HUMAN RESOUCE MANAGEMENT SYSTEMS, DYNAMIC CAPABILITIES AND ENVIRONMENTAL DYNAMICS: A PRACTICE-THEORETICAL ANALYSIS

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Hansen, Nina Katrin[1] / Güttel, Wolfgang H.[2]

University of Hamburg

Chair of Human Resource Management / Chair of Organization and Strategic Management

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Abstract

Firms compete in differently dynamic environments. Their SHRM systems need to develop different dynamic capabilities for dealing with market dynamics. In this paper, we investigate the contribution of a control (Internal Labor Market) and a commitment (High-Commitment) SHRM system to cultivate dynamic capabilities. Both generic SHRM systems are underpinned with a practice-based approach to make a comparison feasible. We analyze the role of ILM and H-C systems in a moderately dynamic and in a high-velocity environment. The level of the employee's background knowledge determines the appropriateness of ILM and H-C for facilitating or preventing a firm's dynamic evolution.

[1] Hansen, Nina Katrin, Von Melle-Park 5, D-20146 Hamburg (Germany), Tel. +49.40.42838.3315, fax +49.40.42838.6358, NinaKatrin.Hansen@wiso.uni-hamburg.de

[2] Güttel, Wolfgang H., Von Melle-Park 5, D-20146 Hamburg (Germany), Tel. +49.40.42838.7434, fax +49.40.42838.7433, guettel@econ.uni-hamburg.de

1. INTRODUCTION

Firm survival is dependent on finding a trade-off between exploiting the existing resource- and capability-base and, often concurrently, exploring new opportunities for long-term growth. Differently dynamic environments make the use of differently shaped 'dynamic capabilities' – routines for reconfiguration (Teece, Pisano, and Shuen, 1997: 94), innovation (Danneels, 2002), and replication (Winter, 2003) – necessary that govern the firm's development (Eisenhardt and Martin, 2000; Ambrosini and Bowman, 2009). The strategic human resource management (SHRM) of a firm plays a central role in supporting the creation and maintenance of dynamic capabilities in order to keep pace with the firm's environment. However, although SHRM researchers consider the importance of SHRM for the constitution and maintenance of dynamic capabilities, the explanation of the linkage between dynamic capabilities and SHRM is still underdeveloped (Schuler and Jackson, 2007; Wright and Snell, 2009). Taking this into account, the aim of this paper is to analyze the central relationship of a firm's SHRM and its dynamic capabilities.

Two generic SHRM systems serve as our theoretical starting point: The internal labor market (ILM) and the high-commitment work (H-C) system (Baron and Kreps, 1999). They represent two ideal types of HRM 'bundles' (MacDuffie, 1995): control vs. commitment (Arthur, 1994; Lengnick-Hall, Lengnick-Hall, Andrade, and Drake, 2009). Both SHRM systems recommend a set of ideal practices of HRM for navigating the firm with its employees through a competitive landscape. ILM and H-C incorporate competing logics in governing the HR flow within a firm. However, in the current literature the two SHRM systems are not anchored in a coherent theoretical framework and their consequences in different dynamically evolving environments remain unclear. Moreover, the connection between concrete HR practices and a specific SHRM system, i.e. the relationship between micro HRM and SHRM (Boxall, Purcell, and Wright, 2007; Lengnick-Hall et al., 2009), has not been deeply elaborated yet. Furthermore the underlying logic and mechanism of SHRM systems – understood as coherent bundles of HR practices – are still perceived as 'black box' (Pinfield & Berner 1994; Guest, 1997; Ramsay et al., 2000; Wright & Garnder, 2003; Xiao & Björkman, 2006: 404).

Against the backdrop of these research gaps, we systematically compare the goverance logic of opposing SHRM systems – control (ILM) vs. commitment (H-C) – and their contribution in finding the right balance between stability and change in regard to the firm's environment. Therefore, it is necessary to embed both generic SHRM systems in a coherent theoretical framework from which we can discuss their impact on different strategic requirements.

We elaborate the existing literature in the field of SHRM in three domains. *First*, we underpin SHRM with a practice-based approach that enables us to link micro HRM with SHRM (Lengnick-Hall et al., 2009). We choose a practice-based approach (Feldman and Pentland, 2003; Pentland and Feldman, 2005) as ILM and H-C recommend different 'practices' for developing and maintaining firm capabilities to achieve competitive advantage (Wright et al., 2009). In particular, we analyze both SHRM systems along two common HRM dimensions: (1) The way in which HR practices facilitate the development of the firm's knowledge base (e.g. recruiting, training, socialization) and (2) the governance system through which the employee's behavior is influenced in order to elicit task-related behavior and to exhibit discretionary behavior (e.g. the role of organizational design and culture) (Wright et al., 2009; Delery, 1998).

Secondly, we rely on the contingency perspective of the dynamic capabilities-approach (Eisenhardt et al., 2000) to investigate the specific roles of ILM and H-C in developing dynamic capabilities that enable the firm to compete in differently dynamic environments (i.e. high-velocity vs. moderately dynamic markets). Such a comparison is still missing in recent

SHRM literature, but it is necessary to explain the role of HRM for aligning the firm with a dynamic and competitive landscape.

Thirdly, we demonstrate the role of the employee's background knowledge in deciding which SHRM system is appropriate in differently dynamic environments. Consequently, we also make an attempt to overcome the collectivistic and individual-less conceptualizations of dynamic capabilities of recent research in strategic management. Furthermore, in contrast to the current view of dynamic capabilities, we do not only demonstrate their impact on learning and change. Instead, we also analyze their contribution for preventing change in situations where stability is necessary. We indicate the impact of both SHRM systems to enable the required dynamic capabilities for facilitating and preventing change. Therefore, we pose the following research question: *How do ILM and H-C contribute to the development and maintenance of dynamic capabilities in differently dynamic environments?*

In the next section, we analyze the contribution of the existing SHRM literature to explain the role of different SHRM systems in general and in dynamic environments in particular. Subsequently, we develop a practice-based framework to underpin the coherent HR practices in the two generic SHRM systems to make a systematic comparison feasible. In the next section, we contrast two SHRM systems – ILM and H-C – by comparing their role in knowledge development (selection, training) and in governing employee behavior (governance mechanisms such as rules, rewards and appraisals). Finally, we demonstrate the impact of both SHRM systems on establishing and maintaining dynamic capabilities in order to cope with different environmental dynamics. In the discussion and concluding section, we discuss our findings in the context of SHRM research.

