

ABSTRACT

Title of Dissertation: HOW DO WE GET FROM THERE TO HERE?

UNDERSTANDING THE BLACK BOX IN STRATEGIC HRM
RESEARCH FROM RESOURCE-BASED AND SOCIAL
EXCHANGE PERSPECTIVES

Riki Takeuchi, Doctor of Philosophy, 2003

Dissertation Directed by: Professor David P. Lepak

Professor M. Susan Taylor

Department of Management and Organization

In this dissertation, I examine the specific mediating mechanisms through which High Performance Work Systems influence overall unit performance. In particular, I draw mainly on two theoretical perspectives, the resource-based view of the firm and behavioral perspective, to propose and test the mediated model of strategic human resource management.

The data were collected from 322 managers and 526 employees for a sample of 76 units of Japanese companies in various industries. The data were aggregated to the

unit-level of analysis. On one hand, the data provided support for many of the hypotheses advanced in the dissertation.

The results of the hierarchical regression analyses revealed that High Performance Work Systems was positively related to both the level of human capital that the unit possesses and the collective normative contract that the employees working in the unit share. In addition, the level of human capital and collective normative contract were significantly related to most of the HR-related outcomes, which, in turn, were significantly related to overall unit performance. Moreover, as hypothesized, the level of human capital acted as mediators of the relationship between High Performance Work Systems and HR-related outcomes while HR-related outcomes played the role of mediator on the relationships between the level of human capital or collective normative contract and overall unit performance. On the other hand, the mediating hypothesis for collective normative contract as well as interaction hypothesis for the level of human capital* collective normative contract were not supported. The implications of the findings and future research directions are also discussed.

HOW DO WE GET THERE FROM HERE? UNDERSTANDING THE BLACK BOX
IN STRATEGIC HRM RESEARCH FROM RESOURCE-BASED AND SOCIAL
EXCHANGE PERSPECTIVES

by

Riki Takeuchi

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2003

Advisory Committee:

Professor David P. Lepak, Co-Chair
Professor M. Susan Taylor, Co-Chair
Professor Katherine J. Klein
Professor Ken G. Smith
Professor Paul E. Tesluk

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2003

DEDICATION

To my father, Kazuo Takeuchi, who provided me with an inspiration and a role model to follow and to my mother, Keiko Takeuchi, who provided me with ample support and another role model to follow. Both of them shaped me to aim to become the best person that I can be.

ACKNOWLEDGEMENT

I could not have started and finished this dissertation without the support, guidance, and encouragement of many individuals. First and foremost, I am greatly indebted to my dissertation committee: Professors David P. Lepak, M. Susan Taylor, Paul E. Tesluk, Ken G. Smith, and Katherine J. Klein.

I would also like to thank my colleagues, fellow students, and friends from the University of Maryland as well as Dr. Chai, Mrs. Chai, and my Taekwondo friends from Lafayette, Indiana.

Also, my thanks go to my family members who provided me with emotional as well as physical support when I needed it.

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Chapter 1

Problem Statements

The introduction of strategic HRM has advanced our understanding of the relationships among strategy, human capital, human resource management (HRM), and firm performance by shifting the focus from “traditional” HRM in several ways. First, the level of analysis has shifted from a traditional micro focus on examining individual HRM functions (i.e., selection/recruitment, training and development, compensation, performance appraisal, job design, etc.) to a firm level of analysis by adopting a system approach to HRM practices. This involves examining the entire system of HRM practices as a whole, rather than examining individual subfunctional practices in isolation. As a result, the notion of synergy or complementarity of HRM practices became particularly important (Baird & Meshoulam, 1988; Becker & Huselid, 1998; Huselid, 1995; Wright & Snell, 1998). For example, MacDuffie (1995: 198) noted “an HR bundle or system must be integrated with complementary bundles of practices from core business functions” and examined the interaction between flexible production and human resource capabilities that included HRM practices such as recruitment and hiring, contingent compensation, status differentiation, and training. This notion of internal fit or alignment of different HRM practices is less salient in the traditional, sub-functional perspective to HRM.

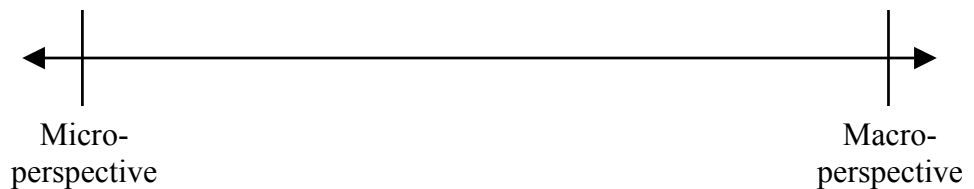
Second, strategic HRM focuses on higher-level contingency variables. Underlying this perspective is the argument that the effectiveness of HRM systems depends on how they are aligned with variables external to the HRM system such as strategy, technology, environmental conditions, and the like (Baird & Meshoulam,

1988; Wright & Snell, 1998). As an example, Youndt, Snell, Dean, and Lepak (1996) examined the relationship between manufacturing strategy, human resource management practices, and operational performance (employee productivity, machine efficiency, and customer alignment), and found a moderating effect of manufacturing strategy on the relationship between the use of a human-capital-enhancing HR system and operational performance. As exemplified by Youndt et al. (1996), strategy is considered as one of the most important contingent factors that HRM system needs to be aligned with (e.g., Arthur, 1994; McMahan, Virick, & Wright, 1999; Wright & McMahan, 1992). In traditional HRM approaches, the notion of fit tends to focus on individual employees and their fit with the internal surroundings (e.g., person-job fit or person-organization fit) rather than broader environmental factors.

Third, strategic HRM research places emphasis on firm-level performance as the dependent variable rather than focusing solely on individual performance (cf. Rogers & Wright, 1998; Wright, 1998). For instance, Delery and Doty (1996) used return on asset (ROA) and return on equity (ROE) and Huselid (1995) used gross rate of return (GRATE) and a variant of Tobin's Q (i.e., firm market value/book value) as their dependent variables. In contrast, traditional HRM research generally focused on individual outcome behaviors such as task performance (cf., Locke & Latham, 1990), absenteeism (cf., Harrison & Martocchio, 1998), withdrawal behaviors (cf. Harrison & Martocchio, 1998; Hulin, 1991), and/or turnover (cf., Griffeth, Hom, & Gaertner, 2000). In general, the basic distinction between traditional HRM and strategic HRM can be summarized as the difference in the focus on micro- vs. macro-perspectives. Table 1 highlights these differences.

**Table 1. Changes in the Strategic HRM Perspective
from a “Traditional” HRM Perspective**

	“Traditional” HRM	Strategic HRM
Level of Analysis	Subfunctions of HRM (Subfunctional-level: staffing, training & development, compensation & incentives, performance appraisal, etc.)	HRM as a whole (Organizational-level)
Focus	Individual HRM practices (e.g., staffing practices [Terpstra & Rozell, 1993], training practices [Russell, Terborg, & Powers, 1985], and compensation practices [Gerhart & Milkovich, 1990])	System or Configuration of HRM practices (e.g., “commitment” [Arthur, 1994], “human capital enhancing” [Youndt et al., 1996], “High Performance Work System” [Becker & Huselid, 1998; Huselid, 1995])
Contingencies	Person-Environment Fit (e.g., Dawis, 2000; Edwards & Van Harrison, 1993), Person-Organization Fit (e.g., Kristof, 1996; Van Vianen, 2000), Person-Job Fit (e.g. Kristof-Brown, 2000)	External Fit (Strategy-HRM), Internal Fit (HRM-HRM)
Performance	Individual employee performance	Organizational performance

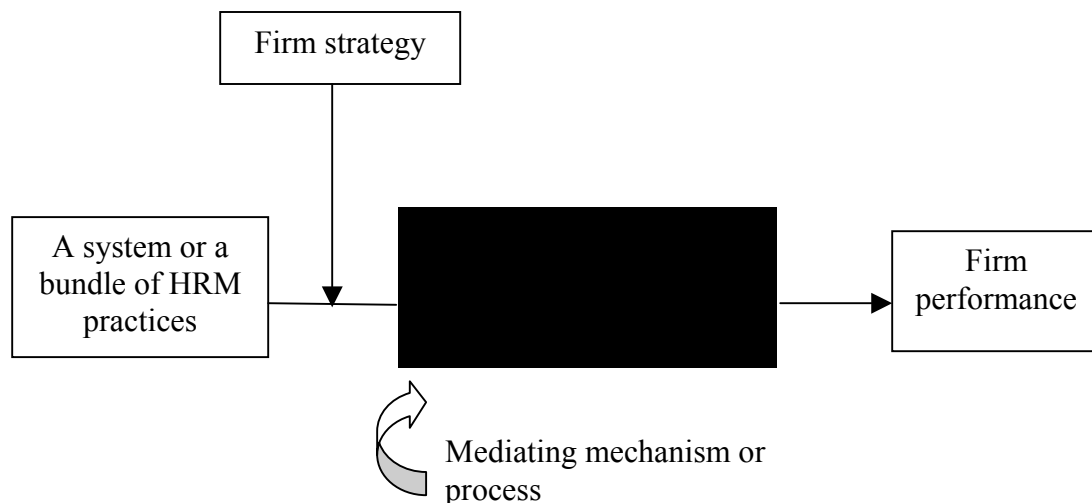


Despite this progress, one of the critical issues that remain unclear is an understanding of the mediating mechanism or process through which HRM practices influence firm performance. Interestingly, there is no empirically based research that has examined critical employee attitudes and behaviors in strategic HRM and linked them to other outcomes such as turnover rate, labor productivity, and so forth. Moreover, only a limited number of researchers have articulated potential mediators

only to a limited extent (Applebaum, Bailey, Berg, & Kalleberg, 2000; Delery, 1998). As Figure 1 illustrates, there is a “black box” in empirical examinations of HR-performance relationship where the mediating mechanism is typically implied but not measured to date.

It is understandable that previous examinations of strategic HRM research have focused on investigating the overall linkages between HRM and performance, given the relative infancy of the field. However, advances in the strategic HRM area are impeded because linkages between HR practices and performance are tenuous at best without an understanding of the mediating processes through which HRM practices affect performance. In addition, the utility of strategic HRM research for practitioners is limited without explicating the processes that occur within this black box.

FIGURE 1. The Black Box in Strategic HRM Research



With regard to this black box, one of the dominant, theoretical perspectives that have been used in the strategic HRM literature is the behavioral perspective, advanced by Schuler and Jackson (1987; Jackson et al., 1989). “A behavioral perspective assumes that employers use personnel practices as a means for eliciting and controlling

employee attitudes and behaviors” (Jackson et al., 1989: 728). The primary logic for this is that certain attitudes and behaviors are needed for certain strategies. An example of the behavioral perspective can be found in Miles and Snow’s (1984) description of the employee behaviors needed for different strategic business types: defender, prospector, analyzer, and reactor. An important component of the behavioral perspective is an emphasis on the employee attitudes and behaviors that contribute to effective implementation of strategic objectives and organizational functioning.

While conceptual arguments abound, however, none of these studies have actually examined employee attitudes and behaviors espoused to be critical to this process. Thus, previous empirical examinations of strategic HRM have not tested these theoretical assertions that employee attitudes and behaviors are critical in the effective implementation of different strategies. In addition, the behavioral perspective has not explicitly articulated the types of critical employee behaviors that lead to higher firm performance. In short, a key mediator of the strategic HRM research is neither well understood nor tested.

In addition to the behavioral perspective, some strategic HRM researchers focused more on the competency of employees. Deriving from the resource-based view of the firm (e.g., Barney, 1991), these researchers suggest that firms’ internal resources (human capital) directly influence firm performance (Wright & McMahan, 1992). Barney (1991) asserts that human capital may be one of the few firm resources that have the potential for sustainable competitive advantage because it may satisfy the four characteristics (i.e., value, rarity, inimitability, and nonsubstitutability) that resources must possess to provide firms with sustainable competitive advantage. While there is

empirical evidence that illustrates the positive influence of human capital on firm performance, this line of research typically de-emphasizes the role of HRM activity in obtaining human capital or eliciting the necessary behaviors.

As noted by Austin, Villanova, Kane, and Bernardin (1991), performance is a function of ability (or in an aggregate form, human capital) and motivation (or effort) and both are needed for higher performance. As such, the sole use of resource-based view in strategic HRM might have been based on a faulty assumption that ability necessarily translates into performance without considering the other side of the equation - motivation as shown by the employees exhibiting desired attitudes and behaviors.

