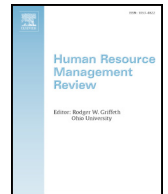


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A risk perspective on human resource management: A review and directions for future research

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ABSTRACT

Arguing the value of effective HRM practice has long been a focus in the HRM literature. However, there is also a case for identifying the risks presented by inappropriate or absent HRM practices. Although risk management has been established in the broader management literature for over two decades, human resource related risks have not featured as prominently as other types of risks. HRM as a discipline has a role to play in addressing this situation and raising awareness of human resource issues as risks for the organization. A review of papers published since the year 2000 in a broad range of high quality management journals, identifies that limited research has thus far taken a risk management perspective on human resources. Although the HRM and risk management disciplines stand to benefit from drawing the two areas together, this review concludes that further research and development of the phenomenon of human resource risk management is needed.

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1. Introduction

The large majority of the research and literature in the area of human resource management (HRM) focuses on the positive impact of HRM systems and practices. Outcomes such as employee well-being, organizational effectiveness and wider societal contributions have long been the focus to argue that HRM can make a positive contribution to the organization and broader society (for example, see [Beer, Spector, Lawrence, Mills, & Walton, 1984](#)). Indeed, the argument continues to be made that effective HRM has the potential to have significant impact both within the organization and in the broader societal context ([Jackson, Schuler, & Jiang, 2014](#)).

However, just as effective HRM can have a positive impact, there is also a case for considering the risks of ineffective, inappropriate or absent HRM practices. With the increasing focus on identifying and evaluating risks in organizations ([Haimes, 2005](#)), risk management has become a key strategic priority. It is expected that businesses adopt and integrate risk management practices into their operations, and this expectation has seen a range of standards such as the ISO 31000:2009 Risk management principles and guidelines ([International Organization for Standardization \(ISO\), 2009](#)) emerge, accompanied by a multitude of tools and frameworks. This focus on risks and the subsequent tools and frameworks has primarily focused on financial and physical risks, largely neglecting the area of HRM and any people-related risks beyond those of health and safety. So from both a HRM and a risk management perspective, it would appear that there is an opportunity for risks related to HRM to be further acknowledged, explored and integrated into established risk management processes.

The purpose of this article is therefore to review the management literature since the year 2000 in order to analyze the extent to which the discussion of human resources and HRM practices adopt a risk perspective, and to identify potential future research

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in this area. Empirical and theoretical articles were reviewed to identify those that recognize human resources as a source of risk and/or HRM as a way to mitigate organizational risk. Analyses were conducted of these articles and the contributions they make to advance this agenda. Based on this review we are then able to identify future research opportunities to address the gaps identified in order to better shape future research for mutual benefit in the area where HRM and risk management intersect.

2. Risk and risk management

There has been much debate around the definition and meaning of the term “risk”, and indeed there is not a single, widely-accepted definition for this term in the academic literature (Hagigi & Sivakumar, 2009; Lehtiranta, 2014). Definitions of risk typically range from those that focus on the potential negative outcomes of lack of predictability in the business environment (e.g. Jablonowski, 2006), to those that argue that risk represents the variability of outcomes (which may be positive or negative) (e.g. Jaafari, 2001; Osipova & Eriksson, 2013). Uncertainty is a term often used interchangeably with risk (e.g. see Sydow & Frenkel, 2013) or is included as an element of the definition of risk for example, “we view risk broadly as the uncertainty inherent in potential outcomes for a business entity” (Hagigi & Sivakumar, 2009, p. 287). More specifically, Holton (2004) suggests that risk comprises two essential components; exposure and uncertainty, and both must be present in order for risk to exist. Exposure requires that there be a personal interest in an outcome, and uncertainty exists if the possibility of that outcome cannot be assured. Aven (2010) summarizes a range of definitions suggesting that fundamentally a risk comprises: an event, consequences, and probabilities (or uncertainties). It is this definition that we have adopted for this review noting the existence of consequences (positive or negative) and uncertainties when dealing with the human resources of an organization.

Different disciplines also tend to view risk through different lenses, and the topic of risk and risk management has been explored by a range of business disciplines such as economics, strategic management, and behavioral science (Elahi, 2013). Regardless of the different discipline perspectives and foci, risk management has become an important business activity as the business environment and uncertainties within it continue to grow. Risk management is considered to involve the identification, analysis, evaluation, control and monitoring of risk and uncertainty (Baker, Ponniah, & Smith, 1999) in order to avoid or minimize the potential negative impacts on organizations. The use and implementation of risk management has been driven by the aims to prevent losses, mainly financial, and secure successful achievement of business objectives. Based on an investigation of the history of risk management, Dionne (2013) estimates that modern risk management perspectives developed between 1955 and 1964. With its initial use connected to market insurance and financial institutions, risk management gradually evolved into the corporate function of today, the main purpose of which is to enable the organization to manage risks and uncertainties (Dionne, 2013).

Importantly, risk management is not simply about compliance or about stifling risk-taking; Elahi (2013) argues that in a world of complexity and rapidly changing environments, effective risk management may be a source of competitive advantage. In the field of risk management, and in the broader business literature, there is growing recognition that one of the key risks in a business is human capital (Hinton, 2003) and risk management as a discipline is cognizant that “human resources loss” has the ability to significantly impact the organization and its ability to deliver the business strategy (Nickson, 2001, p. 26). Nickson (2001) in fact argues that as human resources inherently involve a level of uncertainty, and as risk management's main focus is uncertainty, forging the two fields of risk management and HRM is critical.

Over the years risks have been identified and categorized in a variety of ways. Hagigi and Sivakumar (2009) suggest that risks can be categorized at the broadest level in terms of their origin; exogenous (external to the organization) or endogenous (within the firm). Endogenous risks were seen to cover issues such as management attitudes and organizational practices (Hagigi & Sivakumar, 2009) and could be seen to encompass the human resources of the firm and the associated uncertainties linked to these. Alternately, Dionne (2013) also categorized risk and suggested that within the operational risk category, issues relating to employees (such as employee errors) should be considered. In these types of categorizations, human resources are often acknowledged as an element of organizational risk, albeit in a limited way.

So whilst in the risk management sphere, the human element is implied in some frameworks, the question remains as to whether or not there is widespread recognition of the wide range of risks that human resources present in an organization and how effective HRM practices may serve to mitigate some of these risks. This paper therefore addresses this question, undertaking a review that focusses on the extent to which HRM is viewed from a risk perspective in the literature.

3. HR risk in the literature

3.1. Scope of review

To identify and analyze literature that consider risk as it relates to human resources, we undertook a comprehensive review of a wide range of articles, but used a number of steps to place limits on this review. We restricted our review to articles published since January 2000 (search conducted on 28 July 2015). The period since 2000 has seen the emergence of risk management as a discipline (and business imperative), in part in response to significant financial collapses in the early years of the new century (Dionne, 2013) and therefore this period represented an appropriate timeframe from which to gather articles relating to contemporary risk management.

The choice of journals to include in a systematic review is always a contentious issue, as ensuring sufficient breadth of review and yet allow for depth of analysis requires the careful consideration of search parameters. Some reviews have chosen to begin with a list of specific journals (e.g. the top 20 management journals – see Werner and Ward (2004) or Gomez-Mejia and Balkin

(1992)). However, rather than narrowing our review based on journals, we chose to use the Scopus database as a starting point to broaden our search and draw from as wide a range of journals as possible. This database is one of the largest abstracting and indexing databases of peer reviewed literature available for searching (for further information, see [Scopus, 2015](#)). The search was consequently refined within Scopus according to the criteria shown in [Table 1](#) yielding a total of 1414 articles.

