ISSN 1748-7595 (Online)

Kent Business School

University of Kent

Working Paper Series

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Working Paper No.157
October 2007

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Abstract

This paper argues for a strategic and team based knowledge-oriented role of human resource management in the extant knowledge economy era. First, the paper argues for a strategic role of HRM in the identification, development, and configuration of organizational knowledge with the long-term business objectives. Second, it identifies a proactive role of HRM in multidisciplinary knowledge teams, which act as interlinking pins between learning at the individual and organizational levels. The paper argues that, through its simultaneous emphasis on strategic goals and team learning, knowledge-oriented HRM may enable higher levels of organizational learning capability that will in turn contribute to sustained competitive advantage.

Key words:

Human resource management, Knowledge, Organizational learning, Strategy, Teams

Introduction

Scholars have highlighted the significance of continuous learning as a powerful instrument to enhance organizational competitiveness (Hamel & Prahalad, 1994; Pettigrew & Whipp, 1991; Snell, Youndt, & Wright, 1996). However, the issue of how managers can efficiently contribute to developing organizational knowledge and learning capability remains highly contested (Illegems & Verbeke, 2004; Jerez-Gómez, Céspedes-Lorente, & Valle-Cabrera, 2005). Garavan, Gunnigle, and Morley (2000) suggest that little attempt has been made to

adequately assess the extent to which human resource management (HRM) practices promote learning and performance.

Previous research has examined the role of the processes and functions of HRM in developing strategic capabilities for organizations (e.g. Lado & Wilson, 1994; Wright, Dunford, & Snell, 2001). Though organizational learning has been generally treated as a strategic capability that directs resources toward sustained competitive advantage (Lei, Slocum, & Pitts, 1999; Snell, Youndt, & Wright, 1996), there remains a need to exploring the way a particular human resources strategy impacts on organizational learning capability (Jerez-Gómez et al., 2005). In particular, little is known about "how, and in which combinations human resource management practices matter" for knowledge processing in organizations (Laursen & Mahnke, 2000, p.1). The transformation of HRM to support organizational learning remains "the key strategic task facing the HR function" (Pucik, 1988, p. 91).

This paper seeks to offer a dyadic perspective of knowledge-oriented human resource management. It argues for a strategic and team based knowledge-oriented role of human resource management in the knowledge economy era. First, the paper argues for a strategic role of HRM in the identification, development, and configuration of organizational knowledge with the long-term business objectives. Second, the paper argues for a proactive role of HRM in multidisciplinary knowledge teams, which act as interlinking pins between learning at the individual and organizational levels. The paper argues that, through its simultaneous emphasis on strategic objectives and team learning, knowledge-oriented HRM may enable higher levels of organizational learning capability that will in turn contribute to sustained competitive advantage.

The paper may be treated as an advisor as regards the issue of how to build a knowledge-oriented HRM and a culture that is appropriate for strategic knowledge management in organizations.

The discussion in this paper is divided into two parts. The first part discusses the role of HRM in the strategic alignment of knowledge with an organization's long-term business objectives. The second part highlights the importance of knowledge teams, which the paper treats as focal instruments for the knowledge-oriented HRM to develop and implement strategic knowledge in organizations.

Strategic Alignment of Knowledge

In the last few decades, the role of HRM has been slowly and gradually shifting from its conventional service provider role to the new business partner role. It has been anticipated that the HRM function in the future will be very different from that in the past. Organizations that failed to capture this shift may face serious challenges with the core assets of the new economy, i.e. the knowledge workers and the knowledge professionals (Raich, 2002). In order to achieve sustained competitive advantage in the knowledge economy era, organizations will need to develop a knowledge-friendly culture (Davenport & Prusak, 1998). This paper argues that HRM may play a crucial role in developing such culture. In this pursuit, HRM would need to identify and deploy innovative ways of acquiring, integrating and utilizing organizational knowledge to achieve strategic competitive advantage. The paper may be seen as an extension of and a response to Becker and Huselid's (2006) argument that there is a need for a clearer articulation of

the 'black box' between HR and firm performance and the importance of integrating strategy implementation in this process.

Knowledge represents a set of understandings used by people to make decisions that are important to an organization. It can be seen as a source of business value in the new economy; identified by its relevance to work, and linked to how an organization creates its unique know-how and capabilities (Pasternack & Viscio, 1998). It may also reflect in the performance programs and standard operating procedures that endow organizational members with ways of responding to particular situations (Sproull, 1981). For the purposes of this paper, knowledge is defined as the ability to build and sustain coordinated deployment of resources and capabilities to help organizations achieve their strategic objectives (Sanchez et al., 1996). For strategy, this paper relies on Hill and Jones's (2001: 4) definition that strategy is 'an action a company takes to attain superior performance'. Accordingly, a strategic orientation will allow HRM to map out where they are, where they want to go (i.e. attainment of superior performance), and how they plan to get there.

Today's knowledge economy era is characterized by far-reaching technological developments and consumers whose informed preferences and choices frequently change with the speed of TV commercials and internet browsing (Pasternack & Viscio, 1998). Organizations face exceedingly competitive environment; technological innovations remain critical in responding to rapid changes, depending a great deal on the acquisition of new knowledge (Chow, 2006). Indeed, competition in some sectors is more intense than others, such as high technology industry which experiences more complex production processes and shorter product life cycles

(George et al., 2001). However, in almost all markets and industries, the ability to categorize and organize knowledge may be viewed as a core competence for organizations (Davenport, 1999). The shift to knowledge as the primary source of value means that the new economy will be led by those who are able to manage knowledge effectively – who can create, identify, and integrate knowledge into new products and services faster than their competitors (Jennings & Haughton, 2000).

