-focused work design for process and clinical innovations
The presence of an empowerment-based culture and respect for employees was evident in the commitment of nursing staff to deal with problems and make a difference:

So basically empowerment is very important, because if they have a buy-in with the organisation's philosophy, then it's easier for you to disseminate that information lower down. So then it's easier for you to understand what's happening lower down as well, so that the information comes back to you. It's like a bouncing ball. If you throw it down, if it doesn't come up, then you're not [empowering].

It was reported in the second case study that limited regulation and the late manifestation of diseases (mainly due to emerging economy contextual issues related to poverty and procrastination by patients, which is not uncommon in the Indian healthcare system), provided the opportunity for specialists to undertake experimentation, resulting in clinical innovations, which would not be possible in the highly regulated environment of the West.
This freedom and empowerment facilitated through bridging mechanisms of leaders and managers was reported as playing a significant role in innovation. For example, using their specialist clinical and research knowledge and applying it in the Indian context, specialists with overseas experience had undertaken stem cell research that has delivered major breakthroughs in treating complex conditions. These clinicians exercised their discretion and choice within an established area of practice through a relatively controlled environment (but one that is comparatively much less regulated than developed country contexts). In such cases, specialists were allowed and supported to be innovative in their treatments, and clinical care. As can been seen in the following extract this represented a lot of freedom but yet, did not in the interviewees opinion, represent a lassie-faire approach:

Fundamentally the way that we engage with our doctors is [...] So we don’t set any clinical boundaries [...] They have a lot of freedom. What we do is that before we bring a doctor on there is a very thorough credentialing and privileging process, [...] we privilege him to do x, y, z, which could be cardiac surgery, cardiology, invasive, non-invasive, whatever it may be. Now once we’ve privileged him, the field is his [...]. whether he wants to innovate [...] try a new procedure in cardiology, he may take outside help, he may want to go for a training somewhere [...]. we’re very open, flexible to clinicians taking their own clinical decisions. [But] Empowerment to us doesn’t mean having a casual lassie-faire approach, but it means helping people achieve their outcomes [...]

So it needs to add to productivity. [...] I can say discretionary extra role behaviours [done] right.

Another theme related to the Role of high-involvement and empowerment-focussed HRM was data on rewards and benefits.

Employee rewards and benefits for clinical and process innovations
Through involvement practices, the hospital soon realised the key pain points of their nursing staff: accommodation and transportation costs in a large metropolitan city – a critical employee benefit gap. As most nursing staff are typically engaged in shift work, the organisation decided to offer employee benefits in the form of subsidised (often shared) residential accommodation with point-to-point transfers from the nurses’ hostel to the hospital to provide a safe environment for nurses. Notably, in this developing country context, this communal living for nurses was viewed positively and had beneficial knock on effects. This approach helped in fostering a sense of teamwork among the nursing staff sharing accommodation and reduced employee attrition.

Physicians, consultants and nurses were offered differentiated compensation packages based on their performance on improvement projects (i.e. linked to process innovations). Interviewees explained that compensation was used as a means to encourage service innovation. One example provided was being able to get paid more (flexible rewards) by adding new service innovations:

We are definitely not the best pay masters. But we have schemes where employees can earn a lot [...] For example [...] homecare [...] Generally [young] couples don’t know how to handle babies. So for the first one week we take, or first one month they can choose to have the same nurse who [...] helped them out in the hospital, comes back home and helps with the baby bath and so on. And these are things that we just do so that the employees are able to earn a lot more [...] There are small little celebrations that are thrown in. So one of our units just found a suite room is what patients want [...] I mean they found out that these guys are looking for something more [...] for a genuine sense of celebration [...] So, they [nurses] devised a candle light dinner for the new mum and dad [...] 

At the HR management level facilitating the flow of ideas was also rewarded. Line managers and physicians with line management responsibility are expected to gain and evaluate ideas and present them to the management. This brought efficiency and created routines for all staff to engage and innovate from the ground up. Again, this is quite a significant finding in light of the research context, as the approach to HRM was overcoming an appreciation of hierarchy
deeply embedded in Indian culture. Recognising the efforts through monetary and non-monetary means stressed with a view to sustaining efforts to add new and better services:

Yes. We have something called employee recognitions which every month there will be a various nomination from individual teams. Based on their performance they are, HODs will shortlist okay this is the person should be recommended from nursing side [...] Plus the certificates are given. Then there’s also, I mean instead you get rewarded with cash prize also [...] So we give a cheque of, you know, 1,000 rupees every month based on that. [...] Appreciation should be in all forms, it has to be monetary also.

Intrinsic rewards were also noted as important. It was reported that the specialists in this hospital are allowed opportunities for further professional development and to share the successes (partial or full) of their innovative procedures at international conferences. Celebrating innovation is considered an important part of the organisation cultural and a catalyst for cultivating external partnerships. It was reported that such forums have further afforded specialists’ opportunities for exploration and generation of alternate ideas.

Ambidextrous managers/leaders for process and business model innovations

An important example of this theme in the data was when the hospital leadership realised the there was a huge and untapped market of young parents living away from their families in Tier 2 cities who could benefit from some ancillary educational, care and social support programs. The hospital successfully launched multiple service innovations and offered patient-driven solutions in the form of differentiated care and cure packages. Central to delivering this innovation were managers who could create an environment where new approaches could be implemented cognisant of the different perspectives of different staff members. That is, this was enabled by the presence of ambidextrous managers who often play the role of good cop/bad cop between nurses, physicians and ancillary staff. It was found that when facing resistance from clinicians and allied staff, the senior leadership in this hospital was tasked to play a dual role of good cop/bad cop, wherein the line managers were expected to both accommodate the new ideas and deal with resistance. An interviewee explained this as a soft and hard approach that as a team we did of course. It couldn’t have been done by me alone.

The ability to embed duality of routine and non-routine was greatly facilitated by the above ambidextrous leadership and managerial styles:

Yeah, it does, it does. It’s an open forum. It’s not a controlled forum. So everyone has the right to speak out and challenge what they want […] at the associate level or at my level there are challenges which we pose to each other every time, but at the same time the MD also can be challenged on some assumptions that she has made. So that’s how the inclusive behaviour and openness is there, and freedom to work is there. Otherwise you feel stifled, you can’t perform, you can’t think out of the box.

Finally it was also reported that the performance management metrics for supervisory staff were set to encourage the generation and flow of ideas by encouraging and developing frontline staff. That this is linked to performance management and that the flow of ideas need to be facilitated in a hierarchical culture in an emerging economy context, is significant:

If you actually speak to another nurse you’ll find a world of a difference in the level of confidence, in the level of assertiveness with which they will fight for things and you know, things that they don’t agree with from the patient’s perspective and somebody else is kind of […] So they have a lot of say. Because it is heard, it is valued and it is implemented where it makes sense. So, and I think that’s the kind of interaction she even has with the clinician.

A final distinct theme in the data was Learning and development for process, clinical and business model innovation. In line with predications in the HR
literature the important of learning and development in employee and organisational innovation was repeatedly stressed by interviewees. However, it was discussed in a manner that explicitly linked development to the core values of the hospitals and the fore mentioned empowerment culture.

**Learning and development for process, clinical and business model innovation**

Learning and development was reported as central to firms' innovative capacity. In terms of exploration, collectively, the flow of ideas and knowledge generated by nursing care staff and patients had resulted in the birth of a new business model. In part, the value of compassion towards patients was central to the birth of the new business model, wherein, in addition to relying on revenue from pure clinical and nursing care, the hospital decided to expand its portfolio of services to offer ancillary services such as educational programs for pre- and post-natal care, social events and celebrations of the birthing experience for new mothers and young families. This business/service model innovation was made possible through the abovementioned empowerment-based culture and the value placed on trust between the doctors, nurses and patients:

So once I do bias for action, I'm already building trust in the system. Unless I trust another person I wouldn't be able to do it, so people who have a delegation problem, who have a letting go problem will find it extremely difficult.

Internal team-fit was considered vital for supporting process innovations. In this context, it was noted that, the implementation of national and international accreditation quality standards served the dual purpose of high-quality market signalling and creating confidence amongst nursing staff who were developing with the hospital. Distinctive differences were noted, including the nurses' leadership approach following their training programme in the USA; as part of the programme, nurses were expected to lead several process and administrative innovation projects. The self-efficacy (Yu, 2010) of nurses who attended international training to improve the care experience of their patients was enhanced, and they were able to identify, lead and implement various operational and strategic process innovations in nursing care (that is there was a very direct link between this development and innovation). Examples were provided that included innovations to improve aspects of infant mortality, infection control and bedsores. It was apparent that the hospital's partnership with Harvard Medical School to deliver nursing leadership training also allowed the nursing staff to share knowledge with other nurses and allied medical staff such as technicians, as well as consult with clinicians and physicians to engage in routine and non-routine problem solving and experimentation. Additionally, the hospital partnered with one international and two national hospital quality accreditation bodies. In terms of driving innovation an interviewee explained the Harvard relationship evolved from design to clinical practices learning on an ongoing basis:

[...] it's almost 12 years now that we've had a relationship with, Harvard partners, and you know it's evolved from really facility design to clinical you know practice and knowledge sharing. [...] what we do with them [clinicians] is we get them out here, we go there. There's actually hands on clinical sharing, expertise development and sharing.

Linked to this, it was explained that behavioural coaching through direct reports allowed for some leeway to nursing staff to spend an allocated budget on service innovations. For example, for festive activities. Such activities have created a sense of ownership and empowerment among the nursing and clinical staff, which has encouraged them to take calculated risks critical for exploratory learning. Through the HR practice of behavioural coaching by supervisors, employees felt more comfortable engaging and generating new
ideas. Most importantly, voice mechanisms were designed to facilitate interactions and the flow of ideas. As explained by a management interviewee:

Nursing is present at very high levels of leadership interactions. So, we structure it that way very purposefully [...], the visibility of nursing is not restricted to the nursing zone [...] So basically my style of leadership [...] was definitely empowerment, freedom. At the same time, ensuring that the policies, practices are followed, which are organisational policies.

Implications and conclusion
In line with might be expected based on the literature, both case sites were found to rely on a bundle of efficiency-oriented (exploitation) and empowerment-oriented (exploration) HRM practices to achieve ambidexterity. The robustness of extant observations on HR’s role in innovation, evidenced by our ability to effectively explain our findings in a developing country, in line with these insights from research in developed-country contexts, is notable. Assumptions regarding HRs role in facilitating innovation cannot be fully understood absent a balancing of the research insights gained in developed country contexts with sufficient empirical explorations of the validity and scope of these insights in new contexts.

Our approach to theory development (i.e. the model we build based on our exploratory study) allows IHRM researchers to evaluate the explanatory power of existing perspectives, and whether they differ greatly according to context. It has been suggested that international management (and IHRM) researchers in particular, need to ask when and where a theoretical lens sheds light on phenomenon before we assume it applies, in part, or in full (Doz, 2011). That, despite our developing country context, some of our findings can be reliably explained with insights from extant literature, in no way trivialises these findings. In fact, the most current debates in the IHRM field explicitly accentuate the importance of considering context before adopting a universalist vs a contextual paradigm for future research (Farndale et al., 2017).

However, we also note the significant contextual idiosyncrasies found, with important implications for understanding of HRMs role in facilitating ambidexterity in a developing country contexts. In our exploratory methodology, we took a “dialectical approach” to developing new insight (Poole and Van de Ven, 1989). Consequently, we can consider how our findings fit with, and contribute to extant insights, in addition to articulating how contextual idiosyncrasies can enhance our understanding of their applicability and/or boundaries.

The first contribution relates to the role of contextual conditions in creating opportunities for innovation by health care professionals. The Indian healthcare context presents numerous challenges, but at the same time, it also presents possibilities for innovation to address these problems. For example, diseases that manifest in India are often diagnosed at an advanced stage, which limits the utility of proven medical procedures, thus necessitating innovation. As one specialist noted, they were dealing with complex primaries, a new concept in medical parlance: a condition which has occurred due to procrastination by the patients. Solving these conditions requires viewing them as an opportunity for clinical innovation and provides healthcare teams some discretion in undertaking clinical innovations. Moreover, a variety of supporting HR practices were found to be central to facilitating this ambidextrous context, including practices for hiring local (and regional) talent, developing performance management metrics for supervisors to actually facilitate the generation of new ideas, mentoring of frontline staff, flexible benefits, training, behavioural coaching, etc. These HR practices could all be used to facilitate ambidexterity because of the opportunities created by contextual conditions. How such innovation-friendly conditions might be replicated safely in a highly regulated developed economy context is a tantalising question for future research.

Furthermore, our findings that the hierarchy that generally exist in the healthcare industry (and which would be expected to be amplified in a hierarchical culture like India)
were not pronounced in the cases studied, suggesting a strong role for HR practices in countervailing hierarchy, a significant finding in India (and by extension for HR research and practice in other hierarchical cultures). In this sense, the context of this study has stretched the boundaries of what be expected. That HR can have an impact here has generalisable implications. As social identities based on culture, profession and hierarchy have been shown to be a factor in the effectiveness of interaction across healthcare teams in the west (Mitchell and Boyle, 2015), the significance of HR’s role in countervailing hierarchy has implications well beyond India.

The role of international collaboration is also noteworthy in light of the developing country context. New knowledge creation through external accreditation bodies such as Harvard Medical allowed frontline employees to identify better nursing solutions and implement various process innovations to improve clinical outcomes and the patient experience. The role of HRM in facilitating international collaborations, training and recruitment is central to adding capacity for innovation in developing countries. When coupled with HR practices which stress empowerment and experimentation the full benefits of international collaboration can be realised. The HR practices connecting both modes of learning were simultaneously performed by ambidextrous leaders who empowered staff to explore and experiment, in part by seeking feedback from patients. Contextualising knowledge gained overseas through feedback from patients and having lots of freedom to experiment, allows providers in developing countries the opportunity to both exploit and potentially extend knowledge. Additionally, the practice of using external accreditation supported the standardisation of routines to exploit common and specialist knowledge.

The second contribution of this study relates to insights into the ownership of HR activities underlying innovation. Both the methodology used (interviewing a variety of stakeholders, not just HR professionals) and the subsequent data collected revealed the devolved nature of many of HR activities that drive innovation. This has important implications for HRM, as the field continues to engage in a normative discourse asserting that the path to an HR professional’s status lies in the role of strategic business partner (Wright, 2008). In these case studies, the organisational legitimacy of HR (and the role of HR in innovation) was earned at the coalface. Diverse respondents in this study articulated the role of HR in supporting the development of exploratory and/or exploitative learning (ambidexterity); this validates our proposition that people management is central to these processes. This finding has implications for a more widespread debate in HR regarding the broader issue of dismantling functional demarcations in organisations (Wright, 2008), and perhaps demarcations in researchers’ minds. Innovative HR work in these case sites is both open to, and driven by, occupational groups that are central to the organisations’ success (e.g. nurses, doctors and their unit managers).

A third contribution pertains to the implications of our findings for future research. It was apparent in our data that the healthcare context, particularly in a developing country, impacts the role HR plays in innovation. In the healthcare context, the focus is on customer (patient)-driven HR innovations; therefore, HR activity at the coalface (not between departments) was most revealing of how HR contributes to critical organisational innovation. In India, an important emerging economy, the empowerment and flexibility afforded for “experimentation” was explicitly noted to be beyond what would be possible in a western healthcare setting. Thus, an implication for future research is the need to further question whether mass or organisationally specific research is most appropriate for examining the role of HRM in innovation. The real “owners” of HR’s role in innovation were not the HR managers, rather ownership was devolved. This reflects an “integrated HRM”, where people management and related processes are not only the purview of HR professionals (Gratton et al., 1999).

Finally, we note that the empowered and flexible approaches of these case hospitals operating in the MoP segment have implications for existing healthcare providers in
developed markets, where institutional regimes often act as barriers to the development of innovative solutions. There is a scope for knowledge transfer, as well as an opportunity to introduce a disruptor in developed markets, by partnering with some established emerging market’s MoP players. The behaviours of organisations and individuals in healthcare sectors worldwide are known to be regulated to a level of complexity that is second to none (Field, 2006). While we acknowledge that there are good reasons for this level of regulation, we also note that it has potentially negative consequences for innovation. Based on our findings, while working within regulatory constraints, hospital managers should design HRM and management practices to create an ambidextrous context that facilitates the delivery of sustainable innovation.

The main limitations of this study relate to questions regarding the generalisability of the findings in India in light of our sample size. However, as our argument that MoP healthcare providers serve as somewhat of a “critical case” example of a context conducive to ambidexterity was validated during data collection, we are in a position to make logical theoretical generalisations through the in-depth insights gained. The theoretical generalisations and contributions articulated above can be validly made against extant knowledge in the field of HR and specifically, how HR practices facilitate ambidexterity. In a more practical sense we note that as international business scholars have argued the emerging economies do share some common characteristics and environments in which firms operate (Peng, 2003), insights gained in our study in India have implications for managers operating in other MoP markets.

There are lessons to be learned for both developed and developing country practitioners from this study, not least that HR practices can play a central role in innovation despite resource constraints. In the healthcare industry, where productive output is based almost entirely on the knowledge and performance of its HR, our unpacking of HRM’s role in facilitating organisational processes that underlie innovation is an important contribution.

References


Further reading


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Innovation programs at the workplace for workers with an intellectual disability

Two case studies in large Australian organisations

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Abstract

Purpose – The purpose of this paper is to examine human resource management (HRM) innovation programs in the early stages of employment for workers with an intellectual disability (WWID).

Design/methodology/approach – The first case study was carried out at a large national courier company where a film innovation programme was used to enhance the socialisation process of WWID. The second case study was at a five-star hotel situated in a large city where a buddy system innovation programme was used in the induction and training process of WWID.

Findings – The overarching “life theme” created through these innovation programs was one of enhanced and creative opportunities for social inclusion. The participants displayed more confidence and independence in their ability and exhibited aspirations to advance and succeed in their roles.

Practical implications – The study argues that HR professionals need to be more proactive in finding innovative ways to engage WWID in the early stages of employment.

Originality/value – The qualitative study is underpinned by socialisation and career construction theory which provides the framework to discuss the ways in which socialisation and socially inclusive HRM practices enable participants and other WWID achieve success on their career paths. The key message of our research is that early vocational socialisation innovation programs can make a positive difference to the work experiences of WWID.

Keywords Qualitative, Human resource management, Socialization, Intellectual disability, Innovations, Career construction theory

Paper type Case study

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Introduction

This study is about workers with an intellectual disability (WWID) and the behaviours that create a positive “life theme” or a sense of purpose to encourage them through life, enabled through early innovation programs. Workplace innovation programs are introduced to workers in the initial stages of employment and aligned to an organisation’s values and designed to generate new ideas and methods that better meet the needs of the organisation and individuals (Walsworth and Verma, 2007). The Australian Institute of Health and Welfare (2008) explains intellectual disability as difficulty learning, applying knowledge and making decisions, with individuals having difficulty adjusting to a change and interacting with unfamiliar people. People with intellectual disabilities are also likely to have a low intelligence quotient score (Alston et al., 2002; Price and Gerber, 2001). Hernandez et al. (2000) argued many employers espouse support for WWID but in reality are somewhat conflicted in their attitudes towards the employment of this cohort of workers. They report whilst some organisations have supported employment programs for training and development, they suggest there is an urgent need for more innovative programs to engage WWID and ensure positive outcomes. This is echoed in a recent paper by Ulrich (2016) on the future of human resource management (HRM), where he argues that for organisations to be effective, human resource (HR) needs to play a greater role in creating organisational values around the importance of respecting differences among organisational participants. Critical to achieving this is required for HRM to facilitate organisational participants to connect and care for one another through sharing lived experiences. Moreover, based on a comprehensive literature review, by Cavanagh et al. (2016) we found there is a dearth of research on the career issues and vocational workplace innovations that assist WWID to assimilate into the workplace. Therefore, our study contributes to conceptual and theoretical understandings of the potential career paths of WWID and the implications for HRM. It is important to better understand the career process of WWID to improve their workplace experiences. We conducted two case studies, underpinned by a series of interviews with managers across different organisational levels and focus groups/interviews with WWID to examine the impact of two very different HR vocational training innovation programs used by HR professionals. We applied Van Maanen and Schein’s (1979) socialisation typology and Savickas’ (2011) career construction theory to the HR vocational training innovation programme to illuminate WWID career adaptabilities and aspirations for the future. Career construction theory is about constructing meaning and an appropriate approach (Savickas et al., 2009; Savickas and Porfeli, 2012) that may well respond to the needs of WWID many of whom may be confused as they negotiate challenging work situations. Career construction is enabled through advice, coaching, role modelling and emotional support (Kulkarni, 2012). The rationale of this approach is to advance understandings about individuals’ experiences at the workplace. In the first case study, we examine how WWID from a national courier company secured the opportunity to be involved in the film production sector, how these workers adapt to the environment of film-making and what it means for their future work experiences. This programme involves WWID featuring in a film where they provide their perspectives on work and their socialisation through work. In the second case study, we scrutinise a buddy system at a hotel site and how the system helps WWID adapt to work and influence their aspirations. A WWID is assigned a “buddy” who is generally a long-term employee and has the skills to train workers. We argue that HRM needs to take a greater interest in the career paths of WWID much earlier, and through innovative ways, which may enable these workers to build the coping skills necessary to navigate difficult changes in the open work environment (Nota et al., 2014; Savickas et al., 2009). Open employment is defined as doing a job which can be done by any person. A WWID will do the same job as their co-workers and are paid the same wages (Autism Spectrum Australia, 2016). Consequently, we argue that WWID should be better situated to
make “real” life choices about their future work. This paper is guided by the following research question:

RQ1. How can HR workplace innovation programs contribute to the socialisation and career construction of WWID?

