Managing Knowledge Through Human Resource Practices: Empirical Examination on the Automotive Industry

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Abstract: This paper considers the relationship between HRM practices and KM by examining the way in which HRM practices expected to impact on employees' abilities, motivation, and opportunity to engage in KM, do it by enabling knowledge sharing and maintaining, and knowledge creation within organizations. Results from a sample of 64 automotive firms show that HRM practices aimed to motivate and give opportunity to behave as requested significantly affect knowledge sharing and maintaining. Further, knowledge sharing and maintaining is shown to partially mediate the relationship between HRM practices and knowledge creation.

Keywords: knowledge management, human resource practices, automotive industry

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1. INTRODUCTION

The idea of knowledge management (KM) has enjoyed widespread popularity in the academic and business spheres in the last years. It is already known that, despite a proliferation of knowledge-based literature, the various approaches available to organizations to manage their knowledge resources remain generally rooted in two basic orientations. One orientation advances information technology (IT) as the anchor for developing ideas about KM, while the other proposes a humanist and social approach that highlights the role of people in the processes of knowledge sharing and leveraging (Gloet and Berrell, 2003). Therefore, while recognizing the important role of IT as a "hard" issue for the KM discourse, it is also important to recognize the fundamental role played by human and social resources as the "soft" issue of KM.

Since human and social resources are the core focus of human resource management (HRM), researchers have pointed out the need to build and sustain a dialogue based on the understanding and awareness of the potential impact of HRM on KM targets (Gloet and Berrell, 2003; Hislop, 2003; Oltra, 2003; Robertson and O´Malley, 2000). But even with the realisation that the people management issues play a critical role in KM efforts, research has paid little attention to the linkages between KM, HRM, and business development (Hislop, 2003; Thomson and Heron, 2006). Further, as suggested by Hislop (2003), the weakness of the linkages between KM and HRM is to some extent because HRM academics have loath to enter the dialogue. It is true that the interest in building bridges between KM and HRM has increased over recent years as both of them have grown more sophisticated and complex, but the implication of the rising interest in managing knowledge capabilities for HRM practices is an area of which still demands additional research (Scarbrough and Carter, 2000).

The aim of this paper is to make an empirical contribution to the debate about the influence of HRM practices upon managing knowledge. Since empirical contributions are still limited, it aims to be a fruitful contribution to the existing body of research on the dialogue between HRM and KM. Specially, this paper focuses on the HR practices that contribute to intra-organizational knowledge sharing, maintaining, and creating capabilities.

The relationship between KM and HRM is a complex one. If, as several scholars have suggested, knowledge capabilities enables firms to more effectively respond to dynamic market conditions, then it would seem of vital importance to identify how these knowledge capabilities can be developed (Grant, 1996; Kogut and Zander, 1992). Toward this end, scholars have argued that HRM practices and policies may provide a primary role since they may influence firm performance through their impact on firm capabilities (Becker and Huselid, 2006; Wright and Snell, 1998). The present paper focuses on the relationship between HRM practices and two key knowledge capabilities: knowledge sharing and maintaining, and knowledge creation. Specifically, drawing upon HRM theory and KM theory, we develop a conceptual model that predicts that three sets of HR practices and policies would be associated to knowledge creation though knowledge sharing and maintaining capabilities. We argue that knowledge sharing and maintaining mediates the relationship between HRM practices and knowledge creation capabilities. The following sections develop the logic for these relationships in greater detail.

