



Human resource management and project based organizing: Fertile ground, missed opportunities and prospects for closer connections

Anne Keegan^a, Claudia Ringhofer^{b,*}, Martina Huemann^b

^a UCD Michael Smurfit Graduate School of Business, Carysfort Avenue, Blackrock, Co Dublin, Ireland

^b Vienna University of Economics and Business, Project Management Group, Welthandelsplatz 1, Building D5, 6. Floor, 1020 Vienna, Austria

Received 7 March 2017; received in revised form 6 June 2017; accepted 9 June 2017
Available online xxx

Abstract

We explore publishing trends regarding HRM and PBO in the main journals in the field of project management to highlight key empirical and theoretical contributions during the period 1996–2016. We offer three contributions to the field of project management. The first is theoretical where we analyze twenty years of research in key project management journals by adapting and extending the framework of Wright and Boswell (2002), and identifying categories of HRM research at three levels of analysis. This analysis provides an overview integrating exemplary research to date on the HRM-PBO link at different levels, showing areas where research is well-developed and also areas that, while promising, have not been examined in a systematic manner to date.

Our second contribution is that we highlight a variety of theoretical as well as methodological resources from the HRM field that can be applied in project studies and in so doing promote cross-fertilization of ideas and approaches between these two fields.

Finally, a key managerial contribution is that we introduce *the project as a temporary organization* level of analysis, explicitly making visible HRM practices on the project. This can guide both HRM practitioners, and project managers, in terms of the importance of projects as sites for human resource management and employment activities including careers, employee participation and employment relations all of which are critical issues and deserve more attention.

Executive summary: Building on the work of J. Rodney Turner, our article reports publishing trends on the intersection between HRM (human resource management) and PBO (project based organizing) in the key research-led journals of the project management field. We examine scholarship covering single and multiple practices, and different levels of analysis, to provide a comprehensive overview of key empirical and theoretical contributions published in the International Journal of Project Management, Project Management Journal, and International Journal of Projects in Managing Business between 1996 and 2016.

We use a framework that we adapted and extended from the work of Wright and Boswell (2002) to identify categories of HRM research. By reconsidering the levels of analysis identified in the original framework in light of projects and their managerial and organizational implications, we elaborated the original framework to differentiate between three different levels. First, the “supra-project organizational level/permanent organization” focuses on HRM in the permanent organization. The second level focuses on “projects as temporary organizations” and HRM *on the project*, and the third “individual” level focuses on HRM and individual roles. In addition we differentiate between “multiple” and “single” HRM tasks.

With this paper, we provide several contributions. The first contribution is an overview integrating exemplary research to date on the HRM-PBO link. Second, we identify areas where research is significantly developed and also point out areas that, while promising, have not been examined in a systematic manner to date. In general, our results show that while there was a low level of research on the HRM-PBO link in the early phase of our review period, this has given way to a steadily increasing level of attention for HRM as an important area of project studies.

The key contribution is that we introduce *the project as a temporary organization* level of analysis, explicitly making visible HRM practices on the project. This is one the one hand a theoretical contribution as a project becomes an explicit level of analysis, on the other hand it is also a managerial contribution, as it can guide both HRM practitioners, and project managers, in terms of the importance of projects as sites for human

* Corresponding author.

E-mail address: Claudia.Ringhofer@wu.ac.at (C. Ringhofer).

resource management and employment activities including careers, employee participation and employment relations all of which are critical issues and deserve more attention.

Finally, we identify promising areas for closer connections between HRM and projects. The HRM field can benefit from a richer and more highly contextualized focus on the complex, multi-actor, multi-level and multi-organizational setting of projects which are increasingly prevalent. As such, projects should become a more central concern of HRM scholars, not least because employees and managers, as well as those who represent them, are often drawn from these settings. The articles discussed in this review can provide a starting point for such studies to enrich the HRM field and further strengthen the field of project management.

© 2017 Published by Elsevier Ltd.

Keywords: HRM (human resource management); PBO (project based organizing); Levels of analysis

1. Introduction

This article builds on the work of J. Rodney Turner by exploring the link between HRM (human resource management) and PBO (project based organizing) (hereafter the HRM-PBO link). HRM is a vast area of scholarship. Among his manifold contributions to the scholarly field of project management is his work on HRM (human resource management) (Huemann et al., 2004; Keegan et al., 2012; Keegan and Turner, 2003; Turner et al., 2007, 2008). Turner's early work explored possibilities for "developing a theoretical basis for the project and process-based approach" (Turner & Keegan, 1999: 269) and covered HRM as well as governance, learning, knowledge management, and leadership (Keegan and Turner, 2001, 2002; Turner and Keegan, 1999; Turner and Müller, 2005). He found HRM research especially lacking in the project management research domain and ignored by most HRM journals.

HRM is a vast area of scholarship covering single and multiple practices, and different levels of analysis (Wright and Boswell, 2002), as well as themes such as managing people to create strategic contributions and achieving HR implementation and execution (Lengnick-Hall et al., 2009). Notwithstanding that any attempt to review this field is necessarily limited (Keegan and Boselie, 2006; Lengnick-Hall et al., 2009; Marchington, 2015), we draw on the HRM research framework of Wright and Boswell (2002) to identify categories of HRM research. We also adapt and extend this framework to consider recent theoretical developments in mainstream HRM. More importantly, we reconsider the levels of analysis identified in the original work in light of projects and their managerial and organizational implications. We then identify fertile areas of research on the HRM-PBO link, and we highlight missed opportunities. To achieve this, we provide a schematic overview of research published in the *International Journal of Project Management* (IJPM) *Project Management Journal* (PMJ) and the *International Journal of Managing Projects in Business* (IJMPB) during the period 1996–2016, tabulating key works on the HRM-PBO link. We then consider detailed exemplars from work published in IJPM over the last two decades.

Our review leads us to argue that greater clarity is needed in distinguishing at what level HRM-PBO studies are undertaken, and whether studies focus on individual or multiple/sets of practices. This clarity is required to allow a stronger focus on research that spans different levels, and on research that explains

how activities/practices at one level are presumed to influence outcomes at other levels.

2. Methodology

The research described in this paper is based on a review of the literature linking the domains of HRM and project based organizing. Journals were selected based on their influence in the scientific, academic and practitioner communities. The three journals chosen (PMJ, IJPM, IJMPB) represent the main journals in the field of project management. The authors defined a list of key words to guarantee a comprehensive and transparent research process. Project related key words as well as HRM related key words were used to search in the above identified journals. All project related key words were combined with all HRM related key words. Project related key words were project*, temporary organization as well as temporary organizing. HRM related key words were HRM, human resource management, HR, career, personnel, Human capital management, HC. The search included papers published between 1996 and 2016. This timeframe represent the development of the field in the last 20 years and gave adequate insights in trends, missing opportunities and prospects for closer connections.

3. State of the art in HRM-PBO research

To provide some context for the publishing patterns we identify in the period 1996–2016 in the three leading project management journals (IJPM, PMJ, IJMPB), it is worth noting briefly the situation as it is, and has been, regarding understanding of the HRM-PBO link. Noteworthy is that studies examining trends in publishing on project management generally highlighted a steady but rather low level of interest in HRM/personnel management issues in major project management journals (e.g. Crawford et al., 2006; Themistocleous and Wearne, 2000). Bredin and Söderlund (2011) reinforce this when they observe that "interest for studies that focus explicitly on HRM in project-based organizations has been rather low" (2011: 10). Huemann (2015: 5) argues on the basis of extensive research that "research into what projects – as temporary organizations in addition to the permanent structures in an organization – mean for the HRM system is rare".