In this study, Van Maanen and Schein’s (1979) socialisation typology and Savickas’ (2012, 2009) career construction theory are applied to understanding the application of two HR workplace innovations to elucidate WWID career adaptabilities and aspirations for the future. Our paper contributes to HRM literature on WWID in two ways. First, there is an absence of research that examines the lived work experiences of WWID in open employment and contemporary strategies that HR managers can use to engage these workers (Kulkarni, 2012). The vast majority of literature on HRM and disability has focussed on physical accommodations and mental health awareness and management (Kaye et al., 2011). Moreover, there is limited research of WWID within the Australian context. Second, HRM research on WWID is generally focussed on securing their employment (Lengnick-Hall et al., 2008), rather than supporting them to develop their careers and enabling them to make life choices about their future work. Our paper is one of the first to examine of the process through which HRM workplace innovations are used to support and enable WWID. We go beyond traditional approaches to managing WWID to examine how HRM can be used to transform their lives.

The paper is structured in the following ways: first, a review of HR literature relative to management and workers with intellectual disabilities is carried out; second, socialisation theory and career construction theory will be outlined; third, the methodology of the study will be presented, followed by the results which identify the main factors influencing the vocational behaviours of people with intellectual disabilities. Finally, the implications of this research and avenues for further studies will be discussed.

The role of HRM in supporting WWID

There is evidence in the literature suggesting the employment of workers with disability is an issue for organisations because HR practitioners find it time consuming and challenging to employ and support WWID (Jones and Schmidt, 2004; Kennedy and Harris, 2003; Scheid, 2005). The average employment rates for workers with a disability are below 60 per cent across countries within the Organisation for Economic Co-operation and Development (2016). In Australia, only 1 million of the 2.2 million working aged adults with all types of disabilities are employed, representing 10 per cent of all Australian workers (Australian Bureau of Statistics, 2012). A general lack of management support makes it difficult for employers to employ workers with disabilities (Cunningham et al., 2004). Management practices impacting workplace issues are identified as the retention of WWD, training these workers and the performance of those who gain employment. Lengnick-Hall et al. (2008) examined employers’ perceptions of individuals with disabilities and found that generally employers do not use a proactive approach in the recruitment of individuals with disabilities as they are concerned about their ability to perform. There may also be many practical reasons as to why employers are reticent to employ workers with disabilities. Kaye et al. (2011) contend that HR professionals mostly cite accommodation reasons for not hiring and retaining workers with disabilities. Graffam et al. (2002) research on 643 employers throughout Australia employing workers with a disability revealed certain issues; 75.2 per cent considered grooming and hygiene a problem; 74.6 per cent cited not working to a satisfactory standard as an issue; and 70.5 per cent considered the inability to undertake most assigned tasks critical to work.

Recent research has demonstrated that HR practitioners in partnership with all managers and employees within organisations can play an important role in eliminating discrimination of workers with disabilities (Nafukho et al., 2010). For example, Roessler et al. (2010) argued that HR professionals could potentially reduce discrimination against employees with
disabilities by implementing early identification and prevention programs to provide reasonable accommodations, and flexible work schedules. The authors recommend the provision of disability awareness training to all employees to eliminate the discrimination against workers with disabilities. Scholars suggest HR management practices can be conducive of the socialisation and social inclusion of workers with disabilities (Messersmith et al., 2011, Abrams and Hogg, 2004, Graffam et al., 2002). However, management buy-in is essential to ensure an efficient disability procedure becomes part of a company’s culture (Isernhagen, 2000) and evidence suggests that HR managers can achieve this through effective socialisation processes (Cooper-Thomas and Anderson, 2006).

Socialisation
Socialisation refers to the inclusive methods used in organisations to help newcomers adapt to joining a new organisation, to reduce uncertainty and learn appropriate attitudes and behaviours (Allen, 2006; Ge et al., 2010). According to Feldman (1976), successful socialisation is the transformation from an outsider to an integrated and effective insider and can include changes in or the development of new skills, knowledge, abilities, attitudes, values and relationships (Cooper-Thomas and Anderson, 2006).

Ge et al. (2010) suggested that socialisation is a combination of the learning process whereby individuals learn unspoken values and norms and also a process whereby the organisations can conform employees to follow and internalise organisational rules and values. Organisation socialisation is important for both employees and organisations as positive socialisation and inclusion reduced the negative impacts associated with the unmet expectations of newcomers which may lead to higher levels of turnover (Cooper-Thomas and Anderson, 2006); enables newcomers to meet performance expectations and feel as though they are making a valued contribution to the organisation (Van Maanen and Schein, 1979); and they also learn how to function in their organisation which requires learning the organisation’s values and norms (Feldman, 1976; Cooper-Thomas and Anderson, 2006). Other positive outcomes associated with the socialisation of new employees’ includes higher levels of performance, increased job satisfaction, organisational commitment and retention (Korte and Li, 2015).

Organisational socialisation also aids managerial innovation programs to train new employees and instil organisational culture and values (Ge et al., 2010). Social interactions are primary foundations of socialisation, and these experiences are likely vary depending on cultural contexts (Morrison et al., 2004). However, Ge et al. (2010) contended that socialisation outcomes are often influenced by the interaction between organisational socialisation practices and the employees’ pre-emptive behaviours. For instance, if an organisation does not embrace WWID then those employees with a disability may have a fear of not being accepted actually validated.

One of the most theoretically developed model of socialisation and the theoretical model used in this study is Van Maanen and Schein’s (1979) typology of socialisation (Ashforth et al., 1998; Saks, 1997; Saks and Ashforth, 1996). Van Maanen and Schein’s (1979) typology suggested that there are six types of socialisation practices: collective-individual, formal-informal, sequential-random, fixed-variable, serial-disjunctive and investiture-divestiture. Each form of socialisation tactic consists of a bipolar continuum (Ashforth et al., 1998). These practices are useful to identify areas of socialisation that challenge or prohibit full socialisation of WWID. This typology will be used in the study to investigate the types of socialisation practices used in the two innovation programs.

First, collective socialisation is where newcomers experience common learning experiences such as with a group or cohort, whereas with individual practices, each newcomer, such as a WWID, is exposed to learning experiences individually (Ashforth et al., 1998; Allen, 2006). Second, formal socialisation refers to segregating newcomers into clearly defined socialisation activities such as training classes while they learn their roles, whereas informal practices involve learning on the job during activities that may not be clearly defined socialisation activities (Ashforth et al., 1998).
WWID are more likely to struggle with training as opposed to their counterparts who may not have a disability. Third, sequential socialisation provides specific information to newcomers about the sequence of learning activities and experiences, whereas this sequence is unknown in a random process (Ashforth et al., 1998; Allen, 2006). Fourth, fixed socialisation provides information to newcomers about the timing associated with completing each socialisation stage or step, whereas this timing is unknown in a more variable process (Ashforth et al., 1998; Allen, 2006). Fifth, serial socialisation provides experienced organisational members as role models or mentors, whereas disjunctive practices do not provide experienced models (Allen, 2006; Ashforth et al., 1998). Finally, investiture socialisation provides newcomers positive social support from experienced organisational members, whereas divestiture practices provide more negative social feedback until newcomers adapt (Ashforth et al., 1998; Allen, 2006).

Authors such as Cooper-Thomas and Anderson (2006) emphasise the importance of having organisational insiders helping newcomers throughout the socialisation process. Organisational insiders such as peers and supervisors are seen to be a more useful source of knowledge and support than formal orientation programs (Cooper-Thomas and Anderson, 2006; Nelson and Quick, 1991; Louis et al., 1983). According to Morrison (2002), organisation insiders help newcomers to adjust by providing information and feedback, as well as being role models through providing social relationships and support. Kulkarni and Lengnick-Hall (2011) are among the few researchers who have investigated the influence of socialisation practices on workers with disabilities. They reported that the socialisation of workers with disabilities through supportive co-workers and supervisors was more important than formalised organisational practices. Organisational socialisation can enable or constrain career construction and development “through ties leading to instrumental assistance such as advice, coaching, protection, and advocacy and through emotional support, such as counseling, friendship, and role modelling” (Kulkarni, 2012). However, Kulkarni (2012) contended that there is a gap in the research concerning how the socialisation process of people with disabilities influences their career construction and advancement.

### Career construction theory

Numerous career path theories have emerged to respond to the shifting world of work. For example, to support person-environment fit, vocational development emerged to explain the process through which workers could be matched to specific work profiles (Ballout, 2007). The subjective approach explores more on the regulation of workplace behaviours premised on interpreting what is happening now, not what happened in the past (Vinarski-Peretz et al., 2011). From a constructivist perspective an individual’s work pathway is influenced by past and present experiences and future ambitions (Chen, 1998).

Savickas drew on the works of Super et al. (1988) and his earlier work on career development and Holland’s (1997) personality typology, to develop career construction. Career construction theory is premised on personal and social constructivism and “asserts that individuals construct their careers by imposing meaning on their vocational behavior and occupational experiences” (Savickas, 2005) in order to be able to make decisions about their work. Individuals consider the outcomes of previous work experiences and base their career decisions on positive past experiences and avoiding those that were challenging. Savickas (2009) contended that an individual’s involvement in real-life work experiences will help them to build the skills to adapt to future social change and influence their life experiences. When an individual has the opportunity to explore themselves in a certain situation, and learn more about their own abilities and skills, they are enabled to believe in themselves and how they might overcome future obstacles and challenges (Savickas and Porfeli, 2012; Savickas, 2011). Individuals need these abilities and skills to be able to pursue future aspirations.

Career construction theory can be applied to the vocational behaviours of individual workers through three dimensions of an individual: differences in personality traits;
adaptability and coping strategies; and patterns across life themes (Savickas, 2005). This is useful to explain the career paths of WWID by taking into consideration their characteristics, coping approaches and life patterns/experiences that influence how they learn. Piaget (1975) postulated constructivism is premised on how learning happens for individuals and they ways in which they develop meaning based on their experiences. By examining Savickas’ three perspectives through a film innovation programme and a buddy system we aim to gain understandings of what it means for workers with ID to be engaged in work.

This study applies theories on organisational socialisation and career construction to explore the world of a small cohort of people with intellectual disability and develop understandings of what it means for each of them to engage in the unique and creative environment of the film industry and a supportive buddy system. This paper aims to better understand how the strategies used in these HR vocational training innovation programs influence the socialisation and career construction of WWID and what it might mean for their future.

Methodological approach
We employed a qualitative case study methodology to investigate the two research sites and WWID. We acknowledge that the findings of our study will not be reported as generalisable to other organisations due to the relatively modest samples of two organisational sites. However, the two sites did provide the opportunity to compare and contrast two diverse organisations and the approaches they use to manage employees with an ID. Site 1 is a national courier company situated in a city and employs workers with various disabilities including WWID. Site 2 is a five-star hotel also situated in a city that employs mainly WWID. The managers at both sites had similar responsibilities in that they each managed a team of employees including WWID. They were involved in the recruitment, selection and training of workers within their teams. WWID undertook roles at Site 1 in general administration and office cleaning and Site 2 housekeeping and laundry duties. The sample of workers with intellectual disability comprised of people with cognitive and learning disabilities, down syndrome and autism. To respond to the research question our approach was to conduct interviews, a focus group and observations. Bryman (2004) recommended the case study approach, with triangulation of several sources of data, as the most reliable approach to gain valuable insights into the phenomenon of workers, such as those with intellectual disability.

Methods
As both researchers and observers, we were able to initiate the analysis of the data from the two case study sites commencing with our first visit to each organisation. At this point, we were in a position to identify initial research themes in the data. During these phases, it was imperative that the researchers gave consideration to accuracy in what was observed (Lofland, 2006) whilst remaining sensitive to the relationship with the participants (Seidman, 1991). Savickas (2011, 2013) developed an interview script that he suggests can be used through interviews or group sessions with participants. Interviews with the participant organisations and the film company explored the opportunities afforded WWID to develop a film on inclusion. A focus group session was held with the five WWID at research Site 1 and separate interviews were carried out with six WWID at research Site 2. This approach was the most appropriate, as it was the least intrusive method of establishing what the participant workers knew about their working environment that helped or perhaps impeded their involvement in the work innovation programme project (Lofland, 2006) with the film company.

Data collection and analysis
Once data were collected, the researchers searched for emergent concepts and conceptualisation of contributions to the field that might also be of benefit to the many other workers with
intellectual and perhaps other disabilities. The analysis of this study was activated at the research settings and determined emergent understandings arising from the data relevant to the research setting (Glaser and Strauss, 1967; Glaser, 1992, 1998). A foundational approach to the analysis of raw data was integrated with a second stage process to conceptualise information into categories (Glaser, 1998). Constant comparative methods fostered the discovery of relationships, categories and characteristics (Lecompte and Goetz, 1984). This revealed participants personal traits, successes and coping strategies (Anzul et al., 2001).

The following two sections present the collection and analyses of data from the two research sites. We begin with Case Study 1.

**Case study Site 1**

Within the national courier company five employees, each with an intellectual disability, won a competition to be involved in a film innovation programme to promote socialisation and inclusion across the workplace. Through interviews, with a representative of the company and the owner of the film-making organisation, we aim to develop understandings about the background and purpose of the HR vocational training innovation programme. A focus group of five workers, with intellectual disabilities, provided the setting to examine how workers became involved in the film and the patterns of their vocational behaviours.

**Interviews**

We conducted two interviews at research site 1: first, we met with the owner of the film company, followed by the client company who contracted the film company. Our first question directed at the owner of the film company was to explore the purpose of the film innovation programme:

> The film company is a start-up, voluntarily run, not-for-profit organisation. Through a partnership with a local Community College we hold film-making workshops and make films with our participants with an intellectual disability. On every film project people living with a disability fulfil cast and crew roles in a supported environment with mentorship. This creates an inclusive environment and an opportunity for our students to make a professional short film with firsthand experience of what it’s like to be on a professional film set. It also means that industry professional can enjoy the opportunity to be a mentor, creating true inclusion in the film industry (Owner, Film Company).

Moreover, we were keen to gain information about why and how the film makers decided to use employees with intellectual disability in the film production:

> The need for more inclusion and opportunities in an industry that is notoriously difficult for anyone to participate in. The film industry can be cut throat and discriminatory if you are not in your 20’s and a supermodel, so helping people gain experience […] is very rewarding. The community college approached us to run workshops for students […] the idea just grew into a short film.

In our second interview, we were interested to establish the rationale behind why a large company had employed a film company to develop a HR vocational training innovation programme by way of a film to promote inclusion in the workplace. We asked the HR manager to explain the rationale behind the project:

> The organisation set an accessibility action plan, giving […] employment opportunities for employees, customers and the community. For the majority of the population, inclusion is not given a second thought […] however, for people who are a bit different […] it is very different […] the organisation rolled out disability awareness training […] the organisation wanted to create an innovative way for building inclusion and conveying disability awareness to their employees.
Focus group
A focus group of the five workers was held at the company. The focus group was held for one hour and was attended by a counsellor who was ready to moderate the meeting if any issues arose. The researchers first explored how the workers became involved in the film project. One of the WWID was quick to provide the answer and explained that each of the workers “had to put in a story about workers with a disability” (David, WWID). The five winners were chosen based on their personal stories, work histories and personal traits.

Personality traits of WWID
We were looking for distinct characteristics of each individual in the study. The researcher asked the focus group members what motivated each of them to be involved in the project:

CE4: For me it was just to share my story and why I enjoy working here [...].

CE1: I agree, it’s about sharing the experience that we have. Not everyone works with someone who has a disability so for me I wanted it to be a bit of an eye opener [for other co-workers].

CE3: It was important to start conversations about workers with disabilities and inclusion [...] one of the biggest barriers to inclusion is most people have not worked with a worker with a disability [...] we are a very insular society.

CE2: Didn’t want the sympathy card to be played [...] we want [other workers] to want to be inclusive.

CE5: [...] Colleagues from the CEO to the tea lady are talking about it [the film].

Through the participants’ responses and comments we were able to identify some of their personality traits. Each of the participants shared the same characteristic of “openness” when they aspire for other workers to know who they are and what their stories are about. CE1 indicated he sought to “share” his experiences and raise awareness. CE3 supported this view and was keen to start conversations, which was evidenced by CE3’s comments on the fact everyone in the organisation is “talking about it [the film]”. Identifying personality traits can be useful for the HR team to tailor workplace integration programs by ascertaining similar behaviours and interests among WWID and colleagues.

Adapting to the work innovation
The HR workplace innovation was the topic of the second question. The participants were asked how they adapted to working and being involved in the film project:

CE5: [...] we had a little committee [...] all workers [...] knew about the project.

CE3: Being an extra was great fun [...] I haven’t laughed so much [...] there was a lot of work but they made it fun [...].

CE1: I consulted on the story [...] They [film crew and producer] made me feel so welcome [...] almost the star of the show [...] felt like my own movie.

It was evident the participants enjoyed the entire experience of being involved in the making of the film. The participants were encouraged to share what happened for them after the release of the film:

CE1: We had a huge launch day with a real premier [...] we all got put up in hotels, dressed up and walked the red carpet [...].

CE3: We were able to watch the film and there were even a few copies to borrow and take home to our family.
CE4: There was so much promotion you couldn’t get away from it [...].

There was much pride in the voices of the participants. The participants were also asked about the reaction of other workers after they had viewed the film:

CE3: One lady came up to me crying, saying the film had affected her so much [...].

CE2: I think it has helped a lot for the culture of the business [...] people are making the effort to speak [...].

It was evident work colleagues were impacted by the film because WWID indicated they were more socially accepted by other work colleagues. Where once the WWID might be ignored, they now enjoyed a social acceptance. Following the release of the film the general population of workers treated WWID with dignity indicating socialisation process had been enhanced. This again shows the importance of socialisation programs that could be implemented by HR policies such as the two innovations seen in this study.

Work/life themes
The participants were visibly excited when they talked about the film. The researcher explored how the participants felt post the release of the film and a new work/life theme appeared to emerge from making the film:

CE3: I definitely feel more included [...] people are more aware of us and what we need [...] everyone can see an element of themselves [...] whether it be the worker with a disability or colleagues.

CE2: There’s a sense of camaraderie now [...] bringing in the awareness in an easy format such as a film.

CE5: [...] it has changed things [...] awareness is the biggest thing.

CE1: I think everyone is more aware of us [...] I am almost a celebrity [...] people “Oh [...] you’re the film guy” [...] it’s good to see they’ve watched it [...] it’s fun to watch [...] had some very funny moments.

If work colleagues had previously viewed themselves as very different from other workers with a disability it appears they may have reason to re-think.

Case study Site 2
At research site 2 we conducted interviews with the HR manager and six WWID. We met with the HR manager and asked him/her about their HR vocational training innovation programme. The HR manager explained “We have workers with intellectual disability [...] the Australian public is very generous, [...] there are lots of positive comments from our guests, they appreciate the work put in by workers with disabilities”. The manager went on to explain the “buddy system” where each WWID is assigned a mentor for two weeks following basic training in any section they may be employed.

Personality traits of WWID
Prior to the innovation programme some of the workers indicated they were very nervous about being around guests. In their talk they told us they were not very confident before they started work:

WD2: I thought guests would shout at me or stare because I am different but they are nice and guests who come back remember me and say hello, I have my regulars.

WD3: This worker’s buddy “helped me learn what I had to so after my training [...] my partner [buddy] helps me remember what I have to do.
The implementation of a buddy system not only ensures WWID are trained effectively but also gives them regular and purposeful interaction with colleagues. This not only provides opportunities for socialisation that may not have been possible outside the workplace, but also develops their personal interaction skills which may lead to career progression.

Adapting to the work innovation programme

WD4: My buddy shows me what to do in the laundry and how to be safe.

WD2: Learned the skills to “stack the bags on the trolley, how to talk to guests, how to tag the bags for storage and he would have lunch with me.

WD3: I sometimes feel stupid […] but they say always ask, don’t struggle.