2. STRATEGIC HUMAN RESOURCE MANAGEMENT AND DYNAMIC CAPABILITIES

In recent years, managers as well as strategy scholars have been increasingly trying to understand how one of the last truly competitive resources' – the human resources – can be managed for competitive advantage (Wright and Snell, 2009). However, this is not a trivial task as HR are not per se the foundation of competitive advantage but the way firms are able to integrate and to utilize their potential (e.g. skills, knowledge, experience). In this line, Wright and Snell (2009) emphasize the role of organizational and dynamic capabilities – based on organizational routines (Zollo and Winter, 2002; Winter, 2003) – as catalyst for integrating a firm's HR. Consequently, the role of HRM is to support the integration of employees into the existing structure and processes (organizational design) by establishing appropriate governance mechanisms (i.e. rule systems) and to facilitate knowledge development (e.g. selection, training) in order to enable a steady performance of operative capabilities and to enhance learning and development (resulting from dynamic capabilities) when and where necessary (figure 1).

Insert figure 1 about here

Research in SHRM is 'concerned with the strategic choices associated with the use of labour in firms and with explaining why some firms manage them more effectively than others'

(Boxall and Purcell, 2000: 185); it is based on the strategic management as well as the HRM literature. For the last decade, the research fields of strategic management and SHRM have been converging around several theoretical issues, for example, knowledge, dynamic capabilities, learning organizations and leadership (Schuler et al., 2007; Snell, Shadur, and Wright, 2001; Wright, Dunford, and Snell, 2001). SHRM scholars have been trying to connect these two approaches to explain how HR sustain competitive advantage and, therefore, are central for organizational success.

However, the connection between SHRM and dynamic capabilities is underdeveloped (Wright and Snell 2009). During the past decade the dynamic capabilities approach emerged as a derivate of the resource-based view of the firm (Teece and Pisano, 1994; Teece et al., 1997; Ambrosini and Bowman, 2009). Dynamic capabilities can be broadly defined as organizational rules and routines for manipulating resources to match and even to create market change (Eisenhardt et al., 2000). Dynamic capabilities are said to fulfill heterogeneous functions within organizations. In detail, organizations develop formal and social rules embedded in organizational routines (either explicitly or tacitly) that enable them to reconfigure operative routines in order to strengthen their competitiveness, to facilitate the development of new products or to replicate existing business models in new markets. These adaptation, innovation, and replication routines can be perceived as dynamic capabilities (Zollo and Winter, 2002). O'Reilly and Tushman (2008) emphasize in their theoretical paper the role of ambidexterity, i.e. the integration of exploration and exploitation learning on a high level, as the main dynamic capability.

Though these are important issues also for HRM, only a few papers address the connection between SHRM and dynamic capabilities. Camuffo and Volpato (1995) discuss the role of HRM in a change process by using a case study of FIAT. In their theoretical papers, Harvey (2000) and Harvey et al. (2004) highlight the role of global staffing for keeping organizations flexible and adaptive. From a practice-based perspective, Thompson (2007) investigates the role of dynamic capabilities in shaping innovations in HRM practices. In a case-study based research, he found out that the characteristics of the context (e.g. industry, production system) and the power structure within the firm imped the implementation of novel HR bundles in a coherent way. Ghanam and Cox (2007) investigate the intersection of HRM and dynamic capabilities in a short exemplary case study. They emphasize the focus of HRM on maintaining an organizational culture, the treatment of employees and the integration of HRM and strategy as dynamic capabilities. The role of entrepreneurship is stressed by Chadwick and Dabu (2009). Accordingly, HRM has to develop an organizational context where entrepreneurial behavior is facilitated that supports a firm to overcome the danger of rigidities. Despite these few papers addressing SHRM and dynamic capabilities, we can conclude that more research is necessary in order to specify the role of HRM to keep the firm adaptable enough to cope with changing environmental demands.

Following a resource-based perspective, the firm-specific combination of complementary and interdependent HR practices in a certain SHRM system is of peculiar interest because it can constitute a strategic resource that meets the necessary conditions stated by Barney (1991) (see also Wright et al., 2001; Barney and Wright, 1998; Lado and Wilson, 1994; Snell, Youndt, and Wright, 1996;). Empirical studies in SHRM (Becker and Huselid, 1998; Delery and Doty, 1996; Huselid, 1995; MacDuffie, 1995; Arthur, 1994) emphasize that firm-specific bundles of coherent HR practices and not individual 'best-practices' lead to a higher firm performance (Kepes and Delery, 2007). Consistent with resource-based thinking, researchers of the configurational approach of SHRM (Kepes et al., 2007; Arthur, 1994; Delery, 1998; Delery et al., 1996; MacDuffie, 1995) focus on issues of internal fit and the coherent configuration of HR practice in HRM systems. They suggest 'that HRM systems and not individual HRM practices are the source of competitive advantage. Specifically, it is proposed

that coherent and internally aligned HRM practices form 'powerful connections' that create positive synergistic effects on organizational outcomes' (Bourdieu, 1972; Kepes et al., 2007: 385). Therefore, organizations should seek to attain a positive 'bundling' (MacDuffie, 1995) of their firm-specific HR practices and should try to avoid 'deadly combinations' (Delery, 1998) of their HR policies and practices that could work in opposite directions: e. g. the implementation of a teamwork organization and an existing appraisal system that only rewards individual performances (Boxall et al., 2000).

Referring to the concept of equifinality, researchers of the configurational perspective consider that different HRM systems can achieve identical outcomes and can be adequate for different parts of the workforce (Delery et al., 1996; Kepes et al., 2007; Lepak and Snell, 1999; Lepak and Snell, 2007). As Baron and Kreps (1999) state, 'HR policies cannot be considered piecemeal'. 'HR practices either work together as a package or they fight each other. Quite different 'packages' or systems can work well together in the same setting, while a mix of bits from each will fall flat' (p. 10). In SHRM literature, these packages are perceived as HR bundles, where control- and commitment-orientated approaches are distinguished. However, not the SHRM system per se can be seen as the foundation of competitive advantage, but its contribution to the development or maintenance of superior and idiosyncratic organizational and dynamic capabilities (Wright et al., 2009). We will, therefore, develop a practice-based framework to analyze different HR bundles and to discuss their contribution to the development of (dynamic) capabilities in the subsequent section. We certainly acknowledge that firms need to find their specific, sometimes idiosyncratic SHRM system. Instead we provide an outline by comparing the impact of two generic models in form of a control- (ILM) vs. a commitment (H-C) SHRM system.