This low though increasing level of interest on the HRM-PBO link remains puzzling given that the implications of project based organizing for managing human resources are considerable (Vicentini and Boccardelli, 2014). As a consequence of changes in ways organizations are structured and work is managed (Kenis et al., 2009) there is more use of project based methods for coordinating work. Additionally, projects are an increasingly important site of employment that have fairness, ethical, well-being and motivational implications associated with this (Turner et al., 2008). We are not alone in arguing that for contemporary experiences of work, the project context is unmistakably important (DeFillippi and Sydow, 2016). For more and more people, working in and through projects is simply a way of working life (Keegan et al., 2012). What then are the major developments in published scholarly research on the HRM-PBO link in the last two decades?

3.1. HRM research domains

As noted earlier, HRM is a vast and multi-faceted area of scholarship (Keegan and Boselie, 2006; Lengnick-Hall et al., 2009; Marchington, 2015). To approach this review theoretically and systematically, we follow Wright and Boswell (2002) in categorizing HRM research according to two core dimensions well recognized in the HRM field. The first dimension categorizes the research according to its focus on one HRM practice/multiple HRM practices. We adapt this slightly in two ways. Firstly, we reflect a shift in recent years from so-called functional to strategic approaches. Secondly, we acknowledge the further shift towards strong HRM systems premised on HRM bundles and sets of integrated practices as well as their outcomes for individuals and organizations (Bowen and Ostroff, 2004).

The second dimension refers to research at either the organization or the individual-group level of analysis. Recent HRM research has tended towards a focus on how multiple practices work together in sets or configurations at organizational level, rather than focusing on practices at the individual level,

which is fairly typical of HRM/OB research (Wright and Boswell, 2002). What is also noteworthy about this approach to “desegregating” the HRM field is that the macro level refers mainly to the organizational (or sub-organizational) level, while the supra-organizational level is not considered. This suggests a low emphasis on different economic, institutional and legal contexts in HRM-PBO research (Keegan and Boselie, 2006).

Combining the dimensions, the authors hold that HRM research focuses on four research domains. See Fig. 1.

The first domain combines *the organizational level and a focus on multiple practices (organizational/multiple)*. Wright and Boswell (2002) argue that we typically see research concentrating on Strategic HRM, Industrial Relations and High Performance Work Systems in this domain. The focus on *organizational level/single practice* involves research on isolated functions, for example research aimed at demonstrating a relationship between a specific functional areas and organizational performance (Wright and Boswell, 2002). These include studies of performance related pay and organizational performance. Combining a focus on *the individual-group level and multiple practices* includes research on the Psychological Contract (Rousseau and Greller, 1994). Finally, research at the intersection of the *individual/group level and single practice* focuses on what can be called Traditional/Functional HRM. We find here research on recruitment seen from the individual perspective, as well as research on traditional industrial/organizational psychology topics such as the impact of a performance management practice on individual motivation or commitment.

3.2. Adapting and extending the framework for the project context

Notwithstanding that the framework is a useful and much-cited way of categorizing traditional HRM/OB scholarship, revision is required for two reasons. One, given developments since 2002 in the scholarly field of HRM, there are areas of prominent mainstream HRM research that are not represented in the framework. We add two additional areas of research not mentioned

		Multiple	Single
Level of Analysis	Organizational	Industrial Relations High Performance Work Systems Strategic HRM	Isolated Functions e.g. performance appraisal, pay-for- performance, and relationship to firm performance
	Individual	Psychological Contract Formal/Explicit Employment Contracts	Traditional/functional HRM Industrial/Organization Psychology

Fig. 1. Original Framework Wright and Boswell (2002).

in the original typology. The first is the area of Strong HRM Systems (Bowen and Ostroff, 2004). The impact of bundles of HRM practices on the perceptions of employees, the subsequent behavior of employees, and the impact on organizational level outcomes, is studied in this increasingly prominent domain (Ostroff and Bowen, 2016; Sanders et al., 2014). The second area is employee participation. Different forms and varieties of participation exist, depending on the discipline applied. A central question of this research stream is how different models of the employment relationship help to solve problems of coordination, and in so far as their solutions build on arrangements that endure over time, how these can be best adapted to changing needs. This shows the importance for applying employee participation in PBO (Wilkinson et al., 2010).

The second type of revision required is more closely linked with the project context. We therefore extend the framework itself in terms of potential levels of analysis at which research is taking place. Attempting to apply this framework directly to a project context exposes the considerable additional complexity when projects are a core way of delivering services and goods. Wright and Boswell (2002: 247) fully acknowledge the “levels” difficulty in their original work and note: “Thus, while one could rightly argue that there are multiple levels of analysis within the HRM literature, we view the macro area as one concerned with a unit of analysis that focuses on organization (be they establishment, business unit or corporate) variables, and the micro area as that focusing on individuals or small work groups with shared identity” (emphasis added). Their focus is therefore on HRM related to *single* establishments, recognizing HRM can be discussed within these establishments at different though single “organizational” levels.

When we introduce projects and their organizational and managerial implications, the picture becomes more complex in two specific ways. The first is related to the conceptualization of *projects as organizations*. Like most scholars in the field, we conceptualize projects as temporary organizations (Turner and Müller, 2003) embedded in broader single or multiple organizational structures (Hobday, 2000) including inter-organizational project settings (Jones and Lichtenstein, 2008), networks of organizations (Swart and Kinnie, 2014), and project ecologies (Grabher, 2002). This complexity clearly goes beyond the organizational levels envisaged and described in the research by Wright and Boswell (2002). *Projects as temporary organizations* are embedded in these supra-organizational levels which are important though neglected in theorizing on HRM especially project based organizations. Projects are temporary organizations and can be located “under” or embedded in supra-organizational levels. These levels are associated with the broader permanent or “indeterminate” organization(s) linked with the project, as well as the broader institutional framework.

Compared to Wright and Boswell (2002), we therefore identify additional levels at which HRM research can be located when considering the domain where “level” and single/multiple practices intersect. For example, in the multiple practices/individual level of analysis area, we add research on multi-constituency or multi-agency psychological contracts (Lapalme, Simard and Tremblay, 2011) which although usually referring to

temporary workers, is a phenomenon of relevance to employment contexts involving inter-organizational projects. It is important to reflect the different psychological contracts employees in PBOS have when they are formally employed in one organization while seconded to and spending considerable time in projects at other locations, with managers and colleagues, with whom they do not formally share an employer. We also add research on idiosyncratic deals or i-deals (Rousseau et al., 2006) as they are often known. I-deals refer to *idiosyncratic employment arrangements* (Rousseau et al., 2006: 977) that are intended to benefit both employees and employers. A more explicit focus on individual employment contracts, formal and explicit, is also added, given that these might span organizational boundaries in inter-organizational projects. Fig. 2 builds on their original framework and shows our original visualization of these levels. In addition to the results presented in the text we provided tables in the Appendix A in order to show the link between framework and publications. The column named “category in our schema” explicitly shows this relation.

3.3. Fertile ground 1996–2016

3.3.1. Category 1a: supra-project organizational level/permanent organization(s)/networks/project ecologies AND multiple HRM practices

In this area, the interest is not necessarily in the project level (as temporary organization) and its performance, but rather the performance of the broader organization within which the specific project is embedded. An exemplar in Category 1a is the study by Medina and Medina (2014). They present empirical results aiming to increase understanding of project manager’s involvement in *competence management* as a collection or bundle of HRM practices. This bundle includes selection, training, development, performance management and internal promotion. Crucially for work in this area, they argue that such practices impact on the competence development goals of the project based organization as a whole – and not simply the individual project. Furthermore, focusing only on one broader organization associated with a single project alone is likely to overlook the influence of practices and conventions in other organizations networked with a single project during the lifetime of that project. In another study, Dainty et al. (2009) show the importance of employee resourcing as one key strategic HRM function. They discuss the challenges of resourcing practices in different interlinked strategic HRM processes such as HRM planning, recruitment and selection, team deployment, exit, performance management, career management as well as collection, storage and use of employee data. These processes cross organizational boundaries associated with different permanent and networked organizations linked with single projects.