The “buddy system” programme is designed to help workers for the first two weeks of employment. However, the system is flexible if workers need additional help. There are additional benefits for the WWID through the relationships they build at work:

WD1: I needed longer with my buddy […] I was given the option.

WD5: I still have my buddy […] we work on the same floor and she helps me do my rooms.

WD6: I’m so much more confident now […] having normal friends makes me feel normal.

It is essential that HR practices are flexible to allow for additional support if needed by the WWID. If HR practices are too rigid and formulaic, WWID may not receive the support they require and consequently may lose confidence and begin to underperform.

Work/life themes

The participants were very happy to articulate how the film had influenced their aspirations for the future. The positive experiences of the WWID tell the story of how the workers develop future ambitions:

WD1: I would like to be a supervisor […] I have done a few training modules […].

WD2: I would like to be a buddy so I can teach the new porters what to do. I want to pass on all my knowledge I have got from the past 8 years.

WD3: I feel normal, I can talk to different people and not just parents […] we all have lunch together […] when the managers organise something for us.

WD4: I like money to spend at motor-cross […] I like working because I’m doing things and not just at home.

WD2: You can be rich and unhappy […] but I’m happy so I’m more successful. I moved out of my parents’ house […] it’s a big thing.

WD4: I do the job they tell me to do so I think I’m successful.

Through implementing a workplace innovation, such as a “buddy” system and the film, HR practices may enable WWID to perform to their full potential, expand their career aspirations and open up workplace opportunities for the WWID.

Discussion and conclusion

In this paper, we have explored workplace innovations as part of a broader HRM approach to supporting WWID. A major finding of this study is that workplace innovations go beyond traditional disability awareness programs to create a workplace climate of support for WWID. Moreover, socialisation practices play an important role in the career construction and perceived success by WWID. We also found that the innovation programs
presented in our paper help WWID feel inspired, give them a sense of purpose, and allow them to develop future career aspirations. WWID reported that their acceptance and integration at the workplace increased beyond their initial expectations as a result of the implementation of workplace innovations. We discuss these key points in turn with an emphasis on theory building in HRM, implications for management practitioners and future research on WWID.

First, the feeling of inclusion through HRM socialisation practices appeared to help increase the confidence and independence of WWID to develop their own career aspirations and construct their own careers, as well as contribute to their own personal development and the success in their current role. Our study has demonstrated that by articulating the processes by which WWID apply their personal characteristics to work experiences, and being cognisant of the ways in which they adapt to work environments, helps each of them create a ‘life theme’ of positive adaptability and stimulates their aspirations for the future. This study has demonstrated how two very different HR vocational training programs, both illustrating various socialisation practices, have a positive impact on the career construction and overall confidence and interdependence of WWID. Underpinning the success of these training innovations were well-articulated programs that involved supervisors, WWID and their colleagues in the development, delivery and evaluation phases. A high level of staff participation in the development of workplace innovations is a critical component to its successful “buy-in” from staff and implementation (Kalmi and Kauhanen, 2008; Brown and Cregan, 2008). The development of HR innovations that unite staff, break down misconceptions and incorrectly held beliefs is crucial to enhancing the socialisation and ultimately the inclusion of people with disability at the workplace (Cavanagh et al., 2016; Roessler et al., 2010; Cavanagh et al., 2013).

Second, the rationale behind the film innovation programme was about disability awareness training and finding an innovative way to build inclusion and create disability awareness for all employees. Rossler et al. (2010) emphasised the importance of having disability awareness training for all employees to eliminate the discrimination against workers with disabilities. Elements of fixed and sequential socialisation were evident as the workers have specific information and knowledge about the innovation programme and the desired learning experiences and outcomes. Informal socialisation was seen as workers were about to engage in the experience first-hand “helping people gain experience” and submerge themselves in the actual experiences, rather than being governed by more formal mechanisms. According to Piaget (1975) and Savikas (2009), it is the real-life work experiences that help individuals to build their skills and abilities, and develop the confidence to start thinking and working towards their future career aspirations. In fact, HR innovations establish frameworks through which managers, WWID and their colleagues can develop meaningful and supportive workplace relationships that promote the social inclusion of WWID. Serial socialisation was evident in the film innovation programme through the use of the film crew as role models and mentors to WWID. Both informal and serial socialisation practices led to increased levels of “true inclusion” among WWID. In the case of the film innovation, it is clear that it was informal processes around the interaction of all participants enabled WWID to feel included and valued. Investiture socialisation was apparent through the use of experienced members as mentors, such as the producer providing support and consultation to workers. Informal, serial and investiture socialisation results in WWID feeling happy, “I haven’t laughed so much […] made it fun” and “made me feel so welcome […] the star of the show”. These findings are important for HR practitioners and managers because they demonstrate the value to WWID and their colleagues of positive interaction and participation in co-producing innovation at the workplace in which all workers’ input irrespective of disability is sought and valued. The concept of co-producing innovation in the employment of WWID to our knowledge has not been examined in the
HRM literature but represents a significant opportunity for HRM to support WWID inclusion and career opportunities. Voorberg et al. (2015) offered insight into the potential for social innovation to address social challenges through changing relationships, positions and rules between workplace participants. Our findings demonstrate the potential for organisations to strengthen the social inclusion and career trajectories of WWID through co-production of workplace innovation.

Third, a combination of formal and informal socialisation practices were used with the buddy system innovation programme, as formal training is initially provided and then workers get the opportunity to work with their buddy, ask questions as they go and learn for informally on the job. Sequential socialisation was demonstrated through the buddy systems, with buddies acting in the role of mentor and guiding WWID through work tasks and aiding the socialisation and inclusion process. Variable socialisation was evident through WWID having the flexibility to connect with their buddy for longer if needed. The importance of WWID feeling included in their work environment was also emphasised in the second case study. The feeling of inclusion seems to be manifested in workers’ confidence and self-esteem in being able to do their jobs. These findings have important implications for HR managers. We would encourage the implementation of socialisation programs that commence immediately upon the employment of WWID. Socialisation of employees is an important starting point in building a cohesive and committed workforce (Ulrich, 2016). Through HR managers working in partnership with line management and all cohorts of workers our findings show that informal and serial socialisation practices seem to increase reported levels of inclusion among WWID.

One of the main outcomes of the buddy innovation programs was that WWID felt inspired, achieved a sense of purpose and developed future aspirations about their work and career paths. WWID talked about different career aspirations and how it was important for them to be happy and successful, “I’m happy so I’m more successful”. Our findings correspond with Kulkarni (2012) and reinforce the important role that socialisation practices play in the career construction of WWID. More specifically, this study found that socialisation practices that involve role models and mentors (serial socialisation) including those that are senior to the organisation (investiture socialisation) were flexible (variable socialisation) and occurred on the job and involved learning from real-time experiences related to real-life experiences (informal socialisation) seem to enable WWID to feel more confident to perform their job and experience a higher desire to develop and pursue future career aspirations. This is an important finding as the vast majority of HRM literature on workers with disability is focussed on the employment and retention of this cohort of workers, rather than strengthening their abilities and confidence to perform and build successful careers (Cavanagh et al., 2016). Our results give some insight into the process through which HRM can begin to move from a traditional anti-discrimination and fairness approach to disability employment, to one that encompasses a learning and integration approach that values the unique gifts, talents and abilities of WWID (Thomas and Ely, 1996). We argue that this change in approach must be underpinned by a well-articulated mission and value statement, egalitarian organisational structures that encourage openness and the stimulation of personal development through workplace opportunities for WWID (Thomas and Ely, 1996).

Our findings raise a number of practical implications for HR managers. We have documented the process through which two examples of workplace innovations have been used by managers to support orientation and the socialisation and inclusion of WWID. Workplace innovations to provide benefit to WWID, their colleagues and organisation more broadly do not necessarily have to be complicated or expensive. We would encourage HR managers to first develop workplace innovations tailored to their own organisational, industry and customer needs especially during the early stages of the employment of
WWID as a way to promote inclusion and valuing difference at the workplace. We share the view that this not only makes sense ethically and morally, but also economically, as all workers in the organisation, irrespective of difference can value and support one another (Ulrich, 2016; Kulkarni, 2012; Lengnick-Hall et al., 2008). The findings present a challenge to HR practitioners to explore the outcomes of early interventions beyond orientation. HR needs to consider positive associations between early intervention programs and performance and respond with appropriate policy and practice. Other consequences can be linked to tenure. HR may find that early intervention programs set the scene to secure long-time tenure. Also, through proactive approaches, HR can help create a positive culture of inclusion and to some degree meet their corporate social responsibilities. Although legislation outlawing the discrimination of people with disability in employment is vital (Hanley and O’Rourke, 2015), we argue that HR has an important role in developing and promoting the business case for the employment for people with disabilities. One of the most powerful findings in our study is the potential of HRM innovations that are co-produced with all organisational participants to impact not only the social inclusion of WWID, but also the way in which they perform and contribute to the business in a positive way.

Despite our valuable findings, this paper is not without its limitations. The results are based on two qualitative case studies and therefore limit their generalisability to other organisations. Moreover, given our methodological approach it is difficult to infer causality – that is we do not know if the workplace innovations were associated with improvements in the well-being and performance of WWID. Consequently, we would encourage future research using more robust quantitative approaches. This would necessitate a quasi-experimental research design that measures pre- and post-test well-being and performance scores following the introduction of workplace innovations/interventions. We would also recommend future research explore the impact of HR disability innovations in other organisational and industry contexts.

In conclusion, our findings support the value of HR professionals, managers and workers’ supporting, through HR innovations, the socialisation and inclusion of WWID. Organisations need to value the abilities, gifts and talents of WWID and harness them through workplace innovations that support the integration and learning of all workers. This must be underpinned by the participation of WWID, their colleagues and managers across the organisation to create workplaces that value difference and harness it to build both individual and organisational success. It is through valuing difference and backing it up through practical workplace innovations that we might see more WWID not only engaged in employment, but also building successful careers and more importantly success lives.

References


Further reading

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Are new organisations at the cutting edge of employment relations innovation?

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Abstract
Purpose – The purpose of this paper is to explore differences in the degree of innovation in employment relations (ER) between emerging and established firms.
Design/methodology/approach – A large national telephone survey (N = 1,416) of both emerging (<5 years) and established firms was conducted.
Findings – Emerging firms were more casualised, less unionised, and experiencing higher levels of market expansion and unpredictability. Despite these differences, younger firms showed otherwise remarkable similarity to older firms across a range of ER practices, and both categories showed a reliance on business networks, rather than formal training, for ER knowledge. While introducing ER changes more rapidly than older (and larger) firms, they were converging towards a suite of ER practices similar to that adopted by older firms. The results suggest that, if anything, established firms may have been engaged in greater innovation in more unusual ER practices.
Research limitations/implications – Only managers were surveyed. The data are cross-sectional rather than longitudinal. As the study was undertaken in only one country, replication in other settings would be desirable.
Originality/value – The results raise major doubts about the notion that new firms represent the cutting edge of innovation, and highlights the degree to which newer firms match or mimic older firms’ ER architecture.
Keywords Innovation, Convergence, Quantitative, Divergence, New firms, Emerging firms, Employment relations practices
Paper type Research paper

The youth or age of firms is often viewed as being linked to their innovativeness. Mature firms are thought to have opportunities to pursue innovation through resource advantages that outweigh the reduced agility associated with age (Noke and Hughes, 2010). In contrast, young organisations are forced by circumstances to be at the cutting edge of change, and

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they lack the stultifying institutional and cultural legacies of mature organisations. By that observation, it seems reasonable to expect them to be at the forefront of new methods of work and employment innovation. But are they? Within the broader innovation field there are persuasive arguments both ways (Katila and Shane, 2005). Within the employment relations (ER) literature there are some indications that younger (and smaller) firms do use innovative practices; and it is clear younger or smaller firms feature flatter hierarchies and more organic communication, thus creating a platform for innovative ER initiatives (Wilkinson et al., 2007b). The Australian Workplace Industrial Relations Survey (AWIRS) provides some empirical confirmation – at least of difference – suggesting that new workplaces have fewer occupational levels, fewer unions, and a lower incidence of industrial disputes (Morehead et al., 1997). Does this reduced union density associated with immature firms lead to the proliferation of alternative methods of organising and controlling labour and/or give rise to other forms of voice?

Alternatively, in the pursuit of competitive advantage, or reflecting exposure to similar ideas, it is possible that all companies end up converging on basically the same suite of ER measures (e.g Sparrow et al., 1994). While the convergence/divergence debate usually asks questions like “are organizations and managerial practices worldwide becoming more similar or maintaining their nationally based dissimilarity?” (Mcgaughey and De Cieri, 1999, p. 235), one could equally ask “do organisations converge towards similar managerial practices, regardless of age?” This paper describes the results of a national telephone survey of Australian business managers (N=1,416), and explores how the prevalence of particular ER features covaries with firm characteristics, in particular the youth of firms. This study controls for the issue of size both statistically, and by including only those new firms that have reached a quorum of 20 employees.

This study extends current research of ER in younger firms and compares responses from managers of firms of different ages, sizes and industry sectors. We will focus on new organisations rather than new workplaces per se. Our primary research question is:

**RQ1.** Do new organisations show evidence of innovation and different practices when it comes to how firms manage their staff?

That is, are they at the “leading-edge” or alternatively, at the trailing edge – simply mimicking the behaviours of larger firms, to the extent that their more limited resources allow? Bacon et al. (1996) argue that owner-managers are not merely picking-up new management practices as “flavours of the month”. They suggest that “the new management agenda has penetrated deep into the UK economy and that innovative and progressive employee relations practices are no longer restricted to large mainstream companies” (Bacon et al., 1996, p. 87).

**Innovation in ER**

“Innovation” is a widely used but loosely defined term. It is often seen in an ER context to equate to practices that depart from traditional work and industrial relations norms. Much of the extant literature equates innovative practices with notions of flexibility and employee participation in an effort to create high performing workplaces (Ichniowski et al., 1996). An alternative, oft-cited definition by West and Farr (1990), suggests a product, process or idea only has to jump a low hurdle to qualify as an innovation: it only needs to be new to the “unit of adoption” (Becker and Matthews, 2008; Brav et al., 2009, p. 355). By this definition, new organisations might seem arithmetically certain to possess more innovation than old organisations in their ER practices, but such a conclusion would be banal and lead commentators to argue that rhetoric about innovation cannot “obscure fundamental continuities with the recent […] history of employment relations” (Giles et al., 1999, p. 15). Setting a higher bar, that innovations are not purely contextually
new, but have some intrinsic, broader novelty, as insisted upon in the OECD ("a new or significantly improved" change) (OECD and EUROSTAT, 2005, p. 47) does make the question of locating hotbeds of innovation more challenging, and opens the field up to broader debate.

There are a priori reasons to expect more (or less) “higher bar” innovation in new organisations. Some scholars argue that, lacking the structures and procedures that might inhibit or domesticate novelty, new firms and workplaces are more likely to foster innovation (Henderson and Clark, 1990). The growth (and dynamism) (Kotey and Slade, 2005) associated with newness will at the least tend to disrupt ER, as Campagnolo and Camuffo (2009) argue:

Employment relations become less sticky because changes in technology, production models and globalization systematically re-define the kind of knowledge, of experience and, hence, of workers, which is valuable for firms and markets (295).

Others suggest that new firms – if not new workplaces – lack a body of existing knowledge or resources with which to build innovation (Cohen and Levinthal, 1990; Teece, 1992). In the field of ER practices, the difference between a “new” and an “old” organisation may disappear if one considers size as a confounding variable. Once a business grows to a certain size, new or old, ER may well have to be formalised, and professionals employed to supervise the increasingly complex and legally-constrained field of ER. The progenitor of business innovation theory, Josef Schumpeter, disparaged innovation that was reduced to “the business of trained specialists who turn out what is required and make it work in predictable way” (Schumpeter, 1942, p. 132). Yet that is one of the goals a professional ER expert strives for. The “routinization” of activities has been identified as an innovation-suppressant (Ohly et al., 2006), even when measured against objective external markers such as patent outcomes (Benner, 2009).

Innovation in ER may therefore equate in practice to the degree to which certain elements of formal ER are implemented in a given entity, either as independent measures or in “bundles” (Singh et al., 2012). Much of the focus in ER has been around the notion of high performance work systems but while much talked about these appear relatively rare in practice (e.g. Appelbaum et al., 2000; Lawler, 1992; Walton, 1980). Pfeffer (1998) lists seven “successful” practices: employment security, selectivity in recruitment, high levels of contingent reward, self-managed teams, extensive training and development, information-sharing, and harmonisation of status differentials. These are seen as being held together under an overarching philosophy with a long-term commitment and a willingness to engage in consistent measurement of whether or not high standards are being achieved. Other studies have different bundle configurations with wide variability in the number of practices included (Wilkinson et al., 2016).

There is a second, less-commonly celebrated field of innovation in ER, relating to the impact of product or physical work-space innovation on ER. Research, for example, points to the impacts – positive and negative – of hot-desking (Millward et al., 2007), the internet and e-mail (Lengnick-Hall and Moritz, 2003), teleworking (Golden, 2007; Taskin and Devos, 2005), mobile phones (Lowry and Moskos, 2005) and open plan offices (Hedge, 1982; Lee and Brand, 2005) on managing employees. A new organisation may engender novelty in ER simply through the way its structures, less systematically entrenched than in mature organisations, shape work practices.

Finally, a third identifiable source of innovation lies in the way employees and employers interact – the proliferation in new forms of employment arrangements, including part-time employment, temporary or contingent employment, contract employment, compressed work weeks, and job sharing (e.g. Campagnolo and Camuffo, 2009; Rau and Hyland, 2006). This is innovation as “flexibility”, which may be to the advantage of the employer or, less
commonly, the employee. These new forms of ER may force changes in how HR departments handle their work.

Greenfields sites, in these second and third senses, offer a particularly promising domain in which to investigate innovative work practices, with a completely new physical environment often accompanied by explicitly “new” forms of work arrangements for staff (even if they are borrowed from existing paradigms), and a recognised pathway chosen by management to actively remake work practices (Baird, 2001; Leopold and Hallier, 1999; Townsend, 2004; Waring, 2001). Researchers have explored work practices (Wilkinson and Ackers, 1995), recruitment and selection (Hallier, 2001), culture (Hursthouse and Kolb, 2001), ageing (Leopold and Hallier, 1999), employee consultation (Townsend, 2005) and teams (Mallon and Kearney, 2001) in greenfields sites, but these case studies do not tell us about the generality of the new organisation experience. Perhaps they attract attention precisely because they are unusual in some way, rather than because they represent how new organisations operate. Debate continues around whether new firms, sites or greenfield agreements enable managers to organise work more flexibly, better reward employees, tailor pay and conditions to individual circumstances and motivate higher productivity and pay (“high road” approaches), or lead to the abandonment of structured systems of personnel management, a loss of employee conditions, and a drift of labour from small to large organisations “low road” (Gahan, 2007; Youndt et al., 1996).

In Australia, the registration of greenfields agreements with the Fair Work Commission and its predecessors provides one indicator of incidence. Just 1,513 ratified greenfields agreements were established between 2006 and 2010[1] (May, 2012), compared to 862,993 new organisations registered as trading entities in the six year period 2005-2010. Greenfields agreements may be only a small proportion of greenfield sites, but many “new organisations” may be either existing organisations rebranded or shells established for tax or related purposes. Quantitative investigations of genuine new organisations – in some senses a subcategory of the much richer literature on SMEs – is an avenue for exploring the innovation in ER that arises from, or accompanies, a fresh start.

Such an exploration may also shine light on more passive explanations of union absence, as new organisations that are “old” firms masquerading as new (which may be the case with franchises (Kellner et al., 2014), replicator sites (Leopold and Hallier, 1997), or simply relocated old workplaces) have no inevitable, organic path to unionisation. Data on ER in emerging organisations tends to be limited and fragmented with international evidence suggesting that, at least as far as SMEs are concerned, ER tend to the informal (Edwards and Ram, 2009; Marlow et al., 2010; Wilkinson, 1999). New firms may adopt a process of “mimic opportunism” and take on schemes which appear to work well in older organisations. Equally, ER initiatives may be part of an agenda shaped by a dependency relationship between large and small firms, or from pressures exerted by other organisations in a supply chain network. Issues in this respect often revolve around perceived legitimacy as smaller firms become pressurised to adapt to large firm expectations and demands (Barrett and Rainnie, 2001; Harney and Dundon, 2006; Wilkinson et al., 2007a).