In refining the results further we then took into account the standing and ranking of journals drawing on the Scimago Journal Ranking system (SJR), a ranking of scientific journal prestige (for a full explanation of SJR refer to [Guerrero-Bote and Moya-Aneón \(2012\)](#)). To determine the inclusion boundaries and refine the list further, we then referred to the previously mentioned list of top 20 management journals ([Gomez-Mejia & Balkin, 1992](#); [Werner & Ward, 2004](#)) noting that the journal in this list with the lowest SJR was *Industrial Relations* (0.603). Consequently any articles in journals with an SJR score below 0.603 were discarded as well as Harvard Business Review articles (consistent with previous reviews such as ([Gomez-Mejia & Balkin, 1992](#); [Werner & Ward, 2004](#))). Applying these criteria yielded 695 articles.

Whilst this is still a large number of articles and demonstrates the wide use of the term “risk” in publications, it is possible that in many of these instances, the authors are using the term in a broader, everyday sense to mean “chance” or “threat” ([Oxford Dictionary of English, 2010](#)), rather than specifically referring to issues relating to business risk or risk management. Therefore, the next step of our review was to analyze the abstracts, keywords and titles and eliminate any articles where the key focus was not on HRM/employee issues and subsequent risks relating to these. It is noteworthy that this review supported the observation made by [Macpherson and Holt \(2007\)](#) in their own systematic review, that writing accurate and clear abstracts as well as choosing a coherent and fitting title is critical to future analysis. Failure to reflect content clearly and accurately in these elements of the manuscript greatly complicates both future searches and relevance evaluations. In some cases in our review, reading beyond the abstract was necessary in order to make a final decision on inclusion or exclusion.

Many of the articles discarded focused on financial risk and markets, or employee share plans while other articles had a safety focus where employees were mentioned but the risks discussed were of a technical nature. A number of papers also focused on employee risk-taking (e.g. employee share plans, pay for performance or creativity) rather than taking an organizational risk perspective. After analysis of the abstract, title and keywords and removal of unrelated articles, 81 papers remained. These were subject to further analysis and form the basis of the findings reported in this review. [Table 2](#) shows the journals in which the 81 articles appeared, and the citations.

We do not claim that this is an exhaustive and all-inclusive list; indeed creating such a list is problematic if not impossible to achieve given a recent estimation of approximately 28,000 journals in the management field ([Miller & Van de Ven, 2015](#)). However, we believe the approach chosen for this review has yielded a breadth of disciplines and topics that contribute to a richer consideration of human resources, HRM and risk management.

3.2. Analysis of articles addressing human resource risk

The resultant 81 articles were then further analyzed to identify themes, issues and theoretical perspectives. The articles were also classified according to whether they were presenting a conceptual/theoretical argument or reporting an empirical study (qualitative, quantitative or mixed methods). The findings from this analysis and the contributions of this final set of articles have been synthesized and form the key focus of our discussion and conclusions.

4. Perspectives on HRM and risk management

A detailed analysis of the 81 articles revealed three distinct clusters of approaches and foci (referred to as groups) as represented in [Fig. 1](#). A large proportion of articles commenced with a focus on analyzing specific human resource risks in an organization. Many then went on to offer ways to mitigate these risks – usually referring to HRM practice/s. A second group of articles focused on specific organizational or HRM practice and identified the risks that may emerge as a result of adoption of such practices, or identified how the use of such practices minimizes risk. Finally, a small yet critical group of articles took an integrative view of risk management and HRM, considering how HRM and risk management can be integrated as systems, rather than individual practices. Although this final group represents the least number of articles, they make an important contribution to advancing the consideration of HRM as a critical element of risk management. Each of these groups of articles were analyzed to identify the themes emerging from the data. The groups and themes are synthesized in the following analysis, followed by reflections on the theories applied and methodological approaches taken. From this analysis, recommendations for future research directions are offered.

Table 1
Search parameters.

Search terms	Risk AND “human resource” OR “employees” OR “personnel”
Terms appear in	Abstract; Title; Keywords
Source type	Journals
Document type	Articles; Articles in press; Reviews
Subject area	Business/Management/Accounting (this is a single area designated within Scopus and the one containing management and HRM journals)
Language	English
Years	2000–2015

Table 2

List of journals containing final 81 articles.

Journal	No. articles	References ^a
Journal of Construction Engineering and Management	14	Goh and Binte Sa'adon (2015), Wang, Dai and Ning (2015), Golparvar-Fard, Albert, Hallowell, Kleiner and Chen (2014), Martin and Lewis (2014), Hinz, Hallowell and Baud (2013), Chi, Han and Kim (2013), Hinze, Godfrey and Sullivan (2013), Herron, Bigelow, del Puerto, Gilkey, Rosecrance, Chen and Keefe (2012), Hallowell and Calhoun (2011), Dai and Goodrum (2011), Zhou, Fang, and Mohamed (2011), Park (2009), Choudhry, Fang, and Lingard (2009), Zou and Zhang (2009)
Human Resource Management	7	Farndale, Paaue, and Boselie (2010), Pierce and Aguinis (2009), Messersmith (2007), Roehling and Wright (2006), Cardon (2003), Beatty, Ewing, and Tharp (2003), Fischer and Mittorp (2002)
International Journal of Project Management	6	Becker and Smidt (2015), Bowen, Edwards, Lingard, Pinto, J., Dawood and Pinto, M. (2014), Lai, Liu, and Ling (2011), Asquin, Garel, and Picq (2010), Trajkovski and Loosemore (2006)
Construction Management and Economics	4	Dewlaney and Hallowell (2012); Lingard, Cooke, and Blismas (2010a); Lingard, Cooke, and Blismas (2010b); Lingard and Holmes (2001)
IEEE Transactions on Engineering Management	4	Liu and Yokoyama (2015), Pagell, Dibrell, Veltri, and Maxwell (2014), Farahmand, Atallah, and Spafford (2013), Compton and Byrd (2000)
International Journal of Human Resource Management	4	Bouville and Alis (2014), Kaila (2011), Tremblay, Patry, and Lanoie (2008), Bhattacharya and Wright (2005)
Human Resource Management Review	3	Zafar (2013), Belcourt (2006), Foote and Folta (2002)
Journal of Operations Management	3	Jiang, Baker, and Frazier (2009), Goven, Mcfadden, Hoobler and Tallon (2006), Brown, Willis, and Prussia (2000)
Business Horizons	2	Posthuma (2012), Kayes, Stirling, and Nielsen (2007)
Career Development International	2	Lu, Cooper and Lin (2013), Demerouti, Le Blanc, Bakker, Schaufeli, and Hox (2009)
Engineering, Construction and Architectural Management	2	Hare and Cameron (2011), Meldrum, Hare, and Cameron (2009)
International Journal of Stress Management	2	Clausen and Borg (2010), Brotheridge (2003)
Journal of Business and Psychology	2	Williams, Schaffer, and Ellis (2013), Huang, Chen, Krauss, and Rogers (2004)
Journal of Business Research	2	Ruiz and Conduras (2015), Helm (2011)
Journal of Risk Research	2	Leaver and Reader (2015), Didla, Mearns, and Flin (2009)
Management Science	2	Dahl (2011); Carrillo and Gaimon (2004)
Academy of Management Perspectives	1	Edmans (2012)
Asia Pacific Journal of Human Resources	1	Gallagher and Underhill (2012)
British Journal of Management	1	Loretto, Platt, and Popham (2010)
California Management Review	1	Ballinger, Craig, Cross, and Gray (2011)
Human Resource Management Journal	1	Glambek, Matthesen, Hetland, and Einarsen (2014)
Industrial and Labor Relations Review	1	Boockmann and Steffes (2010)
Industrial Management and Data Systems	1	Baccarini, Salm and Love (2004)
Industrial Relations	1	Battisti and Vallanti (2013)
Information Technology and Management	1	Wang, Wang, Zhang, and Cao (2011)
International Business Review	1	Katsikea, Theodosiou, and Morgan (2015)
International Journal of Accounting Information Systems	1	Bradley (2008)
International Journal of Production Research	1	Moatari-Kazerouni, Chinniah and Agard (2015)
Journal of Business Ethics	1	Dembe (2009)
Journal of Business Logistics	1	Sydow and Frenkel (2013)
Journal of Management in Engineering	1	Lin (2011)
Journal of Managerial Psychology	1	Giorgi (2010)
Journal of Services Marketing	1	Ottenbacher and Harrington (2010)
Leadership Quarterly	1	Zheng et al. (2015)
Management Decision	1	Hotho and Champion (2011)
Public Administration Review	1	Berman, West and Richter (2002)
TOTAL	81	

^a Where the references appear only in this table, the full references will not appear in the reference list. The full reference list is available from the authors.

