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Setting the stage for innovation: towards a conceptual model of the HR-innovation link

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Abstract: The article shows that human resource management (HRM) and human resource development (HRD) activities play a potentially important role in facilitating innovation in organisations. Based on previous research, a conceptual model is presented that displays how an organisation's human resource (HR) function can facilitate innovation by securing and developing the HR supply chain to ensure the healthy and continuous flow of personnel and competence into, within, and out of the organisation (i.e., by securing the appropriate competences for the job and the organisation, by developing and retaining existing competences, and by transferring competences from employees who are leaving to those who remain in the organisation). This article argues that HR practitioners can set the stage for innovations by actively and strategically implementing HR activities that support the creation of an expansive learning environment in which both adaptive and developmental learning can occur.

Keywords: human resource management; HRM; human resource development; HRD; HR supply chain; innovation; workplace learning; adaptive learning; developmental learning; exploration; exploitation; learning environment.

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1 Introduction

Today, few people would disagree that an organisation's innovative capacity is critical for elevating its business performance and maintaining its competitive advantage in an environment characterised by global competition, changing customer demands, and rapid technological changes (Anderson et al., 2014; Altmann et al., 2011; Jiménez-Jiménez and Sanz-Valle, 2008; Quesada-Pallarès et al., 2015). Innovations typically occur spontaneously and naturally, but there is also reason to believe that an organisation can create an environment that facilitates and encourages innovation and creativity. In this vein, previous research indicates that certain factors, such as leadership (Hunter and Cushman, 2011; Mumford and Gibson, 2011), production philosophy (Liker, 2004), team-based work organisation (West et al., 2004), organisational culture (Lau and Ngo, 2004; McLean, 2005), gender equality (Danilda and Granat Thorslund, 2011; Fogelberg Eriksson, 2014), absorptive capacity (Chang et al., 2013) and developmental/exploratory learning (Ellström, 2011), can have important effects on innovation.

Recently, an increasing amount of attention has been directed towards the potential significance of human resource management (HRM) and human resource development (HRD) as part of efforts to strengthen an organisation's innovative capacity (Chang et al., 2013; de Leede and Looise, 2005; Florén et al., 2014; Shipton et al., 2006; van der Sluis, 2007). This development is aligned with the paradigm shift through which human resource (HR) practitioners are beginning to be considered 'change makers' instead of 'handmaidens' (cf. Storey, 1992). In mainstream HR literature, this shift has generated recommendations: the HR function should create 'value' for organisational stakeholders and become more integrated into business strategies and goals (Ulrich and Brockbank, 2005; Ulrich et al., 2009). This notion is associated with strategic HRD (Garavan, 2007) and strategic HRM (Boxall and Purcell, 2011) concepts and has served – and continues to serve – as the basis for studies of the so-called HRM-performance link (Boselie et al., 2005).

Previous studies have contributed to an extensive understanding of the positive relationship between HR activities and firm performance (Alagaraja, 2013; Jiang et al., 2012), and the link between innovation and HR activities has been addressed both conceptually and empirically (e.g., Ceylan, 2013; Chang et al., 2013; Beugelsdijk, 2008; Jiang et al., 2012; Jiménez-Jiménez and Sanz-Valle, 2005, 2008; Lau and Ngo, 2004; Laursen, 2002) – albeit not to the same extent. However, previous research has been criticised for being fragmented and focusing too intently on HR activities in isolation, and studies that consider HR as a system are still relatively rare in the literature (Altmann et al., 2011; Lau and Ngo, 2004; Laursen and Foss, 2003). Furthermore, most studies on the HR-innovation link are based on large quantitative datasets (e.g., Jiménez-Jiménez and Sanz-Valle, 2005, 2008; Laursen and Foss, 2003; Li et al., 2006; Shipton et al., 2005, 2006), but this approach may be problematic due to the qualitative and complex nature of

HR and innovation processes (cf. Fleetwood and Hesketh, 2006, 2008; Hesketh and Fleetwood, 2006).