From our perspective a pre-condition for innovation, is difference. If one type of firm is no different in its ER practices to another type, then it cannot be said to be more innovative in this respect. So we must first examine whether there are differences between new and old organisations in ER, and then, if there are differences, assess whether they signify greater innovation by one measure or the other. We referred earlier to the banality of concluding in circular fashion that new firms will be more innovative in their HR practices because any HR practices introduced will necessarily be “new to the unit of adoption”, but that does not limit the ability of a study such as the one described here to surprise. This study includes, for example, an investigation of the source of ER ideas, a relatively unexplored field within knowledge management.
Method

Participating firms

“New” organisations have elsewhere been operationally – perhaps arbitrarily – defined as being less than five years old (Morehead et al., 1997) with the five year cut off also used in OECD definitions of young firms (Cieslik, 2007). The Australian Bureau of Statistics definition of a “small” business includes those with 20 employees or less, and researchers have observed that there appears to be a “genuine break” from small business practices (Holmes and Gibson, 2001, p. 12) when a firm reaches the 20 employee mark. Five years also provides managers with an opportunity to develop and test ER strategies. This study examines firms with a minimum of 20 employees that are either less than five years old (we call them “new”) or more than five years old (which we refer to as “old”).

Dun and Bradstreet’s Who’s Who in Business 2015 Australian database was sampled for both “new” and “old” organisations with at least 20 employees. That minimum size threshold was adopted both for data quality reasons (the Dun and Bradstreet database seemed less robust for organisations smaller than that) and conceptual reasons (we did not wish to excessively conflate the issues of very small size and newness) (Muurlink et al., 2011). Two groups of organisations were extracted. First, a population was drawn of companies five years old or younger, which yielded an N (after pre-screening by Dun and Bradstreet) of 634. Initial calls to the 634 firms established a total sample of just 182, with the balance either older than 5 years or with fewer than 20 employees. Of these 182 firms, completed interviews were obtained from 131 firms, representing a response rate of 72 per cent. Second, a random sample of 4,521 older firms was drawn from the total Who’s Who in Business database to provide a comparison group. Attempts were made to contact all 4,521 firms. Screening eliminated 1,141 firms from the sample. Over 10 per cent of the initial sample (469), for example, proved to have less than 20 employees, 8 per cent of numbers provided (361) were not a telephone line (deadlines, no answers, or fax/modem lines), half a per cent (22) were not a business, and in 6.5 per cent (293) of cases, ten attempts were made to establish live contact without success. Of the 3,376 remaining firms, 57 revealed at interview that their company was less than five years old, and their responses were reassigned to the “new” firm category. A 38 per cent response rate (1,228) was obtained from the balance. The process thus yielded 1,228 “old” firm interviews, and 188 “new” firm interviews.

Respondents

The study sought the participation of “key decision makers”. Respondents were spread between CEOs, general managers or managing directors (36 per cent); HR managers (36 per cent); other senior managers (e.g. administrative or operations managers) 25 per cent; and other staff (3 per cent). Of the respondents, 54 per cent were females. There were proportionately more male owners of businesses, more men in positions of general managers, managing directors, CEOs and finance managers while there were more women in the roles of HR manager and office manager/administrative support. Although the response rate was relatively high, there were some methodological issues raised by the fact that, while we deliberately sought to speak with only the most senior managers of the firm, in some cases the task of assisting with the survey appeared to have been delegated to less senior staff. However, we did include “don’t know” options to account for this, and a reanalysis of the data on key items suggests that seniority did not account for a significantly different pattern in responses on most issues.

Questionnaire design

A draft survey was compiled using questions present in the small workplace version of the AWIRS and the Victorian Workplace Industrial Relations Survey (VWIRS) supplemented
with questions developed specifically for the survey. Questions were designed to elicit the participants’ industry by The Australian and New Zealand Standard Industry Classification (ANZSIC) 2006 (Revision 1.0), size, casualization and geographical configuration (Is this the only workplace out of which your business operates? Is this workplace the headquarters of the business?). Limited demographics about the individual managers responding to the survey were also collected, including job title, gender and education. Additionally, the study examined influence (What proportion of key decisions in this company are made by you?”, “Who do you share decision-making responsibilities at your company with?), self-efficacy (When I make plans in relation to the business, I am almost certain that I can make them work), social support (How often do you talk about business problems with your family and friends outside the business?), work hours and stress. In addition to modified questions from AWIRS and VWIRS, the survey included a number of questions designed to establish the degree to which the firm had implemented specific procedures such as formal performance management and bonus systems (see Tables III and IV), the most recent such change (see Table VI), and influences thereon. Our initial interest, as mentioned, was in identifying whether, and to what extent, there were differences between new and old firms and then, if there were differences, assess whether they signify greater innovation by one type or the other. We also asked some union-related questions, not as an indicator of innovation, but to identify the type, if it existed of any enterprise agreement, and to measure unions as an impediment to (or source of) innovation and as one of several aspects of ER with which respondents’ satisfaction was measured. The interview length guidelines of the The Australian Market & Social Research Society (AMSRS, 2004) were adopted, with the survey piloted to ensure it conformed to the 20-minute limit.

Analysis
Parametric and non-parametric statistical analyses were performed to assess the association between old and new organisations on a number of key variables, including size of organisation, perceptions of the market context, management background and ideas, recent changes introduced to manage their people, the sources for the most recent change introduced to manage their people, general sources of ideas on managing staff, ER techniques used, features of the organisation, and unionism. Where content analysis was undertaken of open-ended questions in order to recode into analysable categories, the approaches of four coders were agreed upon and standardised. In some cases (e.g. size and casual employment) where variables were severely skewed, analyses were performed on inter-quartile range values. Chi square tests of significance were used with categorical data while independent samples t-tests were performed when the dependent variable was continuous (metric). Most of the analysis is bivariate (because we want to consider differences between new and old workplaces on a range of dependent variables) but we also undertake a regression (Table V) to rule out confounding effects of other variables.

Findings
Industry
Table I shows the distribution of respondents’ employers by industry. Approximately 14.8 per cent of the organisations participating in the survey were from manufacturing, 12.3 per cent from professional, scientific and technical services, 9.7 per cent from health care and social assistance, 8.5 per cent (120) from education and training (8.5 per cent), 7 per cent construction, 6.4 per cent from wholesale trade, and 5.1 per cent from retail trade and accommodation and food services. The other ANZSIC divisions each accounted for less than 5 per cent of employment each. Two additional categories were created to deal with
multiple responses; one for those who replied that they were both in wholesale and retail trade; and a final category for other organisations with more than one activity. There were some significance differences between old and new organisations by industry. Firms in agriculture, forestry and fishing, electricity, gas, water and waste services, and construction industry were more likely to be “new” and manufacturing firms to be “old”.

Employment
New organisations, as expected, were smaller than large organisations. While 52 per cent of full-time equivalent employees in old organisations were in organisations with 60 or more employees, only 37 per cent of those in new organisations were in similarly-sized firms. While only 24 per cent of full-time equivalent employees in old firms were in organisations with under 30 employees, this was the case for 38 per cent of those in new organisations. New organisations were also more likely to employ casual staff than old organisations (82 per cent compared to 74 per cent) even though, if casuals were randomly distributed, the probabilities would be reversed.

Market context
Respondents were asked to gauge four aspects of their market: the degree of competition; their reliance on a small number of customers; market expansion, and market unpredictability. They were also asked to give an indication of the financial position of the firm in the previous twelve months. Three of the variables produced significant differences between “new” and “older” firms: new firms were more likely than old firms to be experiencing market expansion, and to be experiencing relative market unpredictability. The competition context did not appear to differ much between new and old firms.

<table>
<thead>
<tr>
<th>Industry</th>
<th>N</th>
<th>%</th>
<th>Old</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>32</td>
<td>2.3</td>
<td>1.9</td>
<td>4.8**</td>
</tr>
<tr>
<td>Mining</td>
<td>24</td>
<td>1.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>210</td>
<td>14.8</td>
<td>16.3</td>
<td>5.3**</td>
</tr>
<tr>
<td>Electricity, gas, water and waste services</td>
<td>22</td>
<td>1.6</td>
<td>1.1</td>
<td>4.8**</td>
</tr>
<tr>
<td>Construction</td>
<td>99</td>
<td>7.0</td>
<td>6.0</td>
<td>13.2**</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>91</td>
<td>6.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail trade</td>
<td>72</td>
<td>5.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>14</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>72</td>
<td>5.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
<td>59</td>
<td>4.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information media and telecommunications</td>
<td>39</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>40</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rental, hiring and real estate services</td>
<td>44</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>174</td>
<td>12.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative and safety</td>
<td>46</td>
<td>3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public administration and safety</td>
<td>39</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>120</td>
<td>8.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>138</td>
<td>9.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>25</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other services</td>
<td>36</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other, belonging to more than one category</td>
<td>20</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,416</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: **Significant difference between “old” and “new” at \( p < 0.001 \); non-significant differences between “old” and “new” are not shown in data columns 3 or 4
Source: ANZSIC (2006)
With markets expanding more rapidly, new firms were also outperforming old firms on the single indicator of financial performance (see Table II), which probably also reflected some survivor bias effects (old firms being more able to withstand several “poor” years than new firms).

**Unionism**

The most notable ER difference between new and old organisations was in unionisation. Union presence in the surveyed firms was addressed through two questions, probing the presence of union members, and the presence of union delegates. Older firms (42.2 per cent) were significantly more likely to have union members present than newer firms (30.7 per cent) \(p < 0.000\), but the difference between older firms (27.2 per cent) and new firms (17.5 per cent) on union delegates failed to reach significance \(p = 0.15\).

**Alternative voice mechanisms**

A number of questions probed the range of non-union employee voice features used in the surveyed firms. Respondents were asked about the presence of a range of common (top-down) voice mechanisms (see Table III). New organisations were less likely to use formal staff surveys (a plausible resource effect), but on other mechanisms, no statistically significant differences emerged.

**ER characteristics**

To create a picture of the overall ER architecture of new and older firms, respondents were also given a dichotomous choice (present/absent) for a range of features, either of a direct ER nature or with close relevance to the field. There is striking symmetry in the results. This “no difference” pattern emerges despite statistically significant differences between new and older firms on some of the core corporate demographic variables – perhaps the most surprising aspect of this study. Stark evidence of the symmetry of old and new is presented in Table IV, which lists 22 features with direct or indirect ER relevance.

Table II. Market context for new and old organisations

<table>
<thead>
<tr>
<th></th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
</tr>
<tr>
<td>We face a lot of competition in the market in which we operate</td>
<td>45</td>
</tr>
<tr>
<td>Most of our sales are to a fairly small number of customer</td>
<td>20.6</td>
</tr>
<tr>
<td>The overall market in which we operate has been expanding strongly in the last two years</td>
<td>37.6</td>
</tr>
<tr>
<td>The market in which we operate is highly unpredictable from one year to the next</td>
<td>29.1</td>
</tr>
<tr>
<td>In the last 12 months, the business has been travelling well</td>
<td>45</td>
</tr>
</tbody>
</table>

**Notes:** *\( p < 0.05\); **\( p < 0.001\)

Table III. ER techniques used in new and old organisations

<table>
<thead>
<tr>
<th></th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
</tr>
<tr>
<td>Regular staff meetings</td>
<td>86.2</td>
</tr>
<tr>
<td>Newsletters or staff bulletins</td>
<td>65.1</td>
</tr>
<tr>
<td>Email updates</td>
<td>78.8</td>
</tr>
<tr>
<td>Staff committees</td>
<td>45.5</td>
</tr>
<tr>
<td>Staff surveys</td>
<td>39.2</td>
</tr>
</tbody>
</table>

**Note:** *\( p < 0.05\)
Only one of these 22, the presence or absence of a formal quality control system, varies with the age of the firm to a significant degree. Only one other, the incidence of formal job descriptions for all staff, even approaches significance. While there might have been other, possibly innovative practices that were not captured by the survey the consistency of findings is remarkable.

One possibility was that the extent of difference between new and old firms is masked by confounding variables, such as organisational size, unionisation or market circumstances. So we ran some ordinary least squares regressions to test the impact of such variables, treating as our dependent variable the count of the number of ER features (listed in Table IV) that an organisation had. Table V shows the results. Crucially, it indicates that the non-significance of the difference between new and old organisations remained, and the size and direction of the coefficient was little changed, even after controls for size, unionisation and market circumstances were in place. The regressions provided additional illumination on some other relationships. The number of features was higher in large organisations, and in those with union delegates, as well as in those exhibiting three market characteristics: operating in markets that had grown strongly in the last two years, a diversity of customers, and driven to release innovative products. Despite these three market characteristics, the extent of competition or unpredictability in the market had no separate impact. We do not go into these other factors in any greater depth here because they are not the main focus of this article: our point is simply that controlling for other variables made no difference to this indicator of the effect of age of business on the number of ER features an organisation had.

Recent changes

In contrast to the mere presence of business features with an ER flavour, when respondents were asked about the “most recent change”, a number of contrasts emerged between “new” and

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written HR policies</td>
<td>92.6 93.0</td>
</tr>
<tr>
<td>Flexible leave arrangements for all staff</td>
<td>91.5 91.0</td>
</tr>
<tr>
<td>Business plan</td>
<td>89.4 89.4</td>
</tr>
<tr>
<td>Formal job descriptions for all staff</td>
<td>88.9 83.9</td>
</tr>
<tr>
<td>Informal staff events, like BBQs, with staff</td>
<td>85.2 89.2</td>
</tr>
<tr>
<td>A formal performance review system with at least an annual review for</td>
<td>82.0 80.1</td>
</tr>
<tr>
<td>each staff member</td>
<td></td>
</tr>
<tr>
<td>Formal grievance procedure system for all staff</td>
<td>81.5 84.7</td>
</tr>
<tr>
<td>Staff making independent decisions in a team</td>
<td>78.3 81.6</td>
</tr>
<tr>
<td>Off-site training for non-managerial staff</td>
<td>78.3 79.5</td>
</tr>
<tr>
<td>Formal recruitment systems</td>
<td>76.7 78.5</td>
</tr>
<tr>
<td>Written individual contracts for non-managerial staff</td>
<td>74.1 73.9</td>
</tr>
<tr>
<td>A system that uses formal performance reviews in making promotion</td>
<td>65.6 73.3*</td>
</tr>
<tr>
<td>decisions</td>
<td></td>
</tr>
<tr>
<td>A bonus system linked to performance (not commission)</td>
<td>55.6 55.3</td>
</tr>
<tr>
<td>Formal suggestion box or other feedback mechanism</td>
<td>52.4 55.9</td>
</tr>
<tr>
<td>A print or e-mail newsletter to all/most staff (at least 6/year</td>
<td>47.1 49.8</td>
</tr>
<tr>
<td>Annual (or more frequent) attitude surveys of staff</td>
<td>43.4 44.0</td>
</tr>
<tr>
<td>An enterprise agreement</td>
<td>36.0 42.0</td>
</tr>
<tr>
<td>An enterprise agreement involving a union</td>
<td>19.0 25.0</td>
</tr>
<tr>
<td>An enterprise agreement involving only employees</td>
<td>17.0 17.0</td>
</tr>
</tbody>
</table>

Notes: Multiple responses were possible. *p < 0.05

Table IV. Features of the organisation in new and old organisations

1405
“old” businesses. New businesses were generally significantly more likely to have most recently introduced one or more of the list of relatively standard ER features than older businesses—presumably since older businesses are likely to have already implemented these measures (see Table VI). Significant differences emerged in responses on a number of recent changes: the introduction of a business plan or other major restructure of organisation, vision, values or culture approached significance in this manner, while off-site training for non-managerial staff, the introduction of written HR policies, voice mechanisms, recruitment changes, and the introduction of informal staff events reached significance.

In relation to recent changes, we also offered respondents an open-ended response if their most recent change did not fit comfortably into the given categories. We then content analysed these open-ended responses and re-categorised them into the range of features shown in Table V.
This last option – to allow respondents to reveal that none of the standard features constituted their most recent change – allowed us to analyse non-standard (and presumably relatively innovative) ER changes. In all, 606 respondents offered these “other” recent changes (for example the development of wellbeing or leadership programs), with the results indicating that, to a marginally significant extent, older organisations (44 per cent) might have introduced these “other” changes more than newer entities (37 per cent) ($\chi^2 = 2.955, df = 1, p = 0.097$). Again this would make sense in that old organisations have probably introduced the more standard interventions earlier in their lifecycle.

New firms therefore, were more likely to have recently introduced certain formal practices while older firms may have been more likely to offer non-standard ER changes as their “most recent” change. One possible interpretation is that it is older, not newer firms that are more novel in their innovation. However, there may be a structural explanation to this difference. New firms may not have had time to introduce all the “main menu” items essential to operating a firm’s ER effectively, and thus may not yet have had the opportunity to turn to further refinements in ER practice, these “other” changes. If new firms are in the throes of adopting much of the standard ER features of older firms, then older firms, already equipped with the standard “bundles” of features, could be introducing other changes interpreted as being innovative. It is also possible that new firms are introducing “main menu” measures but in a manner modified to their stage in the business lifecycle, or in a leaner form reflective of their limited resources. In the depth and detail of implementation, which cannot be examined in a time-limited telephone survey such as the current study, there lies opportunity for true innovation. So practices could be qualitatively different from to the practices observed in older and larger firms.

Even though the “most recent” change was probed for, multiple responses were allowed, and it is interesting to examine briefly both the number who took the opportunity to give multiple responses, and those who gave no responses – that is, claimed not to have introduced any “recent changes” in ER practices. A substantial number of respondents, 335 (23.7 per cent) were unable to give an example of a recent change. A statistically significant larger number of newer firms (16 per cent) than older firms (4 per cent) gave multiple responses to this question. This reinforces the impression that new organisations may be introducing changes more rapidly, not for innovation, but for catch-up.

Source of ER ideas
Managers were asked to consider from where they got their ideas for their most recent ER change. Again, there was remarkable congruence between the results for “new” and “older” organisations (see Table VII). For “new” organisations, the top three sources of “change ideas” were current colleagues, themselves, and previous colleagues, in that order, while for “older” organisations, the top three were current colleagues, themselves, and other businesses in the industry. Significant differences were found in only three categories of sources: new firms were more likely to be influenced by previous colleagues or “yourself”, while older firms were more likely to point to “legislation and regulation”. The greater reliance on previous colleagues may well point to respondents having arrived relatively recently from positions at other firms.

Managerial satisfaction with ER characteristics of the firm
Finally, the survey asked a number of questions about managers’ degree of satisfaction about various ER aspects of the organisation (see Table VIII), with higher scores reflecting greater satisfaction, and a score of 3.5 indicating a midpoint. The results show a surprising level of commonality between “new” and “older” firm responses on most questions. The one exception was that managers in new organisations were less satisfied with their own
knowledge of ER, presumably because they have had less time to become aware through experience of ER in their organisation but have also been introducing changes there faster.

Discussion and conclusion
We posed the question, “do new organisations show evidence of innovative, that is different, practices when it comes to how firms handle their staff?” That is, are they at the “leading-edge” or alternatively, the trailing edge of ER practices? This study, while a large, representative national study with good response rates, is cross-sectional, with the inescapable disadvantages of a “single-shot” study. Though it cannot conclusively answer whether new firms rapidly converge on the same suite of practices that characterise older firms, the results offer some clear inferences. It appears that, within a short time, new firms come to largely resemble older firms, at least in terms of adoption of ER practices, though we have no data on the quality or depth of implementation. Setting aside industry...
composition, the major difference is that new firms are less likely to be unionised than old firms. There are several likely reasons: new organisations are smaller and more likely to make use of casual employees, both of which are likely to make unionisation harder, and unions have to identify and “break into” new organisations. But it does not appear that new organisations are less unionised because of the application of sophisticated, innovative management practices that make unionisation difficult, as there is little evidence that such practices are found more commonly in new organisations.

The reputation of “start-ups” as hives of innovation is not matched by reality – at least not in ER. There are a range of factors that promote standardisation in ER, such as the impacts of regulation, product market conditions, unions, employer associations, law firms and management consultants, and this study takes place in Australia, which offers a highly-regulated industrial context. Moreover, it is rational for new firms to attempt to minimise costs by emulating practices proven in established firms. Institutional isomorphism, as Selznick (1996, p. 273) puts it, occurs because “organisations tend to model themselves after similar organisations in their field that they perceive to be more legitimate or successful”. It might be the case that new, high-level technology may require new work practices, either as a function of the technology or driven by the need to attract or retain qualified staff, but there is no reason from our data to believe that new firms will be more focussed on introducing new, high-level technology than old firms. (If anything, the data in Table VI suggest a slower uptake in new firms, but the difference was non-significant.)

Change in ER practices appears more rapid in new firms mainly because they are in the throes of adopting much of the standard ER features of older firms. Age and size are naturally correlated. Firms that reach a quorum of 20 staff in five years are almost by definition gazelle firms, and while the literature on the recruitment pressure placed on high-growth firms has escaped scholarly interest (an exception being Coad et al., 2011), it is inevitable that new, high growth firms face specific HR challenges in settling and training new hires. The “crisis of growth” may cause what Leonard-Barton refers to as “core rigidities” (Leonard-Barton, 1992; Muurlink et al., 2012). Nevertheless our findings show that the symmetry between new and old firms holds when size is taken into account. It is possible that differences between “new” and “old” firms may have been exposed if we had included no minimum size bar in our new firm sample.