3. PRACTICE: A CONCEPTUAL FRAMEWORK FOR ANALYZING SHRM SYSTEMS

The comparison of two generic SHRM systems requires an integrative theoretical framework. We draw upon the practice-based approach and in particular upon the model of organizational routines developed by Feldman and Pentland (2003) and Pentland and Feldman (2005) to underpin the SHRM systems and, thus, to make a comparison feasible. This approach is based on the fact that both SHRM systems consist of a coherent set of HR practices that represent organizational routines as the basis of organizational and dynamic capabilities. Furthermore, we advance our practice-based framework of SHRM systems by distinguishing two levels of analysis: (1) knowledge development and (2) governance mechanisms. In their SHRM review, Wright and Snell (2009) state that related HR practices can be distinguished whether they contribute to knowledge development (improvement of knowledge, skills, and abilities of the companies' employees in terms of recruiting, training, selection, and socialization) or govern the employees' task-related behavior (governance mechanisms for exhibiting discretionary behavior and for discouraging counterproductive behavior). We will especially employ the practice-based approach to analyze these dimensions and to investigate the role of formal and social rules in this regard.

As a result of an 'interpretative turn' in contemporary social theory, a number of theories of social practices (e. g. Bourdieu, 1972; Giddens, 1979, , 1984) were introduced. These practice theories represent a conceptual alternative to other forms of social theory that overcome the dualism of individual and society (Giddens, 1984). In particular, a practice theory approach enables a deeper understanding of organizational knowledge (Orlikowski, 2002; Brown and Duguid, 2001; Cook and Brown, 1999) and organizational routines (Feldman, 2000; Feldman,

2003; Feldman et al., 2003; Feldman and Rafaeli, 2002; Pentland et al., 2005). Following this praxeological path, the term 'practice' reflects two dimensions: (1) Practices guide the activities of human agents as their background knowledge and (2) they are the actual activity themselves carried out by human agents (Whittington, 2006). *'A 'practice' (Praktik) is a routinized type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge*' (Reckwitz, 2002: 249). Regrettably, although the term 'practice' is broadly used in HRM literature, it is rarely reflected upon. In line with the practice-based approach we use the term organizational routine for describing 'HR practices' as it is used by Feldman (2000) in the analysis of HR selection.

By following Latour's (1986) terminology, Feldman and Pentland (2003) and Pentland and Feldman (2005) identify two interrelated dimensions of organizational routines: An ostensive and a performative aspect (Latour, 1986) respectively a structure and an agency dimension (Giddens, 1984). The *ostensive aspect* of organizational routines represents an abstract idea or pattern of a specific routine that can 'be thought of as a narrative, or a script' (Pentland et al., 2005: 796): 'The ostensive aspect is the ideal or schematic form of a routine. It is the abstract, generalized idea of the routine, or the routine in principle' (Feldman et al., 2003: 101). This structural dimension refers to the existence of collective knowledge structures – rules and authoritative or allocative resources (Giddens, 1984) – that enable organizational members to refer to, guide their work activities and account for their behavior (Feldman et al., 2003). However, at the same time these structural aspects of organizational routines constrain the actions of organizational members.

Ostensive aspects in terms of collective expectations are shaped and protected through governance mechanisms against change. Implicitly, collective expectations create a loose or tight corridor, based on *social rules* (Burns and Flam, 1987), that defines to which extent deviations from the ideal performance of a routine remain without sanctions and which sanctions are imposed if the boundaries of the corridor are exceeded. Social rules incorporate values of the corporate culture and are expressed in norms with different levels of commitment (see also Feldman, 1984). In comparison to social rules, *formal rules* (Kieser, Beck, and Tainio, 2003; March, Schulz, and Zhou, 2000) are based on the organization's hierarchy and their foundation is formal control (Ouchi 1979; 1980). As ostensive and performative aspects constitute the core of organizational routines, artifacts in form of formal rules and standard-operating-procedures represent their visible symbols. However, although formal organizational rules are officially defined and explicated by the organization, their interpretation is based on the (sub-)system-specific frame of reference. So as in the case of their social equivalents, formal rules are incorporated into the ostensive aspects. The aim of formal rules is, therefore, to limit the discretionary power of employees and, consequently, to influence ostensive aspects by using formally legitimized power structures (hierarchical control).

The *performative aspects* represent the second dimension of organizational routines – the agency dimension – and the actual performance of organizational routines by human agents 'that bring the routine to life' (Feldman et al., 2003: 94). As the specific actions of organizational members at a certain time and space, the performative aspects of organizational routines refer to reproduced social practices that create, maintain and modify the structural dimension of organizational routines (Feldman et al., 2003; Pentland et al., 2005). In contrast to the abstract social structures, social practices are situated, spatially and temporally located and presuppose a subject (Giddens, 1976). Indexicality (Garfinkel, 1967), situatedness and context-dependence are the central characteristics of social practices. 'Like structure and agency, these two aspects are mutually constitutive; the ostensive does not simply guide

performances (as a script guides a play); it is also created from the performances' (Pentland et al., 2005: 795).

The specific interaction of the two recursive and mutually constitutive dimensions of organizational routines determines its flexibility and the degree to which a routine can be changed (Feldman et al., 2003; Pentland et al., 2005). The change of ostensive aspects of organizational routines is difficult, because the collective idea of the routine in principle and related collective expectations of involved employees have to be transformed. Changing ostensive aspects of routines, therefore, requires the modification of collective expectations concerning the understanding of how the routine has to be performed. Novel individual performances, the introduction of new formal rules or procedures, and a guided change of ostensive aspects in an organizational or team development process represent three ideal modes for modifying ostensive aspects. As ostensive aspects tacitly set a corridor for accepted behavior of a single employee for performing parts of the routine, individual performance that exceed these limits can be sanctioned as collective norms are disregarded. Therefore, change of substantial parts of ostensive aspects through a novel performance of an employee is limited. Attempts to change ostensive aspects through new formal rules or standard-operating-procedures are also difficult. New formal principles are perceived and interpreted under the existing frame of reference; there is no immediate impact on ostensive aspects. It depends on the shape of the collective frame of reference and on the perceived hierarchical power structure whether a new rule or a new formal guideline is ignored, modified or accepted by involved employees to alter ostensive aspects of routines. Consequently, organizational routines stabilize an organization and define the corridor for adaptive individual behavior.