3.3.2. Category 1b: supra-project organizational level/permanent organization(s)/networks/project ecologies AND single HRM practices

One of the only exemplars we identified of research combining a focus on Single HRM practices and the supra-project

	Multiple	Single
Supra-Project Organizational Level/Permanent Organization(s)/Net- works/Project Ecologies Level 1	1a Industrial Relations and Employee Participation Creating High (Performance) (Involvement) (Commitment) Work Climates Strong Organizational HRM Systems Strategic HRM	1b Isolated Functions (e.g. performance appraisal, pay-for-performance) and their relationship to permanent organizations/network performance
Project as Temporary Organization/ Level 2	2a Strong Project HRM Systems Specific Project Work Climates Strategic Project HRM Multiple HRM practices and project performance,	2b Isolated Functions (e.g. performance appraisal, pay-for-performance) and their relationship to project performance
Individual Level 3	3a Employment Relationship Multiple Constituency Psychological Contracts I-deals Formal/Explicit Employment Contracts Formal/Explicit Agreements with external project organizations to which seconded/assigned	3b Traditional/functional HRM Industrial/Organization Psychology focused on individual level (individual employee commitment, job satisfaction, proactivity, etc.)

Fig. 2. Adapted and updated from Wright and Boswell (2002) and applied to HRM in Project Based Organizations.

organizational level (e.g. the permanent organization for intra-firm projects) is Bredin and Söderlund's (2013) work on project based career development. While career development practices are clearly of relevance to individuals, their work focuses on organizational level implications. For example, pivoting from the individual level career effects to the permanent organizational level, they identify "significant efforts on behalf of the firms to bound careers, to specify career steps and formal requirements to make sure that project managers stay with the firm" (Bredin and Söderlund, 2013: 900). Hölzle (2010: 779) also takes a broader organizational level view and aims to "derive key success factors for the design and implementation of a project managers' career path" through her exploratory study. She argues that organizations need to provide "continuity to their project managers by for example, organizational recognition and equivalence of the project managers' career path in relation to other career paths" (2010: 785). These studies aim to analyze the actions and strategies of the broader organization when considering how careers of project managers unfold and how this impacts on organizations' abilities to retain and develop key project personnel.

The emphasis on careers in general reflects an increased appreciation of the importance of projects as a major part of many organizations' overall supra-project capabilities development (Crawford et al., 2013; Hölzle, 2010; Lloyd-Walker et al., 2016) and the resulting increased importance of ensuring career management practices for developing broader "people capabilities" (Bredin, 2008) required of project-based organizations.

Ballesteros-Pérez et al. (2012) study of human resource allocation management in multiple projects using sociometric techniques tries to link a specific single HRM practice with outcomes at the level of the broader project based organization. Ekrot et al. (2016a) develop a "Project Management Competence Retention Framework" and combined long term HRM development perspectives with knowledge management including different "lessons learned" processes. They propose that a long-term development perspective for project managers has a positive impact on the retention of project management competences and that this, unsurprisingly, has a positive impact on project success and in turn, business success. The authors hold that the retention of competent project managers is an important success factor for the broader organization and not just for the project as temporary organization.

In a different study, Ekrot et al. (2016b) focus on employee voice behavior and the influence on organization-based self-esteem and affective organizational commitment. A study by Savelsbergh et al. (2016) focuses on development paths of projects managers. They analyzed when, what and how project managers learn from their experience and the influence of this, in turn, on the development paths of the organization itself. They hold that project managers "mainly appear to learn through the informal avenue of on-the-job learning" (Savelsbergh et al., 2016: 566). Most significant learning takes place outside the formal learning context and thus the development path of project managers is not in line with formal career paths of organizations.

3.3.3. Category 2a: project as temporary organization AND multiple HRM practices

Whether or not HRM as multiple practices impacts on project success has been a topic of some controversy in the field (e.g. Belout, 1998; Pinto and Prescott, 1988). This is, in fact, not different to the HRM–performance debate in the general HRM field. A significant level of attention to *project-as-temporary organization performance or success* and its links to HRM is evident in the literature, again reflecting trends in the broader HRM field. We found a steady interest in research on HRM as a potential contributor to successful projects (as temporary organizations) during the period under review. Exemplars of work examining this relationship includes the early work of Belout (1998) and Belout and Gauvreau (2004), as well as later contributions by Thomas Ng et al. (2009), Popaitoon and Siengthai (2014) and Khan and Rasheed (2015). All these works reflect an interest in the so-called “human factor” (Strain and Preece, 1999) in project management, and whether it accounts for more/less successful projects. While the earlier contributions were mainly conceptual, latter work more often examines the issue empirically.

An exemplar is the study by Popaitoon and Siengthai (2014) which examines how HRM practices moderate the relationship between knowledge absorptive capacity and project performance. They conceptualize HRM practices as a bundle, arguing for the “importance of examining multiple HRM practices rather than focusing on a single practice” (Popaitoon and Siengthai, 2014: 914). Their study addresses the moderating effect of a bundle comprising “training, reward, career development, participation, and project team autonomy” (Popaitoon and Siengthai, 2014: 914) on knowledge absorptive capacity and project performance. (Yun et al., 2016) try to benchmark “project management efforts” and conceptualize human resource management on projects as one of 10 input measures. HRM in this benchmark studies equates with multiple practices that impact on overall organizational performance (e.g. adequate staffing of project teams, appropriate training, and improving the capability of the people involved in the training).

The use of increasingly sophisticated research designs (e.g. Khan and Rasheed, 2015; Popaitoon and Siengthai, 2014) to study the HRM-PBO link reflects broader trends in the HRM research at large to offer more precise conceptualizations of how HRM might influence project organizational outcomes. For example, Khan and Rasheed (2015) examine the impact of a bundle of HRM practices comprising Employee Recruitment & Selection, Employee Training & Development, Employee Performance Appraisals, and Employee Compensation System on the success of the project, and the moderating effect of Islamic Work Ethics. Zwikael and Unger-Aviram (2010: 413–414) explore project team development practices that have the greatest influence on project success and moderating variables that may influence the relationship between project team development practices and project success. In the study of Wickramasinghe and Liyanage (2013) the effects of high performance work practices in project work were analyzed. They identified three main practices – performance evaluation, learning and development as well as involvement in decision making.

3.3.4. Category 2b: project as temporary organization AND single HRM practices

Research in this domain combines an interest in individual HRM practice areas and their impact at the project-as-organization level of analysis. In mainstream HRM scholarship, Wright and Boswell (2002) found far less research at the organizational level addressing single HRM practices in their review. Our findings are consistent with this. Compared to the project organizational level research examining multiple practices, far fewer studies address single HRM practices in terms of their implications for outcomes at a project as temporary organization level. Exemplars of research on the HRM-PBO link fitting this category includes for example studies examining more scientific approaches to human resource planning (Pournader et al., 2015), and decision models for allocating human resources to projects (e Silva and Costa, 2013) and project outcomes. Raiden, Dainty and Neale (2004) study “efficient management of employee resourcing activities” for project team formation practices to explain project success. (Konstantinou, 2015) described the importance of the role understanding of project management professional.