There were no significant differences in the presence of flexible leave arrangements for staff, individual contracts for non-managerial staff, the use of performance reviews in making promotion systems, enterprise agreements, or performance-related bonus systems. On the evidence offered by this study, it seems likely that as new organisations age and grow, they will also begin to adopt, not always willingly, other characteristics of older organisations, such as union presence. In fact, the picture of symmetry between new and older organisations is such that it would appear new entities are not seeking to actively remake work practices, but are trying to replicate the practices of older firms. This convergence has been examined in the technology sector by Martin-Rios (2014) who found that active sharing of human resource management knowledge occurs in inter-firm knowledge networks; our study confirms that key sources of ER knowledge include industry bodies, suppliers, rivals and former business colleagues – ahead of formal business education which accounted for only between 3 and 5 per cent of ER ideas.

Mainstream media (and consultants) have a tendency to focus on outliers as a sign of innovation. Two high profile examples in current times are Google and Uber. Uber faces a strong online and media backlash regarding HR practices within their head office (Dorney, 2017). Google on the other hand has been in existence now for more than 20 years and was first listed on Fortune magazine’s best companies to work for in 2007 – some 11 years after start up and beyond our five year limit for new firms. What is perhaps more important, is that both firms have very innovative products yet the ER practices are
the product of managerial decisions that are similar to countless other workplaces, but a series of chance events happened to go in favour of Google, Uber and the like (Kahneman, 2011). These organisations have innovative products, embracing new technology, at the right time and, to be frank, we love to read case studies of extreme success or extreme failure. It is questionable whether these organisations were truly innovative in human resource management practices in their first five years.

There is a tendency in both management and consultant circles to accept the truism that new firms are hives of innovation, and there is evidence when it comes to technological innovation that this assumption holds in reality (e.g. Brem and Voigt, 2009). In the field of ER, our study shows that when it comes to innovation in ER, at least, there may be differences in the stage at which ER practices are introduced (inevitable considering the different stage of firms are undergoing) and there may be a difference in the degree to which these practices are implemented (something this study does not address), but the two sets of firms have chosen essentially the same set of ER options from the menu. New organisations may create the impression of novelty through their speed of adoption of the same old practices.

**Note**
1. These figures reflect the period 2006-2010, and include both published and unpublished data provided by May (2012).

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Independent professionals and the potential for HRM innovation

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Abstract

Purpose – The purpose of this paper is to examine “black box” links between HRM innovations and organizational performance by investigating the perspective of a workforce often excluded from the HR realm. Professional Independent Contractors (IPros) play a vital role in achieving workforce flexibility and innovation. While the use of such arrangements has been examined often using a compliance-oriented lens, the authors explore the value of adding a commitment aspect.

Design/methodology/approach – In total, 375 IPros working in Australian organizations completed an online questionnaire distributed by a national business support services provider.

Findings – Results show organizational support significantly predicted work engagement and affective commitment. Self-efficacy, age and gender were also significant predictors.

Research limitations/implications – The cross-sectional nature of this study and reliance on self-reported data limit the reliability of the findings. In addition, the findings may be specific to the Australian labor market.

Practical implications – The study presents the views of a difficult to reach population and the findings suggest by adopting an innovative hybrid commitment-compliance HR configuration, practitioners may positively increase desirable contractor outcomes.

Social implications – Concerns that organizational imperatives for efficiency, quality and high performance will be compromised by considering the human side of non-employee work arrangements are not supported. Indeed, as previously outlined, much of the concern with the employee/non-employee dichotomy is legally based and an artefact of a system of labor law that in many settings has failed to move with the times.

Originality/value – Few investigations of the impact of high commitment HRM practices have incorporated the perspective of professional, non-employees. While IPros are recipients of compliance focused contractor management practices, carefully integrated commitment-based HRM aspects have the potential to deliver positive outcomes for both individuals and organizations.

Keywords Quantitative, Work engagement, Commitment, HR strategy, Independent professionals

Paper type Research paper

Introduction

This paper addresses the call to examine the notion of the “black box” links between HR innovations and organizational performance. While an extensive HR literature investigates the linkages between employee attitudes and behaviors, organizational interventions and desirable performance-related outcomes, the traditional views of work they are embedded in are changing (Kowalski et al., 2015; Okhuysen et al., 2015). Workforces are becoming complex in twenty-first century organizations, blending those traditionally employed with increasing numbers employed on a contingent, atypical or non-standard basis and those engaged via intermediated or contracted arrangements. As Voelz (2010) notes, the complexity of managing this blended workforce requires the input of human resource (HR) managers to build new working relationships while protecting legal and ethical priorities.

This context provides the background to an investigation of an often hidden, but vital segment of the engaged workforce, namely white collar Independent Professionals
The independent professional (IPro)

Alternatives to traditional notions of employment as a job that is full-time and permanent are increasingly the norm. Captured by labels such as contingent, atypical or non-standard, such individuals account for over 20 percent of the American workforce (BLS, 2014) and almost 30 percent of the Australian labor market (ABS, 2016). As Cappelli and Keller (2013, p. 575) note “alternatives to the archetypal model of full-time regular employment are now prevalent and wide ranging […] yet most of our management and social science notions about economic work are based on the full-time employment model.”

From increasing educational levels to greater labor mobility, the organizational challenges associated with workforce management are compounded by HRM practices intended to stimulate high levels of engagement, commitment and subsequent organizational productivity gains. Often predicated on notions of stability and predictability, such HRM practices also largely disregard the growing non-employee workforce (Kowalski et al., 2015; Okhuysen et al., 2015; Way et al., 2010). Historically, organizations have focused on eliciting compliance rather than commitment from contracted workers (Deakin, 2007; Leighton and Wynn, 2011) but this is clearly at odds with the increasing reliance on the non-employee workforce. Of particular relevance to this research is the contribution of the growing numbers of IPros (Kalleberg, 2009; McKeown, 2016; Süß and Sayah, 2013) who are characterized as the embodiment of star performers (Aguinis and O’Boyle, 2014) and where meeting deadlines and expectations are essential to their professional success (Bögenhold and Klinglmair, 2016; de Jager et al., 2016).

While definitions remain contentious (Leighton and Wynn, 2011; McKeown, 2015), the consensus internationally is that IPro work attracts highly qualified individuals with unique human capital (Bidwell and Briscoe, 2009; Casale, 2011; Eurofound, 2010; Jas, 2013; Smith, 2010; Süß and Sayah, 2013; Wynn, 2016). IPros operate at the elite end of the non-employee spectrum with the premium attached to specialized skills seeing these individuals highly sought after by organizations requiring their expertise and abilities and willing to pay generously (Bryant and McKeown, 2016; Burke, 2015; Grimshaw and Miozzo, 2009).

However, while the ability to optimize IPro engagement and organizational commitment throughout the duration of a project would seem appealing, they also present a challenge to the prevailing organizational orthodoxies of workforce management. As non-employees, IPros fall through administrative and conceptual gaps created by systems grounded within legal concepts of traditional employment (Wynn, 2016). Despite their valued and strategic human capital, IPros are largely ignored by the HRM discourse (Leighton, 2014). While we aim to put a spotlight on the potential of applying a hybrid commitment-compliance HR configuration to IPros, it is important to explore the compliance aspect commonly associated with their legal and commercial context.
The legal context of the IPro

In many instances, legal distinctions between employee and non-employee challenge the traditional regulatory and processes within which organizations operate – from taxation, work safety and labor laws and even, according to some, to the very order of society (Casale, 2011; Deakin, 2007; Okhuysen et al., 2015). Indeed, many of the benefits that organizations derive by using non-employees such as IPPros arise precisely because they fall outside of the conventional provisions and protections often associated with employment (Blampain et al., 2010; Leighton and Wynn, 2011).

There is a body of research which suggests that contracting arrangements are used to avoid labor and employment laws covering standard employees (Bidwell and Briscoe, 2009; Parker, 2010) and achieve cost-savings through only purchasing labor when required (Deakin, 2007; Stewart, 2007). While some individuals are involuntarily pushed into independent contracting (McKeown, 2015), others voluntarily opt-in (Shane, 2008; Wynn, 2016) or in response to occupation or industry socially embedded practices (Bögenhold and Klinglmair, 2016; McKeown et al., 2011).

For many organizations, due diligence and compliance surrounding the engagement and management of contracted workers is paramount, particularly in light of concerns about sham contracts (McNeilly, 2013; Leighton and Wynn, 2011) and potential confusion over employer status (Leighton, 2016). The tensions and debates surrounding non-employee status are longstanding with courts around the world struggling to find coherent tests differentiating employee from the self-employed non-employee – a situation compounded by the increasing complexity and diversity within employment relationships themselves (Casale, 2011; Deakin, 2007). As Leighton and Wynn (2011, p. 36) note:

The orthodoxy has long been that the essence of the distinction between the employee and the self-employed is that of opportunity and risk. The genuine employee bears little financial and other risks; the self-employed carries far more risk, especially in terms of work instability and investment in materials, etc.

The key distinction is that the non-employee is an individual who earns his or her income through the commercial or civil contract and not the employment contract – they are engaged by, rather than working for, a client or organization (Phillips and McKeown, 2012). Added to this, the specter of “sham” or pseudo contracting claims being made has long been a rationale for organizations in general and HR departments in particular, going to great lengths to “distance” this sector of their workforce (Voelz, 2010; Way et al., 2010; Wynn, 2016). IPPros thus tend to fall outside of the HRM realm, despite the fact that organizations have been identified as an important institutional actor and resource in meeting the needs of workers in non-standard employment (Zeitz et al., 2009).

IPPros as non-employees in the Australian context

With this context in mind, the Australian context of this study provides some clarity in this rather fraught area. Since the passing of the federal Independent Contractors Act 2006 (Cth), Australia provides a legal definition of an independent contractor which ensures that they are, for the most part regulated as “business people” (Riley, 2006), by the law of commercial contracts and not employment law. Combining the ABS (2006), definition of professionals as those engaged in providing professional, scientific and technical services who specialize in particular areas and sell their expertise and knowledge sees IPPros as professionals:

[...] who operate their own business and who contract to perform services for others without having the legal status of an employee, that is, a client under a commercial contract, rather than an employee under an employment contract (ABS, 2009, p. 6).
As at August 2015, over one million persons worked as independent contractors in Australia and around 25 percent of these were IPPros. While the non-employee and IPPro workforce is not a dominant form of work, the challenges and opportunities this workforce offer are vitally important.

**HR architecture and the IPPro**

The notion of the HR architecture provides an anchor for investigating the role of the IPPro workforce, incorporating transaction cost economics (Williamson, 1975), human capital theory (Becker, 1964) and the resource-based view of the firm (Barney, 1991). Lepak and Snell (1999, 2002) present the HR architecture model to conceptualize the connections between labor use and workforce internalization vs externalization strategies to manage human capital. As shown in Figure 1, the four quadrants of the model connect the strategic characteristics of human capital, employment modes, employment relationships and HR configurations. The value and uniqueness of employee skills become primary determinants for identifying the respective employment mode and then, customized HR practices suggested as appropriate to manage human capital.

Quadrant 3, labeled Contract Workers, focuses on temporary or contracted workers. Lepak and Snell (1999) suggest these workers have a transactional relationship based on being paid an hourly rate based on completion of specific tasks with limited scope, purpose or duration. The compliance HR configuration associated with this quadrant aligns with the compliance focus of the commercial contract emphasis of the ICA Act (2006). This emphasis generally operates to directly remove contract workers from the HR remit and sees their management as an issue for procurement or financial services (Bögenhold and Klinglmair, 2016; Bovaird, 2016; Leighton, 2014; McNeilly, 2013). In contrast, Quadrant 1, labeled Knowledge Employees, is characterized by individuals with human capital that is unique, of strategic value and associated with a commitment HR configuration.

Positioning the IPPro within this model is problematic and thus worth investigating as lost productivity may be incurred by focusing solely on compliance. While not an employee, IPPros provide a valuable resource that may evolve into a long-term essential contributor to an organization (Fisher _et al._, 2008). Further, organizations use of IPPros for strategic reasons suggests they “no longer inhabit the fringes of the labor market” (Ashford _et al._, 2007, p. 74). Non-standard workers in general and IPPros, in particular, operate in all occupations, industry

![Figure 1. Human resource architecture](adapted from Lepak and Snell (1999, 2002))
sectors, and organizations of all sizes. Thus, there is broad scope for reconsidering the notions of work engagement and commitment in the context of non-standard workers (Gallagher and Sverke, 2005; Klein et al., 2012), particularly IPros due to their highly valued human capital. On the surface, this appears to logically locate IPros at the nexus of high strategic and unique human capital of Quadrant 1. Indeed, there is a growing body of research that supports this placement of the IPro as a resource of both high strategic and unique human capital value (see e.g. Bryant and McKeown, 2016; de Jager et al., 2016; Wynn, 2016).

The “Alliance partner” configuration of Quadrant 4 could also be considered, particularly in light of the commercial contract focus of the relationship between individual and organization. Again, the specter of “pseudo” or “sham” contracting means that the mutual sharing and closeness required for collaboration cannot occur, while the low strategic capital that this configuration is based on is not reflected in the roles IPros fulfill.

Furthering knowledge about the role of HRM mechanisms in supporting and sustaining IPro engagement and commitment is potentially beneficial at the individual, organization and national levels. While there is a lack of research into the mechanisms which may support this form of work (Guest et al., 2010; Panaccio and Vandenberghe, 2009), theoretically and practically, the principles which underpin Lepak and Snell’s (1999, 2002) HR architecture provide a solid framework for exploring key mechanisms to positively influence IPro work engagement. The next section therefore explores the notions of engagement and commitment.

Work engagement and commitment

Work engagement is a positive, work-related state of well-being or fulfillment and is negatively related to burnout (Bakker and Leiter, 2010). Engaged employees tend to have high levels of personal resources (such as optimism and self-efficacy), and be enthusiastically involved in their work. Extrapolating this to organizations engaging IPros suggests that they want these workers to be energetic and enthusiastic for the duration of a project, particularly were paying premium rates for their expertise and knowledge. High levels of IPro work engagement are not only advantageous to clients; meta-analytical results reveal positive relationships with individual health and performance, and negative relationships with burnout and exhaustion (Bakker et al., 2014; Halbesleben, 2010).

Following Schaufeli et al. (2006), work engagement is defined here as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication relates to being strongly involved in one’s work, and a sense of significance, enthusiasm, inspiration, pride and challenge. Absorption involves being fully and happily immersed in one’s work.

Understanding the personal attributes and contractor management practices associated with high levels of work engagement offers the potential to create value for organizations using the IPro workforce. For instance, Kurtessis et al.’s (2015) meta-analysis revealed perceived organizational support (POS) predicted both employee well-being and performance. Further, given the increasing individualization of the employment relationship, the psychological contract provides a useful analytic framework where the notion of psychological contract breach is an important element to consider in relation to fostering IPro work engagement and achieving successful outcomes such as organizational commitment (Guest, 2016).

Organizational commitment is defined as a sense of loyalty toward one’s organization, which encompasses an individual’s willingness to extend effort in order to further an organization’s goals and the degree of alignment the organization has with the goals and values of the individual (Mowday et al., 1979). While Meyer and Allen (1991, 1997) posited
organizational commitment comprises three specific components of affective, continuance commitment and normative commitment, affective commitment is considered the core essence of organizational commitment (Mercurio, 2015).

Affective commitment is "the employee's emotional attachment to, identification with, and involvement in the organization" (Meyer and Allen, 1991, p. 67). The broad antecedent categories for affective commitment have been identified as personal characteristics, organizational structure characteristics and work experiences that develop on the basis of work experiences and organizational characteristics that make the employee feel psychologically comfortable, and enhance a sense of competence (Meyer and Allen, 1991, 1997; Meyer et al., 2002).

Both the IPro and client organization mutually benefit from an IPro feeling engaged and committed to the client organization throughout the duration of a project. Adapting Lepak and Snell's (1999, 2002) model, IPros with their knowledge employee (Quadrant 1) characteristics and contracting employment mode (Quadrant 3) highlight the potential for using an innovative hybrid compliance-commitment HR configuration. While engaged and committed workers have the potential to produce desirable outcomes for organizations, a key question is how can these attitudes be elicited from an IPro workforce? The next two sections address this question by considering personal resources available to an IPro as well as job resources within the control of client organizations.

Personal resources related to IPro work engagement and commitment

Figure 2 presents the research model and the linkages among the variables proposed in this study. Previous studies consistently demonstrate both personal and job resources are positively associated with work engagement (Bakker et al., 2014; Bakker and Leiter, 2010; Halbesleben, 2010) and commitment (Chambel et al., 2014; Meyer and Allen, 1997; Meyer et al., 2002).

Looking at each in turn, personal resources are positive self-evaluations linked to resiliency and relate to an individual’s sense of their ability to successfully control and influence an environment (Hobfoll et al., 2003). They are positively associated with work engagement and include volition, optimism, self-efficacy and resilience, which assist individual control over the environment in a successful way (Xanthopoulou et al., 2007).

Examining personal resources allows exploration of the human side of the IPro-client work arrangement, particularly as organizations use non-standard work arrangements to externalize services or in-source previously outsourced services (Bovaird, 2016).
Volition emerges as an important personal resource within the non-standard employment literature which impacts on work-related attitudes and behaviors (Connelly and Gallagher, 2004; McLean-Parks et al., 1998). Volition is the desire to pursue non-standard work or the preference for becoming a permanent employee (Connelly and Gallagher, 2006) and has been linked to work outcomes, such as satisfaction, burnout and organizational commitment (Connelly and Gallagher, 2006; Krausz, 2000; Krausz et al., 1995).

Volition also makes the distinction between push and pull (Ellingson et al., 1998; McKeown, 2015) and the voluntary vs involuntary entry into non-standard work (Tan and Tan, 2002). For those individuals who deliberately opt to work this way, there are positive outcomes and attitudes that are more favorable and behaviors in comparison to involuntary workers (Ellingson et al., 1998; Krausz, 2000). As previously noted, professionals who move to IPro arrangements may do so for a range of reasons yet research examining the linkages between volition and work attitudes is sparse. According to commitment theory (Kiesler, 1971; Meyer and Allen, 1997), volition and feeling free to act otherwise, operate as binding variables so individuals who freely accept their work assignment (high volition) are likely to experience higher levels of work engagement and affective commitment. Thus, we hypothesize:

**H1a.** Volition is positively related to IPro work engagement.

**H1b.** Volition is positively related to IPro affective commitment to current client.

The focus on independence in this study identifies self-efficacy as an important personal resource. Self-efficacy refers to the confidence or belief in one's ability to succeed at a particular task in a specific context (Bandura, 1997). Mauer et al.'s (2009, p. 241) suggestion that self-efficacy is “an important mechanism to overcome perceptions of risk” aligns with the notion that professionals who become IPros are likely to have high levels of self-efficacy to assist them to persist in the face of difficulties. Previous studies demonstrate the linkages between self-efficacy and positive work-related outcomes including work engagement (Halbesleben, 2010; Salanova et al., 2010) but only occasionally in investigations of commitment. Although the results so far are not conclusive regarding the casual order of this relationship, overall, research supports the idea that efficacy constructs are antecedents of action commitments and that the two constructs are positively related (Bandura and Locke, 2003). Hence, it is hypothesized:

**H2a.** Self-efficacy is positively related to IPro work engagement.

**H2b.** Self-efficacy is positively related to IPro affective commitment to current client.

### Job resources related to IPro work engagement and commitment

Job resources are important antecedents of work engagement that are within the organization’s control. They may be influenced via management interventions which involve “those physical, psychological, social, or organizational aspects of the job that may (a) reduce job demands and the associated physiological and psychological costs, (b) are functional in achieving work goals, and (c) stimulate personal growth, learning and development” (Demerouti et al., 2001, p. 501; Halbesleben, 2010). Work engagement is related to job resources such as co-worker support, job satisfaction and organizational commitment as well as positive perceived mental health such as lower distress, depression and psychosomatic complaints (Schaufeli et al., 2008).