4. OPPOSED HR BUNDLES: INTERNAL LABOR MARKET VS. HIGH-COMMITMENT SHRM SYSTEMS

We draw upon Baron and Kreps' (1999) distinction between two coherent SHRM systems that represent ideal types on a theoretical continuum of opposed SHRM systems: The internal labor market (ILM) and the high-commitment work systems (H-C). The ILM follows a control and the H-C a commitment perspective (Arthur, 1994; Lengnick-Hall et al., 2009). Referring to this theoretical background, we give a brief overview of the opposing logics of ILM and H-C SHRM systems and we subsequently compare them in regard to their contributions to knowledge development and to their governance mechanisms. We discuss both SHRM systems as *ideal types*. We certainly acknowledge that these HR bundles are rarely if ever found in real organizational life (Thompson, 2007).

The *ILM* SHRM system is a coherent bundle of HR practices in terms of an 'administrative system for allocating labor' (Baron et al., 1999: 168) following a control HRM perspective. ILMs (Doeringer and Piore, 1971) reflect specific employment practices corresponding with a specific set of formal (administrative) rules and procedures (Osterman, 1984a) based on hierarchical control. Referring to Pinfield and Berner (1994) four 'antecedent structural elements' of ILM can be identified: 'limited ports of entry and movement along career ladders; pay gradients; seniority or merit as criteria for upward mobility or cutbacks; and a strong preference for promotion from within' (p. 41).

The *H-C* SHRM system represents an ensemble of HR practices that 'aim at getting more from workers by giving more to them' (Baron et al., 1999: 189) and it is based on commitment. 'The central argument is that work practices such as profit-sharing, employment assurances and employee participation will enhance employees' level of commitment, and hence improve the performance of the organization' (Xiao et al., 2006: 404). H-C SHRM

systems tries to facilitate the employee's commitment by using long-term employment guarantees, team-based production systems, job rotation or quality cycles (ibid.; Osterman and Burton, 2005). H-C practices such as participation and team work connote trust and commitment of the firm to its employees. The latter interprets H-C practices as investment in them and due to reciprocal norms, they are motivated to increase their efforts and performance (Xiao et al., 2006). Thus, motivation is a crucial aspect to H-C HRM systems because employees have to be willing to use 'their hands' and 'their heads' (Baron et al., 1999: 191).

4.1 ILM and Knowledge Development

Knowledge development in an ILM system is based on selecting employees with highly specialized skills and on developing their skill base through off-the-job trainings whenever they need new knowledge (mostly) prior to a change within the firm. On-the-job trainings are principally important during the induction phase in order to equip the newcomer with necessary information and knowledge for performing the task. In subsequent phases, employees develop task-specific (i.e. job-oriented) knowledge in cooperation with experienced employees on-the-job. The stable working structure enables a long and in-depth learning period in a narrow field.

The *selection* of employees in an ILM is governed by a set of formal rules that limits hiring from the external labor market to certain entry-level jobs or 'ports of entry' to the organization's internal lines of progression (Baron, Daves-Blake, and Bielby, 1986; Doeringer et al., 1971; Osterman, 1984a, 1984b, 1987; Pinfield et al., 1994). Due to long-term attachments of ILMs, the initial screening and selection of employees for the limited entry ports is important, because it leads to less employee turnover and, therefore, to cost reductions (Baron et al., 1999). Besides the defined entry ports, all other jobs in an ILM are reserved for present workers that are protected from external labor competition (Pinfield et al., 1994). Formal rules and procedures define which individuals are appropriate for given jobs and how they are allocated to them (Osterman, 1984a).

Skill gradients and corresponding job ladders with relatively small steps reflect on-the-job *training* and provide incumbent workers with job security. For this reason, senior employees are willing to train juniors without viewing them as potential rivals (Pinfield et al., 1994). Though important firm-specific skills have to be learned on the job, specific and generic trainings of employees supplement the dominant use of on-the-job-training. The direction of development is clearly defined in a top-down mode and exploitative learning – i.e. the refinement of existing knowledge and skills – dominates.

4.2 ILM and Governance Mechanisms

An ILM SHRM system is based on formal control and, thus, the governance mechanisms are based on the implementation of a formal set of rules. The main idea of ILM is to define the integration of employees into the structure and processes narrowly. Consequently, a broad set of formal rules is used to specify the expected behavior of employees in different situations exactly ('if-than' rules). Moreover, on-the-job learning from experienced colleagues fills the task-related gaps that cannot be precisely defined by the firm.

Except for the few designated entry ports for employees from the external labor market, the *appraisal* and *promotion* in ILM are organized from within. Upper levels of the firm's hierarchy are allocated through internal policies of promotion. 'The principle underpins the purposeful movement of employees vertically through organizational positions that have been

placed on gradients of increasing firm-specific skill' (Pinfield et al., 1994: 53-54). Clusters of jobs are built and transferred into lines of progression whereby job competition only exists at the bottom of the ILM hierarchy. Once a worker is employed, his progression on the job ladder is dependent on 'administrative rules rather than open competition' (Pinfield et al., 1994: 48). The promotion schemes as inherent characteristic of ILM define job tasks and corresponding criteria for selection. Furthermore, they reflect job families, a firm internal hierarchy of related jobs, and corresponding skill gradients as wells as official career paths. Seniority is considered the dominant criteria for promotion and cutback (Pinfield et al., 1994 referring to Kerr, 1954; Baron et al., 1986; Goldberg, 1980;; Osterman, 1982; Pfeffer and Cohen, 1984). However, for the middle and upper levels of the promotion ladder, seniority can be combined with merit (Doeringer et al., 1971) as an employee's proved 'skill, knowledge, ability, performance, and responsibility' (Pinfield et al., 1994: 54).

The *reward-system* of ILM is characterized by formal rules in a highly structured way that assign wage rates to jobs rather than to individuals. Organizations with ILM establish stable and fair internal wage structures that do not reward individual performance and are decoupled from market forces (Osterman et al., 2005). Wage determinations, thereby, define a set of relationships among all jobs 'within a given family'. 'Several such "families" may exist within one firm. Typically, each group has its own ladders, ports of entry, and wage system' (Osterman, 1984a: 2). The formal job ladders legitimize the existing hierarchy and a top-down control. There is a strong emphasis on seniority: special incentives in form of above market benefits and wages are linked with the ILM hierarchy, so that employees are offered opportunities for long-run growth and advancement.

