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Sustained innovativeness and human resource management

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Abstract

Innovation is paramount to success. Over time firms must maintain their ability to innovate in order to maintain their competitive edge. In this paper we explore the role human resource management has in nurturing and enhancing the innovative capability of the firm. To explore HRM activities, functions and processes that enhance or impede innovativeness we conducted a literature review. Following this review, 10 propositions have been made that link HRM to both incremental and radical innovativeness respectively. Our results include suggestions for empirical studies to validate our propositions as well as some managerial implications.

Keywords: HRM, innovativeness, radical innovation, incremental Innovation

Introduction

A key component in the success of industrial firms is their ability to sustain innovativeness, i.e. the ability to continuously produce innovations. The capacity of firms to innovate is often acknowledged to be one of the most important factors that positively affect business performance (e.g. Burns and Stalker, 1961; Hurley and Hult, 1998; Porter, 1990; Schumpeter, 1934; Deshpande et al. 1993).

The history of research on innovativeness is long and distinguished, as well as multifaceted and complex. Some study the effects of innovativeness on firms' growth (e.g. Coad and Rao, 2008; Freel and Robson, 2004), while others study its effect on firms' performance (e.g. Hult et al., 2004; Deshpande et al. 1993). In this study, the approach that is taken is that innovativeness relates to a firm's capacity to succeed in their innovation efforts: the capacity to introduce new processes, products or ideas in the organisation.

Previous research has highlighted differences between large and small firms in their ability to innovate. Smaller firms are thought to have an advantage in terms of innovativeness, due to being more flexible, agile, entrepreneurial and possessing more spirit and passion to innovate than their larger counterparts (Tidd and Bessant, 2009). With size comes the increased need of operations control, specialisation and resourcefulness, which increases the risk of rigidity in organisations, undermining the entrepreneurial spirit and passion for innovation (Mintzberg, 1979).

While it is generally agreed that innovation contributes to business performance, relatively little is known about the drivers of innovativeness and how those drivers operate via innovativeness to collectively influence performance. Moreover, little is known about how the drivers of innovativeness operate under varying conditions in a firm's external environment (Hult et al., 2004). One such driver is HRM. HRM systems have been shown to affect the re-

source configuration as well as company culture, which are both important components in innovativeness (Deshpande et al. 1993; Galunic and Rodan 1998). A HRM system is defined as a set of distinct but interrelated activities, functions and processes that are directed at attracting, developing and maintaining (or disposing of) a firm's human resources (Lado and Wilson, 1994). Research has also shown that when HRM is closely linked and aligned with the overall business strategy of a firm, it leads to increased performance and innovative capacity (Lengnick-Hall et.al., 2009). Larger firms are usually more mature in terms of Human Resource Management (HRM) than their smaller counterparts. Additional research is needed on the relationship between management and change in innovativeness at different stages of a firm's life cycle, and how to maintain innovativeness throughout the life cycle (Phan et al., 2009).

The aim of this paper is to explore how organisational innovativeness can be developed and sustained through HRM. More specifically, the aim of this paper is to explore the differences between different HRM practices as they aim to increase radical and incremental innovativeness respectively. This can be achieved through both indirect and direct measures of HRM, and is affected by how closely the HRM is linked to the overall business strategy, i.e. whether or not the HRM system is strategic.

HRM has traditionally been involved in the processes of planning, recruitment, selection, orientation, training, performance management, compensation and benefits and career development (Robbins and Coulter 2002). These processes are often divided into sub-disciplines and differentiated into different functions within a firm. One critique has been that these sub-disciplines and functions have developed and implemented special techniques and models in their own discipline, while the coordination of the disciplines has been mainly disregarded. When strategic management became an important issue, the strategic perspective was also applied to the field of HRM, and the concept of Strategic Human Resources Management (SHRM) was introduced in the late 1970s (Galbraith and Nathanson, 1979; Fombrum et al., 1984). The strategic role of HRM has been growing during the past few years, and a majority of Swedish firms see the strengthening of the strategic role as the most important work (Lindeberg and Månson, 2010). Miles and Snow (1984) defined SHRM as "a human resource system that is tailored to the demands of the business strategy".