4.1. Human resources risks

The papers that began with a focus on risk made up an overwhelming majority of the articles (57 of the 81 papers). Whilst the primary focus was on a specific risk and the impact on the organization, most went on to consider the HRM practices that could be applied to mitigate this risk. Eight risks were identified in the analysis and these are shown in Fig. 2. It is important to note that many of the papers focused on more than a single risk e.g. some combined health and wellbeing risks with risks of turnover or absenteeism.

4.1.1. Employee health and wellbeing

The largest number of papers in this group related to employee health and wellbeing. Of all the HRM functions, it is reasonable to expect that the workplace health and safety (WHS) function would be focused on risk. Indeed, the fundamental elements of a

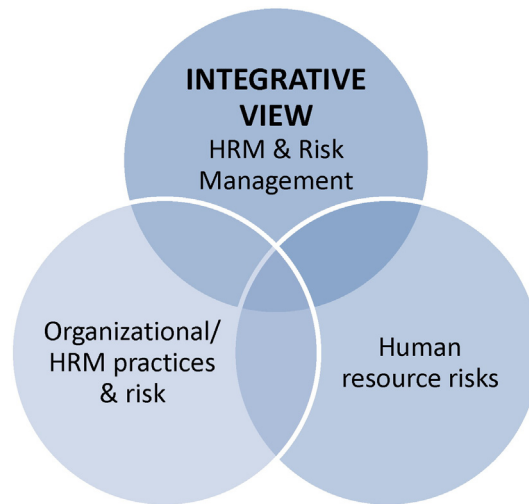


Fig. 1. Perspectives on HRM and risk management.

health and safety function involve assessing physical and psychological risks to employees and identifying ways to monitor and manage such risks.

Of note, the majority of these articles came from a small number of journals: twelve of the fourteen articles from the Journal of Construction Engineering and Management, five of the six from the International Journal of Project Management, and all four of the Construction Management and Economics papers (refer to Table 2) are all related to WHS. This is not a surprising result given the industries or disciplines of focus for these journals; all are commonly considered to be high-risk and therefore present significant health and safety concerns that have been a key focus over many years.

The ability to quantify risk wherever possible is an important factor, and many of the papers were able to provide specific risk measures. Such measures included near misses (Martin & Lewis, 2014), injury and illness rates (Dewlaney & Hallowell, 2012; Gilkey et al., 2012; Huang et al., 2004; Lingard et al., 2010a), severity and frequency of accidents (Brown et al., 2000; Lai et al., 2011) and fatalities (Goh & Binte Sa'adon, 2015) as lag indicators of safety performance. However, a shift is emerging towards measurement of lead indicators such as supervisor safety support or response (Huang et al., 2004; Lingard et al., 2010a; Lingard et al., 2010b), employee safety control (Huang et al., 2004), co-worker safety response (Lingard et al., 2010a, 2010b), or safety climate/safety culture (Brown et al., 2000; Choudhry et al., 2009; Gilkey et al., 2012; Lingard et al., 2010a, 2010b);

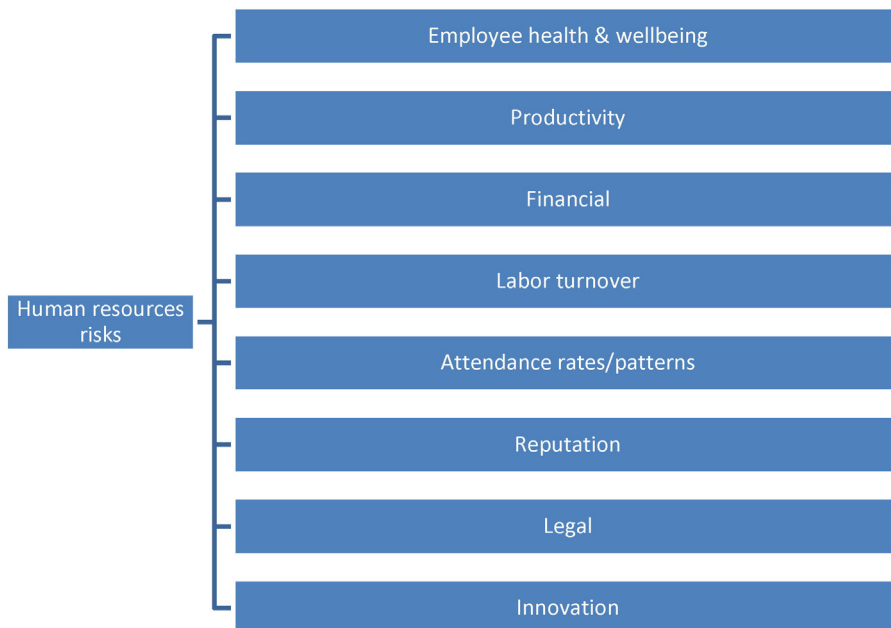


Fig. 2. Human resource risks.

Zhou et al., 2011). Expanding measures to consider lead indicators will clearly provide organizations with the ability to proactively manage potential risks in relation to WHS.

In addition to physical safety, there was also evidence of an emerging focus on the broader issue of wellbeing in the workplace. Psychosocial risks are now being acknowledged (e.g. Gallagher & Underhill, 2012; Zheng et al., 2015), and in particular psychological risks such as stress (Asquin et al., 2010; Brotheridge, 2003), burnout (Pinto, Dawood, & Pinto, 2014), and work-family conflict (Messersmith, 2007) are considered to be human resource risks in the contemporary workplace.

As well as identifying risks, many of these papers also discussed potential approaches to risk mitigation. WHS management systems have been advocated in the literature for some time and specific regulatory requirements have served to reinforce the need for such systems. Many of these systems involve the identification, assessment, management and monitoring of risks in the workplace, with several advocating for a particular emphasis on training (Kaila, 2011; Trajkovski & Loosemore, 2006). In addition, there is a push to focus on safety behavior (Brown et al., 2000; Lingard et al., 2010a, 2010b) and worker engagement (Meldrum et al., 2009) to mitigate health and safety risks.

These papers demonstrate one field within HRM where risk management processes have been applied to the human resources of the firm, albeit with a scope limited to physical or psychological risks for employees. Indeed, one of the articles referred to a “human risk management system” to address unsafe behaviors (Didla et al., 2009, p. 475). However, it is critical that a true human risk management system go beyond the mere safety and wellbeing of the worker and also consider other risks that human resources present in an organization.

4.1.2. Productivity

Beyond the health and wellbeing of workers nine articles considered risks to productivity linked to the human resources of the organization. It is noted that most of these articles discussed productivity in conjunction with other human resource risks. For example, Demerouti et al. (2009) considered the issue of presenteeism (employees coming to work when they should be absent due to illness) and the risk this poses to the organization in terms of not only productivity but also employee health and wellbeing. Likewise, Lai et al. (2011) saw the absence of effective project management practices presenting the dual risk of lower productivity and poor health and safety outcomes in projects. Brotheridge (2003) also focused on the potential negative effects of ineffective organizational change on productivity, employee turnover, and employee health and wellbeing.