4.3 H-C and Knowledge Development

H-C SHRM systems strive to facilitate knowledge creation and development in an evolutionary manner by creating a context where exploratory behavior of employees is enhanced. Consequently, entrepreneurial behavior and exploratory learning is enabled and employees are encouraged to develop cross-functional knowledge in team-oriented working structures. The selection is based on finding the right employees who fit to the existing culture, which allows a high degree of freedom for accomplishing defined work tasks. H-C training endeavors do not only broaden the employee's skill base in an exploitative manner for a better performance of the current task. Instead, trainings increase their potential to accomplish completely new tasks.

Companies that implement a H-C work system develop distinctive HR practices with strong complementarities. Employees who are able and willing to emit the consummate effort that is demanded in an H-C work system have to be *selected* and recruited. An extensive screening of potential employees, to ensure a cultural fit can be seen as the basis of H-C HRM strategies. H-C work systems require employees with an advanced and broad skill base and a high level of background knowledge; i.e. knowledge consisting of strategic information and about organizational conventions etc. Moreover, employees need to fit into the existing organizational culture in order to achieve high levels of commitment. Employees do not have to posses highly specific skills at the time of entry into an organization because the required skills are developed within processes of cross-training, job rotation, enrichment and enlargement and, thus, are gained on the job. Highly committed employees are flexible and deliver their full effort for the goals and interests of their firm. They deeply understand their organization and its strategic objectives. Owing to their broad knowledge base, employees are able to decide what has do be done for the firm's interests in specific and even unstructured situations. They are expected to contribute their own ideas to improve organizational processes (Baird, 2002; Baron et al., 1999; Guest and Hoque, 1994; Osterman et al., 2005).

Trainings are used to broaden the employee's skill base more in a general way in order to keep them able to cope with new and unpredictable problems. They are supposed to contribute good ideas and improvement suggestions. Employees are expected to be flexible and entrepreneurial in their thinking and acting and, additionally, have to be self-directed and self-managing. The result is a deliberately developed learning organization (Baird, 2002; Guest et al., 1994). Newcomers get a broad education and cross-functional training that is facilitated through an open information culture to deepen their knowledge and understanding of the organizational context and its production processes.

4.4 H-C and Governance Mechanisms

H-C HR practices are popular in firms that seek to accomplish a quality-leading strategy. Thus, companies have to rely on employees with rare and above-market skills and who are loyal to their employer; in return, the companies explicitly value these factors and pay higher rewards (Boxall et al., 2007). However, firms need to establish a context where employees can profit from their broad skill base. Therefore, in H-C SHRM systems, social rules are the main governance mechanisms where the firm only formally defines the boundaries of the strategic context (e.g. by using a strong vision and clearly communicated strategic objectives). Within these boundaries, clan control that is based on collectively shared expectations governs the employee's behavior.

Internal *promotion* is the norm for an H-C SHRM system. However, the promotion in H-C work systems is determined through an explicitly lived egalitarianism. Symbolic and compensation differences among employees that are related to specific positions in the hierarchy are 'aggressively deemphasized': 'Everyone is part of one big team' (Baron et al., 1999: 190). A strong culture of egalitarian teamwork is prevalent that focuses on superior goals, for instance, the vision or mission of the firm such as a 'zero defects' culture (Baron et al., 1999). There is a formal and regular appraisal of all staff, however, feedback is primarily given for developmental and not for evaluation purpose (Baird, 2002; Guest et al., 1994; Xiao et al., 2006).

Furthermore, a premium *compensation system* is implemented that includes efficiency wages and superior benefits; merit is a central element in pay for all staff. The performance and incentive compensation in H-C HRM systems is grounded on firm-wide, unit and team performance measurements. By giving them employment guarantees and the necessary information, communication opportunities, autonomy and authority employees are enabled to deliver the required efforts and performances of an H-C system (Baird, 2002; Baron et al., 1999; Guest et al., 1994; Wright and Kehoe, 2008).

4.5 ILM and H-C: A Practice-based Comparison

To sum up, ILM and H-C represent two distinct SHRM systems. They consist of specific bundles of HR practices, i.e. a set of recommended HR routines, that serve as a means to govern the employees' behavior in operative business and in their (knowledge) development path. Table 1 provides an overview of the differences between ILM and H-C in regard to cultural characteristics, degree of centralization, governance mechanism, and knowledge development (Table 1).

Table 1: ILM and H-C: A Practice-based Comparison

	ILM	**H-C**
Cultural characteristics	Culture with emphasis on seniority; local sub-cultures are dominating	Egalitarian culture focused on some superordinate goals
Degree of centralization	Centralization, top down communication	Decentralized, open communication
Governance mechanisms	Emphasis on formal rules and procedures that tightly define the corridor for the employee's behavior; internal promotion ladders (formally defined); hierarchical control seeks to keep the employees tightly coupled to existing standards	Emphasis on social rules resulting from self-managing teams and team production; no formally defined promotion ladders, emphasis on job enlargement and enrichment; social rules indicate the boundaries for behavior (clan control)
Knowledge development	Skill gradients, reflecting on-the-job training in fields of task-related knowledge (exploitative learning) employees lack of background knowledge (e. g. strategic information etc.) and, therefore, cannot explore new opportunities by their own	Extensive socialization towards entrepreneurial attitude; trainability and the potential for knowledge creation is of great importance; training and job rotations to facilitate cross-functional (exploratory) learning; employees have broad background knowledge that facilitates entrepreneurial behavior (exploration)

From an organizational perspective, firms can influence the employee's behavior either by using organizational design and the formal set of tight rules or by creating a context through a loose set of formal rules that allow an evolutionary development of social rules. A tight structure is defined by formal rules and hierarchical control, typical for ILM. In contrast, H-C is based on social rules and on clan control (commitment). Against this general theoretical backdrop, we subsequently compare both SHRM systems along three dimensions: (1) organizational design, (2) evolutionary path, and (3) the employee's skill base.

The components of *organizational design* differ between ILM and H-C SHRM systems in regard to their governance logics and the way the governing mode is implemented. The ILM is primarily based on planned design where formal rules (artifacts) are perceived as the main governing element. This governance logic is transferred into the ostensive aspects of routines by (potentially) employing hierarchical control and formally legitimized power. Consequently, the ILM is based on the idea of centralized control. Under this perspective, the organization's center (e.g. top management team, headquarter) is responsible for information processing and for making decisions concerning the future development of the firm (exploration) and for precisely defining the way the strategy is implemented (top down approach).