Knowledge Management

Although knowledge management has been historically strongly oriented towards the field of information systems (Wilson, 2002), this paper argues that HRM can play a proactive role in developing a management focus on how to leverage knowledge faster and better than competitors. In this territory, organizational knowledge and its management represent a strategic weapon for the HRM function and its various sub-functions (e.g. recruitment and selection, performance management, training and development). Thite (2004) explored major challenges faced by HRM in managing knowledge workers, and identified a number of human resources strategies for effective people-centric partnership in knowledge management. Thite's study identifies institutionalizing learning to learn, and fine tuning of the traditional HRM systems (such as recruitment, performance and reward management) to enhance the intellectual capital as some of the key strategies that can help foster a knowledge-oriented culture. Similarly, Gloet and Berrell (2003) recommend that HRM practitioners need to be aware of the potential impact of knowledge management on human resources strategy. Since human capital is indeed the core

focus of HRM, practitioners can play a key role in building and sustaining a dialogue based on an understanding of various approaches to knowledge management.

There are two usual perspectives on knowledge management – the managerial perspective and the technical perspective (Horibe, 1999). The managerial perspective interprets knowledge management as a task undertaken by managers, HR managers in particular, to manage useful knowledge for the benefit of the organization. The technical perspective treats knowledge management as a process of using technical or information and communication technology tools to manage organizational knowledge. Advocating both of these causes would not only involve identifying the important role of technology, but also recognizing the fundamental role played by human and intellectual resources.

This paper argues that HRM in the knowledge economy needs to expand its conventional administrative and advisory role to develop a strategic partnership with other functions and departments in the organization. HRM practitioners would need to be conversant with the key skills and knowledge vocabulary consistent with the organization's long-term strategic goals. At the same time, they would need to be up to date with and able to apply modern information and communication technology tools, such as professional database or enterprise resource management systems, in order to manage knowledge in an effective and efficient manner. A knowledge-orientation will help HRM practitioners identify and devise innovative strategies to explore and fill in any knowledge gaps in their organization and its various departments.[1] Such

[1] Indeed, much knowledge construction is exploration based and excludes pre-identification of gaps to be later filled in a planned process. Exploration for instance as theorized by March (1991) is not a gap-filling exercise and happens on a day-to-day basis; so is 'double loop learning' as formulated by Argyris and Schön (1978) which is open-ended and cannot be seen as a 'gap filling' exercise. Exploration is difficult to predict and to plan, though it can be

HRM strategies may be based on professional and managerial knowledge, developed through multi-disciplinary knowledge teams within the organization. For example, in the light of their ever developing knowledge vocabulary, HRM practitioners may develop effective indices and other management tools, such as performance and training management indices, thus constantly refining and utilizing knowledge categories (Soliman & Spooner, 2000).[2] However, leveraging human resources as a sustained competitive advantage would depend upon the organization's ability to utilize existing knowledge and to generate new knowledge (Chow, 2006). Hereby lies the crucial role of HRM in coping with the challenges in the formalization of and the access to knowledge that creates new organizational capacities and superior performance (Beckman, 1999). In this pursuit, HRM would need to play a proactive role in supporting and contributing to the creation, integration and utilization of knowledge (Keegan & Turner, 2001).

Schulz (2001) identifies a number of processes through which organizations can create new knowledge or modify existing knowledge. The first process, encoding, deals with how organizations learn by inferring from the experiences in organizational routines that guide behavior (Levitt & March, 1988).[3] Knowledge encoded in routines, such as formal HRM policies or procedures, can be readily shared among various organizational participants, functions and departments. The second process, exploration, captures "search, variation, risk taking,

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encouraged in some ways, yet is a critical knowledge building activity. This paper argues that such activities can be encouraged by knowledge-oriented HRM practices.

[2] It is, however, acknowledged that knowledge orientation does not necessarily mean a mechanistic perspective of human resources. For example, Kamoche and Mueller (1998) note that HRM is largely underpinned by the objective of appropriating the human resource value; a phenomenon that is generally ignored by the practitioner-oriented literature, which has a financial interest in helping organizations to secure this value, and by the academic literature, which is unwilling to confront the contradictions inherent in such approaches.

[3] Levitt and March (1988, p. 319) describe organizational learning as "encoding inferences from history into routines that guide behavior."

experimentation, play, flexibility, discovery, innovation" (March, 1991, p.71). Its value lies in its ability to generate new, innovative knowledge, with potentially high risks and returns. The third process, exploitation captures "refinement, choice, production, efficiency, selection, implementation, execution" (p. 71). It generates incremental knowledge with moderate but definite and immediate returns. Together all of these processes represent different modes of organizational knowledge production, and impact on how much and what kind of knowledge is produced.

Such categorization of knowledge processes in organizations can also be applied in the context of knowledge-oriented HRM. For example, recruitment and selection as well as training management in an organization may be dynamically transformed in the light of quality control issues in the production line or customers' concerns reported by the marketing department. Based on a shared knowledge vocabulary, HRM can continuously refine and implement policies and procedures, such as an ongoing updating of job description and job specification, which is consistent with the organization's strategic objectives.

However, strategic encoding and exploration *per se* do not lead to knowledge sharing in organizations. Strategic intent is equally essential. For example, Clarke and Staunton (1989) found that whenever representatives with different skills and experience, and organizations from different industries, are brought together to achieve a common objective, understanding and adaptation are dependent on willing and open transfer of information. This view is also supported by Nonaka and Takeuchi's (1995) perspective of knowledge management, which assumes tacit (i.e. informal) knowledge can be transferred through a process of socialization and

that tacit knowledge can become explicit (i.e. formally recorded) knowledge through a process of externalization. According to this perspective, explicit knowledge can be transferred into tacit knowledge in others through a process of internalization, and that explicit knowledge can be transferred to explicit knowledge in others through a process of combination. Based on Nonaka and Takeuchi's theorization, the transforming HRM processes may be assumed to be socialization (comradeship among various organizational actors and departments), externalization (formalizing a body of knowledge), internalization (translating theory into practice), and a combination of the existing theories. However, the mechanics of how HRM can assist in creating new knowledge or modifying existing knowledge in organizations remain under-explored.