There is some confusion regarding the terms used, many of which are used interchangeably in organisations and in research. For the sake of clarity, we will explain our view below. Our view follows the ideas of, for example, Lengnick-Hall and Lengnick-Hall (1988). Human Resources (HR) are here viewed as the human capital, i.e. the skills and knowledge of the workforce in an organisation. Personnel Management (PM) is here viewed as a practice that ensures compliance with employment laws. PM is the sole responsibility of the personnel department and tends to be administrative in nature. HRM aims to develop functions and policies to improve the use and development of the company's human resources (i.e. workforce etc.). All managers are both directly and indirectly involved in HRM and it is an integral part of a company's management function, while PM is directly connected to the personnel department. Whereas PM seeks to improve performance through reactive measures, e.g. bonuses and rewards, HRM is more proactive in its approach. HRM focuses on improved performance, which leads to satisfaction, through designing work groups, enhancing job creativity, empowering employees etc. PM reactively rewards results, whereas HRM proactively seeks to enhance them. SHRM, in addition, enhances the links and ties between HRM activities and the overall strategic planning and implementation (e.g. Becker and Huselid, 2006).

SHRM also integrates HR considerations with other physical, financial and technological resources in the setting of goals and solving complex organisational problems (Lengnick-Hall and Lengnick-Hall, 1988). SHRM in addition emphasises the implementation of a set of policies and practices that are relevant to organisational goals. Therefore, it is not only important to build a talent pool, but it has to be made in consideration with the relevance to the overall goals of the organisation (Lengnick-Hall et al., 2009).

Methodological considerations

The present study was carried out in two stages: first, a literature review was made to explore HR activities, functions and processes that enhance or impede innovativeness. The review was extensive in its approach and included relevant literature from many different areas of research. The review followed suggestions by Hart (2001) on how to conduct a literature review. Hart describes a literature review as a selection of available documents on a topic which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed.

Literature was initially collected from journals which specialised in HRM (such as The International Journal of Human Resource Management and Human Resource Management Journal), technology and innovation management (such as the Journal of Product Innovation Management and Research Policy) and high-impact general management journals (such as the Academy of Management Journal, Academy of Management Review and Strategic Management Journal).

Based on this focused search for relevant literature, the search was subsequently extended to include other types of literature.

Second, propositions on how to sustain and develop innovativeness were deduced from the literature.

Literature review

In this chapter, we will first elaborate on the concept of innovativeness and then we will present a framework for how HRM can support sustained innovativeness within firms.

Innovativeness

Innovativeness is a complex concept that has been used in many different ways and in many different areas of research. However, the word innovation always refers to something new or a change (renewal) of some kind. In the following paragraphs, we will provide an overview of the literature on innovativeness. The review on which we base this overview indicates that innovativeness is mainly studied in three different traditions.

The first tradition is based on adoption theory, which focuses on the process of diffusion of the innovation and/or the adoption of the innovation. In this field, innovativeness is defined by Rogers (2003) as “the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a system” (p. 22). For example, on an organisational level it can refer to an organisation’s capacity to initiate and adopt change within the organisation. Hurley and Hult (1998) defined innovativeness as the notion of

openness to new ideas as an aspect of a firm's culture. Using this perspective, Hult et al. (2004) showed that a firm's innovativeness is positively related to its performance, which is supported by Subramanian and Nilakanta (2006). In marketing, the adoption perspective leads to studies of consumer innovativeness with consumers (or groups of consumers) as the unit of analysis. Innovativeness is defined in terms of how willing a customer (or customer's firm) is to adopt a new product or service and how quickly he or she does so (Goldsmith et al., 1995; Tsikritis, 2004).

Still using an adoption perspective, but looking at a product as a unit of analysis, product innovativeness can be defined as the extent to which the new product is perceived as new to the target market and to the developing firm (e.g. Langerak and Hultink, 2006). As such, product innovativeness reflects the degree of information search, behavioural change and learning effort required by customers to adopt the new product, and a firm's experience with similar NPD projects in the past. The difference between the two perspectives is that, when considering innovativeness of a product, the degree of perceived innovativeness is built into the product rather than describing a consumer process of adoption. A more conclusive review of the adoption perspective of innovativeness is presented by Subramanian and Nilakanta (2006).