3.3.5. Category 3a: individual level AND multiple HRM practices

In terms of the individual level/multiple practices interface, one key paper foreshadows broader theoretical developments in the HRM field, where researchers examine HRM practices as to their potentially negative as well as positive outcomes for individual employees (see also Ehrnrooth and Björkman, 2012; Keegan and Boselie, 2006; Ramsay et al., 2000). The individual level is covered in the article of Zika-Viktorsson et al. (2006) who address the negative effects of project working as a set of managerial practices on outcomes for individual project workers. Their paper adopts a critical rather than managerial perspective and the authors examine what we might call the dark side of project management, exploring the deleterious effects of project overload on individual worker level outcomes. Asquin et al. (2010) probe whether project based working can negatively influence individuals, causing them distress. Their aim “is not to deny the value of projects to corporate performance but to encourage companies to pay greater attention to the collateral effects this form of management causes for both individuals and groups” (Asquin et al., 2010: 166). Among the negative effects of project working they describe are problems synchronizing projects and career trajectories, and difficulties for project personnel to gain recognition for project-acquired competences which makes them vulnerable at the end of projects. Similar concerns regarding the impact of project working on employee well-being have been discussed by Turner et al. (2008).

3.3.6. Category 3b: individual level AND single HRM practices

The development of specific competencies – in this case social competencies - of project managers, are the focus for Zhang et al. (2013), while Ahadzie et al. (2008) focus on the development of contextual and task behaviours and associated competency based measures for project managers. Other researchers focus on the individual level, comparing project

based with more traditional line management career practices (El Sabaa, 2001).

3.4. Missed opportunities 1996–2016

A missed opportunity in terms of research on the HRM-PBO nexus is the lack of research on employment relationship - individual and collective - in the context of project based organizing. Wright and Boswell's (2002) schema of research at the intersection of the organizational level of analysis/multiple HRM practices identifies both "the industrial relations and strategic HRM fields...in this category (e.g. Delery and Doty, 1996; Huselid, 1995; MacDuffie, 1995)" and suggests that "the number of studies focused here seems to be increasing exponentially" (Wright and Boswell, 2002: 250). However, in the project organizing research domain industrial and employee relations remain very under-researched. Given the growing importance of projects as workplaces, and project based organizations as key employers of more and more groups of workers, this area is ripe for development.

Another neglected research area is that of employee participation (Wilkinson et al., 2010). Rousseau and Shperling (2003: 558) hold that the importance of employee participation is related to its strategic outcomes in workforce management, arguing that "[p]articipation in decisions with strategic implications (e.g., customer relations and technology and infra-structure investments) can motivate workers to share the tacit information they would otherwise withhold to protect themselves from cutbacks or increased, uncompensated performance demands." Research into practices for direct employee participation and upward problem solving, as well as collective and financial participation, in the context of project based organizing, is not yet well-developed even while mechanisms for enhancing or securing participation likely have strategic implications for how employees share information. Given the archetypally flat nature of project based organizations, a focus on how these organizations harness the benefits of employee participation (direct and indirect) and organize this participation, is a potentially important research domain at the organizational level/multiple practices nexus. Based on our review, it would seem that few researchers are interested in the impact of (indirect and direct) employee participation in project based organizing on outcomes of importance, such as "customer service, product quality, and staff retention at the workplace level" as well as "worker commitment, job satisfaction, and alignment with organizational goals" which are "often the proxies used to measure the success of participation" (Wilkinson et al., 2010: 5) in the context of liberal market economies.

In coordinated market economies, attention for "longer-term and more widely defined" outcomes such as "mutual gains, either at the level of the individual employing organization or more broadly in terms of citizenship and long-term social cohesion" are as yet not studied in the specific context of project based organizing. The links between project organizing and employee participation – also in terms of longer term and more broadly defined goals such as mutual outcomes from employment, are

generally lacking. A notable exception is the recent work of (Ekrot et al., 2016b).

3.5. Prospects for closer connections

3.5.1. Theoretical resources for closer connections

Rich theoretical resources are available in the HRM field for research in the context of project based organizations at different levels of analysis and considering single or multiple practices. Relevant insights from work psychology and OB can enrich our understanding of the roles of line and project managers in facilitating employee behavior (Keegan and Den Hartog, 2004; Purcell and Hutchinson, 2007). Critical labour process perspectives could be utilized to highlight that conflicting outcomes in HRM-PBO systems are as plausible as mutual gains while empirical research fails to support only a "high road" HRM vision where HRM systems are of equal benefit to employees and their employers (Ehnröth and Björkman, 2012; Ramsay et al., 2000). The growing body of research on intended, enacted and perceived HRM practices is of special relevance to complex project based multi-actor HRM systems. In such systems, the likely occurrence of gaps between intended HRM policies and how individual workers perceive them presents an opportunity for HRM researchers to study the intricacies of developing strong systems in complex, multi-actor work processes (Bowen and Ostroff, 2004; Nishii and Wright, 2007).

However, we caution against the wholesale importing of ideas from mainstream and critical or ethical HRM. Adequate re-contextualization to project settings is essential if these insights are to help researchers, or practitioners, develop new questions and avenues for research. A thorough understanding of the literature on project management and project based/project-oriented organizations from a contextual perspective, is essential to ensure theoretical insights on HRM in PBO are well grounded.

3.5.2. Methodological resources for closer connections

Mainstream OB inspired HRM research drawing on sophisticated multilevel analysis can be of value in testing if the outcomes found in non-project contexts that are linked to HRM practices are replicated in a project context. Given the substantial gaps in our knowledge currently about how HRM actors in project settings interact (Keegan and Den Hartog, 2004), and their priorities as well as the values shaping them (Pohler and Willness, 2014), inductive and context sensitive research methods are also needed. The use of discourse analysis for example is low in studies of HRM in a project setting even though discourse analytic studies have been valuable in showing how the framing of HRM practices can lead to certain practices and processes developing in organizations compared to others (e.g. practices and processes for protecting employees) (Alvesson and Kärreman, 2007; Keegan and Francis, 2010; Watson, 2010). Discourse analysis might help reveal the values framing how project and line managers orient to the HRM roles and what priorities are emphasized in a project setting as well as how these link to broader societal discourses (Alvesson and Karreman, 2000).

3.5.3. Multi-actor and organizational perspectives for closer connections

Although mainstream HRM writing is increasingly acknowledging the importance of multi actor HRM systems (Meijerink et al., 2013), the emerging research on the range of HRM actors in a project based organization can clearly inform this type of research as can insights on how they interact and coordinate their activities (Bredin and Söderlund, 2011; Keegan et al., 2012; Swart and Kinnie, 2014). We believe this is a highly dynamic area of HRM in PBO and the complexity of HRM roles and tasks and influence distribution between actors are only slowly beginning to emerge. Much more research is required to untangle the interactive effects of project, line management, employee and HRM interactions in terms of the outcomes they shape and the factors that explain these. Research in this complex field is currently rare (cf. Den Hartog et al., 2007) but likely to be of practical and theoretical value to understanding how HRM might facilitate PBO as well as the outcomes for employees of management practices and processes in this field. Projects are increasingly an assemblage of employees from multiple networked organizations (Swart and Kinnie, 2014) raising potentially very interesting research questions for HRM to be addressed in the years ahead. We now raise those questions we see – on the basis of our review of the literature – as particularly promising for forging closer HRM-PBO links and which represent questions that are of enduring significance for people management and have been shown to have important theoretical and practical importance by HRM scholars (Lengnick-Hall et al., 2009).