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

2.1. Human resource management and knowledge management

Following Gloet (2006), while it can be argued that there is a reasonable agreement on the nature of HRM, its components and consequences, this is not the case when KM is concerned. Accordingly, previous to undertake an analysis of the relationship between the two areas, is necessary to state as clearly as possible what is understood by KM. Much of the KM literature has reflected a techno-centric focus which, in essence, regards knowledge as something (similar to information) that can be captured, manipulated, and leveraged through IT. This is a limited perception that needs to be completed with a more human-centric focus that perceives knowledge as a social creation emerging at the interface between people and information, and between people and people. From this perspective, KM can be described as the way organizations create, supplement, and organize knowledge around their activities and within their cultures, and develop organizational efficiency by improving the use of employees' talent. Broadly speaking, KM can be defined as the capacity within an organization to maintain and improve organizational performance based on experience and knowledge (Pan and Scarbrough, 1999). Effective KM occurs here within an organizational context characterized by certain characteristics that affect knowledge creation, sharing, and maintaining as desirable KM outcomes (Argote, McEvily and Reagans, 2003).

While knowledge in itself may be difficult to manage, all the related technologies, structures, instruments, values, and even people are susceptible to a range of management activities. In terms of the HRM function, it has been suggested that one way for HRM to reinvent itself is though its contribution to effective linkages between human resources and KM within organizations (Gloet, 2006). In fact, the rising of the so called "knowledge economy" has had a major impact, with a considerable shift from HRM as a bureaucratic "personnel management" operation focused on cost minimization to the development of a new HRM function where human experience is critical, so that knowledge can be generated, shared and leveraged in the learning processes of living experiences (Gloet, 2006; Storey and Quintas, 2001). Managing human resources to achieve better knowledge related outcomes means retaining personnel, building their knowledge and expertise into the organizational routines, and establishing mechanisms for the distribution of benefits arising from the utilization of that knowledge (Scarbrough and Carter, 2000).

The emphasis on this new HRM practices is also broadening to a focus on developing themes and creating contexts conducive to the management of capabilities such as knowledge creation, knowledge sharing and maintaining, and learning. Knowledge sharing is considered as a crucial KM outcome within organizations that facilitates the integration and regeneration of fragmented, specialized and/or asymmetrically distributed knowledge, thus making feasible the creation of new knowledge, and thus the production of complex and innovative products and services (Alexopoulos and Monks, 2004). Knowledge maintaining involves embedding specialized knowledge in a repository so that it exhibits some persistence over time and enable significant contributions to work outcomes (Pulakos, Dorsey and Borman, 2003). Knowledge creation concerns the building of new knowledge (create and innovate) by applying knowledge to solve problems, and translate these efforts into new ways of doing that will be competitive and attractive in the marketplace. In fact, several authors have argued that enhancing the creative and innovative performance of individuals is critical if organizations are to achieve competitive advantage (Pulakos et al., 2003; Shalley, 1995).

To achieve knowledge sharing, knowledge maintaining, and knowledge creation capabilities as desirable outcomes, KM requirements are based on a set of behaviours, procedures, and stimulus. Accordingly, we next argue that a revitalization of the HRM function to respond to the demands of the "knowledge economy" and to develop linkages with KM requires major changes across three key areas: employees' ability, employees' motivation, and employees' opportunity to leverage knowledge.

2.2. Model and Hypotheses

Following Argote et al. (2003), just as successful individual performance requires the ability, motivation, and opportunity to perform, successful KM outcomes (knowledge creation, knowledge sharing, knowledge maintaining) also depends on individuals' ability, motivation, and opportunity to achieve tem. A recent stream of research has begun to examine KM as something that can be better understood by examining whether and how HRM practices impact on employees' ability, motivation and opportunity to leverage knowledge within organizations (Alexopoulos and Monks, 2004; Collins and Smith, 2006). Ability, motivation and opportunity are three causal mechanisms that can be used to explain why certain HRM practices affect knowledge capabilities as desirable KM outcomes.