Given this background, we argue that the link between HR practices and innovation in organisations should be examined using a systems-oriented approach, which may encourage further discussion of the complexity of the processes involved. Furthermore, we argue that we can deepen our understanding of both innovation in organisations and the ways in which HR activities set the stage for organisational development and innovation by drawing on theories from the field of workplace learning. Therefore, this article aims to present a conceptual system model that links HR activities to innovations in organisations. The following research questions will be addressed:

- What HR activities can be used to facilitate innovation?
- What characterises the links between different HR activities in the HR system?

The article is organised as follows: first, the concepts of organisational innovation and learning are discussed. Next, a conceptual model of an organisation's HR supply chain is introduced and discussed in light of the findings of previous studies. The article concludes with remarks about its contributions and potential implications.

2 Innovation and learning in organisations

Today, politicians and researchers argue that innovation and the ability to create favourable conditions for innovation are critical issues in a knowledge-based economy and that innovation constantly drives and renews the economy (Arundel et al., 2007; Lundvall, 2010). This argument underscores the importance of supporting and increasing innovation capacity, not only in companies but also in municipalities, regions, nations, and the European Union (Asheim et al., 2006; European Commission, 2011).

However, opinions about which factors and conditions are important for innovation have changed over time. An illustrative example of this shift concerns governmental innovation policies (Gidlund and Frankelius, 2003; Lengrand, 2002). The first generation of governmental innovation policies primarily focused on the technology sector and employed a linear diffusion perspective (invention, innovation, and diffusion). Such policies aimed to support research and development (R&D) in large companies and government-funded research laboratories, in which new technologies and innovations were being developed by highly qualified personnel and were subsequently commercialised and diffused. In the 1990s, such policies were replaced with policies informed by a second-generation perspective on innovation: a systems-oriented approach. Policies under this approach may be best described as facilitating a closer collaboration between government, industry, and universities within a 'triple helix' framework (cf. Etzkowitz and Leydesdorff, 1997). Third-generation innovation policies are based on a broader and more open perspective that does not focus primarily on research and knowledge-intensive businesses ('high-tech' and 'high-skill' businesses); instead, such policies include other important actors in the knowledge economy. Third-generation policies are particularly interesting because they facilitate more of a bottom-up approach to innovation and ascribe importance to different actors and groups within organisations, such as first-line managers and employees (Evans and Waite, 2010; Høyrup, 2010; Mumford and Gibson, 2011), trade unions (Rocha, 2010), and HR practitioners (Laursen

and Foss, 2003), as well as actors outside such organisations, such as users (Flowers and Henwood, 2010) and customers (Ulwick, 2002).

The understanding of what constitutes innovation has developed from a highly specific and technical focus that has emphasised novelty and magnitude (e.g., radical innovation) to a more open and wider understanding; such an approach is characterised by a lower ‘innovation ceiling’ and considers something an innovation if it is perceived to be new in the context in which it is developed, even though its originality may be limited in a wider context (Edqvist et al., 2001; Ellström, 2010).

This wider understanding of innovation includes gradual (incremental) innovations and innovations related to products, services, and processes, such as organisational innovations (Edqvist et al., 2001). In this article, a broad definition of innovation is employed, in which innovations are not limited to new products, formal R&D projects, and research-based knowledge; in fact, innovation also occurs in daily work (Archibugi and Lundvall, 2001; Ellström, 2010). Given this definition, the workplace can be understood as a local innovation system in which managers and employees can be involved in production renewal, such as the development of new methods and processes (Berg Jensen et al., 2007).

Furthermore, we consider innovation processes to share several similarities with learning processes (e.g., innovation and learning are frequently viewed as both processes and outcomes); thus, the conditions that enable or constrain innovation and learning may share certain characteristics (Ellström, 2010; Evans and Waite, 2010). This continuity is particularly evident in theories of organisational learning; for example, March (1991) defines explorative learning in terms of innovation. Moreover, both organisational learning and innovation depend upon and are affected by several factors and conditions at the individual, group, and organisational levels (Crossan and Apaydin, 2010; Crossan et al., 1999). Thus, research and theorisation with respect to learning can be used to gain insight into the innovation phenomenon (Ellström, 2010). In this article, innovation is understood as a learning process that results in the creation of something new that can be enabled or constrained via various conditions within organisations that result from the work of organisational actors – who are represented by HR practitioners in this case. This view resembles the concept of learning environments in the workplace (Evans et al., 2006; Fuller and Unwin, 2004), in which conditions are perceived to be likely to either enable or constrain learning at the individual, group, and organisational levels. Examples of enabling factors include feedback provisions, evaluation and critical reflection, participation in problem-solving activities, and openness to alternative views and new interpretations. When these factors prevail in an environment, such an environment is considered an enabling learning environment. When these conditions are non-existent or underdeveloped in an environment, such an environment is considered a constraining learning environment (Wallo et al., 2012).