POS is a well-established construct and refers to an employee’s evaluation of their experiences at work in terms of the extent to which they reflect organizational concern for employee well-being. Derived from organizational support theory (Eisenberger et al., 1986), and grounded in social exchange theory and the associated norm of reciprocity (Panaccio and Vandenberghe, 2009), POS has been recognized as a reliable predictor of important
attitudinal and behavioral employee outcomes which lead to positive individual and organizational outcomes (Eisenberger et al., 1986; Kooij et al., 2013; Riggle et al., 2009). Given the consistently strong and positive relationships between POS and desirable individual and organizational outcomes, POS is important for individualized work arrangements such as the IPro. For instance, POS fosters commitment by meeting employees' socio-emotional needs and creating a felt obligation to "re-pay" the organization. Emergent findings in the non-standard work literature show some support for an association between POS and positive worker attitudes (Coyle-Shapiro and Morrow, 2006; Veitch and Cooper-Thomas, 2009). Thus, we propose:

**H3a.** Organizational support is positively related to IPro work engagement.

**H3b.** Organizational support is positively related to IPro affective commitment to current client.

Psychological contract breach also seems an important construct. While the formal legal contract between the IPro and client organization is likely to address the commercial side of the arrangement, there is also likely to be an informal or unwritten psychological contract between the two parties that can be upheld or breached (Rousseau, 1995). Perceived psychological contract breach refers to the feelings of disappointment, ranging from minor frustration to betrayal, arising from their belief that their organization has broken its work-related promises (Morrison and Robinson, 1997). Perceived breaches, particularly when viewed as a serious violation, can negatively affect the individual and organization through decreased organizational commitment and job satisfaction and increased turnover (Millward and Brewerton, 2000).

Research surrounding the psychological contract and commitment (Meyer and Allen, 1991, 1997; Robinson and Morrison, 2000; Rousseau, 1995) suggest the desire to fulfill perceived obligations under the psychological contract may influence affective commitment in one of two main ways. An individual may stay and adapt their psychological contract or rectify a violation by withdrawing or quitting. As rectifying a sense of indebtedness is associated with stronger commitment, psychological contract breach is rectified by, and associated with, lower commitment. This is supported in prior studies examining non-standard workers (DeCuyper et al., 2008). Hence, it is hypothesized:

**H4a.** Psychological contract breach is negatively related to IPro work engagement.

**H4b.** Psychological contract breach is negatively related to IPro affective commitment to client.

In sum, work engagement and commitment are two important concepts which appear to offer a potential extension of current knowledge by applying such HR commitment considerations to contractor management practices.

**Method**

**Participants and procedures**

We collected data via an online questionnaire distributed by Entity Solutions (Australia's leading business support services organization for professionals) to 1,000 registered IPro clients. In total, 375 IPros working in a range of Australian organizations completed the questionnaire (37.5 percent response rate). As precise information about the database of IPro clients was not made available to the researchers, it was not possible to conduct a statistical comparison of non-response bias (Rogelberg and Luong, 1998). However, a non-statistical comparison was made by reviewing respondents' demographic characteristics with the general descriptions provided by Entity Solutions. In broad terms, this sample reflected the ages, gender and occupations of the entire database.
As presented in Table I, the IPro sample IPros was diverse in their personal and work-related characteristics. The majority of IPros reported working in information technology and telecommunication professions (135), followed by engineering and mining professions (58). The remaining IPros worked in a variety of accounting, finance, banking, administrative and HR-related professions.

**Measures**

All constructs used established and validated scales with minor modifications to reflect the IPro context (such as organization to current client organization and temporary employee to IPro) with:

- **Volition** – the four-item voluntariness sub-scale of Ellingson et al. (1998), (“Rate the degree to which: variety of work played a role in your decision to work as an IPro”). Items were rated using a three-point scale (1 = no role; 3 = major role). Reliability was $\alpha = 0.74$.

- **Self-efficacy** – the six-item occupational self-efficacy scale of Rigotti et al. (2008), (“I can usually handle whatever comes my way in my job”). Items were rated using a six-point scale (1 = not at all true; 6 = completely true). Reliability was $\alpha = 0.86$.

- **Organizational support** – the nine-item Survey of perceived organizational support (Eisenberger et al., 1986), (“My current client organization has help available when I have a problem”). Items were rated using a seven-point scale (1 = strongly disagree; 7 = strongly agree). Negatively worded items were reverse coded. Reliability was $\alpha = 0.92$.

- **Psychological contract breach** – the five-item global measure of Robinson and Morrison (2000), high scores indicating high levels of perceived breach (“I have not received everything promised to me in exchange for my contributions”). Items were rated using a five-point scale (1 = strongly disagree; 5 = strongly agree). Negatively worded items were reverse coded. Reliability was $\alpha = 0.93$.

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Responses for sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male: 64%</td>
</tr>
<tr>
<td></td>
<td>Female: 36%</td>
</tr>
<tr>
<td>Age</td>
<td>Mean: 42 years (range 20-70 years)</td>
</tr>
<tr>
<td>Highest education level attained</td>
<td>Secondary education: 12%</td>
</tr>
<tr>
<td></td>
<td>Certificate level: 6%</td>
</tr>
<tr>
<td></td>
<td>Diploma/Advanced diploma: 16%</td>
</tr>
<tr>
<td></td>
<td>Bachelor degree: 35%</td>
</tr>
<tr>
<td></td>
<td>Graduate diploma/certificate: 9%</td>
</tr>
<tr>
<td></td>
<td>Postgraduate degree: 22%</td>
</tr>
<tr>
<td>Work experience as an IPro</td>
<td>Mean: 5.3 years (range 1 month to 45 years)</td>
</tr>
<tr>
<td>Experience in specialist field</td>
<td>Mean: 15.8 years (range 1 month to 51 years)</td>
</tr>
<tr>
<td>Time period of current contract</td>
<td>Mean: 12 months (range 0 months to 144 months or 12 years)</td>
</tr>
<tr>
<td>Previous contract with current organization</td>
<td>No: 61%</td>
</tr>
<tr>
<td></td>
<td>Yes: 39%</td>
</tr>
<tr>
<td>Number of hours usually worked per week</td>
<td>Mean: 42 (range 4 to 84 hours)</td>
</tr>
<tr>
<td></td>
<td>Part time (&lt; 35 hours): 15%</td>
</tr>
<tr>
<td></td>
<td>Full-time (&gt; 35 hours): 85%</td>
</tr>
</tbody>
</table>

**Note:** $n = 375$
• Work engagement – the nine-item Utrecht work engagement scale of Schaufeli et al. (2006), (“I am enthusiastic about my job”). Items were rated using a seven-point scale (1 = never; 7 = always). Reliability was $\alpha = 0.93$.

• Affective commitment – the eight-item Affective Commitment Scale (Allen and Meyer, 1996), (“My current client organization has a great deal of personal meaning for me”). Items were rated using a seven-point scale (1 = strongly disagree; 7 = strongly agree). Negatively worded items were reverse coded. Reliability was $\alpha = 0.88$.

Individuals were asked to fill out the survey in terms of their most current client. While most (96 percent or 360 of 375 respondents), indicated they worked for a single client at a time, the possibility of multiple clients was addressed by asking for the results to be addressed to their “main current client of the day.” To rule out alternative or spurious explanations for relationships, four common demographic characteristics were selected as control variables for this study: age (measured in full years); gender (0 = male, 1 = female); education level (1 = secondary education; 6 = postgraduate degree); and tenure (duration of current contract in months).

As shown in Table II, overall, the inter-relationships between the measures were as expected. Strong significant correlations were apparent between the measures for organizational support and affective commitment ($r = 0.64$, $p < 0.001$) and organizational support and psychological contract breach ($r = −0.52$, $p < 0.001$). As the bivariate correlations did not exceed the 0.70 convention suggested by Tabachnick and Fidell (2007), no corrective action was taken.

Analyses were conducted using the AMOS program for structural equation modeling. Prior to undertaking this, each of the scales was subjected to principal components analysis using SPSS version 23. The results are present in Table III and show that all scales exceed the recommended Kaiser-Meyer-Olkin value of 0.06 (Kaiser, 1974) and Bartlett’s test of sphericity (Bartlett, 1954) reached significance. Given these overall indicators, factor analysis was conducted with all items and, as the last column in Table III shows, all items within each scale loaded substantially on only one component. The results of this analysis support the use of the scales.

Findings
The role of personal and job/organizational resources in determining IPro commitment and engagement with their client organization is shown in Figure 3. The fit statistics for the model confirm a good fit to the data ($\chi^2/df = 0.090$, RMSEA = 0.043, TLI = 1.046, IFI = 1.002, NNFI = 1.00; CFI = 1.00). The results, shown in Figure 3 and detailed in Table IV, reveal that

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>41.94</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2. Gender</td>
<td>–</td>
<td>–0.17</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3. Education</td>
<td>3.86</td>
<td>−0.09</td>
<td>−0.08</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4. Tenure</td>
<td>11.97</td>
<td>0.38**</td>
<td>−0.18</td>
<td>−0.06</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Volition</td>
<td>1.88</td>
<td>−0.01</td>
<td>0.05</td>
<td>0.02</td>
<td>0.12*</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6. Self-efficacy</td>
<td>5.07</td>
<td>0.13*</td>
<td>−0.06</td>
<td>0.01</td>
<td>0.10</td>
<td>0.05</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7. Organizational support</td>
<td>4.70</td>
<td>0.01</td>
<td>0.03</td>
<td>0.07</td>
<td>−0.15**</td>
<td>0.06</td>
<td>0.17**</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8. Psych contract breach</td>
<td>3.83</td>
<td>−0.03</td>
<td>0.03</td>
<td>−0.08</td>
<td>0.03</td>
<td>−0.05</td>
<td>−0.18**</td>
<td>−0.52**</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>9. Work engagement</td>
<td>5.40</td>
<td>0.21**</td>
<td>−0.03</td>
<td>0.07</td>
<td>0.02</td>
<td>0.09</td>
<td>0.45**</td>
<td>0.44**</td>
<td>−0.20**</td>
<td>–</td>
</tr>
<tr>
<td>10. Affective commitment</td>
<td>4.27</td>
<td>0.15*</td>
<td>0.06</td>
<td>0.07</td>
<td>−0.08</td>
<td>0.02</td>
<td>0.12*</td>
<td>0.64**</td>
<td>−0.35**</td>
<td>0.43**</td>
</tr>
</tbody>
</table>

Notes: *$p < 0.05$; **$p < 0.01$
organizational support is a significant predictor of affective commitment while self-efficacy is a significant predictor of both work engagement and affective commitment as hypothesized. Contrary to the hypotheses, neither volition nor psychological contract breach emerges as significant predictors of work engagement or of affective commitment. For organizations, the finding that a high level of organizational support will positively influence IPRO work engagement, over and above personal resources, is encouraging. It suggests the potential for HRM practices perceived as supportive will positively affect IPROs’ attitudes and behaviors toward work.

The finding that affective commitment has a strong positive effect on work engagement further reinforces this potential for HRM practices perceived as supportive, to positively affect the IPRO-client relationship. The ability of organizational resources to have a positive effect is further seen in the significant relationship observed between lack of psychological contract breach and positive organizational support as well as the positive effect each of these have on IPRO self-efficacy.

**Figure 3.**
The results of the model

<table>
<thead>
<tr>
<th>No. of items</th>
<th>KMO</th>
<th>Bartlett’s</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volition/Push</td>
<td>4</td>
<td>0.789</td>
<td>0.000</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>6</td>
<td>0.871</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Organizational resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological breach</td>
<td>5</td>
<td>0.877</td>
<td>0.000</td>
</tr>
<tr>
<td>Organization support</td>
<td>9</td>
<td>0.932</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>HR commitment configuration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective commitment</td>
<td>6</td>
<td>0.841</td>
<td>0.000</td>
</tr>
<tr>
<td>Engagement</td>
<td>9</td>
<td>0.907</td>
<td>0.000</td>
</tr>
</tbody>
</table>
However, the results of the covariance analysis within the HR configuration do offer a potentially important corollary to this. Here, there is also a significant relationship where work engagement appears to negatively impact on affective commitment to the client organization (although this is not as strong as the positive relationship commitment has on work engagement).

Overall, the significant influence of both aspects of organizational resources and the very important role of self-efficacy as an individual resource provides support for only three of the eight hypotheses (see Table V). The greater role of self-efficacy in influencing both aspects of the HR Commitment Configuration suggests that the individual IPro has a fundamental role in determining the levels of engagement and commitment they give to their client organization. However, the role of organizational resources is important, as it directly influences the IPros feeling of self-efficacy.

**Discussion**

We have attempted to address the call to examine “black box” links between HRM innovations and organizational performance by investigating the perspective of a workforce often excluded from the HR realm. IPs play a vital role in achieving workforce flexibility and innovation, yet our knowledge is limited as to how organizations can elicit high levels of work engagement and affective commitment without compromising the legal nature of the relationship.
commercial contract. Therefore, we explored personal (volition and self-efficacy) and job resources (organizational support and psychological contract breach) for their innovation potential in adding an HR aspect to the compliance HR configuration. In doing so, this study offers new insights about the predictors of work engagement and affective commitment which are both considered key elements of high performance.

As hypothesized, our results reveal that self-efficacy and organizational support are significant predictors of IPro work engagement. This finding aligns with Mauer et al. (2009) and suggests that for IPros, confidence and self-belief are vital personal resources linked to feeling a sense of vigor, dedication, absorption at work. Further, the finding that organizational support significantly predicts work engagement shows support for the contention by Coyle-Shapiro et al. (2004), as IPros respond favorably to the receipt of impersonal and socio-emotional resources. Extrapolating from the results of Tims et al. (2014), IPros with high levels of self-belief are more likely to mobilize organizational support mechanisms and this translates into both higher levels of work engagement and performance.

As with the extant research (cf. Meyer and Allen, 1997; Eisenberger et al., 1986), we found organizational support was a significant predictor of affective commitment in the IPro-client organization context. This finding highlights the potential for a hybrid commitment-compliance HR configuration whereby HR professionals could potentially have a value-adding role by incorporating elements of organizational support within contractor management policies. As Chambel et al. (2014) suggest, HR should consider, and, where possible influence, contract managers’ actions when developing the transactional/relational nature of the commercial exchange between the organization and IPro. Identifying the specific elements of POS valued by IPros is worthy of further investigation.

There was a lack of support for the hypothesized relationships between volition and psychological contract with both work engagement and commitment. These findings suggest organizations do not need to be overly concerned about the IPros’ motives for contracting. Perhaps due to their professional orientation and desire for successful outcomes, volition does not influence IPro work engagement or commitment. In relation to psychological contract breach, Bankins (2014) proposes contractual promises can be conceptualized as both implicit and explicit so organizational communications should distinguish between promises, assertions and opinions. Again, there may be an important role for HR practitioners in instilling HR aspects into contractor management practices. Ideally, the detailed commercial contract between the IPro and client will sufficiently outline the work arrangement leaving little room for misunderstanding. Alternatively, the self-confident IPro may prefer to address any perceived breaches or violations before they reach the point where work engagement and commitment are affected. There is also the possibility that perceptions of organizational support overpower the degree of (in)voluntariness in the decision to move to independent contracting as well as any perceived breaches of the commercial contract exchange. Distinguishing the features of the commercial and psychological contract for IPros is an important area for future research.

Finally, the significant correlation between work engagement and affective commitment is noteworthy and reflects that around 40 percent of IPros had a previous contract with the current client organization. This suggests that optimizing IPro work engagement and commitment by incorporating an HR aspect into contractor management practices might reap additional benefits. Furthermore, it organizational support may influence the more variable work engagement in the shorter term as well as affective commitment in the longer term.

Implications for theory and practice
The findings have specific implications for the IPro workforce, particularly when considered in the context of Lepak and Snell’s (1999, 2002) HR architecture. As noted, the legal aspects of engaging non-employees provide strong drivers for organizations to adopt
a compliance approach. However, our results reveal that IPros are not the uncommitted contract workers of Quadrant 3 (see Figure 1) who interact with organizations on a purely transactional contractual basis. Based on our findings, the adoption of a hybrid commitment-compliance HR configuration has the potential to generate desirable outcomes for both parties.

For organizations, providing a supportive work environment via commitment-compliance HR configure could achieve immediate benefits and influence their future ability to access talented IPros in a competitive labor market. Breitsohl and Ruhle (2013) contend as individual careers increasingly span across a greater number of organizations, individuals may experience residual affective commitment and remain affectively committed to an organization after departure.

In terms of the sustainability of IPro work arrangements, work engagement and affective commitment are positively related to worker performance and well-being (Bakker and Leiter, 2010; Klein et al., 2012). Thus, our results point to potential benefits for both parties by organizations balancing imperatives for efficiency and performance with meeting IPros’ human needs of feeling listened to and supported. Further, by being engaged and committed, IPros may contribute to their visibility, profile as well as the potential for repeat assignments. Thus, an innovative commitment-compliance HR configuration challenges the traditional, dominant view of restrictions and compliance to one of potential and commitment.

Limitations and future research
In terms of limitations, our study is cross-sectional and as survey respondents provided self-reported ratings for all constructs, there is potential for common method bias. Following MacKenzie and Podsakoff (2012), efforts taken to reduce the risk of common method bias in the survey design phase included using clear language, labeling all response options, balancing positively and negatively worded items, and avoiding common scale properties.

Our sample is limited to IPros in Australia and the absence of a control group of professional employee’s raises the question as to whether our results reflect professional work in general rather than a feature of contracting. The fact that our study uses established and validated scales provides us with the confidence to propose that the results reflect something unique to IPros rather than generic to professionals. The mixed support for the hypotheses in this study points to the need for further research exploring the nature of IPro-organization exchanges. This is particularly pertinent, as previous research has suggested that there is a complex interplay of economic/transactional and social/relational aspects within the IPro-organization exchange (Guest et al., 2010). Although large numbers of this mobile population are difficult to access, longitudinal research might add vital insights here.

Conclusion
Alternative and new arrangements of work are a universal and growing phenomenon yet many institutions, approaches and expectations of work seem to remain firmly entrenched in traditionally oriented notions of standard employment. While the reality is that work is increasingly comprised of an array of blended workforce arrangements, HR largely continues to constrain notions of productivity, creativity and the value of the workforce to the traditional arrangements of work. Our paper provides novel insights on the potential for a more nuanced approach to the HR architecture (Lepak and Snell, 2002).

Our findings support combining elements of a commitment HR configuration (Quadrant 1) with the compliance HR configuration (Quadrant 3) when the contracted workers are professionals. The combination suggests opportunities for HR practitioners to add value to existing contractor management practices and potentially influence IPro work
engagement and affective commitment in ways which appear to have positive spill-over effects well-being and performance (Bakker et al., 2014). We encourage HR researchers and practitioners to be innovative and move beyond the employee/non-employee dichotomy, which is legally based, and an artefact of a system of labor law that in many settings has failed to move with the times-ups such as the IPbo will better understand the opportunities and challenges in balancing competing interests within the increasingly complex and blended workforces of the twenty-first century.

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Further reading


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Opening the black box
The mediating roles of organisational systems and ambidexterity in the HRM-performance link in public sector organisations

Geoff Plimmer and Jane Bryson
School of Management, Victoria University of Wellington, Wellington, New Zealand, and
Stephen T.T. Teo
ECU School of Business and Law, Edith Cowan University, Joondalup, Australia

Abstract
Purpose – The purpose of this paper is to explore how HIWS may shape organisational capabilities, in particular organisational ambidexterity (OA) – the ability to be both adaptable to the wider world, and internally aligned so that existing resources are used well. Given the demands on public agencies to manage conflicting objectives, and to do more with less in increasingly complex environments, this paper improves our understanding of how HIWS can contribute to public sector performance. The paper sheds light inside the black box of the HIWS/organisational performance link.

Design/methodology/approach – This multi-level quantitative study is based on a survey of 2,123 supervisory staff, and 9,496 non-supervisory employees in 56 government organisations.

Findings – The study identifies two paths to organisational performance. The first is a direct HIWS performance link. The second is a double mediation model from HIWS to organisational systems, to OA and then performance.

Practical implications – A focus on developing HIWS provides an alternative means to public sector performance, than restructuring or other performative activities.

Originality/value – This is one of the few studies that explore how HIWS can develop collective as well as individual capabilities. Studies in the public sector are particularly rare.

Keywords Quantitative, Organisational performance, Public administration, Organisational systems, Conflicting objectives, High involvement work systems, Organisational ambidexterity

Paper type Research paper

Introduction
The ability for an organisation to be adaptable and innovative as well as aligned and efficient has received increasing attention in recent management research literature (Birkinshaw and Gupta, 2013; Junni et al., 2015; O’Reilly and Tushman, 2013). Organisational ambidexterity (OA), the ability to manage the tensions between being “aligned and efficient in […] today’s business […] while [being] simultaneously adaptive to changes in the environment” (Raisch and Birkinshaw, 2008, p. 375), resonates with many organisations, including public ones. Intuitively OA is appealing for organisations operating, as government does, in complex environments. OA is concerned with how organisations manage tensions to be innovative, and to deploy these innovations systematically and at scale (Birkinshaw and Gupta, 2013). Government organisations experience tensions between pressures for greater innovation, and increased accountability for performance against pre-determined targets. We contend that this is an ambidexterity dilemma.
Many private sector firms are likely to face these dilemmas too, but they are particular problems in public organisations, and private sector findings cannot be assumed to apply to public organisations (Gould-Williams, 2004). For instance, much of the extant research concerning the human resource management (HRM) – ambidexterity link is based on performance management that is incentivising for executives and seen as fair for others (Junni et al., 2015). However many public sector performance management systems are inflexible and weak (de Waal, 2010), meaning that alternative levers are needed. Organisational performance measurement, pay for performance, and zero-based budgeting are examples of private sector management techniques found to often be harmful in public organisations (Adcroft and Willis, 2005; Perry et al., 2009). Unionisation, formal, bureaucratic processes, and limited access to discipline and stretch mechanisms are further examples of the unique context of public administration (Bryson et al., 2015), meaning that the pathway to ambidexterity is likely to differ from that of private organisations.