In fact, HRM concerns the policies, practices, and systems that influence employees' behaviour, attitude, and performance. It is generally accepted that the more strategic the approach to HRM, the greater the contribution of HRM to organizational performance. Specially, there does appear to be a commonality of purpose that presupposes that there are complementarities, both within HRM practices, and between a firm's HRM practices and its competitive strategy, that are intended to have positive effects (Barton and Delbridge, 2004; Delaney and Huselid, 1996). The central feature of these approaches is the link between employee involvement and high performance. Under such assumptions, research has made considerable progress in documenting the link between organizational performance and HRM strategies that invest in the human capital of the workforce (Batt, 2002). These strategies, often referred as high-performance and/or high-involvement human resource practices, are expected to support the achievement of the firm's objectives by using the learning and innovative capabilities of individuals more effectively. These HRM practices have been described in various ways, but they are generally clustered around the dimensions of ability, motivation, and opportunity, based on a classic premise that performance is a function of the three (Batt, 2002; Huselid, 1995). These three HRM dimensions can be described as: (1) skill development to affect employees' ability to understand and combine new knowledge; (2) an incentive structure that embraces motivation and commitment; and (3) the design of work so that employees have discretion and opportunity to use their skills in collaboration with other workers (Appelbaum, Bailey, Berg and Kalleberg, 2000; Delery and Doty, 1996; Huselid, 1995). HRM practices may have multiple effects and complement each other as a coherent system to improve performance (Delaney and Huselid, 1996; Delery and Doty, 1996; Wright and Snell, 1998), but they are usually linked more strongly to one particular dimension. On the basis of these considerations, it is possible to think that HRM practices can impact on individual's ability, motivation, and opportunity to share, maintain and leverage knowledge.

The employees' skills and abilities have long been conceptualized as human capital, which is shown to involve a stronger knowledge base. These skills and abilities are innate, but also can result from training (Nadler, Thomson, and Van Boven, 2003) and career development chances in the organization (Collins and Smith, 2006). In example,

similar training experiences can contribute on building connections across diverse and heterogeneous individuals. Training may also provide individuals the ability to share knowledge accumulated in one task to another task (Argote et al., 2003). In a similar, way, experience in different work positions also affects ability, so that individuals acquire the capacity to understand knowledge in different areas while correspond transmitting what they already know. Together with it, the use of training and development programmes should help to develop the general level of self-efficacy among organizational employees, so that they feel more assure of their abilities and will be more likely to exchange knowledge with others (Cabrera and Cabrera, 2005). Extensive formal training, training in team building, cross-based training, job rotation programs, etc. are very useful to increase employees' abilities, but also to increase interactions between employees that result in a shared language and closer interpersonal ties (social capital) that positively affects knowledge flows within organizations (Nahapiet and Ghoshal, 1998; Kang, Morris and Snell, 2007).

HRM practices can also provide people the motives and incentives to participate in KM processes. In knowledge dependent organizations, employees must be willing and motivated to share their education and experience with other employees in order to generate innovation (Nonaka and Takeuchi, 1995). Employees who are committed to their organizations are more likely to look for ways to improve conditions and will be more receptive to new ideas and information. From the HRM pint of view, performance appraisal and compensation systems are considered as important components that nurture KM. As suggest by Argote et al. (2003), the "not invented here" syndrome in organizations is an example of how rewards can affect KM outcomes. Individuals are unlikely to share knowledge if they are not rewarded for achieving knowledge outcomes, such as exchanging and utilizing internal knowledge. Similarly, performance appraisals that have a developmental, rather than a controlling, focus, will increase the willing to share ideas in organizational climates that are safe and non-judgemental (Cabrera and Cabrera, 2005). The biggest potential drawback of performance appraisal and compensation systems is that often lead to competition among employees. Appraisal of incentive systems based on group and firm performance and stock ownership programmes should lead to higher levels of acquaintance necessary for knowledge work (Kang et al., 2007).