In contrast, the main governing principle of H-C is self-organization within clearly defined strategic boundaries, described by Eisenhardt and Sull (2001) and Eisenhardt and Martin (2000) with their notion of 'simple rules'. Firms define the strategic framework and, thus, set the corridor in which ostensive aspects can evolve in an evolutionary manner. This is consistent with the governance logic of H-C SHRM systems where employees are broadly skilled, emotionally committed to the firm, and able to decide on their own which behavior is required and legitimized by the organization and their colleagues in a certain situation. As clan control (Ouchi, 1979; 1980) acts as governance mechanism, self-organizing principles serve as a mode for advancing the ostensive aspects tacitly by the performance of employees in their task-accomplishing activities.

The *evolutionary path* of both SHRM systems is also characterized by the differences in organizational design. From a practice-based perspective, the ILM system seeks to influence the behavior of employees by changing artifacts. The use of hierarchical control to sanction deviations in the performance of employees that are not in accordance to the artifacts' intention is the main governance mechanism. Therefore, the formal rule set needs to be predefined by a centralized authority and the use of the firm's hierarchy is important for observing the conformity between formal structure, performance, and ostensive aspects. Consequently, the flow of information from the bottom of the firm to the top management team is important in order to provide the basis for their decision making. Exploratory learning only occurs at the top and a subsequent change can be implemented quickly (change of structures and processes) (Beck and Kieser, 2003). However, the firm needs to develop know-how for dealing with resistance against change as a change of formal rules has to be incorporated in the collective understanding of organizational routines (ostensive aspects), which is not a trivial task.

In contrast, the H-C SHRM system is based on social rules and clan control. As the evolutionary path is based on self-organization, change and learning can be stimulated by influencing the context (values and norms) and the strategic boundaries. Social rules in an H-C SHRM system should facilitate learning, which can happen at all levels of the organization. Therefore, employees need to be capable enough to evaluate different situations and to adapt their behavior accordingly. However, this self-organizing development of organizational routines and embedded ostensive aspects can inhibit knowledge and best practice transfer between different units in cases where the frames of references (e.g. perceptions, languages) between the units are too different due to their idiosyncratic development (Szulanski, 1996). Moreover, the implementation of replication strategies and the prevention of evolutionary dynamics at various levels and units of the firm, if a stable performance of operative routines is required, are difficult as the influence of the center and of formal rules is week.

The strategic decision whether a firm is able to perform an ILM or an H-C SHRM system is dependent on the broadness of the employee's *skill base*. Where the level of background knowledge – i.e. social knowledge and information that is essential to understand the strategic intention of the organization and an organization-specific situation or problem, which is necessary for performing a certain task – of employees is low as it is the case in the ILM SHRM system, the firm has to provide the employees with the necessary job-specific knowledge in order to enable them to accomplish their tasks. This kind of knowledge needs to be provided in a way that employees are able to interpret and to understand it easily. Additionally, employees learn from their experienced colleagues in the task-specific environment. As the development of the firm's knowledge (i.e. exploration) takes place at the central unit, the other units have to exploit the existing knowledge. Consequently, this strategy is favorable in situations where exploitation is the strategic objective; e.g. in replication strategies based on templates. The main advantage is the possibility to deploy

specialized employees, whose skills fit to the tightly defined tasks. Therefore, the costs for labor are usually lower than for broadly skilled employees.

In an H-C SHRM system, the level of background knowledge of employees is high and, therefore, the firm can set loose boundaries (simple rules – principles). Within these boundaries, employees are free to exploit their existing knowledge but also to sense and to seize new opportunities in an exploratory learning mode. Therefore, this strategy is favorable in environments where a quick adaptation and development of the knowledge base is necessary. Therefore, the role of the central unit (e.g. top management team) is limited to defining the strategic boundaries and to facilitating internal best-practice transfer. However, firms have to deal with higher labor costs as broadly skills employees are usually more expensive than employees with a less comprehensive skill base.

5. STRATEGIC HUMAN RESOURCE MANAGEMENT, DYNAMIC CAPABILITIES AND ENVIRONMENTAL DYNAMICS

The structure and dynamics of industries and embedded markets are characterized by competitors with their strategies (especially their strategic behavior between cooperation and hostile competition), by the pace of technological change, the access to suppliers and to relevant knowledge, consumer expectations and the stability of their preferences, and other general conditions (e.g. legal restrictions, governmental activities). Therefore, the structures of industries and markets are often complex and their development is difficult or even impossible to predict. A broad variety of variables changes more or less frequently and causes adaptive behavior by a firm. Consequently, a firm needs the ability to cope with a changing environment. This is accomplished by the development and use of dynamic capabilities. Teece et al. (1997: 515) emphasize that organizations need to create a 'capacity to renew competences so as to achieve congruence with the changing business environment; certain innovative responses are required when time-to-market and timing are critical, the rate of technological change is rapid, and the nature of future competition and markets difficult to determine'. However, Zollo and Winter (2002: 340) extend this view by stressing that 'firms obviously do integrate, build, and reconfigure their competencies even in environments subject to lower rates of change' (see also Schreyögg and Kliesch-Eberl, 2007).

In the conceptual paper of Eisenhardt and Martin (2000) the relationship between market dynamics and the complexity of the firm's dynamic capabilities are described from a contingency perspective. Accordingly, in high-velocity markets, organizations rely on simple rules in order to keep pace with a dynamic environment, whereas detailed routines and scripts are employed in moderately dynamic markets in order to govern adaptation, change and innovation. However, despite of a few papers (see section 2), the relationship between dynamic capabilities and the role SHRM has not yet been investigated in depth. Firms need to establish dynamic capabilities for coping with change. The SHRM provides practices for knowledge development and for governing employees that have to be configured in a way to create and maintain differently shaped dynamic capabilities according to environmental dynamics (Güttel et al., 2009). In moderately dynamic environments, firms need to remain – at least to a large extent – stable to profit from their existing knowledge and capability base even if labor turnover is high. In high-velocity environments, the organization's capabilities have to be advanced continuously in order to remain competitive.

We, therefore, discuss the role of knowledge development and of governance mechanisms as main characteristics of ILM and H-C SRHM systems for the development and maintenance of dynamic capabilities in high-velocity and in moderately dynamic markets. An organization's

decision whether to use ILM or H-C or any combination of both systems is also dependent on the employee's level of background knowledge (Figure 2). We have identified four strategic fields where different dynamic capabilities are required that have to be established and maintained by different SHRM systems: (1) replication stability, (2) administrative stability, (3) continuous change, and (4) structural ambidexterity.