Practically our understanding of OA is patchy. Although we know that ambidexterity usually enhances organisation performance, our understanding of its antecedents is limited (Gibson and Birkinshaw, 2004). It is known that ambidexterity can be achieved through both structural and contextual means, and that contextual ambidexterity involves environments which provide stretch, discipline, support and trust, but how this operates through the formal processes that characterise government is unknown (Gibson and Birkinshaw, 2004).

HRM systems, in particular those characterised as high performance or high involvement work systems (HPWS or HIWS), are antecedents to contextual ambidexterity (Patel et al., 2013). The Patel study confirmed that HPWS use is positively related to OA, and that ambidexterity mediates between HPWS and performance. Although the causal pathways through organisational systems (OS) are discussed, they are not tested in that study. Evans and Davis (2005) theorised that internal social structures (such as network ties, reciprocity norms, role making, etc.) may mediate that association, but these relationships still remain largely untested. In public administration Messersmith et al. (2011) found that individual attitudinal variables (such as job satisfaction, organisational commitment, and empowerment and citizenship behaviours) were mediators between HPWS and ambidexterity. However the role of collective informal processes such as trust and support, and formal processes were not studied. In a similar vein, mutual investment in employment relationships encourages functional flexibility in the form of employees being able to perform a wide range of tasks well, and this in turn fosters OA (López-Cabrales et al., 2011). However, the systemic means by which this functional flexibility occurs, beyond HR and employment relations practices, is unknown. For example, both formal and informal OS are likely also needed to sustain the intent of the employment relationship, and to build the collective capabilities in which the employment relationships can be enacted.

In HRM research, it is theorised that HIWS build not just individual motivation and cognition, but also collective team and organisational capabilities (Wright and Nishii, 2007). However, how these collective organisational capabilities are constructed is a dark section of the black box with few empirical studies. In ambidexterity research, it is similarly unclear how HRM antecedents synthesise with other organisational antecedents to enable ambidexterity and organisational performance (Junni et al., 2015). The organisational level research reported in this paper focusses on these gaps: how HIWS and OS link together to shape performance via the meta capability of OA.

Public sector organisations have only recently been considered from an ambidexterity perspective (e.g. Smith and Umans, 2015). The contemporary public sector environment is difficult due to factors such as the need for better collaboration between silos, and management of tensions between conflicting objectives. OA in a public sector context is the other focus of this paper. In sum, this research shows how HIWS may enhance formal and
informal OS, ambidexterity, and performance in public sector environments. This organisational level quantitative study is based on a survey of 2,123 supervisory staff, and 9,496 non-supervisory public servants. SmartPLS is used in order to manage this limited sample of 56 organisations.

This research investigates the role of HRM, OS, OA and how these constructs relate to organisation performance in a public sector environment. In the public sector we propose that, without the sharper performance management and other HRM practices of the private sector, it has to rely on other tools to achieve OA. We show that HIWS can foster formal and informal OS, focussed on codified processes to clarify who does what and how things are done, alongside managerial support and trust of staff. These in turn enable ambidexterity, and then performance.

**Organisational ambidexterity**

Descriptions of ambidexterity are well rehearsed in the management literature (Birkinshaw and Gupta, 2013; Junni et al., 2015; Patel et al., 2013; Raisch et al., 2009). Although earlier writings considered the dilemma between alignment and adaptability to be unsolvable, recent research has been more optimistic, defining ambidexterity as concerning “organisations that are simultaneously exploiting existing competencies and exploring new opportunities” (Raisch et al., 2009, p. 685). A broader definition, and one that is compatible with this research, is what “firms do to manage competing objectives” (Birkinshaw and Gupta, 2013, p. 290). Not surprisingly, OA is usually associated positively with organisational performance (O’Reilly and Tushman, 2013). Fu et al. (2016) suggest that the growth of the ambidexterity literature has canvassed four themes. One theme concerns debates over definition and measurement (Birkinshaw and Gupta, 2013); another examines the consequences of ambidexterity; similarly another examines the moderators between ambidexterity and organisation performance; and the fourth investigates antecedents of ambidexterity (Patel et al., 2013; Garaus et al., 2016). What the literature grapples with now is deepening the common understanding of ambidexterity and the factors which enable it, as a path to performance (Junni et al., 2015).

The integration of adaptability and alignment activities is the challenge in order to achieve ambidexterity. Adaptability concerns the ability to explore the wider world, absorb information from it and respond effectively. In contrast, alignment concerns the ability to exploit existing resources well, and so is primarily concerned with efficiency. Contextual ambidexterity, the focus of this study, concerns an organisation environment enabling adaptability and alignment in a single business unit or organisation. In this regard ambidexterity may often lie inherently within the organisational context where individuals manage the tension in the daily conduct of their jobs. Gibson and Birkinshaw (2004) describe contextual ambidexterity as the “behavioural capacity to simultaneously demonstrate alignment and adaptability across an entire business unit” (p. 209) that can be achieved in a context that “encourages individuals to make their own judgements as to how best to divide their time between the conflicting demands of alignment and adaptability” (p. 211). Contextual ambidexterity occurs through carefully crafted systems and processes, which allow “the meta-capabilities of alignment and adaptability to simultaneously flourish” (Gibson and Birkinshaw, 2004, p. 210). Ambidexterity concerns the capacity to scan the environment, explore options and develop and deploy them in efficient ways. This ability to integrate adaptability to the external world, and alignment of internal resources, means innovations can be deployed at scale through the organisation. Equally, a well aligned organisation can quickly share and use new information gained from effective adaptability to its environment. In contrast, many organisations which over-play alignment are unable to respond to changing threats and opportunities (Raisch et al., 2009). An organisation heavily focussed on adaptability is likely to struggle to exploit innovations effectively.
The applicability of ambidexterity in a public sector environment

Gibson and Birkinshaw (2004) found that there were different paths to ambidexterity depending on “the administrative heritage of a given business, and the values of its leaders” (p. 223). Our research focusses on the public sector which has a distinctive administrative heritage and values. Our contention is that OA is highly relevant to the tasks and challenges of the public sector, which has unique circumstances.

OA resonates with pressures on public agencies to do more with less, whilst they often have vague goals, are risk averse, have poor management systems, and face significant dilemmas which make ambidexterity both difficult and important (de Waal, 2010). Public agencies that have focussed on producing standard quantitatively measured outputs, such as welfare payments, are now expected to produce complex, tailored outcomes, such as successful employment, for more diverse stakeholders (Plimmer et al., 2011). Thus we argue that public sector agencies globally are in a classic ambidexterity dilemma. That is, they are expected to be both adaptable to changing demands from stakeholders and internally aligned so they use existing resources efficiently.

In government this is likely to be particularly salient because production processes require both consistency and fairness to stakeholders (standardisation), and are also more uncertain, co-produced and needing mass customisation (Brown and Osborne, 2013). Thus an HRM system, without clear OS, is unlikely to ensure ambidexterity. Contextual ambidexterity seems particularly suitable for government workers who explicitly operate in areas of market failure. Officials must often balance legal compliance and rights against exploring new ways of changing behaviour for diverse clients, such as in a public health, welfare or housing programme. It is therefore not surprising that government work is characterised by “multiple, conflicting goals, as well as the presence of procedural constraints on employee action” (Wright, 2004, p. 62). However, given the variable quality of management practices and systems in public sector organisations, what organisational conditions facilitate ambidexterity in such organisations?

A range of organisational antecedents have been studied by others such as competency and motivation, climate, culture, discipline, intellectual capital, stretch, support, social relationships, trust, structure (see: Junni et al., 2015; Patel et al., 2013). We argue that this range of organisational factors is better described by an overarching term of OS which encompasses both formal (role clarity, clear policies and procedures) and informal aspects (social support, trust). These OS are enabled by commitment based HRM systems. Such systems are of particular importance in public sector organisations, where increasingly services are co-produced with clients, and agencies are required to collaborate. Furthermore, agencies are required to do this despite often being rule bound, and with limited tools to influence employee behaviour (de Waal, 2010). The features, and integration of formal and informal systems is therefore likely to be particularly important, but different from, that in the private sector.

HRM systems, OS and OA

The link between HRM systems and organisational performance has received considerable theoretical and empirical attention (Jiang et al., 2012). Macduffie (1995) showed that a coherent bundle of HR practices (also known as HRM systems) were positively associated with organisation performance. Numerous researchers have reported the link to a range of organisational outcomes, however there is still debate over how that link operates and is best theorised. Indeed part of the issue may lie in the differing definition of HRM systems. The HPWS stream tends to focus on reports of practices by managers (e.g. Patel et al., 2013). In contrast the HWS stream collects data about how workers experience HRM systems, on the grounds that employee experiences of HR practices are what count and that espoused practices by managers risk self-serving bias. Both theories, however, emphasise the
commitment rather than control of workers, and raising individual worker motivation and ability as pathways to organisational performance. The HPWS literatures also include the shaping of collective capabilities and the social context (Evans and Davis, 2005; Wright and Nishii, 2007). However the logic of HRM systems building collective capabilities through mechanisms such as trust, shared mental models, common understandings, norms and loose ties would equally apply to the HIWS stream, which is the focus of this study.

Commitment based HRM systems can directly improve organisational performance by saving management costs and enabling speedy problem resolution (Pfeffer, 1998). The Vandenberg et al. (1999) HIWS model has a number of specific strengths. It focuses on worker experiences rather than a prescriptive and unverified tally of management practices, and enables both an attitudinal and cognitive pathway to employee and organisational performance (Boxall and Macky, 2009). HIWS include practices which emphasize the power (P) (autonomy) to make decisions in one’s job; the information (I), including both upward and downward flow; rewards (R); and knowledge (K), usually in the form of training and development. These practices, known as “PIRK”, can lead to improved organisational outcomes (Boxall and Macky, 2009). Competent staff with the autonomy to make decisions, who are informed of management goals and purposes, and are rewarded and knowledgeable, save costs and improve effectiveness through both cognitive and motivational paths. A cognitive path ensures better quality decision making as organisations make better use of employees’ skills and abilities to solve problems better. The motivational path of HIWS increases affective reactions leading to more effort, lower quit rates, and helps ensure workers take responsibility (Boxall and Macky, 2009; Vandenberg et al., 1999). Hence:

H1. HIWS is positively associated with organisational performance.

The association between HRM systems and ambidexterity has only recently come to the fore in empirical studies. Patel et al. (2013) examined HPWS as a systematic tool for enhancing OA. They argued, following Gibson and Birkinshaw (2004), that to achieve contextual ambidexterity organisations need practices which support and motivate individuals to “devote their efforts to activities associated with both alignment and exploration” (p. 1421). That is, for example, practices supporting skill development, adaptability, autonomy and use of discretion. Their study confirmed that HPWS utilisation is positively related to OA, and that ambidexterity mediates the relationship between HPWS and organisational performance:

H2. HIWS is positively and directly associated with OA.

Although possible causal pathways through OS are mentioned, they are not tested in the Patel et al. (2013) study. Others investigating the HPWS – ambidexterity connection (Garaus et al., 2016) suggest that ambidextrous HRM systems facilitate the integration of flexibility and efficiency: “the continuous interplay of social integration and formal integration enables knowledge integration and as a consequence, facilitates organisational ambidexterity” (p. 356). This qualitative study usefully shows how micro–HRM practices can shape capability. Arguably, integrative employment practices (those that promote shared understanding of organisational values, processes and products) create social integration, and that integrative work practices (those that manage interfaces and provide for coordination and collaboration) create formal integration such as boundary spanning cross functional teams. In combination, they contend, this enables collaboration and cooperation, or knowledge integration and the bridging of exploration and alignment (i.e. OA). The role of more traditional, public sector OS, such as tightly defined job responsibilities and work procedures, in fostering ambidexterity is not yet studied.

Thus the link between HRM systems and ambidexterity is established, but how it operates in the context of other OS is not yet clear. A range of mediation models have been presented
Junni et al. (2015) develop a multi-level theoretical framework of HRM and organisational antecedents of ambidexterity. As well as a direct HR to ambidexterity path, they also propose that HR antecedents, such as HRM systems and employee and leader characteristics, interact with other organisational antecedents such as structure, culture, social relationships, and environment to create ambidexterity. Thus “ambidexterity is achieved when both HR and organisational factors work in concert to support ambidexterity” (2015, p. S23). However, the OS and processes that promote these features have never been specified, and are often private sector based (O'Reilly and Tushman, 2013). Hence our interest in not only HRM systems but also other formal and informal OS which contribute to ambidexterity and ultimately organisation performance. We argue that effective OS can stem from HIWS, and that these systems in turn shape OA.

The distinction between formal and informal systems is well established in organisation studies (Mintzberg, 1979). Formal systems rely on bureaucratic rules that clearly, often narrowly, allocate tasks and production processes. Such standardised processes are a particular feature of government work (Gould-Williams, 2004). In this study, they are referred to as organisational processes, or OP (Langford, 2009). In stable settings with routine processes, where behaviour can be monitored and output measured they reduce uncertainty. Efficient and well-designed organisational processes clarify accountabilities and responsibilities, and are also an important part of OS (Garvin, 2012). Although the causal direction may well be reciprocal, HIWS are likely to elicit and enable good formal processes as part of a wider organisational system. In the PIRK model, job autonomy would elicit clearly defined roles, and informed workers with voice would require and help develop processes. Equally, rewarded and knowledgeable workers would seek clear processes, so achievements could be made and acknowledged.

In contrast, informal systems concern values, beliefs and traditions. In ambiguous situations, when employees must balance complex stakeholder relationships (such as government) they are particularly important as they provide tacit rules of trust and support for effective employee discretion (Falkenberg and Herremans, 1995).

In Evans and Davis (2005) theoretical framework, internal social systems mediate between HR systems and organisational performance. They characterise HPWS as creating internal social systems which enable bridging weak network ties (a key source of information, resource exchange, and flexibility), shared mental models (for collaboration and efficiency), role making (for flexibility and performance) and organisational citizenship behaviour (for cooperation and flexibility). This social context for performance would similarly enable OA through their management of the tensions, or conflicting goals, between adaptability and alignment. For instance, shared mental models would help align the use of existing resources, while bridging weak ties would help the organisation adapt and use new information.

Similarly Gould-Williams (2003) found that bundles of HR practices impacted trust, both interpersonal and systems trust, and that the latter positively predicts organisational performance. For example good jobs which allow for autonomy and discretion in decision making (from HIWS) in turn facilitate trust and support (i.e. the informal social context of OS) and this in turn links to performance. In government organisations, however, HIWS can also be harmful to trust if management uses it to shift blame to employees (Gould-Williams, 2004). Despite the paternalism that characterises much public sector people management, trust in public organisations is often low and “politics and covert criticism prevail” (de Waal, 2010; McCarthy, 2009, p. 295). Although formal and informal systems can be incongruent, and thus harmful, they can also be mutually reinforcing and beneficial. In government good formal systems can be effective green tape that clarify responsibilities yet still allow for effective discretion, particularly when coupled with trusted and supportive informal systems.

HIWS are likely to shape formal (or explicit) organisational processes and systems, as well as informal (or implicit) social systems of trust and support.
Such integrated formal and informal OS likely enables OA, by focusing effort toward organizational goals, streamlining processes and reducing conflict by clearly allocating responsibilities and reducing role stress (Häusser et al., 2010), yet also supporting flexibility, cooperation and citizen behaviour (Evans and Davis, 2005). Thus complementary formal and informal OS can help manage the paradoxes of OA (Turner et al., 2013). While hierarchy, formal structures and processes can emphasise alignment, less formal structures or processes can emphasise exploration (Tiwana, 2010). Business units can develop OA by “aligning themselves around adaptability” and by refining and enhancing (often informal) processes (Gibson and Birkinshaw, 2004, p. 221). However an organisation that focuses only on adaptability is unlikely to get the efficiencies to sustainably deploy new adaptations. Thus we hypothesised the following relationships:

\[ H_3. \text{ OS and OA will double mediate the relationship between HIWS and performance, as follows: (a) HIWS is positively associated with OS, (b) OS has a positive association with OA (c) OA is positively associated with organisational performance.} \]

Our hypotheses are summarised below (see model in Figure 1).

**Methods**

**Research design**

The data for this study was collected as part of the New Zealand Public Service Association Workplace Dynamics survey during 2013 (Plimmer et al., 2013). The response rate for the survey was approximately 32 per cent. Additional detail on the data collection process is available from the authors. Questionnaire data was collected from 2,123 supervisory and 9,496 non-supervisory employees employed by 56 New Zealand public sector organisations, which had greater than 40 participants. The smallest organisation employed 211 staff, the largest 9,567 (\(M = 2,621, \text{SD} 2,562\)). The mean of non-supervisory respondents per organisation was 169.6 (SD = 237.9), ranging from a minimum of 27 and maximum of 1,451 while the mean of those with supervisory responsibilities was 37.91 (SD = 50.44), ranging from a minimum of 4 to a maximum of 218.

The mean age of respondents was 47.6 years (SD = 11.5). The majority of respondents were female (68.8 per cent). Participants were ethnically diverse. The largest groups were NZ European (65.7 per cent), Maori (15.7 per cent), and Other European (10.1 per cent). Most (66.2 per cent) had been employed in their current jobs more than five years. A large number of respondents had a university degree (42.0 per cent). Assumptions of normality and multicollinearity showed that the data fell within the suggested ranges. We separate out the individual worker experience from the managerial overview, thus antecedent variables (HIWS and OS) are rated by workers, and consequential variables (OA and performance)
by managers. This unique approach overcomes the problem of common method bias (Podsakoff et al., 2003) which has been noted as a potential limitation of much the existing empirical research on OA (Patel et al., 2013; Fu et al., 2016).

**Measurement**

All of the scales have been previously used in the literature (sample scale items and associated reliability coefficients are reported in Appendix 1). The data were collected at the individual level and subsequently aggregated into the organisational level – the level of interest in this study. Prior to aggregating the individual level data, we computed the $r_{WG}$ index (James et al., 1993) to check for within-group agreement for each organisation. Intraclass Correlation Coefficient (ICC(2)) scores were similarly calculated. In sum, alphas, ICC(2), $r_{WG}$ and average variance estimates (AVEs) were within commonly used rules of thumb (Cicchetti, 1994; Hulland, 1999) (Appendix 1 and Table I). For instance, ICC(2)s varied from 0.70 to 0.96, which are good to excellent, using Cicchetti’s (1994) heuristic rating for ICC scores. The scales have convergent validity as the AVEs were all higher than 0.50 (Hair et al., 2014, p. 107) in the partial least squares analysis. As shown in Table I, the outer loadings were all higher than 0.708 (see Hair et al., 2014, p. 107), which suggest that there was indicator reliability and similarly, there was scale reliability as the composite reliabilities range between 0.89 and 0.93.

*Employee level data.* HIWS was operationalised as a second order latent variable, computed from four sub-scales, following Vandenberg et al. (1999). This 28-item scale measures workers’ experiences, rather than the practices commonly espoused by managers, of bundled human resource practices (autonomy (power), information, rewards and knowledge). OS was operationalised with Langford’s (2009) organisational processes scale, and Gibson and Birkinshaw (2004) social context for performance scale. The former, three item scale was chosen for its construct validity of formal processes, and its widespread use in Australia and New Zealand (Langford, 2009). The social context scale was chosen for its construct validity in measuring the trust and support aspects of informal systems and its established reliability. AVEs for these two second order factors indicate reasonable discriminant validity (Hulland, 1999).

*Supervisor and manager level data.* We relied on data collected from 2,123 individuals who held supervisory responsibility to provide information relating to OA and organisational performance. This is because individuals who hold supervisory and managerial positions have a more informed view of organisational capability and performance. This research design is also an attempt to minimise the potential risk of common method bias. Following Gibson and Birkinshaw (2004), the OA construct was operationalized as the product term of organisational adaptability and alignment as it is the capacity to integrate these two competencies in mutually reinforcing rather than additive ways that constitutes OA.