It is the aim of this paper to develop a practical framework for knowledge-oriented HRM. Figure 1 offers a perspective of the role of HRM in the mapping and implementation of knowledge. Such perspective is informed by Schulz's (2001), Nonaka and Takeuchi's (1995), and Clarke and Staunton's (1989) illustration of organizational knowledge processes, and also by Soliman and Spooner's (2000) proposed knowledge map that illustrates how to find, and where to find useful knowledge within and outside of an organization.

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Insert Figure 1 about here

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Figure 1 identifies four key stages of knowledge management that may be mapped through various HRM sub-functions and processes: construction, embodiment, diffusion and utilization of knowledge. The construction stage deals with the creation, interpretation and reinterpretation of knowledge through existing knowledge, and acquisition of new intellectual capital in organizations. A knowledge-oriented HRM may construct knowledge by exploring and identifying skills required to pursuing organization's long-term objectives and comparing them with the existing skill inventory. For example, HRM may make employees expand job-relevant knowledge through designing dual or multiple career paths in which employees can experience various job opportunities beyond the boundaries of single expertise or even single occupational settings over time (Defillippi & Arthur, 1994). The second stage, the embodiment of knowledge, deals with the transformation of knowledge inventory into processes and practices aimed at the conversion of resources into sustained competitive advantage, such as innovation and efficiency. This may be achieved through training and development activities aimed not only at improving work standards and performance, but also at providing empowerment for innovation and exploration. For example, Beirne (2006) examined employee empowerment and direct participation in the governance and management of organizations. By connecting theory and practice, Beirne demonstrated how innovation is rooted in empowerment, vital to generate consensus management; team working; employee participation in technological change, culture management; voluntary commitment; public policy; and regulatory initiatives. The third stage, the diffusion of knowledge, captures the sharing and distribution of embodied knowledge through the organizational value chain. This paper argues that multidisciplinary knowledge teams (discussed in the latter half of the paper) are instrumental in the diffusion of knowledge in organizations.[4] This is informed by previous research which suggests that team interaction, such

[4] This may be noted that some scholars (e.g. Minbaeva et al., 2003) prefer the word 'transfer' instead of 'diffusion'

as through task-oriented teams, job rotations, and temporary job assignments, may not only provide employees with the opportunities to interact with colleagues in different groups, but also stimulate their networking motivation to form valuable conduits of knowledge because their job designs would require a broader range of knowledge and problem solving skills (Kang, Morris, & Snell, 2007). Since all of the above stages are closely interconnected and interdependent, multidisciplinary knowledge teams will be equally useful in the construction, embodiment and utilization of knowledge. Finally, knowledge-oriented HRM would seek to strategically align and utilize the embodied and diffused knowledge to achieve long-term organizational objectives. For example, HRM may implement output-control and result-based appraisals to adequately monitor and reward employees' contributions to the creation of value (Snell & Youndt, 1995), consistent with important components of business strategic planning, such as strategic marketing or production targets.

It is acknowledged that different performance outcomes may require different sets of HRM practices, linked to the outcomes via different mediating variables (Guest, 1997). However, the four key components offered in Figure 1 are usually overlapping, and accordingly may be pursued through a complementary system of HRM practices. This paper argues that HRM may map and utilize knowledge to explore strategic opportunities and challenges, which can be achieved through a focus on multidisciplinary knowledge teams. However, the role of knowledge-oriented HRM extends far beyond knowledge mapping. In fact, a significant part of HRM would lie in exploring and producing new knowledge while at the same time identifying

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to accentuate "the movement of knowledge within the organization as a distinct experience, not a gradual process of dissemination" (Szulanski, 1996, p. 28). This author, however, prefers diffusion because the term is appropriate for the notion of the multi-directional and multi-disciplinary diffusion of knowledge discussed in this paper.

and assisting in exploring and filling in any strategic knowledge deficiencies to gain various forms of competitive advantage within the industry. This strategic advantage can be in various forms, such as more skilled employees, better knowledge of customer market, and access to cutting edge technology. For instance, Noe and colleagues (2003) argue that the more strategic the approach to HRM, the greater the contribution of HRM to organizational performance. This view is also supported by Gloet and Berrell (2003) who argue that the more aligned the strategies underlying knowledge management and HRM, the more contribution both can make to overall organizational performance. It is, therefore, suggested that HRM practitioners need to be better cognizant of the implications of knowledge management for organizations' strategic orientation, and the ways in which the potential benefits of knowledge management may be realized.

Proposition 1: A focus on the construction, embodiment, diffusion and utilization of knowledge will enable HRM to play a key role in the strategic management of knowledge in organizations.

Strategic Orientation

It is common knowledge that HRM decisions are seldom treated as a source of value creation in organizations (e.g. Hamel and Prahalad, 1994). Instead, human resources, both as labor and as a business function, are usually viewed as a cost to be minimized; a potential source of efficiency gains (Becker & Gerhart, 1996). This is despite the usual presumption in the strategic HRM literature that organizations that engage in best human resource practices, such as best selection or training programs, will have a competitive advantage over those organizations

that do not deploy such practices (Schuler & MacMillan, 1984). In fact, a major aspect of human resource strategies remains focused on the restructure operations to reduce labor costs (Uchitelle & Kleinfield, 1996). Such practices do not, per se, add strategic value to organizations.

Becker and Gerhart (1996) note that one major challenge faced by management is to restructure organizations in a manner that entails fewer employees but creates value more appropriate for particular business strategies. The literature suggests that value may be added to the traditional personnel functions by encouraging a strategic focus on learning. López, Peón, and Ordás (2006) analyzed the relationship between four human resources practices (hiring, training, compensation and decision-making) and organizational learning. Their study suggests that selective hiring, strategic training and rewarding, and employee participation in decision-making positively impact on organizational learning. A knowledge-oriented HRM will ensure that employees are not only hired but also trained, rewarded and promoted on the basis of their knowledge and its congruence with the organization's long-term objectives.