Despite different conceptualization of the functional form of individual performance (as an additive model where ability and motivation influences performance independently or interactive model where ability and motivation influences performance in a multiplicative manner) (Austin et al., 1991), both ability and effort are instrumental in achieving higher performance. In other words, human capital may provide the potential for higher firm performance while employee attitudes and behaviors may be instrumental in realizing that potential. Taken together, both resource-based view of the firm and behavioral perspective suggest that the attributes (human capital) and efforts (as exemplified by aggregate employee attitudes and behaviors) are critical components in understanding firm performance. However, previous research has not integrated these two perspectives to examine the relationships among HRM, human capital, employee attitudes and behaviors, and firm performance. Hence, the primary research questions in this dissertation focus on addressing these issues.

Research Question 1: What are the roles of human capital and employee attitudes and behaviors on the relationship between human resource management practices and unit performance.

Research Question 2: What are the processes/mechanisms through which a system of human resources management impact unit performance?

Chapter 2

Theoretical Reviews

In this chapter I will draw from resource-based view of the firm (Barney, 1991; Wernerfelt, 1984), the behavioral perspective (Schuler & Jackson, 1987), and social exchange theory (Blau, 1964; Gouldner, 1960; Homans, 1958, 1961) to develop a parsimonious research framework for this dissertation.

Resource-Based View of the Firm (Barney, 1991; Wernerfelt, 1984)

One of the major theoretical perspectives that strategic HRM researchers have adopted is the resource-based view of the firm. “The resource-based view of competitive advantage differs from the traditional strategy paradigm in that the emphasis of the resource-based view of competitive advantage is on the link between strategy and the internal resources of the firm” (Wright & McMahan, 1992: 300). The resource-based view of competitive advantage makes a couple of fundamental assumptions: 1) resource heterogeneity, i.e., not all firms have access to or possess the same resources, and 2) resource immobility, i.e. some resources are harder to transfer or purchase from the market. According to the resource-based view of the firm (Barney, 1991; Wernerfelt, 1984), “a firm is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors. A firm is said to have a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy” (Barney, 1991: 102).

Firm resources can be defined as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable firms to conceive of and implement strategies that improve its efficiency and effectiveness (Daft, 1983)” (Barney, 1991: 101). Moreover, firm resources can be broadly classified into four categories: physical capital, organizational capital, social, and human capital. Physical capital refers to assets that are tangible and include the physical technology used in a firm, a firm’s plant and equipment, its geographical location, and its access to raw materials. Organizational capital is those intangible assets, including a firm’s reporting structure, its formal and informal planning, controlling, and coordinating systems, as well as informal relations among groups within a firm and between a firm and those in its environment whereas social capital refers to the specific component of intangible asset that are based on ability and capability to build and maintain good relationships between the firm and other constituents such as stockholders, customers, other organizations, and employees (Sullivan, 2002). Human capital includes the training, experience, judgment, intelligence, relationships, and insights of individual managers and workers in a firm (Barney, 1991). While all four resources have the potential for competitive advantage, firm resources must possess four attributes, 1) value, 2) rarity, 3) inimitability, and 4) nonsubstitutability, to realize a sustained competitive advantage.

A firm resource adds value when it exploits opportunities and/or neutralizes threats in a firm’s environment (Lepak & Snell, 1999). It is rare when only a small number of current and potential competitors have it. A firm resource must be imperfectly imitable where other firms who do not possess these valuable and rare

resources cannot obtain them easily. Finally, a firm resource needs to be imperfectly substitutable where other firms cannot use strategically equivalent resources to conceive of and implement certain strategies. As noted by Sullivan (2002), intellectual capital that includes organizational, social, and human capital may provide sources of competitive advantage. In addition, Barney (1991) pointed out, in particular, that human capital as a set has the potential for creating and maintaining competitive advantage because it is likely to depend on unique historical conditions, social complexity, and causally ambiguity, which are three conditions that make resources relatively more inimitable.

In the context of human capital, the level of human capital has an influence on firm performance (e.g., Becker, 1964; Hitt et al., 2001; Mincer, 1974). For instance, Pennings et al. (1998: 426) noted that “professionals endowed with a high level of human capital are more likely to deliver consistent and high-quality services” and the contribution of human capital investment to firm survival is critical. Similarly, Snell and Dean (1992) noted that human capital adds value to the firm because of enhanced potential for productivity provided by higher knowledge and skills. In other words, the higher the level of knowledge, skills, and abilities of employees, the more potential human capital has for impacting firm performance.

The main emphasis of the resource-based view of the firm (Barney, 1991) is how the level of intellectual capital that firms possess or acquire can generate above average rent in terms of improved firm performances. Researchers adopting this perspective suggest that the level of intellectual capital, in general, and human capital, in particular, is directly influenced by HRM practices that are aimed toward

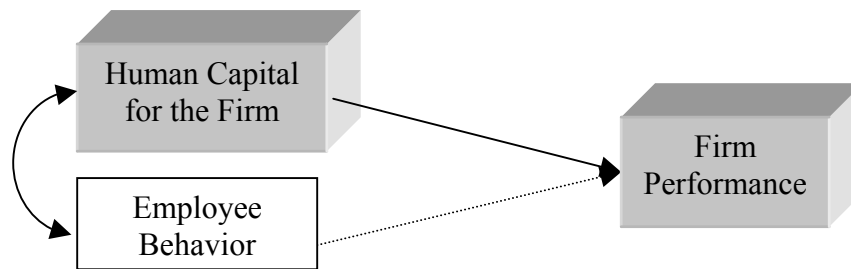
selecting/recruiting and training/developing employees (McMahan et al., 1999; Wright & McMahan, 1992; Wright & Snell, 1991). While the resource-based view of the firm has noted the importance of intellectual capital, the level of human capital is critical when applied to strategic HRM. In addition, the resource-based view of the firm emphasized the role of shared experiences and learning that facilitate the accumulation of individual employees' tacit knowledge and accretion of these individual knowledge into a collective such as units' or firms' organizational capital (e.g., Berman, Down, & Hill, 2002; Guillen, 2000; Lado & Wilson, 1994).

As MacDuffie (1995: 199) noted, "Innovative human resource practices are likely to contribute to improved economic performance only when three conditions are met: when employees possess knowledge and skills that managers lack; when employees are motivated to apply this skill and knowledge through discretionary effort; and when the firm's business or production strategy can only be achieved when employees contribute such discretionary effort (Levine and Tyson 1990; Bailey 1992)." While this is not an issue with physical and, to a lesser extent, organizational capital, the actions or behaviors of employees are a critical issue for human (Coff, 1997) and, to a lesser extent, social capital because human capital by itself cannot influence firm performance unless employees are induced to perform or actually use their human capital to improve performance.

Although social capital may initially emanate from the employees, through organizational learning, the firm can acquire social capital by utilizing tacit knowledge of the employees. Therefore, in terms of strategic HRM, the most critical component of intellectual capital that a firm can impact may be the level of human capital that resides

in the employees. Figure 2 depicts this emphasis of the resource-based view of the firm on human capital as a source of competitive advantage. Therefore, there are two ways, directly and indirectly, that human capital of the firm can influence firm performance.

FIGURE 2. Resource-Based View of the Firm in Strategic HRM



The emphasis on human capital characteristics that arise from the resource-based view of the firm is important, especially given that only a handful of research has specifically examined the linkages between human capital and firm performance (Hitt et al., 2001; Wright et al., 1995). Moreover, despite the growing use of the resource-based view of the firm as an underlying theoretical logic for strategic HRM, much of the empirical research has focused on the relationship between HRM practices and firm performance while ignoring human capital, thereby increasing the importance of examining this component. Delery (1998: 290) explicitly acknowledged that, “a firm does not gain a competitive advantage from HRM practices, per se, but from the human resources that the firm attracts and retains.” Consequently, understanding the linkage between an HRM system and performance must explicitly consider the relationships among a bundle of HRM policies, level of human capital, and performance.

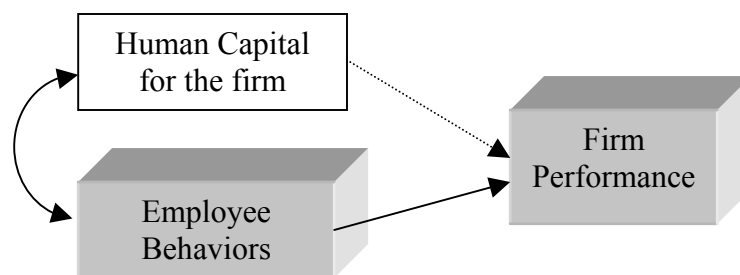
Behavioral Perspective

The behavioral perspective in strategic HRM (Jackson et al., 1989; Schuler & Jackson, 1987) posits that different role behaviors are required for different types of

strategies that firms pursue. “The theory focuses on employee behavior as the mediator between strategy and firm performance” (Wright & McMahan, 1992: 303) or “between HR practices and sustainable competitive advantage” (McMahan et al., 1999: 106). Examples of employee behaviors may be being flexible to perform in-role or extra-role tasks or being efficient in performing required tasks.

While useful in conceptualizing the role of employee attitudes/behaviors, its sole emphasis on employee behaviors may be too simplistic as the behavioral perspective typically ignores the level of human capital. It is simplistic in that “it assumes that the [sole] purpose of various employment practices is to elicit and control employee attitudes and behaviors” (Wright & McMahan, 1992: 303) and does not take into account the effect of the level of human capital that firms acquire and/or develop. To confound issues more, HRM practices are often used as proxies for employee behaviors, which are not a good proxy measure for the concept of employee behaviors and assume that an implementation of a policy automatically results in the desired employee attitudes and/or behaviors. There are many factors that might influence behaviors that go beyond HRM practices. Without actually measuring these factors, one cannot be certain why HRM practices lead to certain employee behaviors. Figure 3 illustrates the behavioral perspective.

FIGURE 3. Behavioral Perspective in Strategic HRM

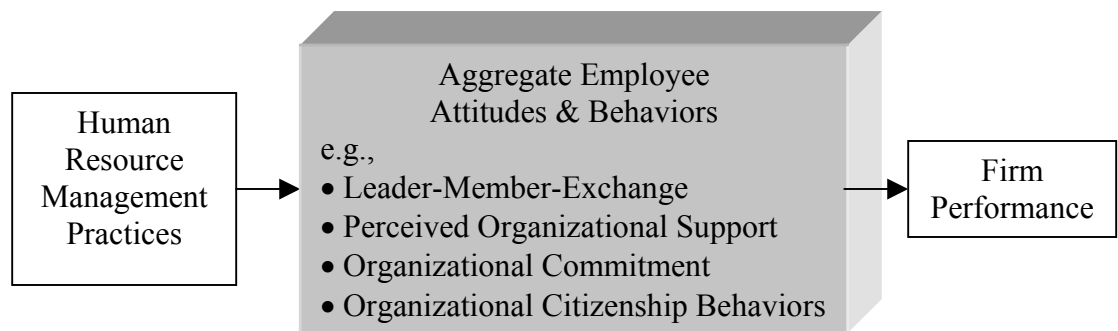


Understanding employee attitudes and behaviors: Social exchange theory. When examining employees' attitudes and behaviors and their effects on firm performance at the firm level of analysis, social exchange theory is a critical perspective that needs to be integrated into theorizing and empirical research that explicate the mediating mechanisms. Social exchange theory focuses on the motivational component of employee-organization relationships and provides insights regarding the implications of the fit between the expected inducements and contributions provided in an employee-employer exchange (Tsui, Pearce, Porter, & Tripoli, 1997). Specifically, social exchange theorists (e.g., Gouldner, 1960) examine the exchanges that occur between employers and employees regarding perceptions of reciprocity at an individual level of analysis. The essence of the social exchange theory is the notion of norm of reciprocity that develops, which makes employees feel obligated to respond equitably to treatments from others (including one's employer). As Wayne, Shore, and Liden (1997: 83) noted, "employees seek a balance in their exchange relationships with organizations by having attitudes and behaviors commensurate with the degree of employer commitment to them as individuals."