This group of articles draws together a number of potential human resource related issues that may impact on the productivity of the organization, and in doing so emphasizes the role of effective HRM for risk management to prevent such issues and reduce negative organizational consequences.

4.1.3. Financial

Financial risks appeared in five articles as the opening focus however six articles looked at the financial implications of particular HRM practices (and therefore appear in the second group of articles the commence with a HRM practice as the focus). Of the five that were included in this theme, Leaver and Reader (2015) considered the failures of financial institutions and the role that human factors play in the downfalls of these organizations. In particular, to effectively manage risk the authors regard non-technical skills and the consideration of human factors as essential to the ongoing viability of financial institutions. Brown et al. (2000) considered the on the financial performance of a firm (along with other outcomes such as quality and social responsibility) and the impact of safety incidents on this performance. Finally, Edmans (2012) looked at firm value and whether the specific employee-related issue of job satisfaction had a direct impact. Whilst the financial performance of all firms is of paramount importance, it is clear from the limited number of articles in this area that the study of human factors contributing to financial performance is a complex challenge, with a wide number of variables (human and non-human) needing to be considered. It appears to be a less challenging task to commence with a focus on a specific HR issue and then analyze the financial risk involved.

4.1.4. Labor turnover

Labor turnover was also a key human resource risk mentioned in nine of the articles and was identified as a risk that can influence the “stability and development of enterprises” (Wang et al., 2011, p. 187). In a similar vein to health and safety measures, there were both lag and lead indicators applied to this risk; actual turnover (e.g. Clausen & Borg, 2010; Jiang et al., 2009) versus intention to leave the organization (e.g. Brotheridge, 2003; Katsikea et al., 2015) and organizational commitment (e.g. Clausen & Borg, 2010). Messersmith (2007) for example, examined the organizational and personal risks of turnover and burnout from work-life conflict with a focus specifically on IT workers. He combined this risk with others, arguing that work-life conflict can increase labor turnover, and in turn have a negative financial impact. In a similar light, Glambek et al. (2014) report on the risks associated with bullying behavior in the workplace including job insecurity and intention to leave the organization.

A range of other articles investigated the factors contributing to labor turnover or intention to leave. Katsikea et al. (2015) identified potential structural, supervisory and psychological reasons for intention to leave, Clausen and Borg (2010) looked at psychosocial work characteristics and their impact on turnover, and Bockmann and Steffes (2010) found that firm characteristics and opportunities for training had a significant impact on exit rates.

Of particular note, Wang et al. (2011) proposed the construction of a decision support system to evaluate employee turnover risk. While noting the potential organizational risks that turnover poses, these articles primarily focused on the contributing factors, human resource or otherwise, of turnover. It is possible that in order to advance the notion of a human resource risk management process, a system such the one suggested by Wang et al. (2011) could be expanded to assess turnover as well as other human resource risks.

4.1.5. Attendance rates/patterns

This theme related to those articles suggesting that attendance patterns of employees may present a risk to the organization. Absenteeism was mentioned in one of the articles as a risk, specifically relating to how the use of flexible compensation and temporary employment may each lead to impacts on productivity and worker absenteeism levels (Battisti & Vallanti, 2013). Of note, the more recent phenomenon of presenteeism (the converse of absenteeism when a worker attends work but should be on sick leave) was also the focus of two articles (Demerouti et al., 2009; Luo, Cooper, & Hui Yen, 2013), both suggesting there are negative implications for employee health and wellbeing, and Demerouti et al. (2009) also noted the potential for impact on productivity. Absenteeism has been raised often as an issue in the HRM literature and the emergence of presenteeism may expand this focus to a wider range of attendance-related factors presenting a risk to the organization.

4.1.6. Reputational

Seven articles related to human resource risks of a reputational nature. These articles focused on issues of reputation, ethics, sustainability and corporate social responsibility and the actions that may positively or negatively impact on the perceptions of the organization held by shareholders, customers or indeed wider society.

Beatty et al. (2003) reflected on professional and ethical risks (and also included legal risks which will be covered separately under the next theme) and argued that HRM has a role to play in the broader area of corporate governance to mitigate these risks. The study identified that HRM rewards and compensation decisions were most likely to present professional, legal and ethical risks and that these human resource risks are indeed linked to broader organizational risks. On the other hand, performance management and effective communication systems were found to be the most effective to reduce risks associated with unethical or illegal behavior. In turn, reducing the risks of unethical behavior within the firm reduces the risk of reputational damage external to the firm.

Two papers (Helm, 2011; Kayes et al., 2007) considered the acts of individual employees and the risk they present to the organizational reputation. Kayes et al. (2007) specifically looked at ethical lapses by employees and the inherent risks, and argued that addressing this issue requires a move beyond simple compliance, to building a culture of ethical behavior in organizations. Whilst looking at potential negative impacts of damage to reputation, it is also relevant to consider the potential upsides of a strong corporate reputation, with Edmans (2012) demonstrating that firms with a reputation as a positive place to work generated higher stock returns than other comparable firms.

4.1.7. Legal

Although HRM professionals would argue that they strive to achieve more than regulatory compliance, it is nonetheless the case that many legal requirements apply to the management of a firm's human resources. The articles making up this theme considered the legal risks inherent in human resources, with Elkins and Velez-Castrillon (2008) considering the legal risk associated with sexual harassment, and highlighted the accompanying risks of decreasing job satisfaction and organizational commitment by those who are victims of sexual harassment. In a variation on this topic, Pierce and Aguinis (2009) considered the issue of workplace romances and acknowledged the organizational risks involved including sexual harassment, unethical relationships, unfair intervention, and disruptive dissolutions.

In a wider canvassing of human resource risks, Roehling and Wright (2006) argued that there needs to be a move from simply considering legal risk when making HRM decisions, to a more balanced and "organizationally sensible" approach to employment decisions. This article in essence argues that focus on a narrow issue, that of legal compliance, may in fact be detrimental to HRM outcomes. In a similar vein, Beatty et al. (2003) also argued that HRM has a role to play in the broader area of corporate governance to mitigate legal risk.

4.1.8. Innovation

Finally, three of the papers within this group raised the issue of organizational innovation and the impact human resources may have on the innovative capacity of an organization. As organizations strive to continually reinvent themselves, being able to innovate is seen as critical, and as Hotho and Champion (2011), p. 29 argues, innovation should be seen as a "people management challenge". Ottenbacher and Harrington (2010) argues that development of innovative services is reliant on both market attractiveness and strategic HRM, emphasizing the role of human resources in successful innovation. Likewise, Ballinger et al. (2011) suggest that innovation is at risk when increased workforce mobility leads to the loss of employees with important networks; in effect arguing that the risks of turnover and lack of innovation may be linked. Therefore, particularly in sectors where innovation is essential to survival, it would stand to reason that HRM practices need to reinforce the innovation required to remain competitive.

In summary, the themes presented thus far represent a group of articles that used risks relating to human resources as a starting point. This group demonstrates an approach more aligned with broader risk management processes that usually commence with risk identification, followed by consideration of contributing factors and mitigation strategies. Many addressed more than one risk and acknowledged that many of these risks are inherently linked. For example, loss or absence of employees (i.e. turnover or absenteeism), will impact negatively on an organization in a range of ways including loss of productivity and ultimately may have negative financial impacts. Some of these papers further explored risks and causes, however in most cases they also considered ways of addressing these risks; typically pointing to particular or groups of HRM practices.

4.2. Organizational/HRM practices and risk

In contrast to those articles that began with a focus on risk and then considered how these may be caused by human resources or mitigated through the use of specific HRM practices, the second group of articles focused on one particular organizational or HRM practice or a group of practices. They typically analyzed the risk(s) inherent in the adoption of such practices, or focused on how such practices may lead to the reduction of risks. Five different themes were identified in this group of articles, and these are shown in Fig. 3.