Finally, HRM practices can also provide a context where individuals have opportunities to generate KM outcomes, such a knowledge sharing and maintaining, and knowledge creation. These opportunities could result form direct or indirect experiences but, specially, organizational relationships influence KM outcomes by providing members the opportunity to learn from each other (Argote et al., 2003). Organizations must reduce the distance between people, both physically and specially in psychological terms. By reducing that distance, organizations provide members with the opportunity to learn from each other. Therefore, beyond having capable, motivated employees, organizations can create and leverage knowledge by providing a social context in which employees trust in one another and interact to exchange and combine ideas. Such exchange creates new knowledge by combining previously unconnected ideas or by recombining old ideas in new ways that make them more useful. Scholars (Nahapiet and Ghoshal, 1998; Cabrera and Cabrera, 2005) have suggested that organizations are more efficient that markets at this process because they offer access to stronger social networks and norms in a context that can value and support individual contributions. There seems to be unanimous agreement that individuals will be more willing to share knowledge in an open, collaborative, and trusting culture (Robertson and O'Malley, 200; Cabrera and Cabrera, 2005; Collins and smith, 2006; Kang et al., 2007). Thus,

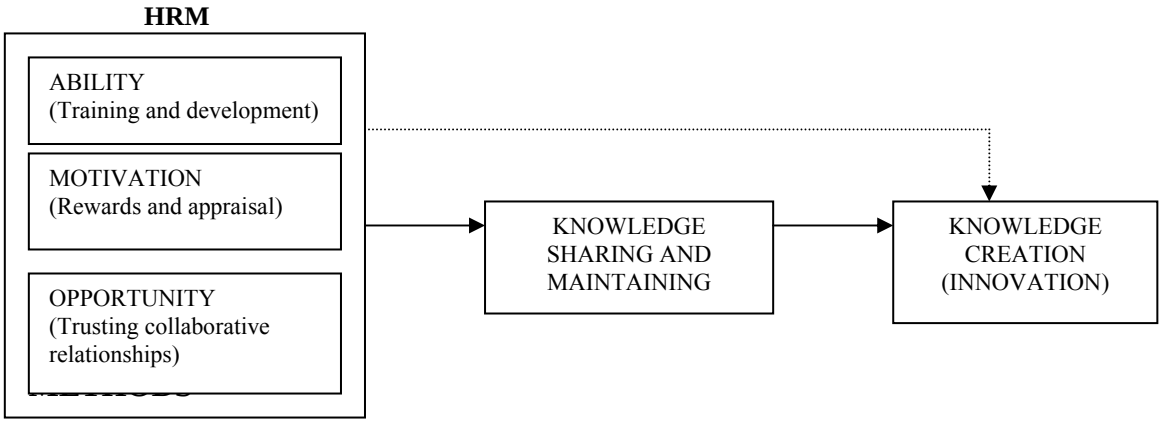
when firms create a trusting and collaborative context that facilitates knowledge sharing and combination, they are more adept to share and create knowledge.

Accordingly, we consider that HRM practices can influence employees' abilities, motivation and opportunity to share, maintain and create knowledge by respectively: (1) impacting on staff qualification by means of training processes and development opportunities; (2) inducing employees' motivation with proper rewards and performance appraisal; and (3) fostering relationships that are based on trusting and collaborative behaviours. Moreover, we argue that knowledge sharing and maintaining mediates the relationship between HRM practices impacting employees' abilities, motivation, and opportunity, and knowledge creation. That is, the attributes of HRM practices influence innovative behaviours through the enabling of knowledge sharing and maintaining behaviours. When knowledge sharing does not occur, improving employees' ability, motivation, and opportunities may or not may conduct to knowledge creation. The reason for assuming a mediating effect is that HRM practices are seen as a system that is gradually developed over time and do not produce automatic results. The HRM practices that shape employees' abilities, motivation and opportunities, in turn shape a collective capacity to share and maintain knowledge, and this results in a collective capacity to create new knowledge (Nahapiet and Ghoshal, 1998; Collins and Smith, 2006). It could be wrong to suggest that a company that hires competent employees and gives them some kind of chance may expect them to innovate and to outperform automatically. For example, researchers investigating relationships between HRM and innovative performance (Shipton et al., 2005, 2006) holds that it is important to create a combination of HRM practices able to develop a "learning orientation" that legitimizes the value of knowledge and its exchange. The mediating effect of knowledge sharing and maintaining also occur because HRM practices are likely to enhance knowledge creation when these practices are designed to simultaneously promote both exploratory behaviours (pursuing and exchanging new knowledge) and exploitative behaviours (combining and applying existing knowledge) (Gibson and Birkinshaw, 2004; Shipton et al., 2006; Kang et al., 2007). Knowledge creation occurs through the transformation of existing knowledge and ideas into new knowledge, in such a way that HRM may facilitate knowledge flows and innovation by improving employees' ability, motivation and opportunity to access and mobilize one another's knowledge (Kang et al., 2007) and then transform it into new knowledge and ideas. The arguments above are all reflected in Figure 1 and subsequent hypotheses.