Though the exact focus of social exchange theorists varies, a common theme is that the perceived balance between organizational inducement and employee contributions has performance implications. For instance, Wayne et al. (1997) found that the use of HRM practices that were developmental in nature was positively related to perceived organizational support. Perceived organizational support, in turn, has been found to be positively associated with affective, organizational commitment (Eisenberger, Fasolo, & Davis-LaMastro, 1990), constructive suggestions (Eisenberger

et al., 1990), and citizenship behaviors (Wayne et al., 1997). In addition, perceived organizational support is negatively associated with absenteeism (Eisenberger et al., 1990) and turnover intentions (Guzzo, Noonan, & Elron, 1994). Several variables including perceived organizational support, leader-member exchange (e.g., Liden, Sparrowe, & Wayne, 1997; Wayne et al., 1997), organizational commitment (e.g., Shore, Berksdale, & Shore, 1995; Shore & Wayne, 1993), and organizational citizenship behaviors (e.g., Masterson, Lewis, Goldman, & Taylor, 2000), for example, have been used to capture the notion of social exchange. Hence, social exchange theory provides insights regarding the specific mediating factors that likely account for the relationship between HRM and performance. Figure 4 depicts social exchange perspective as an important mediating mechanism for the HRM practices-firm performance relationship.

FIGURE 4. Social Exchange Theory for Strategic HRM



Within an organizational setting, the employer and the employees can be considered parties to the social exchange relationships. First, assuming that the organization first acts in such a way to provide employees with something of social value such as providing job security or access to training programs, the employees,

then, perceive that the organization has provided something of social value to them. Only then, the employees will feel indebted to reciprocate to the organization with something of equal or greater value.

Although Schuler and Jackson (1987; Jackson et al., 1989) and other scholars in strategic HRM have not articulated the specific variables embedded within the behavioral perspective, those that have been used in previous studies in organizational behavior research as representing the notion of social exchange include leader-member-exchange (e.g., Masterson et al., 2000; Settoon, Bennett, & Liden, 1996; Wayne et al., 1997), organizational justice (e.g., Konovsky & Pugh, 1994; Masterson et al., 2000; Moorman, 1991; Organ & Konovsky, 1989), perceived organizational support (e.g., Armeli, Eisenberger, Fasolo, & Lynch, 1998; Eisenberger et al., 1986; Eisenberger et al., 1990; Masterson et al., 2000; Settoon et al., 1996), and psychological contract (e.g., Rousseau, 1989, 1995). At the same time, organizational commitment (e.g., Eisenberger et al., 1986; Eisenberger et al., 1990; Shore & Wayne, 1993), organizational citizenship or extra-role behaviors (e.g., Konovsky & Pugh, 1994; Lambert, 2000; Moorman, 1991; Organ & Konovsky, 1989; Van Dyne & Ang, 1998), and task or in-role performance (e.g., Austin et al., 1991) have been used as exemplar of employees' affective reactions to organizational actions.

Of these social exchange variables used in the field, psychological contract, which is defined as "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization" (Rousseau, 1995: 9), represent an aspect of social exchange that is based on obligation that arises from the feeling of indebtedness for the actions provided by the company and the notion of

reciprocity. Moreover, while psychological contract refers to the individual employee's beliefs regarding the obligatory aspects of social exchange relationship between the individual and the organization, Rousseau (1995) also discussed the concept of normative contract, which refers to individual employee's perception of the obligations that the organization has toward all of the employees working for the firm.

According to Chan (1998), five different types of compositions models that describe the functional relations among constructs in the same content domain at a higher level of analysis exist: 1) additive, 2) direct consensus, 3) referent-shift consensus, 4) dispersion, and 5) process composition. Of particular importance for the present dissertation is the referent-shift consensus model, which creates a distinct concept when individual responses are aggregated, although the concept originally is derived from individual-level unit when examining unit-level attitudes. He provides self-efficacy, collective efficacy, and team efficacy as an example of individual-level unit (self-efficacy, defined as an individual's belief and confidence in mobilizing one's resources to achieve successful task performance [Bandura, 1977]) having a different meaning at the higher-level of analysis (collective efficacy is defined as the individual team member's belief and confidence that the team can mobilize its resources to achieve successful task performance, which is then used to create team efficacy (group-level construct), which refers to the team members' overall belief and confidence that the team as a collective can mobilize its resources to achieve successful task performance. A similar shift is expected for psychological contract to normative contract to collective normative contract.

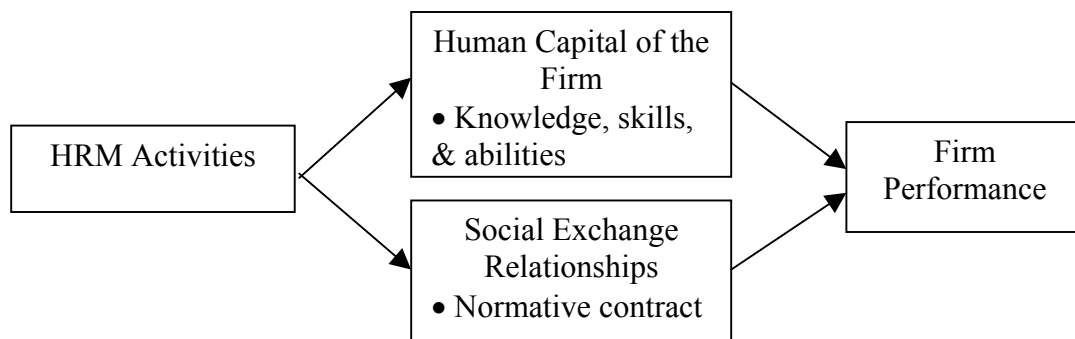
Collective normative contract is defined here as representing employees' collective beliefs regarding terms of social exchanges between the employees and their organization regarding the obligations that the employer and employees have toward each other. When comparing different operationalization of social exchange relationships, collective normative contract appears to convey the basic components of any social exchange relationships that may be necessary for further reciprocation by the employees. Furthermore, other variables that have been used to represent individual's social exchange relationship such as perceived organizational support, leader-member-exchange, and organizational commitment have not been conceptualized at and do not possess parallel concept at higher level of analysis. Hence, collective normative contract appears more appropriate than other operationalizations of social exchange relationships.

Integrating resource-based view and behavioral perspectives. As the above discussion suggests, there appears to be a disconnect in our understanding of the relationship among human capital, HRM, and performance or employee behavior, HRM, and performance. According to the resource-based view of the firm, human resources have the potential to provide firms with sustainable competitive advantage (Barney, 1991). While Hitt et al. (2001) examined the relationship between human capital (quality of school and total experience in a firm) and firm performance, they did not examine the influence of attitudes and behaviors and a system of HRM practices on these relationships. One of the reasons that this is the case may be due to the relative emphasis placed by resource-based view of the firm on human capital and the emphasis placed on employee attitudes and behaviors by the behavioral perspective without

considering these perspectives simultaneously, for instance. By integrating both perspectives and simultaneously looking at human capital and employee attitudes and behaviors such as collective normative contract of the employees as important components to firm performance, we can gain a better understanding of how HRM practices lead to firm performance. However, having highly knowledgeable, skilled, and capable workforce is a necessary but not a maximally effective condition toward improving firm performance. In order for human capital to actually contribute to firm performance, employee behaviors that are necessary need to be exhibited. In other words, having competent human capital provides firms with the potential for improving firm performance whereas employee behaviors are a necessary catalyst for converting this potential into reality. HRM practices are the means by which these human capital and employee behaviors are obtained. Therefore, it is necessary to examine the relationships among human capital, employee attitudes and behaviors, HRM, and performance from a holistic perspective, incorporating all four concepts in a study. Figure 5 shows the inter-relationships among these variables. To do so, however, we must also gain a better understanding how we conceptualize HRM policies.

FIGURE 5. Integration of the Resource-Based View of the Firm and Behavioral

Perspective on Strategic HRM



Conceptualization of performance. Another issue that is critical to fully understand the HRM-firm performance relationship pertains to the conceptualization of performance (Becker & Gerhart, 1996; Rogers & Wright, 1998). As noted by Wright (1998), there seems to be a consensus within the realm of strategic HRM that maximizing organizational performance, particularly financial performance, is the major goal to be achieved. This preference for financial measures of performance has been shown by Rogers and Wright (1998) who reviewed the literature and noted that out of 80 dependent variables included in the strategic HRM research, accounting measures such as return on asset, return on equity, profits, and sales and market measures such as stock price and Tobin's Q were used in more than half of the research.

However, the "appropriate dependent variable will vary with the level of analysis" (Becker & Gerhart, 1996: 791). At the business unit-level of analysis, perhaps the productivity of research and development personnel or their turnover rate may be more important for firms pursuing a differentiation strategy whereas the productivity of a firm's production staff may be more critical for firms following cost leadership strategy. Further, "the focus should be on variables that have inherent meaning for a particular context" (Becker & Gerhart, 1996: 791). For example, efficiency-based financial measures such as return on assets or return on equity may be more appropriate for firms pursuing cost leadership strategies in most of their business units whereas sales growth (ratio) or revenue growth (ratio) may be more appropriate for firms pursuing product differentiation strategies for the majority of their business units. Thus, it may be more appropriate for strategic HRM research to include multiple indicators of firm performance and make differential predictions based on them.

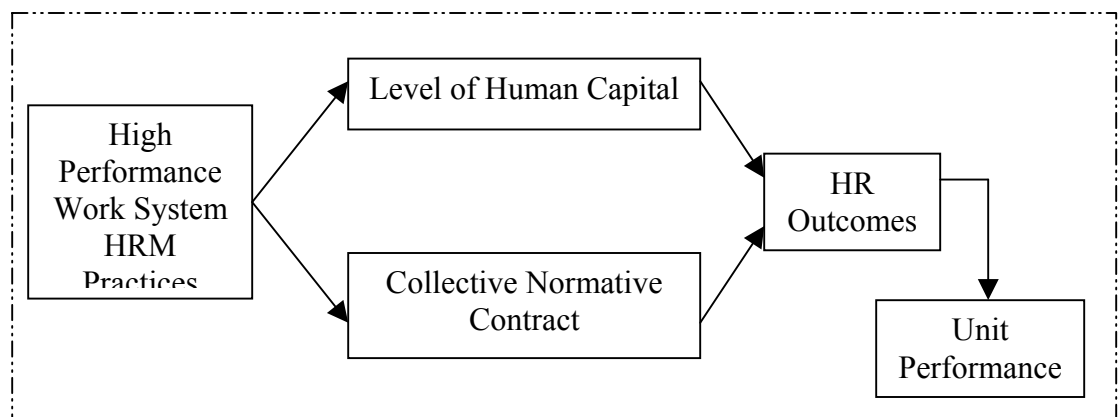
Dyer and Reeves (1995) noted different types of performance measures that are most appropriate for strategic HRM research. They proposed that four effectiveness measures are (1) human resource outcomes such as absenteeism, turnover, job satisfaction, and individual or group performance, (2) organizational outcomes such as productivity, quality, and service, (3) financial or accounting outcomes such as profitability, return on assets, and return on invested capital, and (4) stock market performance (stock value or shareholder return). Again, pointing to the fact that determination of which performance measures to include may be affected by the specific context of the research. For instance, turnover or retention rate may be more important for information technology companies that are knowledge intensive than for manufacturing companies that produce standardized products. Or, turnover or retention rate may be more critical for firms that utilize team-based production.

Given different conceptualizations of performance and an existence of multiple types of performance indicators, it is important to clearly differentiate these outcomes and investigate the impact of human capital, employee attitudes and behaviors, and HRM for multiple outcomes if we are to fully understand the HRM-firm performance relationship. Perhaps, the outcome measures can be ordered from proximal to distal with employees as an anchor. Hence, HR outcomes would be the most proximal, which leads to organizational outcomes. Organizational outcomes, in turn, may lead to financial or accounting outcomes and ultimately, market measures (cf. Becker & Huselid, 1998).

The relationship between HRM activities and firm performance, as noted before, has been relatively well established. However, the intermediate linkages between HRM

activities and firm performance are not yet well understood. Hence, it is important to be able to explicate these intermediate linkages, which is the primary objective of this dissertation. The integration of resource-based view and behavioral perspective (and social exchange theory) makes it imperative that HR-related outcomes such as labor productivity and turnover rate, for example, be examine as the more proximal outcomes to the level of human capital and perceptions and reactions to social exchange relationship. The logical next step is to link these HR-related outcomes to organizational outcomes (such as sales growth and operating profits). Figure 6 illustrates the overall framework for this dissertation.