Insert figure 2 about here

Replication stability: In moderately dynamic environments and with a low level of the employee's background knowledge, organizations can rely on the premises of an ILM SHRM system. Knowledge development – exploration – is primarily governed from the top of the organization. Owing to the low rate of environmental dynamics, no extensive exploratory activities are necessary, neither at the top nor on the level of employees. A continuous replication of the existing business model is the basis for success and, thus, the existing core capabilities have to be exploited. Moreover, a higher level of exploration might harm a successful exploitation (Szulanski and Jensen, 2006; Winter and Szulanski, 2001). Employees can remain within the firm over a long(er) period of time (i.e. Internal Labor Market). Based on clearly defined aims and template-based guidelines, the employee's performance is precisely controlled. Tightly specialized tasks and exploitative (repetitive) behavior expectations make the use of an incentive system embedded in a management-by-objective (MbO) reward system functional that addresses extrinsic motivation. Thus, the variability of the employee's behavior is constrained and deviations from the formal rule set are punished by hierarchy. Change is rarely necessary due to the stable environment. The firm can develop new capabilities on the level of employees either by selecting new employees from outside the firm or through off-the-job trainings introducing novel skills. Thus, the firm narrowly defines the learning topics and the task-specific requirements for new employees.

Administrative stability: Organizations that perform in moderately dynamic markets with employees whose skill base is highly developed (i.e. high level of background knowledge) such as pilots, judges, civil servants or surgeons, the organization has to implement structures that prevent their highly skilled employees from exploration (Siggelkow and Rivkin, 2006). Therefore, dynamic capabilities in such organizations need to point in the opposite direction in order to prevent change and, thus, to enable stability. Organizations that follow the mode of administrative stability need to implement ILM for preventing a continuous – and, from the perspective of the top management, unplanned – evolution of routines and practices. Despite their high level of background knowledge, employees have to stick tightly to existing routines and standard operating procedures as otherwise the organizations run a high risk for drifting into chaos. Dynamic capabilities are, therefore, complex sets of routines and formal rules that specify exactly the mode how operative routines can be changed. Thus, dynamic capabilities are functional defensive mechanisms that prevent change and exploration.

Continuous change: In high-velocity markets and with employees that have a high level of background knowledge, a strategy that facilitates continuous change (Brown and Eisenhardt 1997) or the establishment of contextual ambidexterity (Güttel and Konlechner, 2009; Raisch and Birkinshaw, 2008) seems to be favorable in order to create a context allowing a quick adaptation resulting from newly discovered opportunities or threats (Teece, 2007). Therefore, an H-C SHRM system establishes the necessary context to perform exploration or

exploitation according to the judgment of employees and of decentralized units. Loose structures enable an evolutionary development of ostensive aspects of organizational routines in order to adapt the employee's behavior according to perceived environmental demands. As the employee's background knowledge is multifaceted, they are able to decide which behavior is appropriate. Therefore, the interplay between performative aspects and ostensive aspects leads to an adjustment of operative routines within a defined strategic corridor. Change and learning is stimulated by the performance of employees. Selection and training is used for broadening the firm's capability base and, thus, enhances the firm's adaptiveness and flexibility. Moreover, as knowledge creation is necessary, a constant inflow of new employees with new knowledge is facilitated by the recruiting strategy (Güttel et al., 2009). Nevertheless, intrinsic motivation is the foundation of commitment (i.e. High-Commitment) that is enhanced by autonomy in performing tasks but also in the development of the employee's skill base (Osterloh and Frey, 2000). Thus, employees are responsible for learning and keeping their skill base up to date.

Structural ambidexterity: This strategy is useful in highly dynamic environments, where most of the employees (e.g. in marketing, sales, production plants, outlet staff) do not have enough background knowledge and skills (e.g. scientific skills necessary for cutting-edge R&D) for exploring new opportunities that support the firm's strategy (even often some exploratory learning would be possible and is encouraged). Under these conditions, firms need to perform a structural ambidexterity (Tushman and O'Reilly, 1996; Gilbert, 2006) in order to develop cutting-edge knowledge in units that solely explore new opportunities and to keep all other units stable for exploiting the existing knowledge. Adaptation and change follow the model of punctuated equilibrium (Gersick, 1991; Burgelman, 2002). Consequently, firms need to establish units that explore new opportunities following the logic of H-C SHRM system. Other units that are dedicated to exploit the existing knowledge and capability base are based on the logic of ILM SHRM system. Dynamic capabilities in such organizations are differently shaped. On the one had, they facilitate exploration in H-C units and, on the other hand, they limit change and development in ILM units. The top-management team has to integrate both contradicting evolutionary streams and, thus, has to find modes for balancing tensions (O'Reilly and Tushman 2008; Smith and Tushman 2005).

6. DISCUSSION AND CONCLUSION

In SHRM literature, there is an increasing awareness of the role of SHRM systems for the development of organizational and dynamic capabilities (Schuler and Jackson, 2007; Wright and Snell, 2009). In this stream of research, we investigated the contribution of control- and commitment-orientated SHRM systems for fostering stability and enabling change of the organization in differently dynamic environments. In particular, we contribute to the existing literature in three ways.

First, despite the fact that various contributions to different and distinct SHRM systems exist in HRM literature, a systematic and consistent comparison is still missing. In our analysis we, therefore, systematically contrast the ILM approach as a generic HR bundle that is based on control with the H-C approach as its counterpart that is based on commitment. As both SHRM systems consist of specific and coherent HR 'practices', we applied a practice-based approach for enabling a systematic comparison of these SHRM systems. Regrettably, although the term 'practice' is broadly used in HRM literature, it is rarely reflected upon and disconnected from social theory. Theories of social practices (Bourdieu, 1972; Giddens 1979; 1984) and, in particular, the Feldman and Pentland (2003) and Pentland and Feldman (2005) framework of

organizational routines offer a theoretical basis for an enhanced understanding of HR practices that leads to an explicit differentiation of two dimensions of HR practices – structure vs. agency – and a consideration of their recursiveness. By choosing a practice-based lens we are able to illustrate the underlying logic and mechanism of ILM and H-C SHRM systems.