4.2.1. Staffing

The term “staffing practices” is used in the broadest sense and refers to all steps taken to obtain and deploy the labor required to perform the work of the organization. This theme received substantial attention, with ten papers focusing on staffing in some form including research on: the international nature of organizations and the staffing decisions that may introduce or mitigate risk; risks and benefits of staffing organizations with particular forms of labor including contingent workers; outsourcing and offshoring work.

The issue of organizations managing human resources in a global business environment was raised in four of the articles. Owens (2014) considered the practice of offshoring work, focusing on a call center environment, and argued that this practice can reduce the general risk of attrition onshore if handled effectively. Tharenou and Harvey (2006) evaluated the use of overseas staffing by multinational corporations (MNCs) headquartered in Australia and the potential risks involved including cultural friction, divergent goals, and knowledge gaps. In these organizations staffing decisions were being made explicitly for the purpose of reducing such risks. Lin (2011) focused on remote construction projects and whether to hire locals temporarily or assigning regular staff, and a “decision making model for human resource allocation” (Lin, 2011, p. 13) is presented to minimize project losses. Sydow and Frenkel (2013) also looked at the risks for global supply chains accompanying the increasing use of outsourcing and offshoring and argued that the associated HRM issues are critical to consider in order to identify and manage such risks.

The use of contingent labor as a staffing practice was another topic under this theme. Cardon (2003) investigated the use of a contingent workforce for entrepreneurial growth. Although this HRM practice offers considerable benefits to start-up organizations such as expertise on demand, flexibility, reduced costs and improved social capital, Cardon (2003) highlights the potential risks when using contingent labor including misalignment, lack of trust, reduced productivity, and loss of critical knowledge. Likewise Foote and Folta (2002) focused on temporary workers as a strategy to increase flexibility and decrease the cost in situations where a workforce reduction becomes necessary. They argued that assessment of this strategy involves substantial risks and offered real options theory as a way to improve workforce investment decisions, taking into account future social costs such as reputational damage, competitive advantage and attraction ability. Battisti and Vallanti (2013) also focused on temporary employment and the potential negative impacts this staffing may have on firm performance.

Staffing decisions concerning the structure and composition of teams has also been raised as an area of potential risk for organizations. Liu and Yokoyama (2015) raised an important risk for project teams in relation to potential skills gaps; in fact they use the term “project skill risk” and have developed a skill risk control chart as a means of visualizing such risks. Similarly, Compton and Byrd (2000) developed a method using mathematical clustering to appropriately configure skills in engineering teams to minimize the risks of project failure.

Selection processes and tools as an element of staffing, and the legal risk they pose to an organization were analyzed by Williams et al. (2013). By analyzing ten years of legal cases, it was possible to identify the critical elements of both the selection process and the tools most likely to result in legal challenges and therefore argue the importance of fair, consistent processes and valid and reliable selection tools for risk reduction.

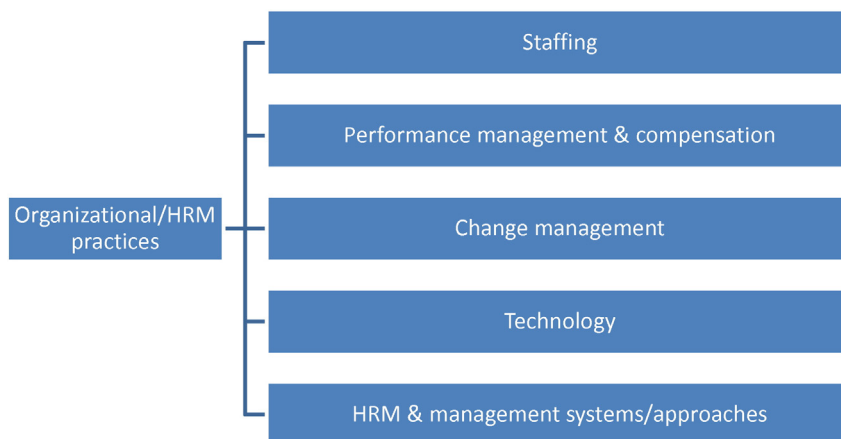


Fig. 3. Organizational/HRM practices.

The final papers under the theme of staffing-related matters specifically focused on outsourcing of the HRM function and subsequent risks to the organization (Belcourt, 2006; Tremblay et al., 2008). Both these papers identified similar risks, particularly of not delivering on expected cost savings, negative impacts on employee morale due to a distancing effect, and loss of HRM capabilities within the organization. Additionally Tremblay et al. (2008) categorized the risks involved in outsourcing into a categorization of three risks: HRM risks (distancing from employees, loss of control of employee interactions, erosion of internal HRM capability), provider risks (risk of bankruptcy, quality debasement, price escalation) and business risks (not delivering predicted savings, loss of confidential information, culture disruption, decline in morale and reduced productivity).

Overall staffing practices were of significant interest and whether of a local or global nature, the articles that investigated this topic all emphasized a variety of organizational risks that may be mitigated by such practices including risks of low morale, legal sanctions, project failure, social costs, financial costs, and overall reduced firm performance.

4.2.2. Performance management and compensation

There were a small number of papers focusing on the issue of performance management, compensation and incentives, and the extent to which these presented or mitigated risks for an organization. Performance management and subsequent approaches to employee reward has long been a contentious topic with the use of effective practices heralded as a significant contributor to organizational performance. However, equally true is the concern that misalignment of such critical HRM systems may present significant organizational risks. Farahmand et al. (2013) for example considered organizational reward systems and incentives and the impact of their misalignment on information security in the firm. They advocate the use of a particular methodology to align organizational, managerial and employee interests in order to ensure information security. In a similar vein, Battisti and Vallanti (2013) investigated the impact of flexible wage schemes and performance-based incentives on employee effort and firm performance, also warning about the potential risks presented by misalignment of remuneration schemes and the potential negative impacts on productivity, absenteeism and ultimately firm performance. Whilst only a small number of papers, those in this theme nonetheless point to the importance of effective performance management and compensation that is aligned with the organizational goals and strategies in order to manage human resource related risks.

4.2.3. Change management

The management of change within organizations was also considered in terms of the risk it may present. Brotheridge (2003) for example considered organizational change in terms of its impact on work effort, intention to leave, and other employee health and wellbeing measures. Likewise, Loretto et al. (2010) studied the effects of workplace change on employee mental health. While Brotheridge (2003) emphasizes the importance of procedural and distributive justice in mitigating the potential negative effects of a climate of ongoing change, Loretto et al. (2010) makes the point that the uncertainty relating to change may also have a positive impact and should not be considered as having potentially negative outcomes alone.

4.2.4. Technology

Whilst not typically considered a 'HRM practice', a group of papers considered the implementation of technology, particularly Human Resource Information Systems (HRIS) or broader enterprise resource planning (ERP) systems and the impacts these may have on the human resources of an organization. Zafar (2013) considered the growing use of HRIS and more recently e-HR systems and the associated risks in their adoption, particularly in relation to privacy and information security. In this paper, the author highlights that the adoption of these systems may introduce risk into the organization such as security, legal, and financial risks. In managing such risks the author proposes that as an integral part of the implementation of HRIS and e-HR systems, risk analysis is an essential element. It is proposed that comprehensive risk analysis processes will enhance security and reduce the risk involved in implementation of HRIS and e-HR systems.

Bradley (2008) looked more broadly at the risks when implementing an Enterprise Resource Planning system, and the factors that may ultimately reduce the risk of failure of such projects. The need for a dedicated project manager, the use of a project champion and effective training of employees were found to be directly related to project success and therefore could be argued to provide methods of risk mitigation.