FIGURE 6. Overall Theoretical Framework



Review of Past Research Related to the Framework

Although there is no empirical research in the area of strategic HRM that has examined these specific linkages from High Performance Work System to the level of human capital and collective normative contract, or the level of human capital and collective normative contract to HR-related outcomes, previous empirical research has examined the relationships between High Performance Work System and some of the

HR-related outcomes such as turnover and labor productivity, as well as HR-related outcomes to firm/unit performance. For example, Huselid (1995) found that turnover rate and labor productivity mediated the relationship between High Performance Work System and two indicators of firm performance, i.e., logarithm of Tobin's Q (market value of the firm / replacement costs of its asset) and gross rate of return on capital for the manufacturing companies. Way (2002) and Batt (2003) found significant relationships between High Performance Work System and labor productivity, and High Performance Work System and turnover rate for small companies and service companies, respectively. Similarly, Ichniowski, Shaw, and Prennushi (1997) found a positive relationship between innovative work practices and labor productivity for steel-finishing lines. However, none of the studies examined the level of human capital or collective normative contract as additional mediating mechanisms between High Performance Work System and (firm) performance.

In addition, in the strategy literature, Carpenter, Sanders, and Gregersen (2001) found a relationship between CEO's international assignment experiences (as representing the level of human capital) and multinational companies' return on asset. Hitt et al. (2001) found a relationship between human capital and performance of law firms (net income to total firm revenue). However, these studies did not examine the relationship between High Performance Work System and the level of human capital or the level of human capital and HR-related outcomes. Thus, it is unclear if the level of human capital indeed acts as a mediator of the relationship between High Performance Work System and HR-related outcomes. Therefore, one of the contributions of the dissertation is explicating this mediating mechanism through the resource-based lens. In

addition, investigating the mediating influences of collective normative contract and HR-related outcomes are other contributions that I intend to make in this dissertation.

Chapter Summary

In summary, in this chapter I have identified several theoretical perspectives that are relevant and important in examining the research questions identified in the first chapter and provided an integrated framework that outlines two general mediating mechanisms between a system of HRM practices and firm performance relationships. Given the objective of the dissertation, focusing on both the resource-based view and the behavioral perspective provide a framework for understanding the potential firm performance implications of a firm's human capital as well as aggregate attitudes and behaviors of employees. In addition, understanding the role of a bundle of HRM practices in these relationships is critical as the system of HRM practices is the primary ways to influence the level of human capital that organizations possess and aggregate employee attitudes and behaviors that are exhibited for the organizations.

Chapter 3

Model Development and Hypotheses

Scope of the Research

For the current dissertation, the critical issue is to examine the mediating mechanisms through which a system of HRM activities leads to performance via level of human capital and employee attitudes and behaviors. Hence, the main emphasis of the dissertation is on explicating the relationships among HRM system, human capital, employee attitudes and behaviors, and outcomes. Given an existence of different employee groups within a firm (e.g., Lepak & Snell, 1999; Osterman, 1987), associated differences in expected attitudes and behaviors that contribute to firm effectiveness, and HRM practices used to elicit such attitudes and behaviors, the boundary conditions for the dissertation is placed around three issues including level of analysis, performance indicators, and type of employee groups.

Level of analysis. Previous research on strategic HRM has been conducted at both the corporate-level (e.g., Arthur, 1992, 1994; Becker & Huselid, 1998; Delaney & Huselid, 1996; Guthrie, 2001; Huselid, 1995; Jackson et al., 1989; Terpstra & Rozell, 1993; Whitener, 2001) and business-unit level (Delery & Doty, 1996; Ichniowski et al., 1997; Koch & McGrath, 1996; McDuffie, 1995; Russell et al., 1985; Snell & Dean, 1992, 1994; Youndt et al., 1996). Although there are certain advantages as well as disadvantages to selecting one level vs. the other, the most appropriate level of analysis for the current dissertation is primarily at the business unit level because social exchange relationships between a corporation and employees is likely to be confounded with variety of factors external to the social exchange relationships that exist between

the employer and the employees. In other word, at the corporate level, the relationships among the variables of interest may differ from those of the business units. Also, corporations may have multiple business units with different objectives for one business unit vs. the other. Aggregating these units may mask the important relationships that exist among the variables included in the dissertation.

Unit performance indicators. It is widely acknowledged that firm performance is a multi-dimensional rather than a uni-dimensional construct (Dyer & Reeves, 1995; Rogers & Wright, 1998; Wright & Sherman, 1999). To reflect this multidimensionality, I will examine multiple outcomes in this dissertation. Specifically, I examine outcomes that are more intermediate in terms of High Performance Work System' impact on employees' behavioral outcomes, which I refer to as HR-related outcomes, and include such aggregate behaviors as labor productivity, level of extra-role behaviors exhibited by the employees in the unit, and quality of task performance as well as more distal establishment performance outcomes such as business unit performance. As Dyer and Reeves (1995) and Becker and Huselid (1998) noted, the dependent variables (performance) can be ordered from more proximal such as labor productivity to more distal variables such as return on asset and market-to-book ratio when examined from the strategic HRM perspective.

In addition, Gupta (1987) noted the difficulty of obtaining financial measures of business units across multiple industries, although more objective measures of unit performance such as market share and delinquency rates exist when examining bank branches (e.g., Ryan, Schmit, & Johnson, 1996) or sales growth ratio and return on assets for business units in the U.S. pulp and paper industry (Davis, Robinson, Pearce,

& Park, 1992). However, more perceptual measures such as the level of customer satisfaction (e.g., Gelade & Ivery, 2003; Ryan et al., 1996) and relative firm performance (e.g., Delaney & Huselid, 1996; Powell, 1992) that have been used to assess performance may be more appropriate. Dollinger and Golden (1992) and Powell (1992), for example, found measures of perceived organizational performance to correlate positively (with medium to high correlations) with objective measures of firm performance. Furthermore, the use of perceptual measures allows an analysis of for-profit and not-for-profit organizations to be conducted because objective performance data are typically not available for the non-profit organizations (Delaney & Huselid, 1996). Given the difficulty in obtaining objective, financial measures for the business units (Gupta, 1987) and the lack of comparability of these objective measures across multiple industries, more perceptual measure of unit performance is used.

Employees groups. Finally, as several scholars have noted (Jackson et al., 1989; Lepak & Snell, 1999; Osterman, 1987; Rousseau, 1995; Tsui et al., 1995), there are some indications that different HRM systems are used for different groups of employees depending on their employment relationships. For example, Lepak and Snell (2002) found different types of HR configurations for different types of employee groups. One approach that others have used to deal with this is to focus their attention on only those workers deemed most critical to a firm's success, i.e., core employees (e.g., Arthur, 1992; Delery & Doty, 1996; MacDuffie, 1995), or to aggregate two different groups, core and support, to a firm level (Huselid, 1995).

As noted by Lepak and Snell (1999), there are some limitations associated with this approach of combining core and support employees to focus on permanent

employees because different HR policies may be used for different employee groups, which may confound the findings. Here, permanent employee is defined as those non-managerial employees who are directly involved in the production of products or selling of products/services (core employees) and those employees who provide administrative and supporting services (support employees) on a long-term, full employment basis (e.g., Barnett & Miner, 1992; Davis-Blake & Uzzi, 1993; Lepak, Taylor, Tekleab, Marrone, & Cohen, 2002).

However, there are several substantive and methodological tradeoffs that need to be taken into account when considering the use of different employee groups, as compared to the permanent employee group. First, one of the complication introduced by using different employee groups may be related to aggregation and generalizability issues. For instance, inconsistency in the types of jobs classified as one type of employment group vs. the other by the respondents in different companies might introduces aggregation as well as generalizability problems. If the respondents from each firm do not agree on the types of jobs classified as core vs. support, for example, there may not be a concept that can be used at the unit-level across units or between firms. In addition, depending on the specific sample of units included, the results may not be generalizable to other settings beyond this dissertation.

Second, not all units have both employment groups and given that the main purpose of the dissertation is to examine the mediating mechanisms through which High Performance Work System influence unit performance, multiple employee responses are necessarily for each unit and collecting enough employee responses for each of the employment group for each unit and having enough sample size at the end is beyond the

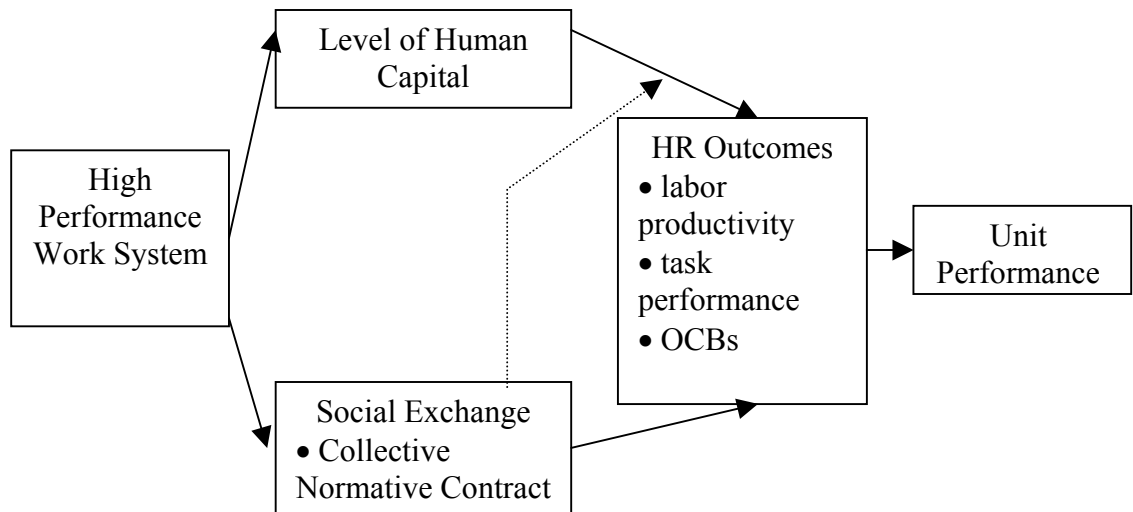
capabilities of any scholars, unless multiple units from a single company or industry (e.g., Gelade & Ivery, 2003; Ryan et al., 1996), or large-scale survey data are made available to scholars (e.g., Way, 2002). Given the objective of the dissertation and feasibility considerations, therefore, I focus on permanent (i.e., core and support) employees as the primary target of this dissertation.

Research Model

Thus far, I have described the boundary conditions of this dissertation. The following sections will discuss specific hypotheses that are incorporated in the overall framework described in Chapter 2. The following sections are broken down into three sections. The first section describes the influence of High Performance Work System on the level of human capital present in the unit as well as its indirect effect on HR-related outcomes and unit performance. The second section describes the impact of the High Performance Work System on collective normative contract as well as its indirect effect on HR-related outcomes and unit performance. Finally, the third section discusses the interaction between level of human capital and collective normative contract on HR-related outcomes. With the first two sections, I hypothesize that these variables act as two broad mediating mechanisms where a system of HRM practices affects unit performance. The first mediating mechanism is through human capital where High Performance Work System influences HR-related outcomes, which, in turn, acts as a mediator to influence performance. I also anticipate a mediating process through social exchange where High Performance Work System affects employees' collective perceptions of exchange relationships with the unit (collective normative contracts) that has impact on HR-related outcomes, which, in turn, lead to unit-valued outcomes.

Figure 7 illustrates the proposed research model for this dissertation. I describe these relationships in more detail below.

Figure 7. Proposed Model of High Performance Work System



High Performance Work System, Level of Human Capital, and Performance

High Performance Work System (e.g. Huselid, 1995) refers to a collection of HRM practices that are aimed at obtaining and insuring high level of competency or human capital for a firm’s workforce as one of the primary objectives, on the one hand, and coordinating and eliciting desired employee behavior over time (Wright & Snell, 1991) that adds value to the organization, on the other. Huselid (1995) also examined High Performance Work System and implied two different influences of these HR practices included in High Performance Work System when he factor analyzed these HR practices into two and labeled those: 1) HRM practices involving selection and training as “employee skills and organization structures,” emphasizing human capital; and 2) HRM practices involving compensation and performance appraisal as “motivation” factors, focusing on employee behavior.