Hypothesis 1: HRM practices impacting employees' abilities, motivation, and opportunity are positively related to knowledge sharing and maintaining within organizations.

Hypothesis 2: HRM practices impacting employees' abilities, motivation, and opportunity are positively related to knowledge creation through their effect on knowledge sharing within organizations.

Figure 1. Proposed Model



3. METHODS

3.1. Sample and data collection

The proposed hypotheses are tested through the analysis of surveys collected from 64 firms belonging to the Spanish automotive industry (postal questionnaire sent to human resource managers). As this study is part of a regional research project, our initial sample is formed by 165 automotive firms from the area of Castilla y León, in Spain, where the research project is conditioned to be developed.

The questionnaire was prepared on the basis of a thorough literature review. Prior to the survey administration, the questionnaire was validated through a pre-test that was carried out through several personal interviews with human resource managers. These interviews allowed us to clarify our survey items and rectify any potential deficiency. Minor adjustments were made on the basis of specific suggestions. Next, the questionnaire was delivered by means of postal survey. It was addressed to the Human Resource Manager, who has been identified as key respondent based on two criteria: (a) possession of sufficient knowledge and (b) adequate level of involvement with regard of the issues being investigated. These respondents were advised to have in mind mostly knowledge intensive workers while answering the questionnaire. To asses the degree to which common method bias might present a problem, we subjected all scale items for similar constructs to a factorial analysis with a varimax rotation (Seibert, Kraimer and Liden, 2001; Tippins and Sohi, 2003). Results indicated that items loaded cleanly on the factors representing the expected constructs. Thus, we found no general factor that would have emerged due to common method variance.

3.2. Measures

The measurement of the analysis variables has been built on a multiple-items method, which enhances confidence about the accuracy and consistency of the assessment. Each item was based on a five point Likert scale, and all of them are perceptual variables. Table 1 displays items used to measure the analysis variables.

Table 1. Definition of constructors and internal consistency measures

			Factorial analysis		
	Construct	Measurement item	Loading factor*	Variance extracted (%)	Reliability (Cronbach 's alpha)
HRM practices	**Ability**	Formal training programs are offered to employees in this organization in order to increase their specific abilities	0.82	18.17	0.82
		Formal training programs are offered to employees in this organization in order to increase their promotability	0.77		