4.2.5. HRM and management systems

This theme involved reference to specific sets of practices; either HRM systems such as high performance work systems (Bouville & Alis, 2014), or broader management systems such as quality management (Pagell et al., 2014), just-in-time (Pagell et al., 2014) or lean production (Bouville & Alis, 2014). These systems tend to be studied in terms of the potential synergies and positive outcomes they provide for organizations, or they are seen as potential ways to mitigate risks. Beyond specific systems of management or HRM, management/leadership style or approaches were also discussed in a broad sense in a number of articles focusing on the ways in which approaches to management and leadership style may lead to positive or negative outcomes relating to the human resources in an organization.

Bouville and Alis (2014) for example, investigated the organizational use of lean production systems and the potential risks these present for employee satisfaction, health and intention to stay. Using a high-performance work system framework, they focused on the social outcomes of the work practices used as an integral part of lean manufacturing. In particular, these practices included delegation of responsibility, standardization, problem-solving, job rotation, and quality management. Whilst the findings of the study demonstrated mixed results, with some practices impacting negatively and others impacting positively on employees'

attitudes and health, overall the authors advocate for consideration of these risks when deliberating the use of lean production systems.

In summary, the themes within this group of articles demonstrate a growing willingness to consider risks when conducting research into HRM practices. It is evident that a range of HRM practices are being considered in relation to the potential negative or positive impacts they may have, or the risks they may mitigate. Indeed, most of the papers in the former group that began with a focus on risk recognized the practices in this group as having the potential to mitigate human resource related risks. Ultimately, the risks include the potential for employee turnover, increasing labor costs, or negative impacts on productivity if HRM practices are not implemented appropriately; in effect demonstrating the contribution effective HRM can make in the area of risk management.

4.3. Integrative view: HRM through a risk management lens

Whilst the preceding papers all demonstrate the ability for researchers to take a risk perspective on specific HRM issues, they only demonstrate a willingness to engage in discussions of risk in relation to HRM (and often specific risks or practices) rather than furthering an understanding of how to integrate HRM and risk management. Conversely, the final group of papers, albeit small, offers explicit commentary on the links between HRM and risk management.

Some time ago, Fischer and Mittorp (2002) provided a tangible example of HRM being integrated with risk management in the case of Deutsche Bank and how that organization had included human resource risks within its risk management framework. In particular, they reported that this organization acknowledged the operational risks presented by employees, specifically related to “the areas of motivation, adaptability, qualification, and resignation” (Fischer & Mittorp, 2002, p. 483), with the loss of key individuals identified as the most serious risk to the organization. The Bank then utilized a range of measures to monitor risks and implemented steps to mitigate the key risks identified, in areas such as new hires, key personnel retention, and engagement. The measures enabled a demonstration of the value of human resource risk management and provided guidance to managers in terms of the key risks upon which to focus. This paper is a demonstration of how taking an overall risk perspective to HRM can deliver tangible benefits to an organization.

Arguably one of the most pertinent papers to this entire discussion is the perspective offered by Bhattacharya and Wright (2005) a decade ago. In this paper, the authors argue that if human capital is being treated as an asset, then similar to any other asset, it is critical to acknowledge the level of uncertainty around return on this asset. Their focus on uncertainty demonstrates a risk perspective on HRM, and they argued that the uncertainties lie in the four areas of returns, volume, combinations and costs. Further, it is argued that real options theory, originally developed in the area of investment strategy (for a full treatment, see Trigeorgis, 1995), and then applied in the area of strategic management (eg. Adner & Levinthal, 2004; Barnett, 2008; Gunther McGrath & Nerkar, 2004), offers a way to assess the uncertainty inherent in human resources. Lastly, in order to manage these uncertainties, a range of HRM practices are offered as ways to manage the risks identified.

This paper has subsequently been cited by at least 98 papers (according to a search of Google Scholar, December 2015), with those published in the HRM area focusing predominantly on strategic HRM issues, return on human assets and links to firm performance (for example, see Ketkar & Sett, 2009; Schmidt & Minssen, 2007), not necessarily addressing directly the link between risk management and HRM. So, a decade on from the publication of this work, there is limited evidence of widespread embracing of a risk perspective by the HRM field, instead subsequent authors are choosing to apply such perspective as an overall argument for the strategic contributions of HRM rather than the risks that may be presented by the human resources of an organization.

Finally, Farndale et al. (2010) also adopted a risk management perspective, albeit as an element of managing an intra-firm HR supply chain. The results of their case studies in seven large firms, put forward an argument for the use of risk management techniques, particularly in relation to the importance of measuring and monitoring, as a part of HR governance activities. They argue that an explicit emphasis needs to be given to risk management as an element of effective HR supply chains in organizations. They did provide a framework with the potential for further development, reporting on unpublished research relating to HR governance and risk management. As it was unpublished, the basis for this framework did not appear in our search but the authors have subsequently published further material in relation to their HR Governance and Risk Management Model (Boselie, Paauwe, & Farndale, 2013). In putting forward such framework integrating HRM and risk management, the paper advances the move to link the two fields and supports the benefits of doing so, albeit with the need for further validation.

This group of papers represents a move to explicitly address the issue of the relationship between HRM and risk management at the macro level. They demonstrate recognition of the potential organizational benefits of drawing together the two separate fields of HRM and risk management and offer some glimpses of the possibilities to enhance both literatures if the two were to be further aligned.

4.4. Theoretical approaches and frameworks of HRM and risk management

Much of the literature reviewed did not explicitly state the application of a theory to the research undertaken. This is not, in and of itself, cause for concern nor criticism; indeed as Hambrick (2007) argued, it is appropriate that in emerging fields, early investigations seek to understand “what” is happening (the facts) before attempting to explain the “why” (applying theory).

It is possible that like much of the strategic HRM literature, a resource-based view (RBV) may be valuable to pursue, viewing human resources as intellectual capital, that is the human, social and organizational capital (Swart, 2006); a critical resource upon which the firm builds competitive advantage. However Bhattacharya and Wright (2005) contend that RBV is not sufficient for this

purpose as it is most frequently focused on the value of human assets and the positive effects of HRM practices, rather than also considering the uncertainty associated with this asset.

Of note, the papers by Foote and Folta (2002) and Bhattacharya and Wright (2005), both argued that real options theory (discussed previously) provides a potential theoretical lens through which to view risk and HRM. Bhattacharya and Wright (2005) argue that a real options perspective provides a complementary view to RBV by identifying not only how past choices and investments in human resources can lead to competitive advantage, but how uncertainties associated with intellectual capital require assessment in order to determine the most appropriate options for future investment.

Also of note, two of the articles (both focusing on legal risk) called for an “organizationally sensible approach” to decision making (Pierce & Aguinis, 2009; Roehling & Wright, 2006). This approach was defined as “a broader, more strategic approach” (Roehling & Wright, 2006, p. 616) to making decisions rather than basing them on legal risk alone. Whilst taking an organizationally sensible approach seems to address the imperative of strategic HRM to assess a broad range of stakeholders and issues in decision-making, the term itself has had limited adoption and those papers that have adopted it can be traced back to its use by Roehling and Wright (2006). Nonetheless, its sentiment holds true to the issue of considering any uncertainty related to human resources as more than simply presenting a legal risk.

Beyond theoretical approaches, the review also sought to identify any frameworks or models being used in the area of HRM and risk management. A framework was offered by (Farndale et al., 2010), albeit with limited detail in relation to the development of the model, or explanation of the model. A more detailed explanation of the model (also termed a Kaleidoscope) was provided by the same authors in Boselie et al. (2013). This model argues that the link between HR governance and risk management falls on two axes: between strategic and tactical HRM policies and practices, and between an inwards and outwards focus. The resultant quadrants identify HR governance, compliance, climate governance and proactive risk management as salient to the relationship between HRM and risk management. Although this model represents a useful starting point for further investigation of the HRM and risk management nexus, it is clear there is some way to go to test the model and identify other potentially relevant factors in this emerging area.