The topic of HRM/performance – which is a main staple of strategic HRM research – is well represented in IJPM'S HRM-PBO publishing in the period 1996–2016. There is however a lack of research focusing on industrial and employee relationships, and employee participation. This lack of research in the PBO context runs counter to the trend in broader mainstream HRM research to focus more on pluralist aspects of strategic HRM research (Boxall & Purcell, 2011; Dundon and Dobbins, 2015; Watson, 2010). We need to consider how HRM impacts on both organizational performance as well as employees' rights, and opportunities for participation, within the workplace which under projectification is by all accounts a challenging context with much dynamism and uncertainty, as well as opportunities (Huemann, 2015).

One reason for this lack of attention for industrial and employee relations is that the topic of HRM has often been conceptualized as a sub-field of “resource management”, especially in the period 1997–2007 (see also Crawford et al., 2006). There are missed opportunities arising from conceptualizing HRM in these terms. These include the lack of a broader perspective on HRM which incorporates attention for the inherently paradoxical nature of human resource management (Aust et al., 2015). HRM inherently relates to both human *and* resource aspects (Janssens and Steyaert, 2009; Legge, 1999). It commends asking what it means to us to manage *humans* as resources (Greenwood, 2013). The nature of the employment relationship in the context of PBO needs to more fully consider the nature of exchanges between individuals and these project based organizations, exchanges which are unfused with institutional, legal, ethical *and* resource management

implications. Huemann, Keegan, and Turner (2007: 315) argued, “human resource management (HRM) can be viewed as core processes of the project-oriented company, affecting the way the organization *acquires and uses human resources, and how employees experience the employment relationship*” (emphasis added). We observe that most attention to date is on the latter – the acquiring and using – and less on the former – how employees experience the employment relationship. This is – in our view – a research domain ripe for analysis in the context of project based work. We envisage research as the individual/group/organization levels of analysis that draw on micro and macro analysis, institutional and psychological theories, and from different perspectives regarding the human and resource aspects of projects as a workplace. To deepen and widen our understanding on PBO-HRM links, we believe that researchers need to embrace more fully the paradoxical nature of the HRM-PBO link in terms of the individual/organization. This would allow more focus on employment relationships and how these unfold in this context where the temporary/permanent boundaries create unique conditions within which the employment relationship unfolds and therefore HRM practices are shaped and evolve dynamically over time.

There is also much more scope to develop insights on the multi-actor nature of HRM-PBO systems. Previous research on the roles of different actors in HRM systems, in projects, has begun to reveal the additional complexity attaching to this context as a result of the different task, supervisory and support relationships played by HRM specialists, line managers, project managers, clients and the employee (Bredin and Söderlund, 2011; Keegan et al., 2012). While project researchers are beginning to look more closely at the impact of the project context on employees and individual professionals (E. Pinto et al., 2003), there is a need for significant research to examine the impact for both individuals and organizations of HRM in projects.

Finally, on the question of employee participation, there is much scope in the HRM-PBO research field to explore with whom employees in project contexts actually participate? This is a context of multi-agency psychological contracts and complicated employment relationships. How, if at all, employees engage in direct and indirect participation in their organizations is a topic worthy of closer consideration. Is participation made easier or more difficult by the networked forms of organizing that make up projects? Are the short hierarchical lines we often associate with flat project organizing facilitative of direct forms of employee participation? How is mutuality in the employment relationship in a project context viewed, or sought? Finally, are the constantly changing configurations of employees and professionals in projects a barrier to effective harnessing of employees upward (or sideways) feedback? These are areas where closer connections between the fields of HRM and the PBO could be fruitful.

4. Conclusion

Building on the work of J. Rodney Turner on HRM aspects of project management, we reported publishing trends at the intersection between HRM (human resource management) and PBO (project based organizing) in the key research-led journals

of the project management field. We offered three contributions to the field of project management. The first is theoretical where we present an overview of research over a twenty year period, organized according to an adapted and extended framework based on original work by Wright and Boswell (2002). Our extended framework identifies categories of HRM research at three levels of analysis and covering single/multiple HRM practices. Such an extensive and systematic analysis of the HRM-PBO link in the project management literature has not been undertaken to date. Our extended framework addresses the kinds of research undertaken at the “supra-project organizational level/permanent organization” (focusing) on HRM in the permanent organization; the “projects as temporary organizations” level and HRM *on the project*; and finally the “individual” level focuses on HRM and individual roles.

Our second theoretical contribution is that we highlight a variety of theoretical as well as methodological resources from the HRM field that can be applied in project studies. This can promote insights into project related HRM by focusing attention on issues that have been extensively studied in the broader HRM community, such as industrial and employment relations, and participation, but have been neglected by the project management community.

Finally, our key managerial contribution is that we introduce *the project as a temporary organization* level of analysis. We make visible that HRM practices on the project are ongoing and are important in their own right and not simply as derivatives of practices at the overarching-permanent organization level. The strong focus on this level to date means we do not know the variety and richness of project level HRM practices, not can we see the heterogeneity of these practices in firms where many different types of projects, or project contexts, are salient. While links between the levels are also vitally important, the

projects as a site of work activities, HRM practices and employment issues is specifically highlighted in this paper. This can guide both HRM practitioners, and project managers, in terms of the importance of human resource management and employment activities on projects. This can in turn allow more attention to be paid to project level careers, employee participation, and employment relations, all of which are critical issues and deserve more attention that they have received to date. These contributions may contribute towards a more evidence-based approach to managing people in the context of projects and the broader (permanent organizational) contexts within which these are located.

Overall, we identify promising areas for closer connections between HRM and projects. There are still many opportunities to deepen our insights on this link. Our review shows that by drawing on theoretical and methodological resources from the HRM field, project studies can benefit from a more refined focus on levels of analysis and practices. No less important, the HRM field can benefit from a richer and more highly contextualized focus on the complex, multi-actor, multi-level and multi-organizational setting of projects which are increasingly prevalent. As such, projects should become a more central concern of HRM scholars in future research, not least because employees and managers, as well as those who represent them, are often drawn from these settings. The articles discussed in this review can provide a starting point for such studies to enrich the HRM field and further strengthen the field of organizational project management and develop managerial insights for those working in, leading and managing projects.

Conflict of interest

None.

Appendix A. Exemplars of scholarly research published in IJPM on PBO-HRM 1996–2016

Category in our schema	Year	Authors	Title
1b	2016	Chantal M.J.H. Savelsbergh, Liselore A. Havermans, Peter Storm	Development paths of project managers: What and how do project managers learn from their experiences?
1b	2016	Bastian Ekrot, Alexander Kock, Hans Georg Gemünden	Retaining project management competence — Antecedents and consequences
1b	2016	Bastian Ekrot, Johannes Rank, Hans Georg Gemünden	Antecedents of project managers' voice behavior: The moderating effect of organization-based self-esteem and affective organizational commitment
2a	2015	Khan, Adeel Sabir Rasheed, Farooq	Human resource management practices and project success, a moderating role of Islamic Work Ethics in Pakistani project-based organizations
2b	2015	Pournader, Mehrdokht; Tabassi, Amin Akhavan; Baloh, Peter	A three-step design science approach to develop a novel human resource-planning framework in projects: the cases of construction projects in USA, Europe, and Iran
2a	2014	Popaitoon, Sujinda; Siengthai, Sununta	The moderating effect of human resource management practices on the relationship between knowledge absorptive capacity and project performance in project-oriented companies
1a	2014	Medina, Rolf; Medina, Alicia	The project manager and the organization's long-term competence goal
1b	2013	Crawford, Lynn; French, Erica; Llyod-Walker, Beverly	From outpost to outback: project career paths in Australia

(continued on next page)

(continued)