The second tradition takes an explicit product perspective on innovativeness. In their extensive literature review, Garcia and Calantone (2002) state that innovativeness is most frequently used as a measure of the degree of "newness" of an innovation. They elaborate on from whose perspective this degree of newness is viewed and what is new in their work. They suggest a widespread method for classifying innovations to create a common understanding of how a specific product innovation type is identified based on the degree of innovativeness.

The third tradition takes its starting point in a resource-based view of a firm, and deals with innovativeness as human behaviours and organisational properties leading to new products, services or processes. For example, organisational innovativeness is defined as the capacity of a firm to create and implement innovations (Glynn, 1996; Jin et al., 2004). According to this definition, the creation of innovation refers to the capacity of a firm to develop and launch products that are new to a firm and replace or supplement old ones. The implementation of innovation refers to the capacity of a firm to source and use production methods that were not utilised in the past. This is in line with Lumpkin and Dess (1996), who define innovativeness as an organisation's tendency to engage in and support new ideas and novel, experimental and creative processes that may result in new services.

Furthermore, innovativeness, seen as behaviour, can be studied at an individual level. In this case, innovativeness can be defined as the degree to which group members propose new and useful ideas to their group (e.g. Weldon, 2000). This perspective can also be studied at a group or organisational level. For example, research looking at group and organisational climates for innovativeness tends to emphasise perceived support for creativity and innovation (Scott and Bruce, 1994; Anderson and West, 1998).

In this study, we join the third tradition, considering innovativeness as human behaviours and organisational properties leading to new products, services or processes.

HRM's effect on innovativeness

Existing literature on the ways HRM can influence innovativeness can be broadly divided into two distinctly different areas. The first covers indirect and direct effects of HRM on innovativeness, from both explorative and exploitative angles. The second area deals with the extent of influence that, for instance, contextual factors and overall strategy has on HRM, as well as the ways in which strategy can influence the components of HRM. In this chapter we will elaborate on factors influencing innovativeness in general.

HRM practices supporting innovativeness

As mentioned above, HRM can have both a direct and indirect effect on innovativeness. It can be necessary to divide the goal of a specific HRM practice into an explorative and an exploitative angle (Beugelsdijk, 2008). Shipton et al. (2006) showed that an exploratory learning focus has a positive association with product innovations. The exploratory angle includes creativity, risk willingness, autonomy, openness and trust, as well as other factors that promote the generation of novel ideas as well as the willingness to try them out. The exploitative angle includes the systems in place to harness the explorative results.

HRM needs to be able to successfully support and promote both. For instance, idea generation and involvement can be enhanced by using suggestion schemes, dedicated problem solving teams etc., which ensure that the ideas make it into improvements and innovations (Cooke and Saini, 2010). McLaughlin et al. (2008) found that innovation in the exploitation phase ensures that a higher degree of order, rules, goals and systems are in place for knowledge exchange etc., whereas the explorative phase is hampered by those factors and is enhanced by risk willingness, autonomy, independency, tolerance for failure and freedom.

The direct effects

The direct effects are those under direct control of HRM, these have been the focus of many empirical studies. Cooke and Saini (2010) provide a list of the top innovation enablers: training, employee empowerment and performance management schemes. These three factors are commonly mentioned in HRM and innovation literature, but why they influence innovation is seldom explained. Lewis and Heckman (2006) present the three main perspectives on talent management, which they argue is an important function that HRM has control over. These three main perspectives are as follows: the first focuses on practices such as recruitment, career and succession management etc.; the second focuses on processes such as succession planning, manpower planning etc., which ensure an adequate flow of competence throughout the organisation and the third perspective deals with generic talent.

One view within the third perspective is that talent should be managed according to performance level, i.e. hire the best and/or get rid of the low performers, whereas the second view is that the role of the HRM department is to manage everyone to high performance (ibid.). There exists a debate on whether organisations should try to recruit as many top performers as possible or if they should focus more on managing everyone to the best of their ability. It would be interesting to see how important it is to recruit top performers for innovativeness relative to ensuring the right innovative climate.