Thus, innovation will be encouraged to a greater or lesser extent, depending on whether an organisation promotes exploratory or exploitative learning (March, 1991), whether it has an expansive or restricted learning climate (Fuller and Unwin, 2004), or whether there are processes in place that promote organisational learning (Crossan et al., 1999; Shipton et al., 2005). If the appropriate conditions are in place, then an innovation process is more likely to begin (Shipton et al., 2006).

3 The HR supply chain

In the introduction to this article, a number of important developments in HR research and practice are highlighted, such as a greater interest in strategic HRM and HRD (Boxall and Purcell, 2011; Garavan, 2007), demands for a tighter fit between HR and organisations' strategies and goals (Ulrich et al., 2009), and a growing focus on change and development activities in organisations (Ellström and Kock, 2008; Jeung et al., 2011) – particularly with respect to HR activities that may foster different types of innovation (Beugelsdijk, 2008; Jiang et al., 2012; Shipton et al., 2005). Furthermore, it has been argued that research should assume a more holistic and integrative approach to both HRM and HRD concepts– and to specific HR activities – instead of considering them isolated practices (Laursen, 2002; Laursen and Foss, 2003; Ruona and Gibson, 2004).

The developments discussed above highlight the growing need to secure the flow of the right competences through organisations to create an environment in which learning and innovation can flourish. This flow of competences may resemble an organisation's 'supply chain management' (cf. Ellram, 1991); however, instead of securing suppliers, materials, quality, and sourcing, the HR supply chain includes processes that concern the management and development of an organisation's HRs. Figure 1 illustrates the HR supply chain in a model that consists of three phases: IN, WITHIN, and OUT (cf. Beer et al., 1984; Nilsson et al., 2011; Pinnington and Edwards, 2000).

Figure 1 The HR supply chain

Source: Based on Beer et al. (1984), Kock (2007), Nilsson et al. (2011), Pinnington and Edwards (2000) and Werner et al. (2012)

The first phase in the HR supply chain (IN) concerns attracting potential employees to an organisation and subsequently selecting those who are best suited for available positions. The broad aim is to build a strong employer brand (Cascio, 2014), to create strategies and routines for recruitment and selection (Phillips and Gully, 2015), and to introduce and induct new employees into the organisation (Allen, 2006; Armstrong, 2012).

When the ‘right’ person for a job or an organisation has been selected, the second phase (WITHIN) is initiated, which involves activities related to organisational socialisation, development, evaluation, reward, and retention. This phase typically involves programmes designed to continue the socialisation process (Ashforth et al., 2007) initiated in the IN phase and various forms of HRD activities, such as competence development and learning initiatives (Ellström and Kock, 2008). The WITHIN phase also includes activities related to performance management (London and Mone, 2009), career and talent management (Collings, 2014), and reward systems and benefits (Gerhart, 2009). In the middle of the WITHIN phase is the actual work performed by employees, which also provides opportunities for development and learning (Ellström, 2011). In the HR supply model, the activities in this phase are depicted as sequential; however, in actual working life, these activities may occur simultaneously or in a different order.

The third phase (OUT) consists of actions that are undertaken to ensure that employees’ knowledge and competences do not ‘walk out the door’ when they leave the organisation for various reasons (e.g., retirement, redundancy, termination, outplacement, or new job opportunities). This phase may include knowledge transfer and knowledge management activities that are intended to institutionalise key competences that reside in the individual who is leaving (Abel, 2008; Hewitt, 2008; Laff, 2008).