The relationship between High Performance Work System and the level of human capital is rather straightforward (cf. Wright & Snell, 1991). For example, researches in the selection and staffing literature have long recognized that selection/staffing practices have an effect on the characteristics of the employees/managers selected for the job position (e.g., Guthrie & Olian, 1991). Similarly, Delaney and Huselid (1996) noted that organizations could adopt different HRM practices that place emphasis on improving the quality of the individual hired, or on raising the skills and abilities of current employee, or both. The more rigorous and comprehensive recruitment and selection procedures are, the higher the level of knowledge, skills, and abilities for the recruited employees likely be than when these HRM policies are not utilized. In addition, comprehensive, on-going training and development programs can augment and improve employee knowledge, skills, and abilities. Therefore, there is likely to be a positive relationship between High Performance Work System and the level of human capital (cf. Hitt & Barr, 1989). In addition, High Performance Work System usually entails compensation policies that lead the market as well as performance appraisal policies that are developmental, which may attract potential applicants with higher talents. Hence, I expect the following:

Hypothesis 1: High Performance Work System is positively related to the level of human capital for the unit.

Higher levels of human capital have the potential to provide a sustainable competitive advantage to firms because employees differ in their amount of knowledge, skills, and abilities that they possess. For example, Hitt et al. (2001) found a positive, curvilinear relationship between human capital and firm performance for a professional

service firms. More specifically, they found articulable knowledge, which is a type of knowledge that can be codified and transferable (Lane & Lubatkin, 1998), and tacit knowledge, which is another type of knowledge that is difficult to codify and transfer (Lane & Lubatkin, 1998), to have an inverted U-shaped relationship with return on sales. Similarly, Pennings, Lee, and Van Witteloostuijn (1998) found human capital characteristics of accountants to be negatively related to firm dissolution (i.e. positively related to firm survival). These empirical studies have shown the relationship between human capital and firm performance to be positive. Moreover, Bettencourt, Gwinner, and Meuter (2001) found employee's knowledge to be a significant predictor of service-oriented organizational citizenship behaviors. In particular, they argue that (procedural) knowledge enhances the repertoire that employees have developed in terms of useful ways of interacting with specific customer types. An analogy may be drawn for interacting and dealing with other coworkers. Therefore, I expect the following:

Hypothesis 2: The level of human capital for the unit is related to HR-related outcomes such as labor productivity, unit-level task performance, and unit-level organizational citizenship behaviors.

A growing number of studies (Arthur, 1994; Becker & Huselid, 1998; Guthrie, 2001; Huselid, 1995; Ichniowski et al., 1997) have also shown that a system of HRM practices to be directly and positively related to HR-related outcomes such as labor productivity and turnover rates as well as establishment level performance (Guthrie, 2001; Huselid, 1995; Way, 2002). However, a system of HRM practices is not likely to influence these HR-related outcomes directly per se (cf. Becker & Gerhart, 1996). It is through increases in labor productivity stemming from an increase in the level of human

capital that enables firms to reap the benefits of competence-enhancing HRM practices embedded within High Performance Work System (cf. Snell & Dean, 1992). It is only through its influence on employees' level of knowledge, skills, and abilities that the potential for increased performance gains can be realized. Thus, the level of human capital is likely to mediate the relationship between High Performance Work System and HR-related outcomes.

Hypothesis 3: The level of human capital mediates the relationship between High Performance Work System and HR-related outcomes such as labor productivity, unit-level task performance, and unit-level organizational citizenship behaviors.

In turn, HR-related outcomes are likely to mediate the relationship between the level of human capital and unit level performance (cf. McMahan et al., 1999). For example, Hitt et al. (2001) found a positive relationship between the level of human capital and indicators of law firm performance. However, even when the firm initially obtains employees who possess high knowledge, skills, and abilities (i.e., human capital), if many of them exit the company shortly afterward, it is not likely to influence firm performance in a positive manner. In addition, if the employees are not motivated to use their skills, the level of task performance may only be minimally adequate, which does not justify the above-average market rate paid for these highly skilled employees. Thus, again, the performance for the unit may not improve simply by recruiting highly knowledgeable, skilled, and capable individuals. In other words, HR-related outcome such as an increase in labor productivity, aggregate task performance level, and

aggregate organizational citizenship behaviors are expected to mediate the relationship between the level of human capital and unit performance.

Hypothesis 4: HR-related outcomes such as labor productivity, unit-level task performance, and unit-level organizational citizenship behaviors mediate the relationship between the level of human capital for the establishment and unit performance.

High Performance Work System, Collective Normative Contract, and Performance

While the behavioral perspective provides the general foundation to expect that employee attitudes and behaviors mediate the relationship between HRM policies and unit performance, incorporating a social exchange perspective (e.g., Blau, 1964; Gouldner, 1960) provides a compelling theoretical logic to further explicate the mediating mechanisms outlined by the behavioral perspective.

Social exchange theory posits that two individuals or parties often decide to enter exchange relationships when both individuals perceive that it is beneficial to do so (Blau, 1964; Gouldner, 1960; Homans, 1958, 1961). Initially, parties to an exchange are cautious and conscious about the currency of exchange (be it monetary incentives or approval) that is being exchanged between each party. This monitoring may decrease over time when each party finds the relationship satisfying and trust develops between the parties, thereby increasing the value of contributions both in terms of acceptable alternatives and time between reciprocation. Typically, both parties strive for a fair exchange with equivalent contributions judged through time (Tsui et al., 1997). When one party to the relationship goes beyond required obligations (be it initial payment to or repayment of valued contribution by the other party), the other party subsequently

feels indebted to contribute back to tilt the balance in the other direction. This component of the exchange is known as the norm of reciprocity (Homans, 1961).

In an organizational setting, one of the possible pairs of partners to social exchanges is the employees and the employing organization. Within this potential partnership, employees as well as an employer can initiate the social exchange cycle. However, it is typically assumed that the organization initiates the action by providing employees with something that the employees' value – e.g., providing job security, access to training programs – that are represented by the HR policies that the organization utilizes. If the employees perceive that the organization has provided something of value to them, the employees are likely to feel obligated to reciprocate by providing the organization with something of equal or greater value. Within this social exchange process, it may be important to distinguish two components to understand the processes in detail: 1) the way employees perceive and interpret the organization's actions, and 2) the employees' reactions to them. The first component relates to the employees' collective perceptions and attributions of the organizational actions. When employees share perceptions of HRM policies as valuable and attribute the intention of the organization in a favorable manner, they collectively should possess the notion that the employees in the organization need to repay the organization, i.e., collective normative contract, and they are likely to feel obligated to reciprocate with behaviors that the organization values. Hence, the second component of the social exchange is the reciprocation provided by the employees.

High Performance Work System and Collective Normative Contract. When examining the variables that are based on the notion of social exchange as perceived by

the employee, collective normative contract seems quite relevant. Although different variables have been examined in the literature previously, scholars, in general, have suggested that the nature and strength of obligations incurred through a social exchange depends on the quality of the relationship between the partners to the exchange (Eisenberger et al., 1986; Lambert, 2000; Van Dyne, Graham, & Dienisch, 1994). Konovsky and Pugh (1994) identified a set of mediating variables that provides the foundation for the social exchange by setting the tone for the exchange relationship as “macromotives,” which may include perceived organizational support and psychological contract (cf., Lambert, 2000), among others.

However, given the notion of organizational climate, which is defined as a set of shared perceptions of the policies, practices, and procedures that is developed through interactions (James et al., 1988; Schneider & Reichers, 1983), it is likely that shared perceptions with regard to the terms of the contract exist within organizational units. In fact, Marcoulides and Heck’s (1993) study examined the collective perception of the quality of leader-member interactions as an aspect of organizational climate and collective commitment of employees as shared attitudes; Naumann and Bennette’s (2000) and Colquitt, Noe, and Jackson’s (2002) study indicated the existence of climate for procedural justice; and Rogg, Schmidt, Shull, and Schmitt’s (2001) study on strategic HRM examined the relationship between HRM philosophy, organizational climate (commitment as an aspect of organizational climate), and performance (customer satisfaction). Of particular relevance to the current study is the study conducted by Marcoulides and Heck (1993) that found a positive relationship between organizational climate and shared employee attitudes.

It has been noted that organizational climate develops through three different, yet interrelated, means (Schneider & Reichers, 1983): 1) from social interactions of employees and through shared meanings (symbolic interactionist approach); 2) from attraction/selection/attrition (ASA) resulting in homogeneity (ASA approach); and 3) from mere exposure to the same policies, practices, and procedures (the structuralist approach).

The first approach to organizational climate emphasizes interaction process among the employees in which employees try to make sense of the external events and assign meanings to these. The second approach (attraction-selection-attrition) focuses on the notion of person-organization fit with the organizational goals (Schneider, Goldstein, & Smith, 1995). Organizational goals, and the processes, structures, and culture that emerge to facilitate achievement of the organizational goals originally articulated by the founder are thought to determine the kinds of people who are attracted to, are selected by, and retained by the organization (Schneider et al., 1995). Finally, the third approach to climate draws attention to the structural characteristics of the organization. By being exposed to certain types of situational conditions such as leadership (e.g., Bass, 1990), job design (e.g., Hackman & Oldham, 1980), groups or teams (e.g., Guzzo & Shea, 1992), pay systems (e.g., Lawler, 1981), dynamics of the external environment (e.g., Joyce & Slocum, 1990), employees are likely to develop similar perceptions.

As noted above, these approaches, however, are not mutually exclusive and they seem to differ on the emphasis placed. Perhaps, the most relevant approaches when examining the formation of HRM policies and their effects on employee perceptions

may be the second and the third approach to organizational climate. High Performance Work System may affect the organization in two ways: by attracting particular types of applicants and enabling the organization to select highly talented recruits who are likely to stay with the company and the other by providing common understanding to employees' experiences in terms of shared meaning by socializing them into interpreting experiences in particular ways.

For instance, High Performance Work System is typically used to attract and select employees with high potential, which is likely to impact employee perceptions. For instance, providing rigorous training may lead to an increase in perceived obligations that the employees feel toward the organization in that the employees may interpret receiving this training as an indication of the goodwill from the organization. Similarly, extensive recruitment and selection procedures may signal to employees that their organization places great value on them and consider them as crucial in the survival and success of the organization.

While there are only few empirical studies that had examined the effects of HRM policies on social exchange variables, Wayne et al. (1997) found developmental experiences and number of promotions to be positively related to perceived organizational support. Developmental experiences in their study referred to those job assignments that are challenging and developmental. Similarly, Whitener's (2001) study indicated that performance appraisal and internal rewards that are part of "high commitment" HR practices were correlated with perceived organizational support. Moreover, Taylor et al. (1995) examined due process in performance appraisal where due process performance appraisal practices include participative decision-making, self-

evaluation, and feedback. They found that these appraisal practices were positively related to procedural fairness perception of the employees. In addition, they found these practices to be positively related to employees' evaluation of the supervisor (or the leader).

While these studies focused on the individual-level of analysis, using different variables to represent social exchanges, I can infer from the results that High Performance Work System will be associated with employees' shared perceptions of the terms of contracts that they are expected to receive and return. As Kozlowski and Klein (2000:30) noted these aggregate employee attitudes and behaviors can be considered a shared construct, which "describes the characteristics that are common to – that is, shared by – the members of a unit." They also note that organizational climate, collective efficacy, and group norms are examples of shared unit-level properties and these shared unit properties emerge as consensual, collective aspects of the unit as a whole. Therefore, I expect the following:

Hypothesis 5: High Performance Work System has a positive relationship with collective normative contract. More specifically, High Performance Work System is positively related to employees' shared perceptions regarding obligations (collective normative contract) toward the organization.

Collective normative contract and HR-related outcomes. Unlike the relationship between HRM policies and aggregate employee attitudes and behaviors, there are more studies that examined the impact of employees' reactions to organization's social exchange relationship, especially with regard to behaviors that contribute indirectly to the organization by maintaining its social and psychological environment. Several terms

have been used to describe such behaviors in the past, including organizational citizenship behavior (OCB: e.g., Organ, 1988), prosocial organizational behavior (Brief & Motowidlo, 1986; George, 1990, 1991; George & Bettenhausen, 1990; O'Reilly & Chatman, 1986), organizational spontaneity (George & Brief, 1992; George & Jones, 1997), extra-role behavior (Van Dyne & LePine, 1998; Wright & George, 1993), and contextual performance (Borman & Motowidlo, 1993, 1997; Borman, White, & Dorsey, 1995; Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996).

More recently, empirical research has accumulated that suggests that extra-role behaviors lead to greater overall organizational effectiveness (MacKenzie, Podsakoff, & Paine, 1999). Podsakoff and MacKenzie (1994) examined the impact of three forms of OCBs (helping, sportsmanship, and civic virtue) on the performance of life insurance agencies. They found that all three forms of OCBs had significant effects on unit-level performance and together accounted for approximately 17% of the variance in this criterion variable. Walz and Niehoff (1996) found similar results by examining the relationships between OCB dimensions and a multitude of performance measures in limited menu restaurants. In particular, they found that the overall OCB accounted for an average of about 29% of the variance in the six objective criterion variables. Similarly, George and Bettenhausen (1990) examined the relationship between employees' prosocial behaviors for the retail store and sales performance and found a positive correlation of .33.