There are many ways in which such strategic orientation may be adopted within the conventional HRM processes. For example, Minbaeva (2005) suggests a number of HRM practices that organizations can employ to enhance knowledge-related outcomes: (1) acquisition of capabilities - recruiting the right people, having the balanced skill sets, create effective innovation teams; (2) performance management, encouraging risk taking; (3) reward systems - motivating people to achieve productivity, innovation, and profitability; and (4) career management - empowering people, continuous education and development. Thus, a knowledge orientation does not mean that the conventional HRM functions will vanish; they will rather

adopt a more strategic and integrated role within organizational policies and practices. However, to that end, the HRM function will need to build a knowledge-based strategic partnership with other functions and departments in the organization.

Such perspective is also supported by other scholars who argue that the core HRM practices may be channeled to facilitate the diffusion of knowledge and innovation (e.g. Chow, 2006). When adequately managed, staffing and training functions, as well as performance appraisals can serve as important vehicles for promoting collaboration and knowledge exchange (Lane et al., 2001; Snell et al., 1999). Indeed, through comprehensive training, job enrichment, and cross-functional career paths, HRM may encourage and train employees to build and utilize knowledge.

There are a number of HRM routines that organizations can adopt to enhance employees' knowledge and skills (Delantey & Huselid, 1996). First, HRM can focus on improving the quality of recruitment, and on improving the skills and abilities of current employees. The quality of recruitment directly impacts on organizational performance (Becker & Huselid, 1992). Organizations can also improve the quality of current employees by providing comprehensive training and development. This may take the shape of multi-disciplinary learning in many specialist areas or it may involve a focus on general theoretical knowledge. The quality of recruitment can be improved by designing dynamic and objective recruitment procedures, proactively seeking to attract suitable candidates, informed by specific requirements of the job and the industry. An investment in training is likely to positively impact organizational productivity and profitability (Knoke & Kalleberg, 1994). Previous research has highlighted the

interlinkage between specific HR roles and the development of competitive advantage. Such competitive advantage is known to be an outcome of organizational learning and continuous improvement (Pucik, 1992). For example, employee knowledge surfaced as one of the most durable resources and important contributors to business success in studies undertaken of six successful companies in the UK (Hall, 1993). Similarly, there is some evidence that groups or clusters of complementary HRM practices can have significant effect on productivity in organizations (Ichniowski, Shaw, & Prennushi, 1997).

This paper argues that it is imperative to orient HRM to specific business strategies and create an apposite culture to gain competitive advantage (Barney, 1986; 1991; Sun, Aryee, & Law, 2007). In this vein, knowledge-oriented HRM has a valuable role not only in implementing a given competitive scenario but also in generating strategic capability. This view is consistent with a resource-based perspective, which suggests that HRM policies and practices may offer sustained advantage because of: (1) their social complexity, i.e. competitors may not be able to replicate the diversity and depth of linked processes that sustain them; and (2) their historical sensitivity, i.e. it takes time to build employees' trust (Boxall, 1996). Given the significance of organizational learning in the knowledge economy, a knowledge-oriented HRM may, indeed, play a pivotal role in an organization's strategic competitive advantage.

The effectiveness of knowledge-based system would, in turn, require teamwork and support from various departments and functions within the organization (Skelin, 1999). The role of HRM in identifying where the strategic knowledge resides and how best it may be integrated and utilized is important for the success of this strategy (Hansen et al., 1999). In the next section,

the paper will discuss the mechanics of building and utilization of knowledge, and the structures needed by a knowledge-oriented HRM to add strategic value to the organization.

Proposition 2: Reorientation of traditional personnel functions to a knowledge-oriented HRM will encourage an organizational focus on learning consistent with the organization's long-term business goals.

Multidisciplinary Knowledge Teams

The literature suggests that HRM practices may be directed to promoting positive learning attitudes and creating a self-renewal organizational climate. For example, Minbaeva (2005) explains how multinational organizations can institute various HRM practices to overcome barriers to the transfer of knowledge and hence help build the learning environment. Jaw and Liu (2003) deploy a behavioral perspective to explore the relationships among HRM, positive learning attitudes, and a self-renewal organizational climate. Their study highlights the role of HRM in facilitating positive learning attitudes that foster organizational self-renewal and competitive practices. However, recent research demonstrates that the interlinkage between the HRM function, organizational learning and strategic business objectives is not widely understood. For example, Han and colleagues (2006) demonstrate that key stakeholders consider effectiveness of HRM as residing in traditional services and programs; limited value is attached to the strategic aspect of HRM. Jerez-Gómez and colleagues (2005) suggest that despite the importance of organizational learning in today's knowledge-intensive economy, there is little consensus in terms of how HRM can develop and implement organizational learning capability.

There is some evidence that learning can be improved when certain characteristics or conditions are in place. Such characteristics determine an organization's capacity to learn (DiBella, 2001). Garvin (1993, p. 80) defines learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights." Such organization would comprise a set of various stages of knowledge, moving through a cognitive-behavioral-performance and a systemic approach to organizational learning: systematic problem solving; experimentation with new approaches, learning from their own experience and past history, learning from the experience and best practices of others and transferring knowledge quickly and efficiently throughout the organization (p. 81). By creating systems and processes that support these activities and integrate them into work routines, organizations can manage their learning more effectively.

This paper argues that HRM can strategically develop and implement knowledge in organizations by treating teams as the focal instrument for constructing, embodying, diffusing and implementing knowledge within and across various organizational functions (refer to Figure 1). Indeed, one way in which HRM can tackle the knowledge challenge is to address "how to optimally structure knowledge flow between knowledge seekers and knowledge providers to maximize the impact of knowledge" (Holtshouse, 1998, p. 277). Managing knowledge-based systems would entail team effort and support throughout the organization (Clark & Soliman, 1997; Murray, Korkofingas, & Syed, 2007). A number of decisions would need to be made at each sub-functional stage (such as recruitment, training, and compensation) in order to create, capture, access and use knowledge (Soliman et al., 1999).