In this paper, we focus on the following four factors affecting innovativeness: 1) recruitment; 2) training, education and development; 3) rewards and 4) empowering employees. These four factors are chosen due to their high influence on both radical and incremental innova-

tion. Points 1, 2 and 4 deal with forming high-performing work groups and are parts of HRM's focus. Point 3 is traditionally a PM tool used to increase innovative performance.

Recruitment:

Recruitment can be seen as paramount to securing talent and competence in the workforce. The skills and traits possessed by employees influence entrepreneurial behaviour and innovativeness. The skill set and social competence required varies depending on the type of innovation, e.g. incremental, radical, explorative or exploitative. Ensuring that skill set demands are met should pose less of a challenge than that of social competence. Mu et al. (2011) found that social competencies highly affected performance in exploring activities. They studied social competency as an influencing factor for success in radical product development projects. This is supported by Edvardsson (2008), who claim that social skills is an important factor when hiring staff in complex knowledge environments. Still, this factor is seldom considered when staffing explorative activities (Lunnan and Barth 2003). Even though there is a wide knowledge base about the importance of social competencies for success in exploratory activities, there is a lack of knowledge about how to assess social competence in relation to being able to make a rational decision from a staffing point of view. This has a direct effect, as it is not taken into consideration, and an indirect effect, as it makes it hard to motivate a choice of staff based on social competency even if it is taken into consideration (ibid.). While being very important, efforts made in recruitment alone cannot account for an innovative climate and increased firm innovativeness.

Proposition 1. Recruitment efforts that promote social competencies will enhance the organisation's radical innovativeness.

Proposition 2. Recruitment efforts that promote knowledge-related competencies will enhance the organisation's incremental innovativeness.

Training, education and development:

Laursen and Foss' (2003) survey highlights training as a way to increase innovation performance, as do studies by Katon and Budhwar (2006), Shipton et. al. (2006) and Lau and Ngo (2004). These studies were carried out in geographically and culturally distant places, indicating that training and development might be a "best practice" factor. There is some disagreement in literature regarding what factor is the most important one. Walsworth and Vema (2007) point to training as being more important for innovation performance than the variable compensation/reward. Beugelsdijk (2008) showed that there is a difference between radical and incremental innovation performance and training, which had a more significant effect on incremental innovations than on radical ones. This is probably due to the nature of incremental and radical innovations. The former builds on an existing knowledge base and the importance of enhancing it, whereas the latter is intrinsically knowledge disruptive and driven by social capability and combining exciting and new knowledge and a variety of perspectives. This inherent difference between incremental and radical innovation also explains why research on the influence of cross-functional teams, in an effort to promote a combination of knowledge and perspectives, has pointed to different levels of importance for innovativeness (see Cooke and Saini, 2010 and Lau and Ngo, 2004).

Proposition 3. Development activities promoting social capability lead to increased radical innovativeness.

Proposition 4. Development activities promoting knowledge enhancement lead to increased incremental innovativeness.

Rewards:

In contrast to Walsworth and Vema's results emphasising training, Cano and Cano (2006) and Camelo-Ordaz et al. (2008) show that reactive financial rewards and public recognition are the most important PM practice to promote innovation. This discrepancy could also be explained using the distinction between radical and incremental innovations. Beugelsdijk (2008) showed that radical innovations benefit more from reactive efforts such as autonomy and empowerment, and that radical innovations could actually be hindered by monetary incentives – on the contrary, incremental innovations largely benefit from training and performance-based compensation. It is a widely held belief within economics and business that incentives enhance performance, while psychologists and behaviour scientists argue otherwise. For example, a study by Ariely et al. (2005) can best be described in the words of the author: "We found that as long as the task involved only mechanical skill, bonuses worked as would be expected: the higher the pay, the better the performance. But when we included a task that required even rudimentary cognitive skill, the outcome was ... (that) ... a higher bonus led to poorer performance." The same results have been found to be true for public recognition (ibid.). This is also found by Edvardsson (2008), who claim that for knowledge workers it is more important to have free time to work on knowledge-building projects, going to conferences or spending time on interesting projects, compared to getting monetary rewards. Monetary incentives provide a focus that might benefit incremental innovations, but the solutions for radical innovations are usually in the periphery. Nevertheless, studies do show that performance-related rewards and recognition for contribution do positively affect innovativeness (e.g. Cooke and Saini, 2010; Shipton et al., 2006; Cano and Cano, 2006; Camelo and Ordaz, 2008). But, as mentioned earlier, Beugelsdijk (2008) suggests that incremental innovativeness can be organised using incentives and training, whereas radical innovativeness would not – his suggestion would be in congruence with those in behaviour science.