4.5. Methodological approaches to HRM and risk management research

The review also analyzed the predominant methodological approaches to the topic of HRM and risk management. Eighteen of the articles were theoretical or conceptual in nature, demonstrating an interest in a broader discussion of human resource related risks, and an interest in exploring a range of theories and perspectives when considering this area. While some of the conceptual papers proposed theories, frameworks or tactics to better manage or prevent risks, the majority of papers focused on how the actions, behaviors and capabilities of HR professionals, leaders or managers either mitigated or introduced human resource related risks which in turn impacts on organizational performance, either positively or negatively.

Of those papers that did report empirical results, 40 applied quantitative methods, 16 applied qualitative methods and 7 adopted mixed methods. These differences in methods demonstrated application of differing research paradigms, both positivist and interpretivist (Glesne, 1999), providing for different approaches to the study of HRM and risk management.

Those employing quantitative methods drew on well-established constructs in the HRM field, usually related to specific HRM practices and/or outcomes. Of note, the large majority of health and safety focused papers were quantitative studies, reinforcing the well-established constructs and measures in this field. Being able to identify the extent to which particular practices impact dependent variables such as employee satisfaction, intention to leave or to stay, employee turnover, employee engagement, and firm performance offer empirical weight to the risk (or risk mitigation) properties of adopting particular HRM practices.

In contrast, those papers employing qualitative methods sought to explore more fully the issue of human resource related risk, and many were asking more in-depth questions than can be answered with quantitative approaches. Qualitative research designs provide an opportunity to obtain a depth of knowledge and understanding of the phenomena in question (Patton, 2014; Silverman, 2013), and to explore “how” questions (Pratt, 2009) particularly in a new focus area. In these qualitative papers, the methods employed were typically case studies and interviews; two of the most prevalent qualitative data collection methods (Jackson, Drummond, & Camara, 2007).

5. A synthesis and future research directions

The articles in this systematic review represent a broad range of themes that combine to present potential risk areas relating to human resources. They also identify some potential ways forward in forging the two areas of risk management and HRM. Some of the articles identified particular risks that have “human factors” associated with them, and then investigated the contributors to these risks. Others approached this issue from a HRM practice standpoint, arguing (and in some cases demonstrating empirically) that these practices may serve to mitigate human resource related risks. The following section provides first a summary of the findings of this review, followed by analysis of the implications and future directions for the research in this area.

5.1. Review summary

Drawing together what currently exists that may relate to the connections between HRM and risk management is a critical first step of exploration of emerging areas such as this. The review identified articles addressing both human resource related risks and

the particular characteristics or interventions that may serve to remove or reduce such risks. Table 3 provides a summary of the links identified between these two different focus areas in the review, as well as any established risk measures.

This table illustrates the use of specific HRM practices to address particular risks, and in many cases, a single practice may address more than one risk to the organization. For example, training was seen to address a range of risks including the development of innovation capacity, the reduction of turnover and formed an important element of health and safety interventions. Many risks were linked to specific HRM practices, however it is noteworthy that approaches to management generally (sometimes referred to as leadership or management style) was considered a contributing factor to many of the risks discussed. Whilst not unexpected, it will be critical to further operationalize such broad themes into specific constructs for individual studies in this area. These constructs are more than likely to be found in articles not included within the group of articles reviewed.

Table 3 also highlights that some of the risk measures are well established whilst others may not have the same level of sophistication or development. It is certainly accepted in the risk management literature that risk measures may take qualitative or quantitative forms (Baker et al., 1999), and this table highlights some potential measures to be applied to risk management when considering the human resources of the organization. Where particular risks are determined to be of relevance and importance to an organization, it is critical that measures are developed and agreed to form a part of the risk management process.

5.2. Applying risk management to human resources

Returning to the definition of risk and the two elements of consequence and uncertainty (Aven, 2010), this review demonstrates that human resources can present risk to an organization. These human resources open the organization to the potential for consequences that can involve either positive or negative exposure, and a level of uncertainty around this exposure. For example, levels of labor turnover can impact either positively or negatively upon an organization's knowledge resources (representing exposure), and there is a level of uncertainty regarding future turnover rates. For an organization that identifies labor turnover as a risk, measuring the current labor turnover rate and its impact, along with assessing the likelihood that the current rate will rise or fall will form an important part of a risk management process.

There are a range of models of risk management however they typically involve a series of steps in an ongoing cycle. Baker, Ponniah, and Smith (1998) for example identify the steps as: risk analysis (i.e. risk identification and estimation), risk evaluation, risk response (reduction, transfer, retention or elimination) and risk monitoring. This review has provided more specific indication of potential risks relating to human resources and these should inform the first step in risk management, that of risk analysis, and in particular risk identification.

Table 3
Synthesis of findings.

Risks	Measures relating to human resource factors	Related organizational/HRM practices or issues
Health & wellbeing	Well established e.g. injury and illness rates, fatalities, safety climate or safety culture, burnout, stress	WHS management systems Training Change management
Productivity	Varied depending on organization strategy and KPIs	Change management Management practices/approaches
Financial	Well established albeit broad in nature e.g. financial returns, ROI, profit/loss	Staffing such as contingent labor, outsourcing, offshoring Change management Management practices/approaches
Labor turnover	Well established e.g. intention to leave, turnover rate, organizational commitment	Job design (job characteristics) Management practices/approaches Training Incentives, compensation and benefits Working conditions
Attendance rates/patterns	Generally limited to absenteeism rate. Presenteeism and other attendance issues not often objectively assessed.	Compensation Staffing (e.g. temporary employment) Management practices/approaches
Reputation	Difficult to measure, however proxy measures could include share price, stakeholder and customer perceptions	Performance management Communication systems Building a culture of ethical behavior Rewards and compensation Management practices/approaches
Legal	Quantum and cost of legal proceedings	Compliance with all human resource related legislation Fair and consistent HRM policies and procedures (e.g. selection processes and tools)
Innovation	Outcomes such as patents, new products to market Inputs such as innovative work behaviors	Training Performance management and compensation Management practices/approaches

5.3. Discipline implications

Whilst we have discussed HRM and risk management concurrently in this review, and argued for their alignment, there are some clear messages for each of these separate disciplines. In the risk management area, there is growing recognition of the human resource related risks to organizational performance however these are often a minor element of a broad group such as “non-financial risk” (Lopes & Flavell, 1998, p. 223) or “operational risk” (Dionne, 2013, p. 155). The first step in most risk management cycles is risk analysis or identification, and it is at this stage the themes presented in this review can serve to guide a more nuanced discussion of the critical human resource related risks for a particular organization. The challenge for those in the risk management field is to continue to refine categories of risk (including those relating to human resources) to ensure a comprehensive identification prior to risk evaluation, response and monitoring.

For those in the HRM discipline, whilst much of the research around HRM practices may implicitly address issues of organizational risk, these are often not referred to as risks, and therefore may not have been captured in this review. It may be tempting to suggest that as long as HRM is engaging with empirical analysis of those issues presenting risk to an organization, the exact terminology used is unimportant. However, it is often argued that HR does not speak the language of business (Hammonds, 2005), yet is considered to have significant strategic contributions to make to an organization (Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009). When there is a wealth of evidence of potential impact of HRM, we argue that not using risk management terminology is a missed opportunity for HRM as a discipline to engage in a broader management discussion to which they can make a unique contribution.

5.4. Development of human resource risk as a phenomenon

The review and analysis of the current literature relating to HRM and risk management, shows that there is some development required to fully understand the key relationships and synergies between these two areas, and to develop robust models for their combination. von Krogh, Rossi-Lamastra, and Haefliger (2012) argue that phenomenon-based research develops through an embryonic phase, to a growth phase and then to a mature phase. This review, showing evidence of limited coverage of the links between HRM and risk management, demonstrates a phenomenon in the embryonic stage of its development. This stage offers great opportunities to make advances in knowledge but also suffers a lack of coordination and acceptance until there is a larger body of researchers willing to focus in this area (von Krogh et al., 2012).