Particularly relevant is the study conducted by George and Bettenhausen (1990) who examined the relationship between group-level prosocial behavior and turnover rate. Their results indicated that group-level prosocial or organizational citizenship

behavior was negatively correlated with turnover rate for retail stores. In addition, they also found a positive relationship between group-level prosocial behavior and labor productivity, which they called sales performance (total store sales / number of sales associates working in the store). Extrapolating from this finding, I expect that employees' shared perception of normative contract, which is the result of social exchange relationship that the employees have with the organization, to be positively related to labor productivity, task performance, and citizenship behaviors exhibited in the unit. Therefore, I hypothesize the following:

Hypothesis 6: Collective normative contract is positively related to HR-related outcomes such as labor productivity, unit-level task performance, and unit level organizational citizenship behaviors.

The relationships above describe a positive relationship between High Performance Work System and collective normative contract, and collective normative contract and HR-related outcomes. In addition to these direct relationships, I expect mediating mechanisms that occur through these relationships. First, I expect that aggregate employee perceptions of normative contract to mediate the relationship between High Performance Work System and HR-related outcomes. There is an emerging body of evidence that suggests the linkages from HRM practices to aggregate employee attitudes and behaviors to HR-related outcomes and, eventually, to unit performance. Lambert (2000), for example, found that HRM practices related to work-life benefits were positively related to perceived organizational support, which was also positively related to helping behaviors (one aspect of OCB). Similarly, Marcoulides and

Heck (1993) found organizational climate had both a direct and an indirect (through shared employee attitudes) effect on organizational performance.

In addition, empirical research suggests that aggregate employee behaviors, extra-role behaviors in particular, lead to greater overall organizational effectiveness (MacKenzie, Podsakoff, & Paine, 1999). Podsakoff and MacKenzie (1994) examined the impact of three forms of OCBs (helping, sportsmanship, and civic virtue) on the performance of life insurance agencies. They found that all three forms of OCBs aggregated to the agency level had significant effects on unit-level performance and together accounted for approximately 17% of the variance in this criterion variable. Similarly, Walz and Niehoff (1996) found that aggregate helping behavior was positively related to overall operating efficiency, customer satisfaction, revenue to full-time equivalent, and quality of performance and negatively related to food cost percentage. They also found that overall OCBs accounted for an average of about 29% of the variance in the six objective criterion variables. Similarly, George and Bettenhausen (1990) examined the relationship between aggregate employees' prosocial behaviors for retail stores and sales performance, and found a positive correlation of .33. These results suggest that aggregate employee attitudes and behaviors mediate the relationship between HR practices and outcomes. Combining findings from these empirical studies, I expect the following:

Hypothesis 7: Employees' shared perceptions of normative contract mediate the relationship between High Performance Work System and HR-related outcomes.

Finally, Koys (2001) examined the relationship between HR outcome (turnover rate) and business unit effectiveness in a panel design, longitudinal study and found that

HR outcome precedes business unit effectiveness. Combining this finding with the other studies that found relationship between aggregate employees' reactions and unit effectiveness (George & Bettenhausen, 2000; Podsakoff & MacKenzie, 1994; Walz & Niehoff, 1996), it is expected that HR-related outcomes such as labor productivity and turnover rate act as a mediator between aggregate employees' reactions and unit performance.

Hypothesis 8: HR-related outcomes such as labor productivity, unit-level task performance, and unit-level organizational citizenship behaviors mediate the relationship between collective normative contract and unit performance.

Moderating Effect of Collective Normative Contract

Finally, I expect employees' perceptions of their social exchange relationship with the organization to interact with the level of human capital to have an influence on HR-related outcomes. Given that these shared perceptions of social exchange can be considered "macromotives" (cf. Lambert, 2000), those units with higher amount of collective normative contract are more likely to have employees who are more motivated and willing to exert more effort on behalf of the unit. Based on the notion of reciprocity norm, when employees perceive the organization as a valuable exchange partner and trust that the organization will reciprocate, employees are more likely to exert extra effort that may be substantially more than their fair share that brings them up to par with what the organization has already given them. In a sense, the employees proactively engage in social exchange to further develop the relationship with the organization.

Given that employees with higher qualifications (i.e., who possess higher amount of knowledge, skills, and abilities) can generally perform at a higher level than those who do not (e.g., LePine & Van Dyne, 2001; Mohammed, Mathieu, & Bartlett, 2002; Vance, Coover, MacCallum, & Hedge, 1989), if these employees with higher knowledge, skills, and abilities are motivated to exert extra effort that is over and above their expected contribution, the increases in labor productivity that originate from the increase in the aggregate level of task performance may be substantially larger than those with lower qualifications. In addition, when these highly qualified employees are motivated to help each other and/or voice innovative ways of organizing and executing the tasks (e.g., LePine & Van Dyne, 2001), the cost saving associated with reduced training needs or new process may be larger. Furthermore, George and Bettenhausen's (1990) study found a significantly negative correlation between group's norm on organizational citizenship behavior and turnover rate for the store. Therefore, it can be expected that when employees share a particular norm with regard to the obligations they have toward the organization, they are more likely to exhibit more organizational citizenship behaviors. When employees with high qualifications exhibit the organizational citizenship behavior, the benefits that other employees receive are likely to higher than when employees with low qualifications provide those behaviors. Hence, a higher level of human capital is likely to lead to positive synergy when it is coupled with a higher level of collective normative contract, which can be considered to represent a component of employee motivation. The interactive effect of ability and motivation on individual performance is relatively well established in the performance

literature (e.g., Austin et al., 1991; Kanfer & Ackerman, 1989). I expect a similar relationship at the unit-level of analysis. Thus, I expect the following:

Hypothesis 9: Employees' collective normative contract with the organization moderates the relationship between the level of human capital and HR-related outcomes such that units with employees who have more favorable perceptions of the organization have higher levels of HR-related outcomes than those units with employees who do not perceive higher collective normative contract.

In summary, the present dissertation proposes two sets of hypotheses that are associated with the level of human capital, i.e., Hypotheses 1 through 3, and collective normative contract, i.e., Hypotheses 5 through 7, along with mediating role of HR-related outcomes on the relationships between the level of human capital and unit performance (Hypothesis 4), and collective normative contract and unit performance (Hypothesis 8). Finally, Hypothesis 9 posits the interactive effect of the level of human capital (as representing higher level construct of ability) and collective normative contract (as representing higher level construct of a component of motivation) on HR-related outcomes. Table 2 summarizes all of the hypotheses advanced for the present dissertation.

Table 2. Summary of Dissertation Hypotheses

Hypothesis 1.	High Performance Work System is positively related to the level of human capital.
Hypothesis 2.	The level of human capital is significantly related to HR-related outcomes.
Hypothesis 3.	The level of human capital mediates the relationships between High

	Performance Work System and HR-related outcomes.
Hypothesis 4.	HR-related outcomes mediate the relationship between the level of human capital and unit performance.
Hypothesis 5.	High Performance Work System is positively related to collective normative contract.
Hypothesis 6.	Collective normative contract is significantly related to HR-related outcomes.
Hypothesis 7.	Collective normative contract mediates the relationships between High Performance Work System and HR-related outcomes.
Hypothesis 8.	HR-related outcomes mediate the relationships between collective normative contract and unit performance.
Hypothesis 9.	The level of human capital and collective normative contract interact to influence HR-related outcomes.

Chapter 4

Research Method

Sample

The sample for this dissertation includes 76 business units from 56 different companies located in Japan, ranging widely in terms of industries and geographical regions of Japan that the companies serve. Initially, 120 company contacts received a letter from a Japanese faculty member who provided assistance during the data collection procedure, inquiring about potential companies that may be willing to participate in the dissertation. Seventy-six companies were identified as having high likelihood of participating, given company contacts' relationships with these companies. Out of 76 companies, 56 companies provided at least one managerial and two employee responses that are usable for a company response rate of 73.68%. The names of the companies that were contacted for the dissertation are listed in Appendix B. In general, all but one (agriculture, forestry, and fishing) primary (SIC single-code) industry were represented. There were 23 units where only one managerial response was obtained. Table 3 summarizes the response distribution obtained for these seventy-six units.

Table 3. Response Patterns

Number of Units	Managerial Responses	Employee Responses
14	1	2
7	1	3
2	1	4
1	1	5
1	1	7
1	1	8
4	2	2
1	2	3

3	2	4
1	2	6
1	2	16
1	3	3
2	3	4
2	3	7
4	3	8
1	3	11
1	3	12
1	4	4
1	4	6
1	4	8
1	4	9
1	5	3
1	5	6
1	5	18
1	6	6
1	6	11
1	7	6
1	7	7
1	7	16
1	7	26
1	8	9
1	8	20
1	10	4
1	12	6
1	14	10
1	15	18
1	19	3
1	26	48

The managerial sample consisted of 324 senior-level managers working in the establishments. The average number of managerial responses received for each establishment was 4.26 (ranged from 1 to 26). The managers, on average, had 19.02 years of work experience at the establishment (SD = 11.63), 10.16 years of job tenure (SD = 10.44), were 47.73 years old on average (SD = 7.91), were predominantly male (96%) and were at the level of middle management.

For the employee sample, the number of respondents was 525 with an average of 6.89 responses per establishment (ranged between 2 and 48). The employees had 8.05 years of average work experience at the establishment (SD = 8.12), 6.14 years of average job tenure (SD = 6.46), were 35.90 years old on average (SD = 8.43), were predominantly male (81%) and employed full-time (90%).

Data Collection Procedure

First, I obtained consent from the top management team members of the participating companies through the contacts that the Japanese faculty member had. Then, the human resources managers for the participating firms were contacted mostly through direct visit to the companies, followed up by either a phone call or e-mail to solicit their assistance in gathering the information necessary to send out the surveys. Data collection procedure involved surveying managers and employees at the establishment level. Given the nature of the data collection procedure and unwillingness of many of the companies to divulge employee attitudes information, managers heading the unit requested the number of managerial and employee surveys that they are willing and/or able to distribute and the Japanese faculty member reproduced all the necessary forms to create a packet that included a Japanese version of the survey (either managerial or employee version: listed in Appendix A), a cover letter, and a pre-paid, university-addressed envelope for the requested number. The self-addressed envelope was addressed to the faculty member's university address in Kunitachi-shi, Tokyo, Japan and all the surveys (i.e., both managerial and employee) were directly returned to this address. Therefore, the managers and employees who responded to the surveys were convenient samples selected by the managers. This might raise a concern that the

responses are biased upward because the manager might have selected only those managers and employees who would respond favorably to the questions. However, this concern is mitigated because the mean of the responses across the units were generally around the mid-point of the scale anchors (ranged from 3.42 to 5.15 out of 1 to 7 Likert-type anchors) and the standard deviations ranged between .52 and .83. Therefore, the responses do not seem overly skewed in a positive way (i.e., all favorable). In addition, units from Izumigou had lower ratings for High Performance Work System and the level of human capital than those obtained from the other units, which indicates that not all respondents chosen rated the items in a favorable manner.

Both the managers and the employees who received the survey were told in the cover letter the purpose of the project. First, the importance of employees as a valuable asset to the organization was noted as the reason for the emergence of strategic human resource management as a field, which was used as a primer for the study objective. They were told that the main purpose of the project was to examine the relationship between a set of human resource management practices and firm performance as well as the mediating mechanism through which this occurs. They were also told that this project is also for completion of my dissertation. Furthermore, in the cover letter, the anonymity of their responses were guaranteed as the managerial and employee surveys distributed for the unit only had the code that identifies the unit, i.e., every survey for a particular unit had the same identification code, and voluntary nature of the responses were emphasized such that some managers and employees chose not to fill in demographic information if they felt uncomfortable in doing so.

Given the level of analysis involved in the dissertation, it was critical that high response rate be obtained from the managers as well as the employees to represent the unit (i.e., establishments or work locations). To ensure a higher response rate, I followed up with the managers in charge through phone calls and/or e-mails two weeks after the initial survey distribution. A second round of follow-up was conducted by mail with another sets of surveys enclosed. This was followed up again by phone calls and/or e-mails for all potential units. A final round of follow-up was conducted by mail with another survey packet. However, given that the managers requested the number of packets that he/she was willing to distribute, the representativeness of the respondents cannot be ascertained.