In recent years, there has been a significant increase in the use of multidisciplinary knowledge teams as a key approach to organizing work (see Van Der Vegt & Bunderson, 2005). For the purposes of this paper, multidisciplinary knowledge team is defined as a team representing cross-functional organizational members, in which team decisions and actions are more likely to encompass the full range of perspectives and issues that might affect the success of a collective venture. Examples include product development teams, cross-functional teams, and top management teams. The idea has some roots in literature, for instance, in terms of Foss's (2000, p.1) focus on fostering "dynamic capabilities by imposing structural ambiguity on the organization." This paper argues that in order to adopt a knowledge-oriented role, HRM will need to expand its conventional advisory role to foster a strategic partnership with technical, professional and other line managers in the organization and its various departments and functions. However, the development of such teams will usually be informed by the complexity of tasks at various levels of organizational hierarchy. In the next section, the paper will highlight how HRM can develop and deploy knowledge teams as strategic devices to achieve a strategic knowledge advantage.

Knowledge Teams as Strategic Devices

Previous research suggests that teams may provide greater potential to achieve sustainable competitive advantage (Barney & Wright, 1998). Since team output is more than the sum of the separable outputs of each team members or units, it is generally difficult to identify the specific source of the competitive advantage. In other words, the competitive advantage

stemming from team production is causally ambiguous, thus making it difficult for competitors to imitate (Murray & Moses, 2005). Furthermore, team members may also become involved in socially complex relationships, generating transaction-specific human capital not transferable across organizations, thus only benefiting the organization in which these relationships develop.

Many scholars have highlighted the positive implications of expertise diversity (i.e. diverse skills embedded in multi-disciplinary teams) for team learning and performance. Van Der Vegt and Bunderson (2005) examined expertise diversity's relationship with team learning and team performance under varying levels of collective team identification in multidisciplinary teams. In teams with low collective identification, expertise diversity was negatively related to team learning and performance; where team identification was high, those relationships were positive. Van Der Vegt and Bunderson's study demonstrates that team learning, at least partially, mediates the linear and nonlinear relationships between expertise diversity and performance. Similarly, Auh and Menguc (2005) highlighted the positive role played by inter-functional coordination in explaining the relationship between team diversity and innovativeness. Their study reveals how inter-functional coordination can help translate the experience and educational diversity into innovation and productivity.

Knowledge teams are known to display a range of competency sets related to self-empowerment, reflecting the capacity to deal with multiple tasks (Murray & Moses, 2005). Collectively, such teams deal with external inputs in a superior way. Murray and Moses posit that dynamic team learning leads to, and improves, team effectiveness. Team effectiveness will in turn depend on the degree to which teams: (1) meet the standards of quantity, quality, and

timeliness of the people who receive, review, and/or use that output; (2) enhance the capability of members to work together interdependently in the future in carrying out the work; and (3) contribute to the growth and personal well-being of team members (Hackman & Walton, 1986, pp.78-79). From a knowledge-economy perspective, dynamic team learning means that HRM will need to develop a strategic partnership with other functions and departments within the organization to identify, create and apply knowledge consistent with the strategic organizational objectives. Through multidisciplinary knowledge teams, HRM can not only bring various members of the organization together on one table but also contribute to the individual and organizational well-being[5].

This paper argues that a knowledge-oriented HRM is instrumental in developing the collective dynamic capabilities of team(s), depending largely on the distinct knowledge held by the various team members. It is instrumental in understanding the mechanics of how and why individuals co-specialize working together in multidisciplinary and task oriented teams (Buckley & Carter, 2000). Watkins and Marsick (1993) suggest that HR managers need to be aware of the significance of building supportive learning environment to foster an ongoing inquiry and dialogue, to encourage collaboration and team learning, to establish systems to capture and share learning and to empower people to have a collective vision. This view is also supported by Laursen and Foss (2000) who highlighted the need for the HRM practices to be "most conducive to innovation performance when adopted, not in isolation, but as a system of mutually reinforcing practices" (p.8).

[5] The idea of knowledge workers with a specific agenda resonates Deming's concept of quality control circle usually directed toward improvements in the workplace (focused on such areas as cost, safety, and productivity).

In order to foster a culture conducive to learning, there will also be a need to transform conversational and collective thinking skills, so that team members could develop intelligence and ability greater than the sum of individual member talents (Murray & Moses, 2005; Senge, 1994). Collective interpreting and sense making within a team facilitates shared understandings (Crossan et al., 1999), which leads to better integration and synergy (Hitt, 1995). There is some evidence that managers can improve the absorptive capacity of their employees by applying specific HRM practices oriented toward employees' ability and employees' motivation (Minbaeva et al., 2003). Actually, knowledge fostered through team learning is more important than individual learning since most organizational decisions are made in subunits, such as teams and divisions (Senge, 1990). Thus, a collective and coherent action within and across various functions in an organization would also help improve team members' interpretive and intuitive skills. It may, therefore, be argued that through its focus on multidisciplinary knowledge teams, HRM can help foster strong collective team identification and a supportive learning environment in which knowledge among individuals is readily shared within teams, which is then possible to translate into interdependent strategic tasks and objectives.

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Insert Figure 2 about here

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Figure 2 highlights the central role of knowledge teams within the organizational learning process. It demonstrates how knowledge-oriented HRM may treat multidisciplinary teams as focal instruments in order to interlink the creation and utilization of knowledge at the individual, cross-functional and organizational levels, and direct them to long-term strategic objectives of the organization.[6] The arrows in this figure demonstrate causality, such as the impact of knowledge-oriented HRM routines on individuals and functions within organizations, which then impact on the achievement of strategic organizational objectives. The two-way arrow between knowledge team and individual, and knowledge team and function/department highlight the bi-directional nature of interaction and implications at these two levels, and the centrality of teams between the individual and organizational levels. The HRM's emphasis on multidisciplinary knowledge teams to accomplish a wide variety of activity would endow teams a central role (Murray & Moses, 2005). For instance, self-regulated teams have been traditionally regarded as social units engaged in collective learning, providing a cross fertilization of ideas and learning norms (Masrick, 1994). More recently, significant research has unearthed benefits emanating from high performance or high involvement teams (Distefano & Maznevski, 2000). Thus, consistent with the needs of the knowledge economy, HRM will play a central and strategic, albeit team-based participatory, role in developing strategic HRM practices and policies, such as strategic identification of job description and job specification in dynamic consultation with technical and other line managers. Similarly there will be a joint ownership in terms of performance management of employees informed by the shared knowledge of the multidisciplinary team members.