Within each phase of the development of phenomenon-based research, von Krogh et al. (2012) also identify five research strategies that are used; distinguish, explore, design, theorize and synthesize. These strategies do not necessarily occur in sequence but iteratively as the phenomenon develops, and each has the potential to make differing contributions to the research within a specific area. It is premature to consider synthesis at the embryonic phase of development (von Krogh et al., 2012), however the other four strategies offer directions for future research into HRM and risk management. These directions are summarized in Table 4 and discussed in further detail thereafter.

The *distinguishing* strategy involves identifying the critical features of a phenomenon and delineating it from other related issues (von Krogh et al., 2012). This review identified eight key human resource related risks however this is not necessarily an exhaustive list. It may be that other risks exist, and future research should consider ways to refine and/or expand this list. In the risk management literature there is some recognition of risks related to the human factors in an organization but moving to the acknowledgement of “human resource risks” as an element in its own right is not yet evident. In the HRM literature, acknowledging and discussing “human resource risk management” as a specific term may encourage a risk perspective on HRM activities. However, even without a specific term, encouraging a focus on the risks as well as the opportunities presented by the human resources of a firm is an important step.

The *exploration* strategy draws in a breadth of researchers to investigate a given phenomenon in detail. This is likely to include a range of disciplines and of methodological approaches to the focus area (von Krogh et al., 2012). In the case of human resource risk, it would be anticipated that HRM researchers are involved, but those in risk management, finance, operations and other related disciplines will also add a multidisciplinary perspective and provide alternate frameworks and perspectives. Exploration

Table 4

Directions for development of HRM and risk management as a phenomenon.

Research strategy	Goals/objectives	Potential focus areas
Distinguishing	Identify the key features of the phenomenon Isolate from related topics and issues	Identify the key human resource risks Identify where human resource risks link to existing risk management frameworks
Exploring	Apply a range of investigations to further explore the topic Include a range of disciplines and methodologies Develop measures	Apply frameworks from different disciplines to investigation of human resource related risks Explore a variety of data to further understand human resource related risks and their manifestation Further develop existing frameworks and models to apply to human resource related risk
Designing	Applying measures previously developed to better advance the phenomenon	Use of measures and constructs previously developed in the exploring stage Investigating HRM related risks at a macro or systemic level.
Theorizing	Theorizing about the topic through existing, revised or new theory	Testing the relevance of theories from other disciplines (e.g. high reliability theory, normal accident theory, portfolio theory) or those currently used in HRM (e.g. RBV, KBV) Exploring new or revised theories to explain and understand human resource risks.

often sees new frameworks and constructs emerge to assist in further directing research. The only model identified in our review that combined risk management and HRM as an integrative framework was offered by [Farnsdale et al. \(2010\)](#) and it is one possible starting point for future research. However, even this model has limited explanation as to the basis for its development and some of the assumptions inherent in its design require further testing. It is also intended as a governance framework and therefore is not necessarily able to contribute to a more specific identification of the full range of human resource related risks but will assist to inform the management and mitigation of such risks. The need for robust frameworks and models to use for human resource risk management is arguably the most critical need to enable this area to move forward.

The *design strategy* ([von Krogh et al., 2012](#)) should involve a range of specific research designs being applied to a phenomenon. Our review shows that at the level of individual HRM practices, identification of human resource risks continues to be a focus and this will provide a basis for acknowledging these risks alongside the more commonly recognized risks relating to finance, operations, and markets. The dependent variables in these studies would be expected to represent either positive outcomes (e.g. employee satisfaction, employee morale, employee engagement, intention to stay), or negative outcomes (e.g. intention to leave, attrition rates, burnout, stress levels, labor turnover). However, as [Table 3](#) highlighted, not all areas of human resource related risk have well developed measures and this development will be critical. Such variables provide objective measures upon which to focus when considering HRM from a risk perspective and these types of studies of individual practices (or sets of practices) will continue to offer tangible evidence for those advocating the management of human resource risk.

It is important to involve a variety of disciplines in this stage to ensure a full consideration of the phenomenon. Of particular interest in this review, three papers (notably two from field of engineering management and one from information technology) provided specific ways in which models or tools can be developed to assess risks that human resources pose. [Liu and Yokoyama \(2015\)](#) demonstrated a method of analyzing the skills-related risks in project teams including quantitative methods of assessing and mapping these risks. In a similar vein [Componation and Byrd \(2000\)](#) used clustering analysis to assist in the structuring of multidisciplinary teams to ensure appropriate skills. Finally [Wang et al. \(2011\)](#) developed a decision support system to analyze the risk of labor turnover. These papers highlight the contribution to be made by other related disciplines, particularly as HRM suffers from a lack of measures in some areas.

The *theorizing strategy* involves the development of theories for testing the phenomenon in question, or the application of existing theories ([von Krogh et al., 2012](#)). Again, this review reveals no single theory informing the HRM and risk management phenomenon, but this should not necessarily be of concern. The review did highlight the application of at least two theories being considered in this realm; real options theory and resource-based view (RBV), albeit these have not been extensively applied to this phenomenon. We would suggest that a more appropriate alternative to RBV is the knowledge based view (KBV) that suggests that the ability to effectively generate and apply knowledge will provide the organization with unique resources for competitive advantage ([Acedo, Barroso, & Galan, 2006](#); [Grant, 1996](#)). A KBV perspective may assist to focus on the potential positive and negative implications of access (or lack of access) to knowledge critical for the firm's operation.

In the mainstream risk management literature, theories such as high reliability theory and normal accident theory ([Rijpma, 1997](#); [Weick, 2004](#)) are widely applied, and in the finance and investment field when considering risk, modern portfolio theory is often applied ([Beyhaghi & Hawley, 2013](#)). However, how these theories may be applied specifically to human resource related risk and whether such theories provide a sound basis for understanding human resource risk management remains to be seen. It is important however that theoretical integration does occur in order to advance the human resource risk agenda.

6. Conclusion

A focus on HRM and risk management has received limited focus across the management journals included in this review. Those who have engaged in this conversation have argued for and demonstrated the benefits that such focus can deliver. Given the limited uptake of a risk management perspective on HRM, it might be suggested that it has not proven to be a useful lens through which to view this phenomenon or perhaps is being implicitly applied without the use of risk management nomenclature. However, risk management as a discipline has acknowledged the importance of recognizing human resource risks, with [Nickson \(2001\)](#) arguing over a decade ago for the merging of these two fields; "Risk management is about mitigating risk and protecting resources. What is the most valuable resource of any company? Its people" ([Nickson, 2001](#), p. 25).

HRM professionals and researchers alike often talk about risks and benefits of particular HRM practices or bundles of practices, however the main focus remains on selling the value-adding capability of such practices (ie emphasizing the benefits rather than the risks). In addition, rarely does HRM engage with the discussion of risk management or how appropriate ways of employing, managing and developing the workforce will not only result in enhanced organizational outcomes but also mitigate operational risks. [Bhattacharya and Wright \(2005\)](#), p. 932 argue that "any investing in human assets, from the decision to acquire (employ), develop, motivate or retain employees, carries with it uncertainty regarding the future return". Ultimately organizations need the expertise of the HRM discipline to identify these risks and uncertainties and to offer ways to effectively manage its human assets, and reduce risks these critical resources may present.

This comprehensive review of literature demonstrates a need for development and testing of more comprehensive human resource risk management frameworks. It is clear that there is opportunity for HRM to be considered through a risk management lens and to enhance risk management frameworks through a more comprehensive understanding of the potential human resource risks in organizations. The challenge for HRM scholars and practitioners is to balance the need to demonstrate value and returns, with the need to highlight the risks that the human resources of an organization represent.

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