Survey Translation Procedure

The surveys were translated into Japanese through an iterative process. Several steps were taken to ensure the effectiveness of the translation process. First, a Japanese tenured full professor in Human Resource Management at the Tokyo Economics University in Kunitachi, Japan, who is also proficient in English, provided his assistance in translating the English version of the surveys into Japanese. This faculty member specializes in cross-cultural research on compensation between the U.S. and Japan and has also taught at the University of North Carolina at Chapel Hill and North Carolina State University for several years during his academic career.

The translated versions of the surveys were sent back to me, the principal investigator. As a Japanese native, I checked the integrity and validity of the items and noted any concerns regarding the translation. These comments were sent back to the

Japanese faculty member along with the Japanese surveys. He then addressed these concerns and sent back the revised version of the Japanese surveys back to me, the Ph.D. candidate. This process was done several times until no further concern emerged. To validate the survey translation, two Japanese employees in no way affiliated with this study were asked to read through the Japanese surveys for readability and ease of comprehension. Any concerns were noted and sent back to the Japanese faculty member who further revised the surveys to address these concerns until no further concern surfaced. As a final check, a third Japanese native translated the survey back into English, and the Japanese and English versions were compared for any discrepancies; none was detected. In general, I followed the procedures recommended by Brislin (1981) for survey translations across different languages and found these surveys to be equivalent in meaning.

Aggregation Issues

The survey items were reworded to reflect the unit-level of analysis by changing the focus of items to the establishment. For instance, items for measuring psychological contract was reworded as the following: “The employees make personal sacrifices for this unit” with an instruction to answer the items for the average employees in the unit. This approach is consistent with the guidelines by multilevel scholars (House, Rousseau, & Thomas-Hunt, 1995; Klein, Dansereau, & Hall, 1994) to specify and explicate the level of constructs in the study. The interrater agreement was assessed via R_{wg} (James, Demaree, & Wolf, 1984, 1993) for all the variables included in the dissertation. The average R_{wg} for High Performance Work System was .96 (Median = .97) for the 30- item scale; for human capital, it was .97 (Median = .97); for collective

normative contract, it was .81 (Median = .88); for labor productivity, it was .90 (Median = .92); for unit-level task performance, it was .95 (Median = .96); for unit-level organizational citizenship behaviors, it was .97 (Median = .98); and for overall unit performance, it was .96 (Median = .97).

These results provide some evidence that aggregation of the variables is justifiable because the R_{wg} s exceed the recommended value of .60 (James, 1982). More specifically, Schneider and Bowen (1985: 426) noted, “the appropriate test for within-setting agreement would be a measure of homogeneity rather than an index like analysis of variance (ANOVA) or the intra-class correlation coefficient (ICC) that depend upon between setting differences for significance.” In addition, Lindell and Brandt (1999) have shown R_{wg} 's superiority as an index of inter-rater agreement when compared to other indices such as Content Validity Index (CVI: Lawshe, 1975) or T (Tinsley & Weiss, 1975). Furthermore, R_{wg} can be considered a measure of interchangeability among raters (Ryan et al., 1996), which is an important characteristic of this measure for the current study, given that I expected some establishments to have a single managerial response for the variables of interest. Given that the level of agreement among all of the raters is well above the recommended value of .60 by James (1982), and substantially exceeds more commonly accepted value of .70 (cf., Klein et al., 2000), there is some empirical evidence suggesting that one rater can reasonably measure the aggregated variables in an accurate manner.

In addition, however, I examined intraclass correlation coefficients (ICC) to assess the variability in managerial and employee responses. ICC(1) compares the variance between units of analysis (establishments in this case) to the variance within

units of analysis using the individual ratings of each respondent (Schneider, White, & Paul, 1998). On the other hand, ICC(2) compares the between unit variability to that of within unit variability, using the average ratings of respondents within each unit (Bartko, 1976).

ICC(1) and ICC(2) were calculated by using Bartko's (1976) formula with a one-way random-effects analysis of variance (ANOVA). The ICCs were calculated for all the measures used in the present dissertation. ICC(1) for High Performance Work System, human capital, collective normative contract, labor productivity, unit-level task performance, unit-level organizational citizenship behaviors, and overall unit performance was .23, .22, .16, .25, .20, .26, and .25, respectively. ICC(2) for these same set of variables was .68, .55, .56, .59, .52, .60, and .59, respectively.

“Although there are no strict standards of acceptability for either ICC(1) or ICC(2) values, James (1982) reported a median ICC(1) value of .12 in the organizational literature, and Glick (1985) recommended an ICC(2) cutoff of .60” (Schneider et al., 1998: 155) that can be used as a rule-of-thumb to compare the ICC values obtained for the current dissertation. All of the ICC(1) values obtained for the dissertation exceeds the median value of .12 reported by James (1982) while ICC(2) values either approach or equal (in the cases of human capital, collective normative contract, and labor productivity, unit-level task performance, unit-level organizational citizenship behaviors, and overall unit performance), or exceed (in the cases of High Performance Work System) this value. Thus, all of the indicators appear to justify aggregation of the variables to the unit-level of analysis. Therefore, responses from all the managers in a unit, except where only one managerial response was obtained, were

averaged to create the unit-level variables for the level of human capital, perceived labor productivity, unit-level task performance, unit-level overall organizational citizenship behaviors, and unit performance. All responses from the employees for a unit were averaged to create the unit-level variables of High Performance Work System and collective normative contract. Justifications for the rating sources are provided below.

Measures

To maximize the content validity of the questionnaire, all of the items were obtained from an existing measures, except two items for labor productivity developed for the present study. Each scale contains multiple-items scales with 7-point Likert-type anchors ranging from strongly disagree (1) to strongly agree (7), unless otherwise noted. All of the items are affixed in Appendix C.

To reduce potential for common method bias, managerial and employee responses were used to evaluate different scales. In general, managers are considered more reliable and valid source of performance data, i.e., unit performance (e.g., Gupta, 1987; Gupta & Govindarajan, 1986), as well as HR-related outcomes such as labor productivity (Way, 2002). In addition, supervisory ratings are frequently used to measure individual employee's task performance and organizational citizenship behaviors (e.g., LePine, Erez, & Johnson, 2002; Organ & Ryan, 1995). Thus, managerial ratings were used for these measures. In addition, managers were deemed more knowledgeable about the unit's level of human capital as compared to the employees. Therefore, managerial ratings of the level of human capital were also used. For collective normative contract, aggregate employee responses are more appropriate,

given the psychological origin of the concept. Given that managerial ratings were used for many of the variables included in the dissertation, employee responses of High Performance Work System were used to reduce potential for common method biases. In addition, the employees' perceptions of HR practices in use are more important in influencing their attitudes and behaviors than what the managers say. Therefore, aggregate employee ratings were used for High Performance Work System.

High Performance Work System. Due to space limitation, Japanese faculty in Human Resource Management, initially, selected thirty items from Lepak and Snell's (2002) sixty-item HR practices scale that are deemed most appropriate for the Japanese companies. The Japanese faculty selected these items that would be considered a part of High Performance Work System in the Japanese context for which the employees will be familiar with. Thus, for example, items such as "employees are required to participate in cross-functional teams and networks" and "the selection process emphasizes their ability to collaborate and work in teams" were not selected because these are typically used in Japanese companies. A system of HR practices used by the establishment, i.e., High Performance Work System, was obtained from the employees and aggregated to the unit level.

To examine the factor structure of these items, exploratory factor analysis with principal component extraction was initially performed. Using a combination of Kaiser-Guttman rule of Eigen values greater than one (Guttman, 1954; Kaiser, 1970) and a Scree test (Chattell, 1966) of Eigen values plotted against factors indicated a single-factor solution. More specifically, first factor had an Eigen value of 8.14, which explained 27.15% of variance. This was followed by Eigen values of 3.01, 1.98, 1.82,

1.56, 1.45, 1.34, 1.19, and 1.13. Given that I expected all of the items to compose High Performance Work System, I also conducted principal axis factoring where single-factor solution is imposed. The result of the factor analysis was comparable to that of principal component analysis. However, the factor loadings of nine items were below .35. Therefore, I dropped those items that did not load above .35 from the analysis and run another principal axis factoring. The remaining twenty-one items loaded at or above .35 on the single factor and this factor explained 35.82% of variance in the items and had an Eigen value of 7.88, followed by additional Eigenvalues above 1 of 1.93, 1.62, 1.26, and 1.16. The factor loadings of these twenty-one items are depicted on Table 4. Items selected for High Performance Work System is described in Appendix C with asterisks (*).

Table 4. Factor Loadings for 21-Item High Performance Work System Scale

HPWS Items	Factor Loading
Job Design 2	.37
Job Design 3	.41
Job Design 5	.62
Job Design 6	.55
Selection 1	.65
Selection 2	.60
Selection 3	.35
Selection 4	.44
Selection 5	.60
Training & Development 1	.67
Training & Development 3	.58
Training & Development 4	.41
Training & Development 5	.68
Performance Appraisal 1	.65
Performance Appraisal 2	.68
Performance Appraisal 3	.75
Performance Appraisal 4	.75
Compensation 1	.44
Compensation 2	.68
Compensation 3	.64
Compensation 7	.50

The resulting 21-item scale had a reliability of .90. This alpha is comparable to the one that Lepak and Snell (2002) obtained for their commitment HR scale ($\alpha = .89$). In addition, the mean R_{wg} of .96 for this scale was highly comparable to that of .97 obtained by Lepak and Snell (2002). Therefore, these results provide some evidence for the validity of the translation procedure and the resultant scale.

Human capital. Managers assessed the level of human capital that each unit possesses, using a four-item scale from Youndt and Snell's (2001) intellectual capital scale. A sample item states, "Our employees working in the unit are highly skilled." Cronbach's alpha for this four-item human capital scale was .92.

Collective normative contract. Five items taken from Shore, Tetrick, and Berksdale's (1999, as cited in Rupp & Cropanzano, 2002) psychological contract/social exchange scale is reworded to capture the notion of normative contract at the unit level of analysis (cf., Rousseau, 1995). Rupp and Cropanzano (2002) reworded the items to assess relational aspect of social exchange relationships for supervisor and organization and found alphas of .89 and .91. For this variable, employee responses were used, as employee response was deemed most appropriate because of the psychological nature of concept (cf., Rousseau, 1995). A reworded, sample item states, "Our relationship with the establishment continues to evolve and develop." The collective normative contract scale had a reliability of .86.

HR-Related Outcomes

Labor productivity. Three-item scale of perceived labor productivity was used to measure the labor productivity of the establishments, rather than an objective measure

of labor productivity, i.e., the logarithm of sales per employee, which is a widely used measure of productivity, due to the difficulty of collecting such objective measure at the unit-level (e.g., Gupta & Govindarajan, 1987). I supplemented an item from Way (2002) (“The employees’ productivity is higher than those of my major competitors”) with two additional items developed for the study (“The employees in this establishment produce outputs in an efficient manner,” and “The employees’ productive power is higher than those of the competitors”). The resulting three-item scale had a reliability of .91.

Unit-level task performance. Five items used by Williams and Anderson (1991) to measure in-role performance were used to rate aggregate, unit level performance of the establishment. This measure of task/in-role performance has been used in several studies at the individual-level of analysis (e.g., Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Hui, Law, & Chen, 1999; Lynch, Eisenberger, & Armeli, 1999; Turnley, Bolino, Lester, & Bloodgood, 2003). The coefficient alphas for these studies ranged from .75 to .93. Managers rated the level of employee task performance for the unit as a whole. A sample item stated, “The employees in our unit perform tasks that are expected of them.” The reliability of this scale was .82. Given that Hui et al.’s (1999) study of Chinese employees had the lowest reliabilities of .75 reported in previous studies for this scale, a reliability of .82 obtained at the unit-level of analysis for this dissertation compares favorably to that by Hui et al. (1999), which provides an additional evidence that the translation procedure was done properly and the resultant scale is valid.

Unit-level overall organizational citizenship behaviors. An abbreviated, ten-item version of the Williams and Anderson's (1991) organizational citizenship behavior scale was used to evaluate the level of organizational citizenship behaviors exhibited by the employees in the unit. The original items were created to tap into two different aspects of organizational citizenship behaviors that are targeted toward the individuals (OCBI) and the organization (OCBO). Williams and Anderson (1991) reported a reliability of .88 and .75 for OCBI and OCBO, respectively. Similarly, Turnley et al. (2003) reported a reliability of .83 and .88 for OCBI and OCBO, respectively.