		The organization uses job rotation to expand the skills of employees	0.67		
		The organization provides training focused on team building and teamwork skills training	0.66		
		The organization has a mentoring system to help develop employees	0.63		
		Employees in this organization go normally through formal training programs every few years	0.61		
	Motivation	Employees in this organization obtain a feedback based on their job performance	0.86	12.76	0.77
		Employees in this organization obtain a feedback based on their personal characteristics (behaviour, attitudes, self-development, etc.)	0.86		
		Employees in this organization obtain a feedback based on their personal development	0.61		
		Employees in this organization have bonuses or incentive plans based on their team or unit performance	0.89	12.49	
		Employees in this organization have bonuses or incentive plans based on the performance of the organization	0.84		
		Employees in this organization have bonuses or incentive plans based on their creative contributions	0.55		
	Opportunity	Employees in this organization trust in the fairness and impartiality of the organizational decisions	0.81	24.10	0.89
		Employees in this organization have relationships based on reciprocal faith	0.80		
		Employees in this organization feel confident about each others skills and abilities	0.79		
		Employees in the organization have a strong feeling of "one team"	0.76		
		Employees in the organization trust in their supervisor decisions	0.75		
		Employees in the organization cooperate well with each other to get the job done effectively and efficiently	0.72		
		Employees in the organization keep close ties with each other	0.71		
Knowledge capabilities	**Knowledge sharing and maintainig**	Employees in this organization share knowledge and expertise freely in written or oral form to help others accomplish goals	0.85	33.50	0.84
		Employees in this organization develop effective networks with others to facilitate information and knowledge exchange	0.78		
		Employees in this organization work effectively with others to arrive at solutions, innovate, or implement	0.69		
		Employees in this organization share and maintain specialized knowledge, skills and expertise that enable significant contributions to work outcomes	0.67		
	Knowledge creation	Employees in this organization analyze data, integrate data, and think "outside the box" to create new knowledge, enhance a knowledge base, or develop solutions	0.88	35.68	0.81
		Employees in this organization develop new and innovative strategies, approaches, tools, and products that increase competitive advantages	0.77		
		Employees in this organization anticipate changes in competitive and market demands and proactively address them	0.77		
		Employees in this organization demonstrate enthusiasm and curiosity for learning and advancing knowledge	0.59		
* Principal components					

HRM practices. We select 19 items in order to measure HRM practices affecting employees' ability, motivation, and opportunity. These items are based on empirical work on HRM, especially in relation to knowledge subjects. This way, we measure HRM practices impacting of employees' ability through a six-item scale adapted from Delery and Doty (1996), Minbaeva (2005), and Collins and Smith (2006), who assessed both training and career development initiatives. To measure HRM practices impacting on employees' motivation, we use a six-item scale taken from Youndt et al., (1996), Minvaeba (2005), and Collins and Smith (2006), with the aim of assessing both compensation systems and performance appraisal. Finally, HRM practices aimed to provide employees with opportunity to share knowledge are measured through a seven-items scale for assessing the levels of trust and collaboration, on the basis of Lee and

Choi (2003), Bock et al. (2005), and Collins and Smith (2006), and Kim and Lee (2006).

Knowledge sharing and maintaining, and knowledge creation. We measure knowledge sharing and maintaining, and knowledge creation by adapting the items of Pulakos et al. (2003). These items are provided as predictor constructs of, knowledge sharing and maintaining capabilities, and knowledge building and applying capabilities within organizations.

Finally, in this study organizational size, in terms of the number of employees, is used as a control variable.

4. ANALYSIS AND RESULTS

Data analysis has involved several steps. First, since our research variables are measured through multiple-item constructs, it is a requirement to verify that items tapped into their stipulated construct. Thus, we used factorial analyses by using SPSS 14.0 for Windows to obtain the factors that condense the original nominal variable information while providing continuous variables for each group of variables. Table 1 summarizes these results. The internal consistency measures (Cronbach's alpha) are obtained in order to assess the reliability of the measurement instruments. In a last step in constructing our measures, we condense in a single factor for measuring motivation both compensation systems and performance appraisal, which originally tapped into separate factors. In a second step, means, standard deviation, and correlations among the variables were also calculated, as shown in Table 2. In general, our results show significant correlations between dependent and independent variables and limited collinearity between our independent variables. The smallest correlations correspond to those between dependent variables and employee's ability.