<table>
<thead>
<tr>
<th>Mean</th>
<th>SD</th>
<th>$R^2$</th>
<th>AVE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organisational size</td>
<td>2,621.10</td>
<td>2,562.46</td>
<td>–</td>
<td>–</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. HIWS</td>
<td>3.10</td>
<td>0.19</td>
<td>0.74</td>
<td>–0.30*</td>
<td>(0.86)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Organisational systems</td>
<td>3.15</td>
<td>0.17</td>
<td>0.77</td>
<td>0.80</td>
<td>–0.12</td>
<td>0.83***</td>
<td>(0.89)</td>
<td></td>
</tr>
<tr>
<td>4. Ambidexterity (supervisors)</td>
<td>9.28</td>
<td>1.29</td>
<td>0.39</td>
<td>–</td>
<td>–0.07</td>
<td>0.52*** 0.53*** 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Organisational performance (supervisors)</td>
<td>2.91</td>
<td>0.29</td>
<td>0.69</td>
<td>0.76</td>
<td>–0.19</td>
<td>0.58*** 0.52*** 0.77*** (0.87)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** *n = 56 (we were not able to obtain the organisational size data for ten organisations); Discriminant validity is determined by using the Fornell-Larcker criterion by ensuring the square root of the AVE (shown as italics) of each construct is greater than the inter-correlation with other construct in the model (Hair et al., 2014, p. 111). *p < 0.05; ***p < 0.001

Table I. Descriptive statistics and inter-correlations
Organisational performance was collected from individuals holding supervisory responsibilities and was measured using the same scale as Gibson and Birkinshaw (2004; α: 0.82, rWG: 0.88). This latter scale was validated by comparing a different sample of results from the same survey, against evaluations of government agencies that had been appraised by the New Zealand State Services Commission using its Performance Improvement Framework (PIF). This identified a Spearman’s correlation $\rho = 0.65$ ($p = 0.038$) between ratings of performance and PIF evaluations. In addition, subjective organisational performance scales have been validated across a broad range of research (de Waal, 2010).

Self-reported data are widely used by scholars as they can provide valid indicators of organisational properties (Yang and Hsieh, 2007, p. 865). Although they can raise issues about common method bias, others have noted that the threat of CMV is “overstated, and the effect of common-source bias is not to invalidate relationships uncovered in studies employing self-reported data but to marginally attenuate the strength of the findings […]” (Yang and Hsieh, 2007, pp. 865-866).

Common method bias. Furthermore, to minimise common method bias risk, we matched employee level data with supervisor level data (see Podsakoff et al., 2003). In addition, we also conducted a Harman’s one factor test (see Podsakoff et al., 2003) to check for the effect of common method bias for each of the data sets (i.e. employee and supervisory data sets). Regarding the employees data set, an unrotated EFA found six factors with an eigenvalue of greater than 1.0 and the largest factor explained 18.6 per cent of the variance. Regarding the supervisor data set, an unrotated EFA produced two factors with an eigenvalue of greater than 1.0 and the largest factor explained 48.8 per cent of the variance. Both analyses showed that the unrotated solution were both less than the 50 per cent cut-off thresholds for identifying common method bias using the Harman’s one factor test (see Podsakoff et al., 2003). In summary, the present study has taken procedural and statistical steps to minimise common method bias, and results are below established thresholds of concern.

Discriminant validity
In the present study we conducted two tests to check for discriminant validity within the PLS modelling technique. These were the Fornell-Larcker criterion (Hulland, 1999; Fornell and Larcker, 1981) and the examination of cross loading. The Fornell-Larcker test has been used to determine discriminant validity in studies using the PLS modelling technique. This test is done by comparing the square roots of the AVE for the variable of interest with its inter-correlation with the other variables, and if the square root of the AVEs are larger than the inter-correlations, the construct will have discriminant validity. The four constructs used in our model satisfied the Fornell-Larcker test (see Table I). Examination of the cross loading also provided confidence that the items assigned under each latent construct was consistent with the theoretical construct and no cross loading were identified (Hair et al., 2014).

Confirmatory factor analysis was conducted using IBM AMOS v.24 on the non-aggregated data set to determine if the two employee level constructs were measuring the same phenomenon (note: we did not conduct the analysis for the supervisor constructs as we followed Gibson and Birkinshaw, 2004 in computing ambidexterity as an interaction of the two sub-dimensions of the construct). We conducted a nested model comparison test to compare the $\chi^2$ and the degrees of freedom of the two factor model (HIWS and OS as distinct construct; $\chi^2$ 34.876, df 8) with the one factor model (treating HIWS and OS as a single factor: $\chi^2$ 24.171, df 6). The analysis showed the two factor model had the better fit indices and the changed $\chi^2$ of the nested model comparison.
was: 10.705, df 2, \( p < 0.001 \). It showed that the two factor model (with HIWS and OS as two separate constructs) had a better goodness of fit. Therefore, it shows that the respondents were able to discriminate between these two variables and hence, HIWS and OS were two distinct variables.

After aggregation of the individual data in IBM SPSS v24, SmartPLS 2.0 (Ringle et al., 2005) was used to test the model because of its ability to manage smaller sample sizes (Chin, 1997), as was the case in this study of 56 organisations. This sample size also met the minimum required to run a PLS-SEM modelling for a statistical power of 80 per cent at 0.05 alpha level (see Hair et al., 2014, p. 21). Mediation analyses was conducted using the PROCESS macro (Hayes, 2013).

**Findings**

Descriptive statistics and inter-correlations are reported in Table I. There were two control variables, namely organisation size and public service sub-sector (dummy variables for regional and national government agencies). Although the four key variables are inter-correlated, the sector variables were not correlated with the variables of interest. Organisational size was negatively correlated with HIWS \( (r = -0.30, p < 0.05) \), indicating that employees in larger organisations report worse HRM experiences, but organisational size was not related to the other variables. Organisational size has also not significantly correlated with study variables, or been controlled for, in similar research (cf. Gibson and Birkinshaw, 2004; Messersmith et al., 2011). Public service sub-sector and size were therefore excluded from the main analysis.

We conducted a path analysis to test the hypotheses in this study. The partial least squares analysis showed that the data has a high goodness of fit with the model as indicated by Tenenhaus et al.’s (2005) Global Goodness of Fit index of 0.775 per cent. H1 and H3,a-c were supported, but H2 was not supported (see Table II).

As indicated by the mediation analysis (with 10,000 bootstrap samples) using Hayes’ (2013) Process macro (Model 4), OA was found to fully mediate the relationship between OS and organisational performance \((b = 0.69 95\% \text{ BCa CI} (0.217, 1.339))\) while HIWS has a statistically significant direct relationship with perceived organisational performance. In order to test H3 we undertook a double mediation analysis using Hayes (2013) Process macro (Model 6). The analysis showed that organisational systems and OA were both mediators of the relationship from HIWS to organisational performance \((b = 0.54 95\% \text{ BCa CI} [0.24, 1.133])\). Results are reported in Figure 2.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Coefficient</th>
<th>( t )-statistic</th>
<th>Sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1. HIWS→Organisation performance</td>
<td>0.21</td>
<td>2.2004</td>
<td>*</td>
</tr>
<tr>
<td>H2. HIWS→Organisation ambidexterity</td>
<td></td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>H3. Mediation hypothesis: Organisation systems and Organisation ambidexterity are mediators of HIWS→Organisation performance:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a) HIWS→Organisation systems</td>
<td>0.88</td>
<td>34.7492</td>
<td>***</td>
</tr>
<tr>
<td>3b) Organisation systems→Organisation ambidexterity</td>
<td>0.53</td>
<td>2.2777</td>
<td>*</td>
</tr>
<tr>
<td>3c) Organisational ambidexterity→Organisation performance</td>
<td>0.89</td>
<td>9.6897</td>
<td>***</td>
</tr>
<tr>
<td>HIWS→OS→OA→Organisation performance</td>
<td>( b = 0.69 95% \text{ BCa CI} (0.217, 1.339) )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Total sample: 2,123 supervisory and 9,496 non-supervisory employees from 56 organisations. *\( p < 0.05; ** p < 0.01; *** p < 0.001 \)

Table II. Results of path analysis
Post hoc analysis

Two post hoc analyses were conducted. The first was to see if the direct HIWS – OA relationship occurred at the individual non-supervisory level, even though it was insignificant in the main analysis. Worker ratings of HIWS correlated strongly with worker ratings of OA (rather than supervisor/manager ratings as predicted in H2) \((r = 0.68, p < 0.01)\). This indicates that non-supervisors judge OA differently from supervisors.

The second post hoc study was a more fine grained analysis of how components of HIWS, OS and OA contribute to performance (Figure 3). The small sample size means that these exploratory results need to be treated with considerable caution (Button et al., 2013), but we believe they provide useful insights for future research. The power (autonomy), information and reward component support informal systems of trust and support, but this latter variable does not support adaptability, alignment, or performance. In contrast, information, rewards and knowledge link to formal organisational processes, which subsequently enables adaptability and alignment, of which the latter in turn

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**Figure 2.** Results of path analysis

**Notes:** \(n = 56\). Only statistically significant findings are shown. \(*p < 0.05; **p < 0.01; ***p < 0.001\)

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**Figure 3.** Significant relationships between dimensions of HIWS, OS, OA and performance

**Notes:** \(n = 56\) organisations; Global Goodness of Fit Tenenhaus et al. (2005) index = 0.53
supports performance. The information→organisational processes link seems particularly strong and positive. In contrast, the relationship between rewards and organisational processes is negative.

**Discussion**

Ambidexterity encapsulates the dilemma facing many government organisations of how to adapt to increasing and complex demands from more diverse stakeholders, and at the same time use existing resources well. In this study we found that HIWS directly aids organisational performance (H1 supported), but that HIWS is not directly associated with OA (H2 not supported). OS and OA are partial mediators of the relationship between HIWS and organisational performance (H3 supported). In more detail we found that HIWS support OS (H3a supported), and that OS is positively associated with OA (H3b supported). In turn, OA supports performance (H3c supported).

The direct relationship between HIWS and organisational performance is consistent with other public administration research linking HR experiences to organisational performance (Gould-Williams, 2003). Although the autonomy, information, rewards and knowledge that comprise HIWS may enable something akin to contextual ambidexterity in the daily conduct of jobs, this does not aggregate to OA at the organisational level as rated by supervisors/managers. This is supported by the post hoc analysis of the HIWS > OA link at the non-supervisory individual level. It suggests that workers’ experience of contextual ambidexterity differs from that of supervisor/managers’, who have a broader view of the organisation, and see ambidexterity beyond the confines of a lower level job. OA requires sound formal and informal systems that span jobs, rather than just high involvement design features within a job. Thus this study indicates how HIWS shape wider organisational capabilities beyond how individual jobs are conducted, by fostering both trust and support, and clear processes. The separate managerial rating of OA and performance clarify the distinctiveness of organisational capabilities, from good jobs, but also shows how good jobs help build these collective capabilities. This research makes clear that performance is achieved through a combination of HR systems and other OS, providing both the motivational (good jobs) and cognitive (good skills, good processes) pathways to perform collectively. The low mean for HIWS indicates considerable room for improvement, particularly in the larger participating organisations.

This study identified a double mediation model to explain the pathway from worker level HIWS to organisational performance via OS and supervisory and managerial rated ambidexterity. Many models place organisational practices and policies as antecedents of commitment based HRM. Instead, this study points to the generative capacity of HIWS to in turn improve OS, and hence OA and performance. In particular we argue that HIWS, through enhanced capability, motivation and trust, would elicit clear role definitions and formal processes, as green tape, to get the job done. Whereas formal processes in government are often seen as rigid and impeding to performance (red tape), processes can also be effective (green tape) when they have valid purposes, are understood, consistently applied, and reasonable in their amount of control (DeHart-Davis, 2009). Unclear processes would risk an environment of normlessness that may clash with highly involved workers, and over controlling processes would be contrary to the trust that stems from HIWS. We argue that such formal processes, with a wider informal social context of trust and support would be sought by involved workers as means to better do their jobs. This combination of formal but clear processes, and trust and support would in turn help managers manage for ambidexterity. It would integrate the innovation and creativity that can come with commitment based HR (Shin et al, 2016), with the formal processes for deployment at scale.

The more fine grained post hoc analysis indicated that in government, the social context of informal systems, and adaptability, have no relationship to performance outside the
context of clear formal processes and alignment. They also show how important formal organisational processes are in government, where organisations may lack clear goals, management skills, and also tools such as discipline and stretch, when compared to private sector counterparts (de Waal, 2010; Gibson and Birkinshaw, 2004; Plimmer et al., 2011).

The negative relationship between rewards and OP illustrates how private sector research findings and practices cannot be assumed to apply to public sector organisations. In government, explicit rewards are constrained by public concern about costs and union concern about inequity, are harder to design well, and easily have distorting side effects (Perry et al., 2009). Instead, public service motivation is a salient driver of behaviour (Leisink and Steijn, 2009). These more granular findings also suggest that, in government, ensuring staff are informed, and can inform, should be a focus of attention in order to source good processes and adaptability.

The findings point to the need to focus on management fundamentals such as good HRM systems, and tight OS that are often missing in public organisations (Leggat et al., 2011). Public sector organisations are unlikely to be compelled to be ambidextrous but their stakeholders may benefit considerably if they are ambidextrous.

Limitations and future research implications
The cross sectional nature of the data set make causal direction uncertain. The possibly reciprocal nature of the HIWS→OS relationship warrants study. Future research should consider the possibility of collecting objective performance data and/or multiple level modelling. The leadership attitudes and behaviours of top public sector managers to transform work and OS into OA is under researched. Future research could also further test the effect of the individual HR bundles on mediators and organisational performance.

Conclusion
This study helps explain the black box linkage between HIWS and organisational performance. It demonstrated that HIWS support OS, which in turn enable managerial rated OA and performance. This study also demonstrates that the operationalisation of OA in a public sector context is different to that reported in the existing ambidexterity literature in predominantly private sector organisations. This provides a new avenue for development of OA both theoretically and practically. In summary, OA is an important meta-competency for organisational performance, providing useful operationalisation of many current debates in public administration. Its prerequisites are HIWS and OS. The information dimension of HIWS seems particularly important. Public sector organisations need to focus on both as an avenue to sustainable improved performance.

References


**Public sector organisations**


Plimmer, G., Wilson, J., Bryson, J., Blumenfeld, S., Donnelly, N. and Ryan, B. (2013), Workplace Dynamics in New Zealand Public Services, Industrial Relations Centre, Victoria University of Wellington, Wellington.


Further reading


(The Appendix follows overleaf.)
Appendix 1. Scales, indicators, factor loadings, composite reliability coefficients and AVEs

<table>
<thead>
<tr>
<th>Scales and indicators</th>
<th>rwg</th>
<th>ICC(2)</th>
<th>Loadings</th>
<th>t-statistic</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Involvement Work System</strong> (Vandenberg et al., 1999; second order reflective scale)</td>
<td>0.84</td>
<td>0.92</td>
<td>0.94</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Power subscale</strong></td>
<td>0.88</td>
<td>0.79</td>
<td>11.64</td>
<td>0.94</td>
<td>1.00</td>
</tr>
<tr>
<td>I have sufficient authority to fulfil my job responsibilities</td>
<td>0.77</td>
<td>139.24</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I have enough input in deciding how to accomplish my work</td>
<td>0.84</td>
<td>218.57</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I am encouraged to participate in decisions that affect me</td>
<td>0.83</td>
<td>196.24</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I have enough freedom over how I do my job</td>
<td>0.82</td>
<td>171.94</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I have enough authority to make decisions necessary to provide quality customer service</td>
<td>0.82</td>
<td>183.89</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I am encouraged to participate in and make decisions that affect my day-to-day activities</td>
<td>0.84</td>
<td>215.26</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I am given enough authority to act and make decisions about my work</td>
<td>0.87</td>
<td>255.45</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Information subscale</strong></td>
<td>0.96</td>
<td>0.91</td>
<td>44.81</td>
<td>0.94</td>
<td>1.00</td>
</tr>
<tr>
<td>Organisational policies and procedures are clearly communicated to employees</td>
<td>0.73</td>
<td>131.18</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Management gives sufficient notice to employees prior to making changes in policies and procedures</td>
<td>0.79</td>
<td>170.48</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I receive sufficient notice of changes that affect my work group</td>
<td>0.79</td>
<td>173.84</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Management takes time to explain to employees the reasoning behind critical decisions that are made</td>
<td>0.80</td>
<td>183.69</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Management is adequately informed of the important issues in my work area</td>
<td>0.67</td>
<td>84.65</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Management makes a sufficient effort to get the opinions and feelings of people who work here</td>
<td>0.82</td>
<td>219.20</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Management tends to stay informed of employee needs</td>
<td>0.82</td>
<td>194.58</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>The channels of employee communication with top management are effective</td>
<td>0.82</td>
<td>234.39</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Top management communicates a clear organisational mission and how each part of the organisation contributes to achieving that mission</td>
<td>0.76</td>
<td>141.49</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Employees of this company work toward common organisational goals</td>
<td>0.69</td>
<td>101.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Rewards subscale</strong></td>
<td>0.93</td>
<td>0.87</td>
<td>22.65</td>
<td>0.93</td>
<td>1.00</td>
</tr>
<tr>
<td>My performance evaluations within the past few years have been helpful to me in my professional development</td>
<td>0.76</td>
<td>158.93</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>There is a strong link between how well I perform my job and the likelihood of receiving recognition and praise</td>
<td>0.84</td>
<td>232.36</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>There is a strong link between how well I perform my job and the likelihood of receiving a raise in pay/salary</td>
<td>0.80</td>
<td>173.17</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>There is a strong link between how well I perform my job and the likelihood of receiving high performance appraisal ratings</td>
<td>0.83</td>
<td>191.60</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Generally, I feel this organisation rewards employees who make an extra effort</td>
<td>0.85</td>
<td>228.50</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Reward I am satisfied with the amount of recognition I receive when I do a good job</td>
<td>0.83</td>
<td>222.31</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>If I perform my job well, I am likely to be promoted</td>
<td>0.74</td>
<td>128.06</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Knowledge subscale</strong></td>
<td>0.96</td>
<td>0.86</td>
<td>22.84</td>
<td>0.96</td>
<td>1.00</td>
</tr>
<tr>
<td>I am given a real opportunity to improve my skills at this organisation through education and training programmes</td>
<td>0.85</td>
<td>254.20</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>I have had sufficient job-related training</td>
<td>0.80</td>
<td>173.19</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>My supervisor has helped me acquire additional job-related training when I needed it</td>
<td>0.80</td>
<td>171.53</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table AI. (continued)
<table>
<thead>
<tr>
<th>Scales and indicators</th>
<th>rwg</th>
<th>ICC(2)</th>
<th>Loadings</th>
<th>t-statistic</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>I receive ongoing training, which enables me to do my job better</td>
<td>0.87</td>
<td>261.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the number of training and development programmes available to me</td>
<td>0.89</td>
<td>356.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the quality of training and development programmes available to me</td>
<td>0.88</td>
<td>289.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The training and educational activities I have received enable me to perform my job more effectively</td>
<td>0.83</td>
<td>185.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall, I am satisfied with my training opportunities</td>
<td>0.92</td>
<td>554.38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Organisational Systems' (second order reflective scale) 0.70 0.89

Social context for performance (Gibson and Birkinshaw, 2004):
- Managers in this organisation:
  - ... devote considerable effort to developing their subordinates
  - ... give ready access to information that others need
  - ... work hard to develop the capabilities needed to execute our overall organisational strategy
  - ... base decisions on facts and analysis, not politics
  - ... treat failure as a learning opportunity, not something to be ashamed of
  - ... are willing and able to take prudent risks
  - ... set realistic goals

Organisational Processes Subscale (Langford, 2009):
- There are clear policies and procedures for how work is to be done
- In this organisation it is clear who has responsibility for what
- Policies and procedures are efficient and well-designed

Manager's Perception of Ambidexterity (Gibson and Birkinshaw, 2004) 0.96 NA NA NA

Adaptability subscale 0.86 NA NA 0.80

The management systems in this organisation encourage people to challenge poor practices
- The management systems in this organisation are flexible enough to allow us to respond quickly to changes
- The management systems in this organisation evolve rapidly in response to shifts in our business priorities

Alignment subscale 0.72 NA NA 0.89

My workplace works coherently to support the overall objectives of the organisation
- My organisation wastes resources on unproductive activities. (r)
- The people in my organisation often end up working at cross-purposes because we are given conflicting objectives. (r)

Managers' Perception of Organisational Performance (Gibson and Birkinshaw, 2004) 0.88 0.83 0.93

- This organisation is achieving its full potential
- People at my level are satisfied with this organisation's performance
- This organisation does a good job of satisfying its clients
- This organisation gives me the opportunity and encouragement to do the best work I am capable of

Notes: Discriminant validity was determined by computing Fornell and Larcker's (1981) average variance extracted (AVE) index. All of the items had a factor loading of greater than 0.7, which indicated that the underlying construct had discriminant validity (see Hulland, 1999); Manager's rating of ambidexterity was computed following Gibson and Birkinshaw (2004) as a multiplication of alignment by adaptability; “These scales were formed within SPSS; hence, there were no factor loadings output in SmartPLS. b These scales were formed within SPSS; hence, there were no factor loadings output in SmartPLS v2.0 M2

Table AI.
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