Proposition 5. Proactive reward systems that are "autonomy and flexibility enhancing" lead to increased radical innovativeness.

Proposition 6. Reactive reward systems that are "focus enhancing" lead to increased incremental innovativeness.

Empowering employees:

A factor that positively correlates with innovation is employee empowerment (Tsai, 2006; Cooke and Saini, 2010), this holds true for both incremental and radical innovations (Beugelsdijk, 2008). Even though HRM cannot exert direct control over employee empowerment, it can directly control factors influencing it. Decentralised organisation structures, flexible working hours, task autonomy and authority under responsibility are all good for product innovations, especially those that are more radical (Beugelsdijk, 2008). This is supported by Edvardsson and Oskarsson (2011), who find that organic structures (including teamwork, lateral relations, decentralisation and empowerment) are more suitable for innovation. Bernstein Bernstein et al. (2008) point to personal factors, such as the willingness to take risk, autonomy and skill mastery as being important for increased radical innovativeness. As mentioned earlier, HRM has a strong focus on proactive measures that enable and enhance

innovativeness. Factors that lead to employee empowerment are more closely related to those that enhance explorative and radical innovations and less to those that promote focus.

Proposition 7. Increased levels of employee empowerment will have a more positive effect on radical than on incremental innovativeness.

The indirect effects

The indirect effects are those that affect innovativeness, e.g. work climate, culture, company history etc. Just as an effective HRM system on its own is second to having a good SHRM plan that is linked to the overall organisational strategy and goal, it is not enough to have a good SHRM plan based on direct factors alone. The SHRM plan needs to have a good fit with the context surrounding the organisation. These indirect factors that influence innovativeness include, but are not limited to, the employee mentality, longevity of the firm and nature of the business. There are also studies pointing to decreased innovativeness with age (e.g. Cooke and Saini, 2010). With regard to mentality and business nature, a very strong position (due to, for example, a monopoly) adversely affects innovativeness (Cooke and Saini, 2010). Another strong indirect influence is the support from the senior management team and the skilful and successful implementation of a SHRM plan. Millmore et al. (2007) suggest that any strategy needs to be developed in accordance with the governing social systems. Shane (2002) conducted a study that shows the influence of the socio-cultural context. His results point out how the cultural importance of, for instance, hierarchy versus decentralisation affects innovativeness. By extension, this would suggest that factors such as autonomy might be more important in some social contexts, something which would influence the SHRM plan.

Proposition 8. In order for the SHRM plan to have the desired effect, there has to be a fit between the said plan and the social and cultural context in which it is to be executed.

The importance of cross-functional teams for innovativeness depends on the nature of innovations. In their study, Cooke and Saini (2010) found no support for cross-functional teams enhancing innovation performance. However, other researchers have found the opposite, pointing towards cross-functional teams and integration having a positive influence on innovations (Gemser and Leenders, 2010; Lau and Ngo, 2004). One explanation could be that cross-functional teams add to the complexity, which adversely affects the focus, and this does not promote incremental innovativeness. Radical innovativeness requires a wide input of knowledge and perspectives, and is better at dealing with complexity, therefore leading to the conclusion that cross-functional teams may benefit from radical innovativeness more than incremental ones.

Proposition 9. Cross-functional structures promote radical innovativeness.

SHRM and levels of influence

From the text above, it becomes evident that some factors are more under the control of SHRM than others. Variables that influence innovativeness are controllable to different extents, e.g. the age of a firm is a bit harder to control than wage structure or the number of hierarchical levels. Broadly speaking, we could look at factors that exhibit a great influence on the SHRM plan and those under its influence. The successful implementation of a SHRM plan needs to adhere to the sociocultural context as well as the overall business strategy of a firm (Lewis and Heckman, 2006).