Table 2. Descriptive Statistics and Correlations

	Mean	S.D.	1	2	3	4	5	6
1. Size	319.74	1222.45	1.00					
2. Ability	3.39	0.78	0.29*	1.00				
3. Motivation	3.34	0.78	0.28*	0.56**	1.00			
4. Opportunity	3.51	0.64	0.15	0.30*	0.37**	1.00		
5. Knowledge sharing and maintaining	3.40	0.67	0.14	0.28*	0.43**	0.65**	1.00	
6. Knowledge creation	3.21	0.64	0.16	0.37*	0.51**	0.51**	0.63**	1.00

**p<0.01, *p<0.05

Subsequently, hypotheses are tested using ordinary least square (OLS) regression. As shown in model 1 of Table 3, we found that our measures of HRM practices affecting employees motivation ($\beta = .24$, $p < 0.05$) and opportunity ($\beta = .59$, $p < 0.01$) positively and significantly affect knowledge sharing and maintaining. However, there is no significant relationship between HRM practices affecting employees' abilities and knowledge sharing and maintaining. Thus, we find partial support for Hypothesis 1: HRM practices impacting employees' abilities, motivation, and opportunity are positively related to knowledge sharing and maintaining within organizations.

Table 3.Results of Regression Analysis

Variable	Model 1: Dependent Variable,	Model 2: Dependent Variable,	Model 3: Dependent Variable,	Model 4: Dependent Variable,

	Knowledge sharing and maintaining	Knowledge creation	Knowledge creation	Knowledge creation
Size	0.010	0.000		-0.007
Ability	-0.091	0.066		0.130
Motivation	0.242*	0.285*		0.156
Opportunity	0.599**	0.392**		0.070
Knowledge sharing and maintaining			0.657**	0.532**
R^2	0.484	0.356	0.449	0.502
Adjusted R^2	0.445	0.305	0.428	0.453
ANOVA F	12.209**	7.043**	21.960**	10.095**

**p<0.01; *p<0.05 All regressions include a constant. Beta coefficient displayed

Next, we examine the mediating effect of knowledge sharing and maintaining on the relationship between HRM practices and knowledge creation results. Following Baron and Kenny's (1986) three step procedure, we first examine the relationship between the independent and dependent variables. As shown in model 2 in Table 3, our measures of HRM practices affecting employees motivation ($\beta = .28$, $p < 0.05$) and opportunity ($\beta = .39$, $p < 0.01$) are significantly related to knowledge creation. However, this is not the case for HRM practices affecting employees' abilities. In the second of the three steps, we found positive and significant relationship between knowledge sharing and maintaining and knowledge creation ($\beta = .65$, $p < 0.01$), as shown in model 3 in Table 3. Finally, in the third step of the procedure, we examine changes in the effect of HRM practices impacting employees' abilities, motivation and opportunity when knowledge sharing and maintaining variable is added to the regression predicting knowledge creation (model 4 in Table 3). Our results show that the relationship between HRM practices affecting employees' motivation and opportunity with knowledge creation, which was positive and significant, has dropped to non-significant with the mediation of knowledge sharing and maintaining. The relationship between HRM practices affecting employees' ability with knowledge creation was non-significant and is still non-significant. Therefore, Hypothesis 2 is also partially supported.

5. DISCUSSION

The main purpose of this work is to make an empirical contribution for unraveling influence of HRM practices upon managing knowledge in organizations. We develop a model by differentiating three kinds of HRM practices that may be used for managing knowledge: those to make sure that employees have the abilities and competences required, those to ensure that employees are motivated to engage with knowledge capabilities, and those to provide opportunities for employees to behave as required for knowledge capabilities. We also identify as KM desirable outcomes the capabilities for both knowledge sharing and maintaining, and knowledge creation.

Our findings show a significant positive relationship between HRM practices to provide employees both the motivation and the opportunity to behave as needed and knowledge sharing and maintaining. On one had, these results confirm that performance appraisal and compensation are important components of KM efforts, especially when designed to reward and evaluate knowledge sharing. Specially, as stated by Argote et al. (2003), social rewards can be an important element to promote knowledge sharing and maintaining. Performance appraisals with a developmental focus are also essential to generate knowledge contributions. Together with it, a good way to induce knowledge