The model is based on the view that organisations are open systems consisting of complex relations between mechanisms that are not easily isolated from one another (Danermark et al., 2002; von Bertalanffy, 1950). These parts of the system are, in turn, dependent on and interact with the internal and external environments – factors within and outside the organisation at the local, national, and/or multinational levels – that affect the organisation in different ways. Internal factors include business goals and strategies, policies, technologies, work organisation and organisational culture. External factors include the global economy, the political landscape, unions, national culture, and labour laws (Kock, 2007; Werner et al., 2012). A source of inspiration for this model is the so-called Harvard model of HRM (Beer et al., 1984), in which the HR flow is part of a larger HR system that show input – employees with different competences – interacts with contextual factors and stakeholders and is transformed into output that benefits both individual employees and the organisation. The HR supply chain model presented above is oriented towards HR activities that involve competence and learning issues and does not cover all the HR activities performed in organisations. Therefore, the HR supply chain is part of a larger all-encompassing HR system, but it can also be understood as a system on its own merits, in which the three phases – IN, WITHIN and OUT – depend on one another and have the potential to create synergies when linked together.

4 The link between HR activities, innovation and learning

In this section, activities in the HR supply chain model and their relevance to innovation are discussed. Previous studies are used to illustrate HR activities in the three phases– IN, WITHIN, and OUT – and to discuss how they fit together as a system.

4.1 The IN phase

4.1.1 Employer branding

Beginning with the question of how to attract employees with innovative potential, important input is drawn from studies on employer branding, both external and internal (Backhaus and Tikoo, 2004; Biswas and Suar, 2014; Cascio, 2014; Martin et al., 2011). In an age in which the loyalty contract between employees and employers is looser than ever, organisations are increasingly pressured to attract and retain talent by offering challenging work tasks and learning opportunities (Lawler, 2005). An employer brand that signals openness to new ideas and shows interest in people who think outside the box may thus be critical to attracting those who possess the 'right' competences (cf. Steiber and Alänge, 2013).

For HR, employer branding means working on the strategic and operative levels. Strategically, establishing policies and guidelines for how the organisation's brand should be designed and where and when it should be visible is important. Operatively, HR needs to go where the talent is, e.g., to exhibits and labour market days at universities. HR can also prepare material to market the organisation as an employer. Because employer branding is closely related to an organisation's corporate image, cross-functional cooperation (i.e., between the HR and marketing functions in an organisation) may then be required (cf. Martin, 2009).

4.1.2 Recruitment and selection

Concerning the IN phase, previous studies also highlight the importance of recruitment and selection in improving an organisation's innovative capacity (Arad et al., 1997; de Leede and Looise, 2005; Jiménez-Jiménez and Sanz-Valle, 2008; McEntire and Greene-Shorridge, 2011). Thus, HR practitioners need to be skilled at selecting and recruiting individuals who are interested in and capable of working with development and innovations, which requires strategies that govern the operative work of recruiting and selecting creative employees. In addition, if we specifically look at HR activities, innovation and creativity should be reflected in the selection criteria and advertising for the position. With respect to the selection process, reviewing an applicant's previous work samples may reveal a record of creativity and innovation. In an interview, specific questions can be designed to measure the candidate's creativity and ability to learn new things. Similarly, psychometric tests might also be employed to capture creative behaviour.

4.1.3 Newcomer introduction and socialisation

Once a new employee has been recruited, a process of introduction into the organisation begins, which is important both for the individual's future development and for employee turnover avoidance (Allen, 2006; Armstrong, 2012). An extensive and sophisticated introduction is predictive of product innovation and organisational innovation (Shipton et al., 2006). However, studies also indicate that a positive connection exists between individual socialisation tactics and new employees' role innovation (Ashforth et al., 2007; van Maanen and Schein, 1979).