Lewis and Heckman (2006) provide a hierarchy of components to strategic talent management, which apply to SHRM planning as well. At the top level we have the strategy component of SHRM that deals with the need for a sustainable competitive advantage for the organisation. Here, SHRM needs to create a fit between existing market opportunities and the organisational human capital resources that can yield an advantage, followed by the need for SHRM to identify the strategic implications with respect to HRM (Lewis and Heckman, 2006). At this top level the SHRM plan has little influence and is more governed by these principles.

Moving down a level, SHRM gains a power of influence and now needs to concern itself with how to manage HR, e.g. combination of performers, compensation policy and career ladders. At the bottom level we have the need for the HRM architecture that will be used as well as the enterprise-wide data systems, followed by the HRM practices that are in place to efficiently meet goals and support the strategic plan. HRM practices include, but are not limited to: recruitment, training, performance management, reward systems and career development (Lewis and Heckman, 2006).

The SHRM plan's power to influence is strongest at the bottom and it is most influenced by the factors at the top. One could argue that the scale of power is in turn influenced by the generic strategy (differentiation or cost leader), industry segment and several other factors.

A good SHRM plan is one where all the pieces, i.e. direct factors, indirect factors, as well as lateral and vertical fit, fit well together. It is not enough for an organisation to have the perfect HRM strategy if it is not linked to the overall business strategy, nor is it feasible to try to implement such a strategy without the support of top-level management.

Proposition 10. In order for HR practices to support innovativeness there has to be a congruence between the direct factors, support from the indirect ones and, finally, a clear link between the two, ensuring a good vertical and lateral fit.

Discussion and conclusions

Theoretical implications

The results from this study bring some theoretical challenges as well as some methodological challenges. One theoretical challenge is connected to the issue of how to find the link between suitable HRM practices and employee characteristics. This is accentuated by recent findings on what motivates the so-called generation y (Macky et al., 2008; Tulgan, 2009). When companies face new generations of employees with specific characteristics, one problem is that deployed HRM practices need to take into account the individual dimension in building organisations that fit with the need of the new generation. Therefore, it is not sufficient to consider group-level effects on innovation as individual factors must be included. How to do this theoretically needs to be resolved.

The first methodological challenge is to find appropriate quantitative measures as well as qualitative indicators for innovativeness. There are a few established and validated measurement methods of customer innovativeness. However, by using an organisational innovativeness perspective according to our definition, we have found only a few measuring scales and none that are established or widely validated.

A second methodological challenge is to find methods to collect reliable data. We are interested in a range of different behaviours acting as a mediating variable between HRM practices and innovativeness. For example, how rewards systems affect risk-taking behaviours, which in turn affect innovativeness. The reliability of the mediating variable is highly dependent on the method of data collection.

Examples of methods are perceptive measures where individuals and groups assess themselves, while more objective measures, such as type of projects rewarded or observations of employees, are made by using third-party individuals (e.g. researchers) in the assessment. A third methodological challenge has to do with how to analytically deal with the effects of contingencies. Such contingencies could be the present economic situation in the industry and society, national cultures or corporate culture. One example of such an effect would be that an economic rise might positively affect a firm's innovativeness, as it will provide a firm with an economic slack that will allow it to take risks. At the same time, this contingency might also negatively affect innovativeness, as all employees need to focus on exploitation rather than exploration. Without explicit recognition of such contingency effects, empirical studies will, of course, be less valid.

Planning of empirical studies

Empirical studies need to be carried out in order to evaluate our propositions. We will now explore the implications of our discussions above for the future empirical investigations.

Propositions 1–4 are similar in the way that they all focus on the relation between how social and knowledge-enhancing efforts affect radical and incremental innovation respectively. There ought to be numerous ways to measure this: with regards to recruitment one could interview those in charge of recruitment, and/or analyse potential recruitment tools and aids. Many larger companies have more formal recruitment procedures. One could therefore analyse and compare recruitment or interview data of employees that produce many incremental/radical innovations. By extension it would also be possible to compare groups where there are lots of incremental innovations compared with one where they produce a lot of radical ones. What are the similarities and differences from an HR-perspective, and what do these imply on how to use HRM as a vehicle for sustained innovativeness? Such a study, complemented with additional investigations of the situation in several companies would increase the external validity of the study.