[6] The perspective offered here is consistent with Felin and Foss's (2006) study that tackles theoretical issues in developing micro-foundations for strategic management and organizational analysis.

Indeed, a great deal of knowledge in organizations is created and held collectively (Brown & Duguit, 1998).[7] Though, much of functional knowledge is nested within a higher-order set of recipes (Kogut & Zander, 1997), a knowledge-oriented HRM can help foster and integrate cross-functional expertise by organizing principles within strategic knowledge routines and processes. The next section builds on the idea that continuous learning is imperative for knowledge-oriented HRM routines in organizations, and today's organizations need knowledge teams that foster a culture of competitive learning.

Proposition 3: HRM may focus on multidisciplinary knowledge teams as interlinking pins within the broad taxonomy of learning at the individual and organizational levels.

Competitive Learning

This paper supports the view that learning faster than one's competitors is the only sustainable competitive advantage (De Geus, 1988); and that organizational knowledge is created through sharing of knowledge among the various organizational members (Nonaka & Takeuchi, 1995). This view is also shared by Prahalad (1983) who suggests that strategic advantage in today's organizations depends more on people-embodied know-how.[8] Similarly, Lado and Wilson (1994) suggest that HRM practices "can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific, produce complex

[7] And, indeed, an organization is much more than a collection of "disjoined manufacturing sites and functional groups" (Zander & Kogut, 1995, p.87).

[8] The perspective is consistent with the resource-based view, which provides an economic foundation for examining the role of HRM in organizations' competitive advantage (Barney & Wright, 1998).

social relationships, … and generate organizational knowledge" (p.699). Accordingly, it is argued that learning-oriented HRM strategies may be treated as an especially important source of sustained competitive advantage.

There is also some evidence of how the notion of organizational learning is integrated to the resource-based view (Snell, Youndt, & Wright, 1996). At least two of the basic competitive resources identified by Barney (1991), i.e. organizational and human capital, are directly influenced by HRM processes in an organization.[9] Moreover, scholars identify two key factors, causal ambiguity and path dependency, which make it specifically difficult to imitate human resource strategies deeply embedded in an organization (Barney, 1991; Becker & Gerhart, 1996; Collis & Montgomery, 1995). Causal ambiguity denotes the difficulty in grasping the precise mechanisms by which the interplay of human resource practices and policies generates value. The literature on synergy indicates that the precise nature (such as linearity or complexity) of these interactions is not completely understood. Without being able to understand how an HRM system works, it is not possible to imitate it. In addition to causal ambiguity, human resource systems are generally path dependent; comprising policies that are developed over time and cannot be readily replicated by the competitors. Indeed, there are limits on management's ability to successfully replicate the context and content of organizational learning and other socially complex elements associated with the learning and application of knowledge.

[9] Barney (1991) identifies three basic types of resources that can provide competitive advantage: physical capital resources, e.g. plant, equipment, and finances; organizational capital resources, e.g. organizational structure, planning, control and the HRM systems; and human capital resources, e.g. skills, judgment, and intelligence of employees.

The value of organizational learning and knowledge is especially relevant in some sectors, e.g. modern manufacturing organizations, which is evident by heavy investments in production innovations, such as advanced manufacturing technology and process control (Youndt et al., 1996). Such organizations depend heavily on employee knowledge, skills and commitment as key components in the value creation process (Snell & Dean, 1992). There is also some evidence that learning orientation promotes positive learning attitudes and nurtures a self-renewal organizational climate. Jaw and Liu's (2003) study suggests that an organization with learning-oriented HRM is more likely to engage in a self-renewal organizational climate. The focus here is on building a supportive learning environment which "facilitates the learning of its members and continually transforms itself" (Pedler, Burgoyne, & Boydell, 1991, p.1). It is, thus, instrumental for organizations to harness competitive learning of their employees in order to achieve competitive performance.

Murray and Syed (2006) identify various learning domains (embedded, enlightened, embodied, and enabled learning) to explain how team as well as organizational effectiveness is linked to organizational learning routines. They suggest that the learning behaviors that link each level of learning to team effectiveness are imperative in building the capability routines. The learning routines may be treated as interdependent given that the absence of one will diminish another domain's potential. Most likely, environmental interpretation arising from the enabling orientation will be impoverished since learning will be defined by function rather than exploitation and exploration (Crossan et al., 1999).

Indeed, one of the most tangible benefits of knowledge-oriented HRM is higher level learning routines in organizations. While it may be easier for organizations to learn from their failure, they should have a mechanism to retain what was done correctly as well as what was not (Levitt & March, 1988). A related challenge that knowledge-oriented HRM would need to tackle is to help organizations to unlearn, and as necessary, treat their memories as enemies (Hedberg, 1981). From a strategic knowledge management perspective, HRM may identify the strategies, processes and procedures as well as conditions that have in the past resulted in negative performance outcomes. For example, HRM (and other members of the multidisciplinary teams) may learn from how an under-emphasis on training and performance management resulted in lower levels of product or service quality.

The above discussion elaborates how a knowledge-oriented HRM may help facilitate and explore the strategic knowledge that underpins organizational learning by providing different types of integrative mechanisms. A strategic knowledge orientation may enable sustained competitive advantage, and a learning culture should underpin this process.

Proposition 4: Knowledge-oriented HRM will result in people-embodied know-how, which is firm-specific and path-dependent.