The introduction of a new employee often involves some type of socialisation programme that aims to integrate the individual into the organisation (Allen, 2006) and to ensure a person-organisation (P-O) fit (Kim et al., 2005). Other labels for such programmes are induction programmes, orientation programmes or on boarding (Antonacopoulou and Güttel, 2010; Korte and Lin, 2013). HR is frequently involved in designing such programmes and policies for introduction, which are important for coordinating and evaluating activities that introduce new employees to an organisation. HR may also be operatively involved, but managers or co-workers are typically responsible for the actual introduction process. From an innovation perspective, how the newcomer's previous experiences and competences are handled and valued is important during this process. In some organisations, the introduction seeks to 'break in' the new employee (Ards et al., 2001) and to align him or her with the organisation as quickly as possible. This type of introduction can be connected with a so-called bureaucratic or control-based HRM strategy (Antonacopoulou and Güttel, 2010). The question then becomes, what happens to creative individuals, who might be eager to contribute with unconventional ideas, when they are expected to conform to traditional ways of thinking? In such cases, the newcomers' spirits may be dampened, and all focus will be on exploitative/adaptive learning, instead of on the possibilities for exploratory/developmental learning (Nilsson et al., 2011). The opposite type of introduction, connected with a commitment-based HRM strategy that is characterised by self-organisation and social learning, may instead enhance a new employee's innovative potential (Antonacopoulou and Güttel, 2010). Consistent with this line of thinking, van Maanen and Schein (1979) argue that the socialisation process should minimise the influence of those who teach the old ways of doing things; instead, this process should employ a broad range of role models and create situations in which newcomers can carve out idiosyncratically defined roles rather than inheriting their roles from their predecessors.

4.2 *The WITHIN phase*

4.2.1 *Development and training*

The link between development and training initiatives and innovation has been acknowledged in previous research (Aagaard and Andersen, 2014; Beugelsdijk, 2008; Jiménez-Jiménez and Sanz-Valle, 2008; Quesada-Pallarès et al., 2015). Particularly common are studies of formal competence development and training interventions, such as education, courses, and programmes (e.g., Shipton et al., 2006; Williams and Foti, 2011). Formal training can enhance the task-related knowledge and skills that are critical to developing new products. However, studies also suggest that the development of generic skills, such as communication skills and team skills, may be positively related to innovation (Lau and Ngo, 2004). Similarly, Schuler and Jackson (1987) argue that firms that pursue an innovation strategy are likely to allow employees to develop skills that can be used in different positions within the organisation. Other studies indicate that formal education that specifically targets innovation, such as conceptual training and autonomy training (Walsworth and Verma, 2007), is valuable. HR's role in relation to formal competence development may vary. HR may take on an operational focus in terms of conducting education; however, HR should ensure the quality of the entire development process on a strategic level to avoid development and training that does not benefit the

organisation. Therefore, development and training initiatives must be preceded by thorough needs analyses at different levels (Armstrong, 2012; Mankin, 2009; Roberts, 2006). An assessment of training and development needs may include organisational needs, job needs, personal needs, and demographic needs (Werner et al., 2012). For HR, the aim of such needs analyses could, for instance, be to identify potentials for innovation that may be developed by formal training and learning.

4.2.2 Career management

After an employee has received competence development, what happens next? Sending employees to courses without utilising their newly acquired knowledge would seem to be a waste of money, at least from an organisational perspective (Hutchins et al., 2010). Therefore, an important part of the development segment of the HR supply chain ensures that employees have opportunities to take on new responsibilities within the organisation (Wallo, 2008). According to Schuler and Jackson (1987), broad career paths reinforce the development of a broad range of skills. In this respect, the concepts of career management and talent management have recently become popular (Iles et al., 2010). In many organisations, HR commonly establishes career paths for ambitious or talented employees. However, a career move need not always be vertical. When a skilled employee ends up in a management position, the employee's valuable skills often may not benefit the organisation to their full potential. HR may thus consider non-vertical career paths to be alternatives.

4.2.3 Evaluation and performance appraisal

For HR and management to know how to support employees' development and career progress, an evaluation is required. Such evaluation entails some type of performance management system or performance appraisals (de Leede and Looise, 2005; London and Mone, 2009; Walsh and Fisher, 2005) that not only monitor task fulfilment but are also oriented towards development and innovation issues. Previous studies indicate that a link exists between performance management and organisational innovation, although this point has scarcely been addressed in prior research (Shipton et al., 2006). Findings suggest that this link is important, together with a systematic evaluation of employee performance that reflects long-term progress and includes group-based achievements (Jiménez-Jiménez and Sanz-Valle, 2008; Schuler and Jackson, 1987).