Category in our schema	Year	Authors	Title
2b	2013	Camara e Silva, Lucio; Cabral Seixas Costa, Ana Paula	Decision model for allocating human resources in information system projects
3b	2013	Buganza, Tommaso; Kalchschmidt, Matteo; Bartezzaghi, Emilio; Amabile, Davide	Measuring the impact of a major project management educational program: The PMP case in Finmeccanica
3b	2013	Zhang, Feng; Zuo, Jian; Zillante, George	Identification and evaluation of the key social competencies for Chinese construction project managers
1b	2013	Bredin, Karin; Soderlund, Jonas	Project managers and career models: An exploratory comparative study
3b	2012	Altuwaijri, Majid M.; Khorsheed, Mohammad S.	InnoDiff: A project-based model for successful IT innovation diffusion
3a	2012	Calamel, Ludivine; Defelix, Christian; Picq, Thierry; Retour, Didier	Inter-organizational projects in French innovation clusters: The construction of collaboration
3a	2012	Tabassi, Amin Akhavan; Ramli, Mahyuddin; Abu Bakar, Abu Hassan	Effects of training and motivation practices on teamwork improvement and task efficiency: The case of construction firms
1b	2012	Ballesteros-Perez, P.; Gonzalez-Cruz, Ma. C.; Fernandez-Diego, M.	Human resource allocation management in multiple projects using sociometric techniques
3a	2011	Fisher, Eddie	What practitioners consider to be the skills and behaviours of an effective people project manager
2a	2011	Lai, Diana N. C.; Liu, Min; Ling, Florence Y. Y.	A comparative study on adopting human resource practices for safety management on construction projects in the United States and Singapore
3a	2010	Asquin, Alain; Garel, Gilles; Picq, Thierry	When project-based management causes distress at work
3b	2010	Laslo, Zohar	Project portfolio management: An integrated method for resource planning and scheduling to minimize planning/scheduling-dependent expenses
1b	2010	Hoelzle, Katharina	Designing and implementing a career path for project managers
1a	2009	Drouin, Nathalie; Bourgault, Mario; Saunders, Susan Bartholomew	Investigation of contextual factors in shaping HR approaches and determining the success of international joint venture projects: Evidence from the Canadian telecom industry
3b	2009	Chen, Chen-Tung; Cheng, Hui-Ling	A comprehensive model for selecting information system project under fuzzy environment
2a	2009	Tabassi, Amin Akhavan; Abu Bakar, A. H.	Training, motivation, and performance: The case of human resource management in construction projects in Mashhad, Iran
2a	2009	Ng, S Thomas Tang, Ziwei Palaneeswaran, Ekambaram	Factors contributing to the success of equipment-intensive subcontractors in construction
3b	2008	Ahadzie, Divine Kwaku Proverbs, David Gavin Olomolaiye, Paul	Towards developing competency-based measures for construction project managers: Should contextual behaviours be distinguished from task behaviours?
3a	2008	Bellini, Emilio Canonico, Paolo	Knowing communities in project driven organizations: Analysing the strategic impact of socially constructed HRM practices
1b	2008	Bredin, Karin	People capability of project-based organizations: a conceptual framework
3a	2008	Turner, Rodney Huemann, Martina Keegan, Anne	Human resource management in the project-oriented organization: Employee well-being and ethical treatment
1a	2007	Huemann, Martina Keegan, Anne, Turner, J Rodney	Human resource management in the project-oriented company: a review
3b	2007	Browna, A W Adams, J D Amjad, A A	The relationship between human capital and time performance in project management: a path analysis
3a	2005	Crawford, L.	Senior management perceptions of project management competence <i>International journal of project management</i>
2b	2004	Raiden, Ani B Dainty, Richard H Neale Andrew R	Current barriers and possible solutions to effective project team formation and deployment within a large construction organization
2a	2004	Belout, Adnane Gauvreau, Clothilde	Factors influencing project success: the impact of human resource management
3b	2001	El-Sabaa, S	The skills and career path of an effective project manager
2a	1999	Strain, John D Preece, David A	Project management and the integration of human factors in military system procurement
2a	1998	Belout, Adnane	Effects of human resource management on project effectiveness and success: towards a new conceptual framework
3b	1996	Robert Newcombe	Empowering the construction project team

A.1. Exemplars of scholarly research published in PMJ on PBO-HRM 1996–2016

Category in our schema	Year	Authors	Title
2b	2015	Efrosyni Konstantinou	Redefining the Role of the Project Practitioner
2a	2013	Vathsala Wickramasinghe, Suyama Liyanage	Effects of High Performance Work Practices on Job Performance in Project-Based Organizations
3b	2013	Kamrul Ahsan, Marcus Ho and Sabik Khan	Recruiting Project Managers: a Comparative Analysis of Competencies and Recruitment Signals From Job Advertisements
3b	2013	Isabel Ortiz-Marcos, José Ramón Cobo Benita, Carlos Mataix Aldeanueva and Ángel Uruburu Colsa	Competency Training for Managing International Cooperation Engineering Projects
2a	2011	Marjo Suhonen and Leena Paasivaara	Shared human capital in project management: a systematic review of the literature
1a	2009	Dainty, Andrew R. J.; Raiden, Ani B.; Neale, Richard H.	Incorporating Employee Resourcing Requirements Into Deployment Decision Making

A.1.1. Exemplars of scholarly research published in IJMPB on PBO-HRM 1996–2016

Category in our schema	Year	Authors	Title
3b	2016	Michelle Turner	Beyond the iron triangle: reflections of an early career academic
1b	2016	Beverley Lloyd-Walker, Erica French, Lynn Crawford	Rethinking researching project management: understanding the reality of project management careers
1a	2015	Medina, Rolf; Medina, Alicia	The competence loop Competence management in knowledge-intensive, project-intensive organizations
3b	2010	Drouin, Nathalie, Bourgault, Mario, Caroline Gervais	Effects of organizational support on components of virtual project teams