Furthermore, we use two additional analytical dimensions for comparing ILM and H-C systems that are based on a fundamental distinction in SHRM presented by Wright and Snell (2009): (1) knowledge development and (2) governance mechanisms. Thus, we explain the impact of SHRM systems for developing and governing an organization and its employees. Therefore, we are able to link HR practices to SHRM and, thus, to close the gap between micro HR and SHRM (Lengnick-Hall et al. 2009) by introducing a practice-based perspective of SHRM systems. We especially consider the interplay between agency and structure or the micro and macro perspective in ILM and H-C by describing the impact of the underlying rule systems on behavior. Formal and social rules constitute a network that interweaves SHRM practices bundled in distinct HR systems (e.g. ILM and H-C) with operative practices for influencing the latter. We indicate the role of tight formal rules and hierarchical control to govern employees in ILM SHRM systems to reach a stable organization. In contrast, H-C SHRM systems are based on evolutionary developing social rules limited by formal strategic boundaries. Thus, loose control should facilitate commitment and a continuously evolving organization. We, therefore, demonstrate that H-C is not always favorable, even it is often declared as a 'best HRM practice'. Instead, it depends on the market dynamic and on the level of background knowledge which SHRM system is appropriate.

Secondly, even though SHRM is often anchored in resource-based thinking, the role of SHRM for advancing the firm's resource and capability base has not been explored (Wright and Snell, 2009). This issue is tackled by dynamic capabilities-research. Eisenhardt and Martin (2000) theoretically describe the impact of differently dynamic environments on the shape of dynamic capabilities. In moderately dynamic markets, dynamic capabilities are constituted as a complex set of rules and in high-velocity markets, only a few simple rules govern the adaptive behavior of the firm. However, they do neither specify the characteristics of dynamic capabilities in detail nor do they address the role of HRM practices. We anchor dynamic capabilities in SHRM and we demonstrate that dynamic capabilities are shaped differently according to the specific HR bundles and underlying HR practices. We show in which way formal and social rules constitute a corridor for exploratory behavior allowing employees to deviate from existing rules. HR practices influence this corridor by enabling a certain level of knowledge development and by defining appropriate governance mechanisms on the level of employees and groups and, therefore, influence the relationship between stability and change of the organization.

Thirdly, we highlight the role of dynamic capabilities and the use of ILM and H-C SHRM systems not only in different environments but also in regard to the level of the employee's background knowledge. This can be seen as a first step to overcome the collectivistic and individual-less conceptualizations of dynamic capabilities of recent research in strategic management that implicate a lack of agency. Moreover, we are able to specify the appropriateness of different ambidextrous designs (Raisch and Birkinshaw, 2008) that depend on environmental dynamics and on the level of background knowledge of employees. Ambidexterity is useful in dynamic environments. However, in particular in moderately dynamic environment where employees do have enough background knowledge (e.g. judges, surgeons, pilots) for exploration, dynamic capabilities have to prevent exploration and, thus, an evolutionary development of the organization. We, therefore, specify Eisenhardt and Martin's (2000) notion on the role of a complex set of rules and routines as dynamic capabilities that govern an organization's development in moderately dynamic environments. Otherwise, firms would run into danger to hamper the exploitation of their core capabilities.

Consequently, we also indicate that ‘ambidexterity’ is not always favorable. Instead, in moderately dynamic markets, it can be an advantage for firms to prevent exploratory learning (at all levels) in order to enable stability.

The outlined practice-based approach to SHRM systems could advance future HRM research on employment subsystems and the HR architecture (Lepak and Snell, 2007) as well as within-HRM system vertical fit (Kepes and Delery, 2007). It enables researchers to analytically differentiate distinctive levels of abstraction of HRM and simultaneously regarding and reflecting their recursiveness. Moreover, we encourage empirical research in the field of SHRM systems and dynamic capabilities in order to elaborate the relationship of different HRM practices to develop dynamic capabilities necessary to perform in differently dynamic environments. Empirical research is also required to investigate the role of SHRM systems in practice as we only discussed ‘ideal types’ in this paper that are rarely found in organizations.

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Figure 1: HRM, Organizational Capabilities, and Dynamic Capabilities

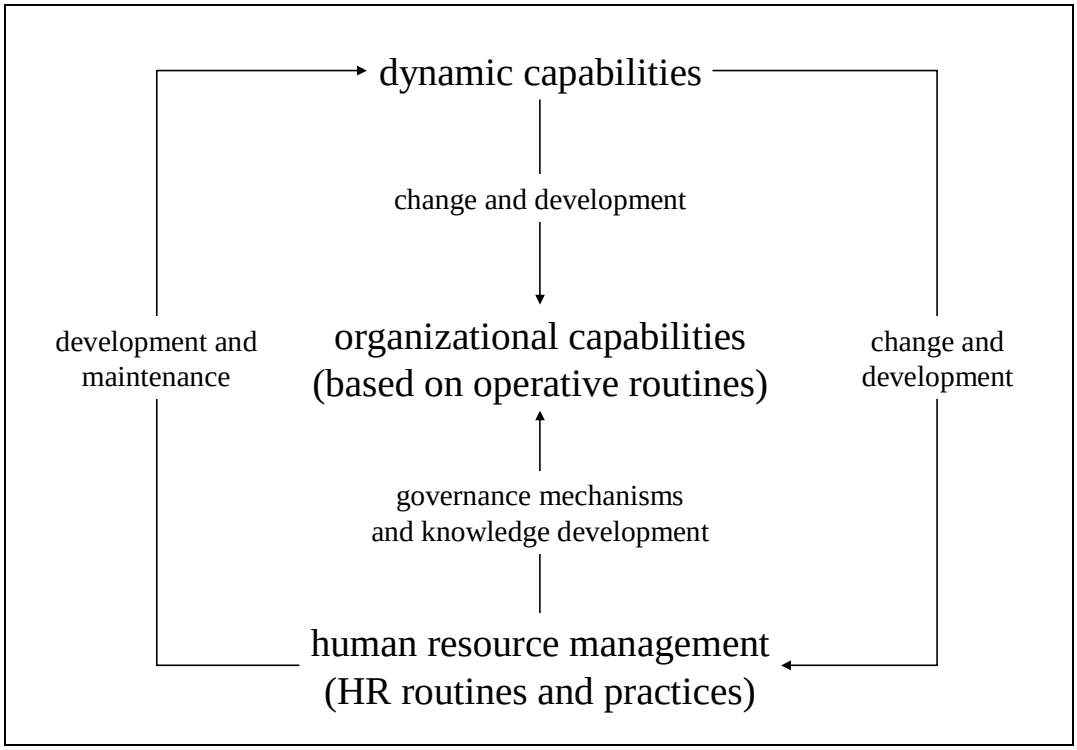

Figure 2: ILM and H-C in differently dynamic environments