4.2.4 Rewards and benefits

An HR activity related to employee development and innovation in organisations concerns how employees are rewarded for innovative efforts in terms of monetary and non-monetary compensations and benefits (Arad et al., 1997). Studies suggest that attractive compensation packages and variable rewards are positively linked to innovation because they create incentives for innovative behaviour and thereby support innovative performance (Jiménez-Jiménez and Sanz-Valle, 2008; Lau and Ngo, 2004). However, research also that suggests the opposite, i.e., that variable pay contributes little to innovation in the workplace (Walsworth and Verma, 2007) and that the relationship between performance-based pay systems and innovation is complex (Beugelsdijk, 2008; Shipton et al., 2005). Performance-based pay may stimulate creativity and initiatives for

innovations, but individual incentives may also decrease employees' willingness to help solve problems with which they are not directly involved (Lau and Ngo, 2004).

4.2.5 Retention

From the perspective of innovation, many organisations fear that if they fail to retain talented employees, they will ultimately be left with a less qualified workforce (Hausknecht et al., 2009). Different types of compensatory monetary rewards, such as pay, bonuses and benefits, are typically used to keep competent and creative employees in the organisation, and such rewards tend to be positively linked with retention over a shorter timeline (Cappelli, 2000). Thus, HR needs to implement retention systems that also address social and internal motivation factors, such as work climate and opportunities for development and personal growth (Schein, 1988).

4.2.6 Work

The last part of the WITHIN phase in the model addresses organisations' actual work practices, and, more precisely, the ways in which the work is organised and led, the conditions under which the work is undertaken, and the type of informal learning processes that occur in relation to work tasks. According to Brown and Duguid (1991), working, learning, and innovating are interrelated and complementary forms of human activity. Beginning with how the work is organised, studies indicate that a relationship exists between job design and innovation. A design that encourages autonomy and empowerment affects the motivation for creativity and tends to generate more innovation (Beugelsdijk, 2008; Jiang et al., 2012). In addition, studies highlight the importance of teamwork and communities of practice for innovations (Brown and Duguid, 1991) because these practices are positively related to knowledge sharing, which, in turn, is related to innovation.

Regarding how the work is led, many studies highlight the importance of leadership in facilitating innovation and developmental learning in organisations (Ligon et al., 2011; Wallo, 2008; Wallo et al., 2013). For instance, Jung et al. (2003) argue that transformational leadership encourages employees to think creatively. Moreover, according to March (1991), managers' awareness of the importance of fostering creativity and learning is crucial for organisations, particularly during periods of high external pressures.

Regarding its involvement in the organisation and management of work processes, HR is generally more oriented towards indirect activities, such as developing policies and guidelines for managers that facilitate learning and innovations on a more operative level. Therefore, HR's role is to focus on creating organisational and cultural conditions that enable learning, i.e., an enabling learning environment (Evans et al., 2006; Fuller and Unwin, 2004).

4.3 The OUT phase

In most organisations, employees' mobility is more or less constant. Their reasons for leaving vary, and their decisions can be voluntary or involuntary, spontaneous or planned; they may depend on external or internal factors. Examples of mobility include retirement, lay-offs, terminations, career changes, temporary work contracts, and

health-related withdrawals (Nilsson et al., 2011). Typically, turnover is understood to be negative (Field, 2003; Ray and Snyder, 2006), but some researchers argue that we must also look for its positive effects on organisational performance (Meier and Hicklin, 2008). From an innovation perspective, a positive take on turnover might be to view vacancies as opportunities to hire new creative employees. Work group dynamics might also change when someone leaves, thus opening up possibilities for new ways of thinking and working (cf. Abelson and Baysinger, 1984). From a more negative view, some aspects of employee turnover are connected to innovation. When employees leave, there is a great risk of losing their expertise and skills because many organisations have neither the time nor resources to train remaining employees to the same level of competence (Hewitt, 2008). In addition, tacit knowledge might be lost forever when its possessor leaves the organisation (Beazley et al., 2003; Laff, 2008).

In relation to the HR supply chain, studies of the link between HR activities in the OUT phase and innovations are of particular interest. However, this area has been greatly overlooked in the previous literature. Many studies focus on HR activities, but few attempt to link these activities with innovation. Nonetheless, we will examine certain HR activities that may be tentatively linked with innovation. First, particular activities can be utilised when an employee's upcoming mobility is known beforehand. In such an instance, HR needs to have a strategy for succession planning (Sambrook, 2005) that prompts HR practitioners and managers to monitor upcoming changes to the workforce. If the organisation does not want the upcoming turnover, the retention activities covered in the previous section may be used to prevent the employee from leaving. Other options include negotiating with unions to exempt key competences from the 'agreed priority list' with respect to lay-offs, arranging consultancy contracts for employees who are retiring but who still possess knowledge that the organisation needs, or offering temporary workers long-term contracts with the organisation instead of with a labour market intermediary, such as temporary work agencies (Kock et al., 2012).