References

- Ahadzie, Divine Kwaku, Proverbs, David Gavin, Olomolaiye, Paul, 2008. Towards developing competency-based measures for construction project managers: should contextual behaviours be distinguished from task behaviours? *Int. J. Proj. Manag.* 26 (6), 631–645.
- Alvesson, M., Kärreman, D., 2000. Varieties of discourse: on the study of organizations through discourse analysis. *Hum. Relat.* 53 (9), 1125–1149.
- Alvesson, M., Kärreman, D., 2007. Unraveling HRM: identity, ceremony, and control in a management consulting firm. *Organ. Sci.* 18 (4), 711–723.
- Asquin, A., Garel, G., Picq, T., 2010. When project-based management causes distress at work. *Int. J. Proj. Manag.* 28 (2):166–172. <http://dx.doi.org/10.1016/j.ijproman.2009.08.006>.
- Aust, Ina, Brandl, Julia, Keegan, Anne, 2015. State-of-the-art and future directions for HRM from a paradox perspective: introduction to the special issue. *Ger. J. Hum. Resour. Manag. Z. Pers.* 29 (3–4), 194–213.
- Ballesteros-Pérez, P., González-Cruz, Ma C., Fernández-Diego, M., 2012. Human resource allocation management in multiple projects using sociometric techniques. *Int. J. Proj. Manag.* 30 (8), 901–913.
- Belout, Adnane, 1998. Effects of human resource management on project effectiveness and success: toward a new conceptual framework. *Int. J. Proj. Manag.* 16 (1), 21–26.
- Belout, Adnane, Gauvreau, Clothilde, 2004. Factors influencing project success: the impact of human resource management. *Int. J. Proj. Manag.* 22 (1), 1–11.
- Bowen, David E., Ostroff, Cheri, 2004. Understanding HRM-firm performance linkages: the role of the “strength” of the HRM system. *Acad. Manag. Rev.* 29 (2), 203–221.
- Boxall, P., Purcell, J., 2011. *Strategy and Human Resource Management*. (3 ed.). Palgrave Macmillan Ltd, Basingstoke.
- Bredin, K., 2008. People capability of project-based organisations: a conceptual framework. *Int. J. Proj. Manag.* 26 (5), 566–576.
- Bredin, Karin, Söderlund, Jonas, 2011. The HR quadriad: a framework for the analysis of HRM in project-based organizations. *Int. J. Hum. Resour. Manag.* 22 (10), 2202–2221.
- Bredin, Karin, Söderlund, Jonas, 2013. Project managers and career models: an exploratory comparative study. *Int. J. Proj. Manag.* 31 (6), 889–902.
- Crawford, Lynn, Pollack, Julien, England, David, 2006. Uncovering the trends in project management: journal emphases over the last 10 years. *Int. J. Proj. Manag.* 24 (2), 175–184.
- Crawford, Lynn, French, Erica, Lloyd-Walker, Beverley, 2013. From outpost to outback: project career paths in Australia. *Int. J. Proj. Manag.* 31 (8), 1175–1187.
- Dainty, A., Raidén, A., Neale, R., 2009. Incorporating employee resourcing requirements into deployment decision making. *Proj. Manag. J.* 40 (2), 7–18.
- DeFillippi, Robert, Sydow, Jörg, 2016. Project networks: governance choices and paradoxical tensions. *Proj. Manag. J.* 47 (5) (00-00).
- Delery, John E., Doty, D. Harold, 1996. Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions. *Acad. Manag. J.* 39 (4), 802–835.
- Den Hartog, Deanne N., De Hoogh, Annebel H.B., Keegan, Anne, 2007. The interactive effects of belongingness and charisma on helping and compliance. *J. Appl. Psychol.* 92 (4), 1131.
- Dundon, Tony, Dobbins, Tony, 2015. Militant partnership: a radical pluralist analysis of workforce dialectics. *Work Employ. Soc.* 29 (6), 912–931.
- e Silva, Lúcio Camara, Costa, Ana Paula Cabral Seixas, 2013. Decision model for allocating human resources in information system projects. *Int. J. Proj. Manag.* 31 (1), 100–108.
- Ehnröoth, Mats, Björkman, Ingmar, 2012. An integrative HRM process theorization: beyond signalling effects and mutual gains. *J. Manag. Stud.* 49 (6), 1109–1135.
- Ekrot, Bastian, Kock, Alexander, Gemünden, Hans Georg, 2016a. Retaining project management competence—antecedents and consequences. *Int. J. Proj. Manag.* 34 (2), 145–157.
- Ekrot, Bastian, Rank, Johannes, Gemünden, Hans Georg, 2016b. Antecedents of project managers’ voice behavior: the moderating effect of organization-based self-esteem and affective organizational commitment. *Int. J. Proj. Manag.* 34 (6), 1028–1042.
- El Sabaa, S., 2001. The skills and career path of an effective project manager. *Int. J. Proj. Manag.* 19 (1), 1–7.

- Grabher, Gernot, 2002. The project ecology of advertising: tasks, talents and teams. *Reg. Stud.* 36 (3), 245–262.
- Greenwood, Michelle, 2013. Ethical analyses of HRM: a review and research agenda. *J. Bus. Ethics* 114 (2), 355–366.
- Hobday, Mike, 2000. The project-based organisation: an ideal form for managing complex products and systems? *Res. Policy* 29 (7–8), 871–893.
- Hölzle, Katharina, 2010. Designing and implementing a career path for project managers. *Int. J. Proj. Manag.* 28 (8):779–786. <http://dx.doi.org/10.1016/j.ijproman.2010.05.004>.
- Huemann, M., 2015. Human Resource Management in the Project-Oriented Organization: Towards a Viable System for Project Personnel. Gower, Aldershot.
- Huemann, M., Turner, J.R., Keegan, Anne, 2004. Human resource management in the project-oriented organization: questions for future research. In: Slevin, D.P., Cleland, D.I., Pinto, J.K. (Eds.), *Innovations: Project Management Research 2004*. Project Management Institute, Newtown Square.
- Huemann, Martina, Keegan, Anne, Turner, Rodney, 2007. Human resource management in the project-oriented company: a review. *Int. J. Proj. Manag.* 25 (3), 315–323.
- Huselid, Mark A., 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Acad. Manag. J.* 38 (3), 635–672.
- Janssens, M., Steyaert, Ch., 2009. HRM and performance: a plea for reflexivity in HRM studies. *J. Manag. Stud.* 46 (1), 143–155.
- Jones, C., Lichtenstein, B., 2008. Temporary Inter-Organizational Projects: How Temporal and Social Embeddedness enhance Coordination and manage Uncertainty. In: Cropper, S., Ebers, M., Huxham, C., Smith Ring, P. (Eds.), *The Oxford Handbook of Inter-Organizational Relations*. Oxford University Press, Oxford, UK, pp. 231–255.
- Keegan, Anne, Boselie, P., 2006. The lack of impact of dissensus inspired analysis on developments in the field of human resource management*. *J. Manag. Stud.* 43 (7), 1491–1511.
- Keegan, Anne, Den Hartog, Deanne N., 2004. Transformational leadership in a project-based environment: a comparative study of the leadership styles of project managers and line managers. *Int. J. Proj. Manag.* 22 (8), 609–617.
- Keegan, Anne, Francis, Helen, 2010. Practitioner talk: the changing textscape of HRM and emergence of HR business partnership. *Int. J. Hum. Resour. Manag.* 21 (6):873–898. <http://dx.doi.org/10.1080/09585191003729341>.
- Keegan, Anne, Turner, Rodney, 2001. Quantity versus quality in project-based learning practices. *Manag. Learn.* 32 (2001), 77–98.
- Keegan, Anne, Turner, Rodney, 2002. The management of innovation in project-based firms. *Long Range Plan.* 35 (4), 367–388.
- Keegan, Anne, Turner, Rodney, 2003. Managing human resources in the project-based organization. In: Turner, J.R. (Ed.), *People in project management*. Gower, Aldershot.
- Keegan, Anne, Huemann, M., Turner, Rodney, 2012. Beyond the line: exploring the HRM responsibilities of line managers, project managers and the HRM department in four project-oriented companies in the Netherlands, Austria, the UK and the USA. *Int. J. Hum. Resour. Manag.* 23 (15), 3085–3104.
- Kenis, Patrick, Janowicz, Martyna, Cambré, Bart, 2009. *Temporary Organizations: Prevalence, Logic and Effectiveness*. Edward Elgar Publishing.
- Khan, Adeel Sabir, Rasheed, Farooq, 2015. Human resource management practices and project success, a moderating role of Islamic Work Ethics in Pakistani project-based organizations. *Int. J. Proj. Manag.* 33 (2), 435–445.
- Konstantinou, Efrosyni, 2015. Professionalism in project management: redefining the role of the project practitioner. *Proj. Manag. J.* 46 (2), 21–35.
- Lapalme, Marie-Ève, Simard, Gilles, Tremblay, Michel, 2011. The Influence of Psychological Contract Breach on Temporary Workers' Commitment and Behaviors: A Multiple Agency Perspective. *J. Bus. Psychol.* 26 (3), 311–324.
- Legge, Karen, 1999. Representing people at work. *Organization* 6 (2), 247–264.
- Lengnick-Hall, Mark L., Lengnick-Hall, Cynthia A., Andrade, Leticia S., Drake, Brian, 2009. Strategic human resource management: the evolution of the field. *Hum. Resour. Manag. Rev.* 19 (2), 64–85.
- Lloyd-Walker, Beverley, French, Erica, Crawford, Lynn, 2016. Rethinking researching project management: understanding the reality of project management careers. *Int. J. Manag. Proj. Bus.* 9 (4), 903–930.
- MacDuffie, John Paul, 1995. Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry. *Ind. Labor Relat. Rev.* 197–221.
- Marchington, Mick, 2015. Analysing the forces shaping employee involvement and participation (EIP) at organisation level in liberal market economies (LMEs). *Hum. Resour. Manag. J.* 25 (1), 1–18.
- Medina, Rolf, Medina, Alicia, 2014. The project manager and the organisation's long-term competence goal. *Int. J. Proj. Manag.*
- Meijerink, Jeroen, Bondarouk, Tanya, Looise, Jan Kees, 2013. Value creation through HR shared services: towards a conceptual framework. *Pers. Rev.* 42 (2):154–175. <http://dx.doi.org/10.1108/00483481311309366>.
- Nishii, Lisa Hisae, Wright, Patrick M., 2007. Variability within organizations: Implications for strategic human resource management. CAHRS Working Paper #07-02. Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies, Ithaca, NY.
- Ostroff, Cheri, Bowen, David E., 2016. Reflections on the 2014 decade award: is there strength in the construct of HR system strength? *Acad. Manag. Rev.* 41 (2), 196–214.
- Pinto, Jeffrey K., Prescott, John E., 1988. Variations in critical success factors over the stages in the project life cycle. *J. Manag.* 14 (1), 5–18.
- Pinto, Ermani, Sigaud-kutner, Teresa, Leitao, Maria A.S., Okamoto, Oswaldo K., Morse, David, Colepiccolo, Pio, 2003. Heavy metal-induced oxidative stress in algae. *J. Phycol.* 39 (6), 1008–1018.
- Pohler, Dionne, Willness, Chelsea, 2014. Balancing interests in the search for occupational legitimacy: the HR professionalization project in Canada. *Hum. Resour. Manag.* 53 (3), 467–488.
- Popaitoun, Sujinda, Siengthai, Sununta, 2014. The moderating effect of human resource management practices on the relationship between knowledge absorptive capacity and project performance in project-oriented companies. *Int. J. Proj. Manag.* 32 (6), 908–920.
- Pournader, Mehrdokht, Tabassi, Amin Akhavan, Baloh, Peter, 2015. A three-step design science approach to develop a novel human resource-planning framework in projects: the cases of construction projects in USA, Europe, and Iran. *Int. J. Proj. Manag.* 33 (2), 419–434.
- Purcell, John, Hutchinson, Sue, 2007. Front-line managers as agents in the HRM-performance causal chain: theory, analysis and evidence. *Hum. Resour. Manag. J.* 17 (1), 3–20.
- Raiden, Ani, Dainty, A., Richard, H.N., 2004. Current barriers and possible solutions to effective project team formation and deployment within a large construction organisation. *Int. J. Proj. Manag.* 22 (4), 309–316.
- Ramsay, Harvie, Scholarios, Dora, Harley, Bill, 2000. Employees and high-performance work systems: testing inside the black box. *Br. J. Ind. Relat.* 38 (4), 501–531.
- Rousseau, Denise M., Greller, Martin M., 1994. Human resource practices: administrative contract makers. *Hum. Resour. Manag.* 33 (3), 385–401.
- Rousseau, Denise M., Shperling, Zipi, 2003. Pieces of the action: ownership and the changing employment relationship. *Acad. Manag. Rev.* 28 (4), 553–570.
- Rousseau, Denise M., Ho, Violet T., Greenberg, Jerald, 2006. I-deals: idiosyncratic terms in employment relationships. *Acad. Manag. Rev.* 31 (4), 977–994.
- Sanders, Karin, Shipton, Helen, Gomes, Jorge F.S., 2014. Guest Editors' introduction: is the HRM process important? Past, current, and future challenges. *Hum. Resour. Manag.* 53 (4):489–503. <http://dx.doi.org/10.1002/hrm.21644>.
- Savelsbergh, Chantal M.J.H., Havermans, Liselore A., Storm, Peter, 2016. Development paths of project managers: what and how do project managers learn from their experiences? *Int. J. Proj. Manag.* 34 (4), 559–569.
- Strain, John D., Preece, David A., 1999. Project management and the integration of human factors in military system procurement. *Int. J. Proj. Manag.* 17 (5), 283–292.
- Swart, Juani, Kinnie, Nicholas, 2014. Reconsidering boundaries: human resource management in a networked world. *Hum. Resour. Manag.* 53 (2), 291–310.
- Themistocleous, G., Wearne, S.H., 2000. Project management topic coverage in journals. *Int. J. Proj. Manag.* 18 (1), 7–11.
- Thomas Ng, S., Tang, Ziwei, Palaneeswaran, Ekambaram, 2009. Factors contributing to the success of equipment-intensive subcontractors in construction. *Int. J. Proj. Manag.* 27 (7), 736–744.