behaviors is to make them critical for career success. On the other hand, there is no doubt that effective KM outcomes result from providing employees the opportunity to share, maintain, and create knowledge (Argote et al., 2003). Specially, this opportunity emerges when employees work in a high trust and collaborative context, where knowledge sharing and maintaining seems to be an inherent aspect of the organizational environment. Our study thus confirms that trust and collaboration constitute a "culture of caring" (Lengnick-Hall and Lengnick-Hall, 2003) that encourage knowledge outcomes. So, the question now becomes: how can an organization ensure that it has a trusting and collaborative context?. Open communications, egalitarianism, fairness in decision-making processes, or perceived support from the organization should be expected to increase trust and cooperation among employees (Cabrera and Cabrera, 2005). Although some contributions have been recently arise on this respect (Collins and Smith, 2006), there is still a need on developing empirical evidence on the specific connections between HRM practices, social capital dimensions, and KM outcomes within organizations.

An important finding is the mediating role played by knowledge sharing and maintaining in the relationship between HRM practices and knowledge creation. Knowledge creation relies on attracting, retaining and motivating those individuals most capable of communicating and synthesizing their knowledge and expertise with others. In this respect, distinctive HRM practices that acknowledge and perpetuate a collective focus are crucial. This fact comes to stress the need to persist in studying if KM outcomes achieved through HRM practices really depend on the cognitive, relational, and structural dimensions of social capital, as suggested by the most recent contributions of Collins and Smith (2006) and Kang et al. (2007).

This collective focus is consistent on our findings on the non-significant relationship between HRM practices that provide employees the abilities and competences required and KM outcomes. In relation to knowledge sharing and maintaining, the use of HRM practices to ensure that an organization's workforce has the individual-level abilities and competencies required for successful knowledge work (knowledge stock) do not necessarily involves that they will be more "capable" to share and maintain knowledge, and thus create new knowledge (knowledge flows) (Kang et al., 2007). Conceivably, together with extensive formal training and development programs aimed to increase the employees' stock of relevant competencies and abilities, HRM practices should focus on the specific ability of employees to make that knowledge flow (i.e. cross-training, team-based training). In addition, we are conscious that the recruitment and selection of new employees should also be part of any KM process by identifying individuals who will have a higher probability on agreeing on the same norms, language, values, and even some skills (i.e. communication skills), and identifying with one another (Cabrera and Cabrera, 2005). This cultural fit implies not only the ability, but also the willing to share knowledge and skills with employees from different disciplines (Robertson and O´Malley, 2000).

Our study is thus simply a first attempt of modelling and testing the issues regarding the potential links between HRM and KM. Our results provide some understanding of the causal paths between HRM practices and KM outcomes. However, the study must be viewed in the light of some limitations. First, we must mention that the study has tried to define their constructs as precisely as possible by drawing on relevant literature and to closely link our measures to the theoretical underpinnings through a careful process of item generation and refinement. Evidently, this measurement effort represents an advance for research but, nonetheless, the research items are far for being perfect as

long as they measure facts that are neither fully nor easily measurable. A second limitation concerns the fact that sample is local and not large, which affect the generalization of results. Moreover, all data were collected from the same respondent using the same perceptual measurement technique, and thus, while the findings may help to explain certain relationships between variables, replies from multiple respondents would have ruled out potential drawbacks. Third, this article has integrated disparate literatures as a preliminary step towards a better understanding the connection between HRM and KM. On the basis of previous limitations, it naturally points out avenues for future research, especially if we have in mind that we have assumed that specific practices of a HRM system may be linked more strongly to the abilities, motivation and opportunity that employees need to behave as needed. It should be a next step to analyse the combined effect of HRM practices on the employees' ability, motivation, and opportunity. It could be also necessary to analyse first the way in which (all or specific) HRM practices impact on employees' ability, motivation, and opportunity to engage in KM, and next how these ability, motivation, and opportunity achieve KM outcomes. Future research might also follow Kang's et al. (2007) steps by exploring the value of HRM practices on facilitating knowledge stocks, together with their value on facilitating knowledge flows, and the potential role that social relations and the collective focus may have.

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