Second, some activities aim to make the best of the situation when employee turnover cannot be prevented. The question then becomes, what can HR do to minimise the loss of competence in terms of enabling individual learning to become organisational learning, i.e., institutionalised in routines, rules, policies, and procedures (Crossan et al., 1999)? In the literature, these types of HR activities are frequently related to approaches such as knowledge management, knowledge sharing and knowledge continuity management (Beazley et al., 2003; Field, 2003; Lin, 2007) that aim to develop systems and procedures for knowledge transfer. Depending on the type of turnover and its time frame, there are concrete activities with which HR can work. Naturally, recruitment and training are used in such situations, but because these activities have been covered previously, we will examine activities that are oriented towards organisational learning and knowledge transfer.

4.3.1 Mentoring

One activity that HR can employ to avoid the loss of knowledge is to use the employee who is leaving as a mentor for other employees in the organisation, especially newcomers (Ehrich and Hansford, 1999). Naturally, mentoring relationships can occur informally, but HR's role would be to formalise and facilitate the mentoring process (Field, 2003; Ligon et al., 2011). As noted in the IN phase, the link between mentoring and innovation may be problematic, and van Maanen and Schein (1979) warn of the risk that mentors do

not sufficiently stimulate and challenge their protégés. Thus, HR should help mentors fully understand what their roles are and how to execute them in a manner that is consistent with the organisation's expectations (Ligon et al., 2011).

4.3.2 Exit interviews

The so-called exit interview or exit survey is another common activity when someone is leaving (Giacalone et al., 2003; Parise, 2007). Typically, such interviews focus on the employee's reasons for leaving to improve the organisation's retention rate (see, e.g., Rhode et al., 1977). However, from an innovation perspective, the exit interview may be used to extract information and knowledge to avoid or abate the loss of competence. For HR, being a part of these types of interviews is natural, but HR involvement might also support managers who conduct the interviews. Strategically, HR is responsible for developing questionnaires that secure information that the organisation must obtain from the exiting employee. However, organisations frequently fail to make use of the information gained from exit interviews (Garretson and Teel, 1982).

4.3.3 Knowledge management systems

Of course, one method of using the knowledge potentially gained from mentoring or exit interviews is for another employee to 'take over' the knowledge and carry it forward. However, with this take-over method as the only solution, there is still the risk that the procedure will repeat itself over and over again. For HR, the question is how to institutionalise employees' learning and competences into policies, routines, and strategies, which can then be fed back to many other actors in the organisation (Crossan et al., 1999). In this respect, evidence from the field of knowledge management suggests that the use of information and communication technology (ICT) systems may help document and diffuse knowledge. However, even if knowledge is codified and made available in ICT repositories, using such knowledge may be difficult without the source of expertise (Parise, 2007).

4.4 Integrating the three phases

Thus far, in response to the first research question, we have presented HR activities in a three-phase model and have linked them to innovation in organisations. It is now time to address the second question, i.e., how the activities and phases in the HR supply chain can be interrelated.

On a general level, the three phases and their activities are arguably interdependent in the sense that the employees' mobility and competences through an organisation can be understood as a natural process. With no outflow, there may be no inflow of new competences (unless the organisation is constantly expanding). Furthermore, a systems-oriented approach may help highlight the need for a coherent strategy to supply organisations with competent employees. A unifying framework may simplify the communication between HR and managers, who are frequently involved in the operative side of HR activities but who may not understand the entire system.

In this section, we will look at a few examples of how HR activities may influence one another. Beginning with the IN phase and the OUT phase, connections exist between employer branding and the handling of the outflow of employees (Cascio, 2014). For

instance, Gustavsson (2009) argues that undertaking an outplacement process in a manner that does not harm the employer's reputation or, in turn, the organisation's attractiveness is crucial. Furthermore, the employer brand may also be affected by activities during the WITHIN phase. Previous studies suggest that formal mentoring systems (Allen and O'Brien, 2006; Horvath et al., 2008) and opportunities for training and continuous learning (Trank et al., 2002) have positive effects on organisational attractiveness. Similarly, activities aimed at development and training during the WITHIN phase are also linked to employee retention (Curry et al., 2005), as are activities during the IN phase in terms of the expectations of development implanted in the employer brand. If the employer brand promises more development opportunities than the organisation can deliver, employee turnover is a potential risk (cf. Ferris et al., 2002).