Propositions 5–7 and 9 are all centred on focus enhancing (those that enhance the focus on a specific task) versus peripheral enabling (those that enhance the ability to “think outside the box”). One way to compare reward systems and proactive measures would be to compare high-performing incremental and radical workstations/units, and another would be to run experiments to investigate the effects of different HRM activities, processes etc. Such studies and experiments could draw on findings and examples from psychology, that have been centred on the idea of focus enhancement and peripheral enabling (e.g. Duncker's candle problem, intrinsic motivation and rewards etc.). A more specific example is to measure the importance of employee empowerment to organizational innovativeness. This could be done by comparing two units; one being efficient in radical innovation, and one being efficient in incremental innovation. The same approach would apply to cross-functional teams and their importance for radical and incremental innovation respectively.

Propositions 8 and 10 centre on fit: both internal and external. Internal fit has to do with the fit between adopted HRM activities and process with the overall strategy of the firm, while external fit has to do with how to adapt HRM to the external environment of the firm. Fit can be assessed by comparing the company HRM plans with their overall strategy as well as surrounding environment. Another possible study is to investigate HRM departments and examine how they see innovativeness, and/or to explore to what extent HRM is mentioned when top-management teams discuss overall company strategy. Such studies assume the development of useful indicators of fit. If possible this would also include comparisons between different units and organizations where some has a close fit between HRM plan and overall strategy (i.e. is involved in SHRM), and others that have no SHRM plan. Such an approach would make it possible to evaluate if the latter produces poorer results (financial, innovative etc.) than the former.

Managerial implications

Making HRM a strategic part in the innovation strategy of a firm seems to be crucial to today's firms, as the management of human (and social) capital of a firm is one important element in the creation of innovation proficiency. Even if this paper is explorative and presumes empirical investigations a number of managerial implications are seen as relevant that can help managers to achieve this aim.

One general implication of this study is that firms risk getting caught up in operative HRM activities (such as recruiting and training) in a way that does not consider the strategic aspects of these activities. From this it makes sense for managers to ensure that HR activities are included in the strategic discussions of a firm. If failing to do so, firms risk becoming obstructed in their growth. On the other hand, firms risk halted growth, for example due to the inability of a firm to recruit the right personnel or if failing to train employees to fit the strategic orientation of a firm, and the competitive environment of the firm.

A second implication is that if organisational structures become more complex and formalised, this could be expected to support incremental innovation, but it can be damaging for a firm to develop radical innovations. HRM can address this risk in several ways: They should take actions to ensure that parts of the workforce have the ability to think outside of the dominant logic and by combining new knowledge, which stimulates radical innovation. HRM can also ensure that sufficient autonomy is given to employees and that the workforce is empowered in order to sustain innovativeness also during periods of firm growth. By doing this, two important prerequisites for radical innovations are in place.

In firms using acquisition as a strategy, HR managers should also ensure that implemented HRM practices are in line with the sociocultural context of the acquired company.

Another important issue is to make sure to train the workforce to increase the capabilities of employees to innovate, both incrementally and radically.

Another HRM aspect that has the potential to add to the innovation capability of a firm is to develop compensation and reward systems that stimulate innovativeness. When developing such systems, managers should take into account how different incentives are perceived in different sized firms. Social recognition, for instance, works differently when amongst peers that are known to you as opposed to being recognized amongst strangers. Compensation and reward systems also need to be developed to fit the strategic orientation of a firm, and the competitive environment of the firm.

Finally, it is important that innovation strategies and activities are balanced with an increasing demand for exploitation as a firm grows. Structures and routines will become necessary and the innovativeness of the employees will have to change from being completely driven by passion to a more organisational innovativeness partly driven by planning and management. This sets new challenges for the HRM department to handle in all HR-phases, from recruitment, training, carrier development and reward systems to strategic work to establish culture for cross-functional work and an awareness about the existing multiple realities between different professions and departments.

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