Discussion

The paper argued for the potentially significant interlinkage between an organization's human resources strategy and its learning capability. The dyadic perspective offered in this paper

highlighted the strategic role of HRM in the development and configuration of organizational knowledge with the long-term business objectives. It also emphasized the role of multidisciplinary knowledge teams which act as interlinking pins between learning at the individual and organizational levels. The paper discussed that, through its simultaneous emphasis on strategic goals and team learning, knowledge-oriented HRM may enable higher levels of organizational learning capability that will in turn contribute to sustained competitive advantage.

The paper also argued how the transformation of HRM to support organizational learning poses a key strategic challenge faced by the conventional personnel function. Given that HRM is seldom treated as a source of value creation in organizations, the paper proposed that HRM may adopt a more strategic role in the new knowledge economy era, in a manner that is not only responsive to the fluctuating needs and expectations of the global consumer but is also useful in creating value consistent with particular business strategies. Through strategic alignment of knowledge, and a focus on knowledge workers and knowledge sharing, HRM practices may be directed to promoting positive learning attitudes and creating a self-renewal organizational climate. At the same time, there is a need to challenge the usual practice by key stakeholders to consider effectiveness of HRM as residing in traditional services and programs. This paper suggests that this view needs to be transformed in order to assign a more strategic and powerful role to HRM in developing and implementing organizational learning capability.

As discussed in this paper, teams are centrally located between the broad taxonomy of learning at the individual and organizational level, and that when HRM is focused on team learning, it becomes natural to expand both individual and organizational learning. As liaison

devices, teams act as interlinking pins between learning at the individual and organizational levels. The attractiveness of multidisciplinary knowledge teams lies in their ability to share knowledge, skills, and ideas, as well as their ability to meet both its internal and external expectations. It follows that team effectiveness is enhanced by a team's ability to meet or exceed organizational objectives and to deliver superior results to those who rely on team outputs. As HRM continues to adopt team-based approaches to doing business, the ability of a team is a desirable competence in order to stimulate the competitive advantage.

…….

Insert Table 1 about here

…….

Table 1 offers a dyadic perspective of knowledge-oriented human resource management discussed in this paper. The first perspective deals with the strategic alignment of knowledge, which the paper argued, can be achieved through strategic orientation and management of knowledge. The second perspective exposes the practical mechanism through which knowledge-oriented HRM may be implemented within an organization and its constituent sub-units. The emphasis here is on multi-disciplinary knowledge teams, which may serve as central liaison devices interlinking individual and organizational learning. Within this context, the paper highlighted the significance of competitive learning culture, which HRM will need to foster in organizations in order to fully assume its new strategic role in today's knowledge-economy era.

Consistent with the previous research, the paper proposes to develop knowledge-oriented HRM routines that create a synergistic effect rather than develop a set of independent best practices (Hitt, 1995; Lado & Wilson, 1994). This process would entail a transition from the traditional sub-functional view of HRM to one where independent sub-functions are viewed as components of an interdependent knowledge system. This perspective is much more than a set of distinctive HRM practices, and represents a process of developing, applying, and evaluating policies and programs relating to individuals and teams in the organization (Miner & Crane, 1995). Indeed, it is possible to influence the adoption of scientifically grounded HR practices, if both the rational and non-rational forces influencing the adoption process are understood and harnessed (Subramony, 2006). The perspective is also supported by a recent study by Kang, Morris and Snell (2007), which brings HRM into knowledge-based competition through a framework of relational archetypes - entrepreneurial and cooperative - that are derived from unique configuration of various social relations within and across organizational boundaries. Thus, while it is imperative that HRM practitioners demonstrate the economic values of human resource practices, it is equally important that they overcome barriers to the adoption of these practices arising from constraints on decision makers' time and cognitive resources. Future research may be directed to explore such potential constraints and how they could be tackled.

The dyadic perspective this paper developed also offers several directions for future research. First, the paper argued that a focus on the construction, embodiment, diffusion and utilization of knowledge will enable HRM to play a key role in the strategic management of knowledge in organizations. However, the paper did not explain how HRM will negotiate this role with other key departments in organizations, such as finance, marketing and production.

What will be its implications for power politics at organizational and departmental levels. How will the specialized knowledge within each department be embodied or shared within multidisciplinary knowledge teams. What will be various hierarchical levels or categories of such teams? For example, some of the teams might be intra-departmental whereas others might operate at inter-departmental level or across various units of the organization. Furthermore, how can HRM ensure that formal team structures are less bureaucratic so as not to impede the sharing and transfer of tacit knowledge in organizations? Second, future research might explore the role of workforce diversity in the way employees may communicate and share information in knowledge teams. For example, given the focus of knowledge-oriented HRM on people-embodied know-how, how would individuals' diverse cognitive skills and social identities affect their participation in multidisciplinary knowledge teams.

Conclusion

Knowledge-oriented HRM may foster learning environment and routines in organizations, which can in turn make valuable contribution to sustained competitive advantage. Given the importance of knowledge sharing to organizational learning in the knowledge economy era, HRM practices and processes may be strategically reorganized and reoriented to enhance employees' learning behavior and organizational performance. By drawing some logical connections between knowledge management, strategic performance, and HRM, this paper developed a dyadic framework for knowledge-oriented HRM. The framework explains how through multidisciplinary knowledge teams, in which HRM plays a participatory role along with

other functions and departments, HRM might strategically manage employees to achieve long-term organizational objectives.