- Turner, Rodney, Keegan, Anne, 1999. The versatile project-based organization: governance and operational control. *Eur. Manag. J.* 17 (3), 296–309.
- Turner, Rodney, Müller, R., 2003. On the nature of the project as a temporary organization. *Int. J. Proj. Manag.* 21 (1), 1–8.
- Turner, Rodney, Müller, Ralf, 2005. The Project manager's Leadership Style as a Success Factor on Projects: A Literature Review.
- Turner, Rodney, Huemann, Martina, Keegan, Anne, 2007. Managing human resources in the project-based organization. In: Turner, J.R. (Ed.), *The Gower Handbook of Project Management*, 4th edition ed. Gower, Aldershot.
- Turner, Rodney, Huemann, M., Keegan, Anne, 2008. Human resource management in the projectoriented organisation: employee wellbeing and ethical treatment. *Int. J. Proj. Manag.* 26 (5/2008), 577–585.
- Vicentini, F., Boccardelli, P., 2014. Team Composition and Project-Based Organizations: New Perspectives for Human Resource Management. *Management, Valuation, and Risk for Human Capital and Human Assets: Building the Foundation for a Multi-disciplinary, Multi-level Theory*, 37.
- Watson, Tony J., 2010. Critical social science, pragmatism and the realities of HRM. *Int. J. Hum. Resour. Manag.* 21 (6), 915–931.
- Wickramasinghe, Vathsala, Liyanage, Suyama, 2013. Effects of high performance work practices on job performance in project-based organizations. *Proj. Manag. J.* 44 (3), 64–77.
- Wilkinson, Adrian, Gollan, Paul J., Marchington, Mick, Lewin, David, 2010. Conceptualizing Employee Participation in Organizations. <http://dx.doi.org/10.1093/oxfordhb/9780199207268.003.0001>.
- Wright, Patrick M., Boswell, Wendy R., 2002. Desegregating HRM: a review and synthesis of micro and macro human resource management research. *J. Manag.* 28 (3), 247–276.
- Yun, Sungmin, Choi, Jiyong, Oliveira, Daniel P., Mulva, Stephen P., Kang, Youngcheol, 2016. Measuring project management inputs throughout capital project delivery. *Int. J. Proj. Manag.* 34 (7), 1167–1182.
- Zhang, Feng, Zuo, Jian, Zillante, George, 2013. Identification and evaluation of the key social competencies for Chinese construction project managers. *Int. J. Proj. Manag.* 31 (5), 748–759.
- Zika-Viktorsson, Annika, Sundström, Per, Engwall, Mats, 2006. Project overload: an exploratory study of work and management in multi-project settings. *Int. J. Proj. Manag.* 24 (5), 385–394.
- Zwikael, Ofer, Unger-Aviram, Esther, 2010. HRM in project groups: the effect of project duration on team development effectiveness. *Int. J. Proj. Manag.* 28 (5):413–421. <http://dx.doi.org/10.1016/j.ijproman.2009.09.005>.