However, a link also exists between training and development in the WITHIN phase and the OUT phase, in terms of what Storey and Sisson (1993) call the 'poaching problem', i.e., there is a risk of investing in developing employees' competences because they will then become more employable and attractive to competitors. With regard to connections between the IN phase and the WITHIN phase, studies have shown that a successful introduction can lead to employees' faster embeddedness in the organisation, which, in turn, is beneficial for retention (Allen, 2006).

Finally, connections exist between activities in the WITHIN phase and activities in both the IN and OUT phases (e.g., the evaluation of employee performance) that may uncover the need for recruitment and the possible risk of competence loss due to employee turnover. Mentoring is another activity that may help integrate the three phases. A mentor programme can lead to the development of the mentor and the newcomer and spur the transfer of knowledge from senior employees, who are about to leave the organisation. However, in line with van Maanen and Schein (1979), the senior employee's views should not stand alone. Instead, a newcomer should meet a broad range of role models.

5 Concluding remarks

This article shows that HRM and HRD activities play a potentially important role in facilitating innovation, including both radical and incremental innovation, in organisations. Based on previous research and a model for the HR supply chain, we identify HR activities that may be used to create favourable conditions for innovation. In short, we argue that HR practitioners can set the stage for innovation by actively and strategically implementing HR activities that support exploration and exploitation processes (March, 1991), thereby creating an expansive learning environment in which both adaptive and developmental learning can occur (Ellström, 2011; Wallo et al., 2012). More concretely, an organisation's HR function can facilitate innovation by securing and developing the HR supply chain to ensure the healthy and continuous flow of personnel and competences into, within, and out of the organisation (i.e., by securing the appropriate competences for the job and the organisation, by developing and retaining existing competences, and by transferring competences from employees who are leaving to those who remain within the organisation). However, regardless of how well an HR system works, innovations are not guaranteed (cf. Mumford, 2000; Mumford and Gibson,

2011) because such processes are highly dependent on the behaviours and actions of other organisational actors, such as managers and employees.

The model suggested for the HR supply chain must be investigated further, and such investigations must be based on both quantitative and qualitative data. For instance, a survey methodology could be employed to compare HR activities in organisations with different degrees of innovative capacity. Observations and qualitative interviews could be used to identify actual examples of connections between HR activities and innovation in the daily work of HR professionals and managers. Empirical research that investigates the HR-innovation link is required, both in different types of organisations, from the perspective of various organisational stakeholders (e.g., line managers, employees and union representatives), and in different internal and external environments to determine how such environments influence the HR supply chain. In particular, the outflow of competences from organisations as a result of retirement, termination, and outplacement activities has been scarcely addressed in the previous literature. Another potential area of research involves identifying innovations in organisations and following them from discovery to implementation and dissemination, which would link different HR activities to the different steps of the innovation process (de Leede and Looise, 2005).

Based on the discussion in this article, some potential implications for practice can be identified. For HR practitioners and managers, this article highlights the importance of viewing the HR system as a whole rather than as a set of isolated parts. Regardless of whether the HR function is managed from the top down or distributed throughout an organisation, an understanding of how the HR supply chain fits together is likely to be beneficial for practice by creating opportunities for synergies between different HR activities. However, the model presented in this article should not be considered an example of the 'best practice'; instead, it is best used as an analytical tool that may help practitioners identify the innovative potential in their work activities. Therefore, a practical implication of the arguments made in this article is that setting the stage for innovation does not necessarily mean taking extraordinary measures; instead, there are many opportunities to create an innovative climate by using ordinary HR activities more stringently. The HR supply model may enable HR practitioners to break away from the common negotiated order (Strauss, 1988), i.e., HR as 'handmaidens' (cf. Storey, 1992), and guide them towards working more strategically in facilitating learning and innovation in organisations.

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