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Figures and Tables

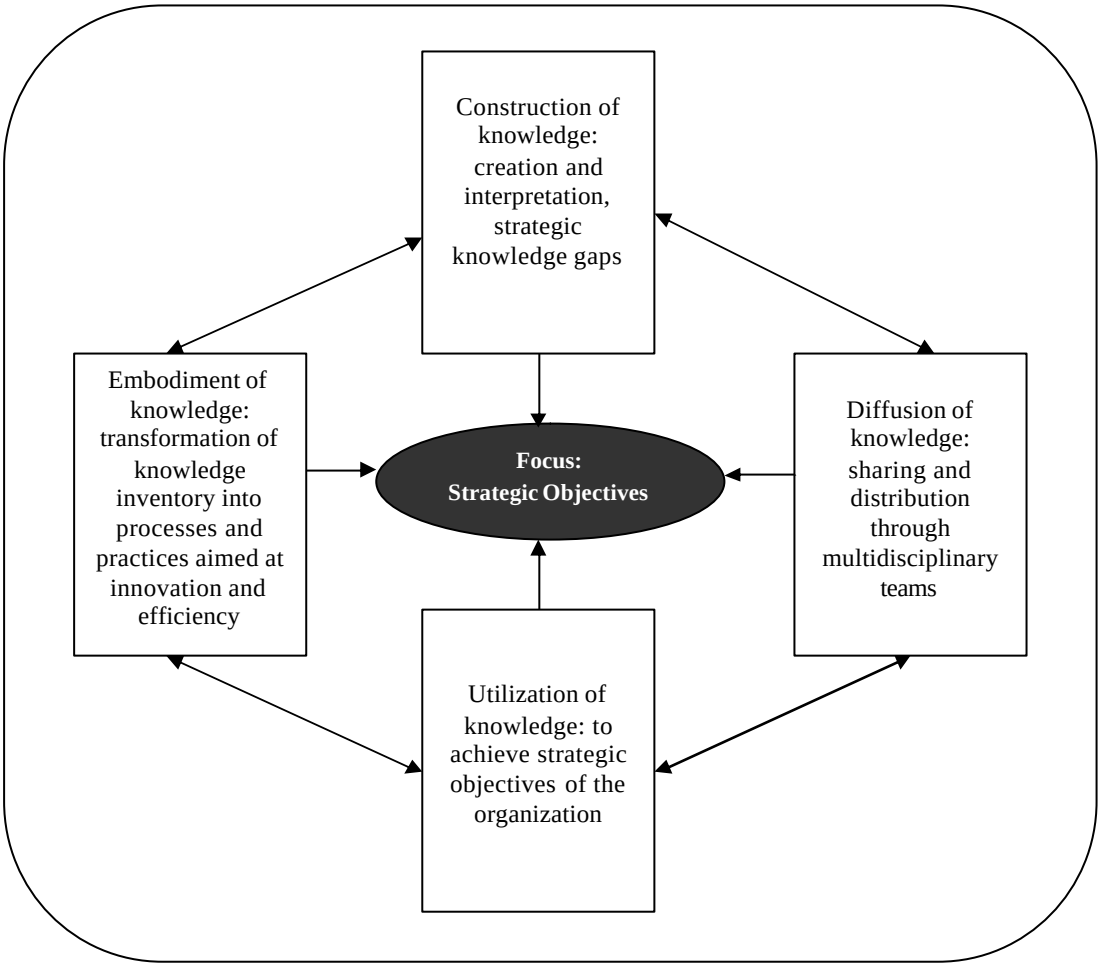

Figure 1. *Strategic role of knowledge-oriented HRM*

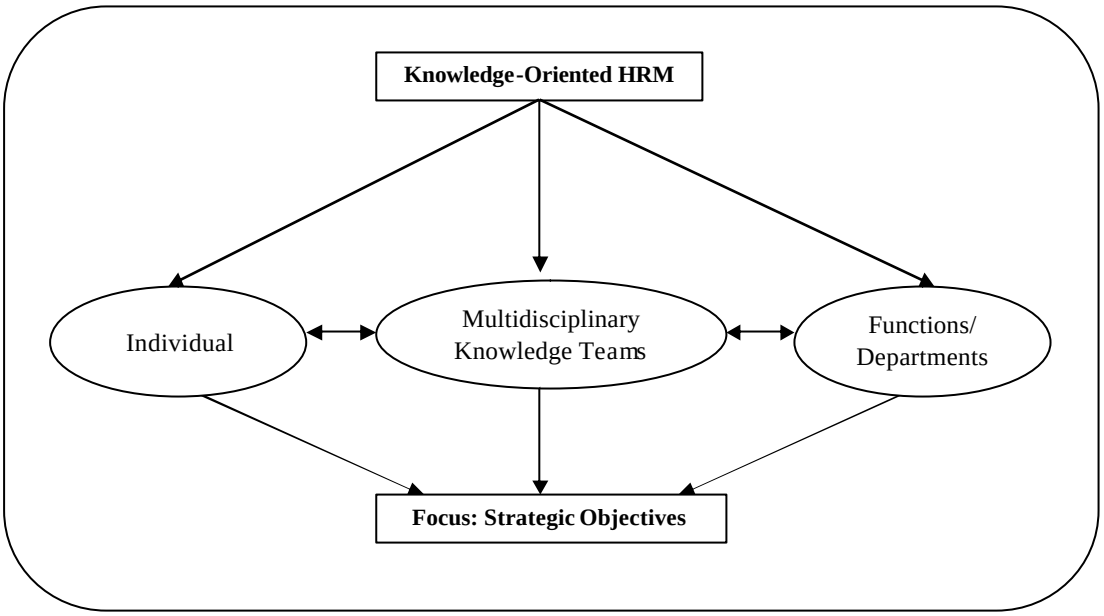

Figure 2. *Centrality of multi-disciplinary knowledge teams*

Table 1. *A dyadic perspective of knowledge-oriented human resource management*

Perspective	**Description**
Strategic alignment of knowledge	
▪ Knowledge management	HRM can play a key role in the strategic management of knowledge in organizations. This can be achieved through a focus on the construction, embodiment, diffusion and utilization of knowledge.
▪ Strategic orientation	Reorientation of traditional personnel functions to a knowledge-oriented HRM will encourage a focus on learning consistent with the organization's long-term business goals.
Multidisciplinary knowledge teams	
▪ Teams as strategic devices	HRM may focus on multidisciplinary knowledge teams as interlinking pins within the broad taxonomy of learning at the individual and organizational levels.
▪ Competitive learning	Knowledge-oriented HRM will result in people-embodied know-how, which is firm-specific and path-dependent.

http://www.kent.ac.uk/kbs/research-information/index.htm