Three items from the organizational citizenship behavior targeted toward the organization was initially eliminated because of an anticipated confound between in-role performance and organizational citizenship behaviors. Managers rated the remaining eleven items for the entire unit. Given recent evidence that OCBI and OCBO do not have distinct antecedents or consequences (LePine et al., 2002) and relatively high correlation between OCBI and OCBO for the present dissertation ($r = .66$, $p < .001$), all the items, except one, were combined to create unit-level, overall organizational citizenship behaviors. One item had a cross-loading with other performance indicators and, hence, dropped from the scale. The result of this factor analysis is described after the unit performance measure below. The reliability of this ten-item scale was .87.

Unit Performance

Delaney and Huselid's (1996) eight-item perceived organizational performance measure was adapted to assess unit's level of performance compared to other units similar to the focal unit. An example item asks the manager to rate the establishment's

performance for the past three years as compared to that of similar establishments (i.e., “How would you compare the establishment’s [performance] over the past 3 years to those of the other establishments that do the same kind of work?” Delaney and Huselid (1996) found a reliability of .85 for perceived organizational performance (for 590 firms) from a nationally representative sample of U.S. work establishments, because they obtained their data from the National Organization Survey, which was conducted in 1991 with support from the National Science Foundation. Gupta (1987) also used a similar comparative subjective measure of performance. Three items from this overall unit performance measure were dropped due to low loadings and/or high cross-loadings with other performance indicators, as described below. This five-item measure of unit performance had a reliability of .92. Given that the reliability of this scale is comparable to the ones found for the representative sample of U.S. establishments by Delaney and Huselid (1996), this provides some evidence that the survey translation was satisfactorily performed and the resulting scale is valid.

Given that all the HR-related outcomes and unit performance were obtained from the managers, I conducted exploratory factor analysis with principal component extraction with oblique rotation to assess the factor structure and discriminant validity of the measures. I expected four-factor structures for unit-level task performance, unit-level overall organizational citizenship behaviors, perceived labor productivity, and overall unit performance. Thus, four-factor structure was initially imposed. The result of the factor analysis is shown in Table 5. The four factors collectively explained 64.49% of variance with Eigenvalues of 10.81, 3.89, 1.85, and 1.52 for the first four factors. The items generally loaded significantly onto the expected construct with few exceptions.

Table 5. Results of Exploratory Factor Analysis on the HR-Related Outcomes and Unit Performance

	Factor 1	Factor 2	Factor 3	Factor 4
Labor Productivity 1	.01	-.09	-.06	-.90
Labor Productivity 2	.30	-.26	-.02	-.61
Labor Productivity 3	.03	-.38	.15	-.64
Task Performance 1	.28	.18	.62	-.39
Task Performance 2	.26	-.04	.38	-.42
Task Performance 3	.18	-.05	.60	-.16
Task Performance 4	.00	-.01	.64	-.10
Task Performance 5	-.03	-.03	.76	.14
Task Performance 6	-.02	-.34	.58	.14
OCBI 1	.82	.00	-.18	-.19
OCBI 2	.59	-.06	.15	-.04
OCBI 3	.47	.05	.12	.20
OCBI 4	.71	-.19	-.06	.07
OCBI 5	.66	.04	.19	-.09
OCBI 6	.63	-.13	-.04	-.00
OCBI 7	.44	-.47	.15	.03
OCBO 1	.59	.12	.25	-.07
OCBO 2	.55	.16	.37	.03
OCBO 3	.36	.24	.08	-.14
OCBO 4	.48	-.10	.07	-.22
Overall Unit Performance 1	-.34	-.45	.15	-.39
Overall Unit Performance 2	-.14	-.63	.17	-.29
Overall Unit Performance 3	-.10	-.65	.11	-.23
Overall Unit Performance 4	.09	-.81	.02	-.07
Overall Unit Performance 5	.17	-.87	.11	.06
Overall Unit Performance 6	.18	-.72	-.01	-.23
Overall Unit Performance 7	.50	-.43	-.01	-.09
Overall Unit Performance 8	.47	-.46	.05	-.08
Eigen Value	10.81	3.89	1.85	1.52
% variance explained	38.60	13.88	6.60	5.42

Note: Principal axis factoring analysis with oblique rotation, 4-factor solution

Using a factor loading at or above .35 and differences of at least .10 between cross-loadings, an item was deleted from task performance and organizational citizenship behavior – interpersonal (OCBI) each, as well as three items from overall unit

performance. The resulting factor loadings were cleaner that explained 66.18% variance in the items with Eigenvalues of 8.61, 3.53, 1.80, and 1.29. The items retained for further analyses are listed in Appendix C with asterisks (*).

Analytic Procedures

A combination of hierarchical regression analysis and path analytic procedure in regression was used to examine individual hypotheses as well as the overall model. Although it would have been better to be able to conduct structural equation modeling analysis, the sample size of 76 units does not allow this type of analysis. Even if I use single indicators with reliability corrections (cf., Jöreskog & Sörbom, 1989) by fixing the loadings by the square root of the reliability of the scale (\sqrt{r}) and the measurement errors by the product of the unreliability by the variance, i.e., $(1 - r) * SD^2$, it would still require, at least, 26 parameter estimates (18 structural path estimates, 1 factor variance, and 7 disturbance terms), not to mention possible covariances among the disturbance terms (for HR-related outcomes). The sample size to parameter estimate ratio of 5 to 1 is recommended as a minimum requirement for the structural equation modeling to derive accurate parameter estimates (Bentler & Chou, 1987) and the ratio for the dissertation does not reach this minimum (ratio = 2.92). Therefore, regression analyses were used to examine the hypotheses, and path analysis in regression is used to evaluate the overall model.

By using the path analytic procedure, I do not account for potential unreliability of the measures, which may result in some inaccuracy with regard to the beta coefficients estimated. On the other hand, using a structural equation modeling without having enough sample size also may result in inaccurate parameter estimates. However,

given relatively high reliabilities for the variables used in the dissertation noted above, this may be less of an issue in this particular case. Hence, I chose to use path analytic procedure in regression to be able to model the interrelationships among the variables included in the model. In addition, following Cohen and Cohen (1983), I standardized the level of human capital and collective normative contract before creating interaction terms to reduce multicollinearity problems inherent in higher order terms.

Chapter 5

Results

Table 6 shows the means, standard deviations, and correlations among the variables of interest. Unstandardized means and standard deviations of the variables for the level of human capital and collective normative contract are listed for informational purpose only because I standardized these variable with a z-score transformation for the analyses to create a product term for the moderated regression analyses. The first three variables are dummy coded, control variables for those companies who supplied multiple units. The first dummy coded variable (control 1) is for Mitsui Kinzoku (1 = units from Mitsui Kinzoku, 0 = all the other) with thirteen units. The second dummy coded variable (control 2) is for Izumigou (with four units) and the last dummy coded variable (control 3) is for Cannon (with five units).

In addition, to examine the effect of the industry, I created six dummy coded variables (dummy 1: 1 = Construction, 0 = all the other; dummy 2: 1 = Manufacturing, 0 = all the other; dummy 3: 1 = Transportation, Communication, Electric, Gas, & Sanitary Services, 0 = all the other; dummy 4: 1 = Wholesale Trade, 0 = all the other; dummy 5: 1 = Retail Trade, 0 = all the other; and dummy 6: 1 = Finance, Insurance, & Real Estate, 0 = all the other) and entered these variables in step 1 of the regression analyses for perceived labor productivity, unit-level task performance, unit-level overall organizational citizenship behaviors, and overall unit performance. None of the beta coefficients for these six dummy coded variables achieved significance at .05 level. The results of this regression analyses are shown in Table 7.

Table 6.**Descriptives of All the Variables^a**

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Control 1 Mitsui Kinzoku	0.17	0.38									
2. Control 2 Izumigou	0.05	0.22	-0.11								
3. Control 3 Cannon	0.05	0.22	-0.11	-0.06							
4. High Performance Work System	4.15	0.55	0.15	-0.29**	0.30**						
5. The Level of Human Capital ^b	4.60	0.77	-0.09	-0.24*	0.29**	0.25*					
6. Collective Normative Contract ^b	4.50	0.70	0.14	-0.12	0.20	0.54*	0.04				
7. Perceived Labor Productivity	4.59	0.83	-0.11	-0.02	0.19	0.16	0.71**	0.22			
9. Unit-Level Task Performance	1.94	0.61	0.01	-0.20	0.38**	0.47**	0.52**	0.28*	0.42**		
8. Unit-Level Organizational Citizenship Behavior	5.17	0.52	-0.11	-0.01	0.17	0.33**	0.35**	0.28*	0.39**	0.55**	
9. Overall Unit Performance	4.68	0.72	-0.13	-0.37**	0.30**	0.26*	0.52**	0.23*	0.67**	0.44**	0.28*

Note: ^a N = 76; ^b means and SDs are provided for informational purpose only

* $p \leq .05$; ** $p < .01$ (two-tailed)

Table 7.
Regression Results for Industry Effects^a

Variable	Dependent Variables			
	Perceived Labor Productivity	Unit-Level Task Performance	Unit-Level OCBs	Overall Unit Performance
Constant	4.70***	1.85***	5.16***	4.44***
<u>Step 1: Industry Controls</u>				
Industry Dummy 1: Construction	-.05	.02	.08	.01
Industry Dummy 2: Manufacturing	-.14	.20	.00	.17
Industry Dummy 3: Transportation, Communication, Electric, Gas, & Sanitary Services	-.11	-.16	-.04	.06
Industry Dummy 4: Wholesale Trade	.17	.11	-.02	.25
Industry Dummy 5: Retail Trade	.02	-.13	-.03	.22
Industry Dummy 6: Finance, Insurance, & Real Estate	-.08	.07	.06	.10
Overall F	0.91	1.46	0.15	0.91
R ²	.07	.11	.01	.07

Note: ^a n = 76. Values are standardized estimates. None of steps or the betas was significant at * p ≤ .05 (two-tailed).

The directions of the correlations among the variables of interest were in the expected direction. For the dummy coded company variables, units from Izumigou Kabushiki Gaisha had negative correlations with the variables included in the dissertation while units from Cannon had positive correlations, in general.

To examine the hypotheses, I ran several regressions. For Hypotheses 1, 2, 5, and 6, the proposed predictor was entered one at a time to assess the independent effect of the predictor. For Hypotheses 3, 4, 7, and 8, which posit mediating effects of certain variables, I followed Baron and Kenny's (1986) four-step procedure where 1) the direct effect of independent variable on the dependent variable is examined, which shows that there is an effect that may be mediated; 2) the direct effect of independent variable on the "proposed" mediator is examined to illustrate that the independent variable is related to the mediator; 3) the direct effect of mediator on the dependent variable is evaluated while the effect of independent variable is taken into account; and 4) the reduction in the beta coefficient associated with the independent variable when the effect of mediator is accounted for. The steps 3 and 4 essentially are tested in the same regression analysis. The procedure used to test mediating effect and associated results are explained and discussed in more detail in the section describing the appropriate hypotheses. All of the beta coefficients reported here are standardized ones.

As depicted in Table 8, Hypothesis 1, which posited a positive relationship between High Performance Work System and the level of human capital that the unit possesses, was not supported ($\beta = .14, p > .1$). High Performance Work System explained only 2% of variance in the level of human capital for the unit ($F = 1.22, p > .1$) above and beyond the effect of controls in step 1 ($R^2 = .14, F = 4.01, p < .01$). For

the level of human capital, two control variables had significant betas, $-.24$ ($p < .05$) for Izumigou and $.27$ ($p < .05$) for Cannon. Given that Izumigou is in the hospitality industry (i.e., hotels) and Cannon in the electronics industry, these results seem indicative of the level of human capital necessary for the lower-level employees' jobs for these companies.

Table 8.
Regression Results for Hypotheses 1 and 2^a

Variable	Dependent Variable			
	Level of Human Capital	Perceived Labor Productivity	Unit-Level Task Performance	Unit-Level OCB
1. Control 1	-.08	-.09	.04	-.10
Control 2	-.24*	-.03	-.18	-.01
Control 3	.27**	.18	.38***	.15
<hr/>				
2a. High Performance Work Systems	.14			
2b. Level of Human Capital		.75***	.44***	.34**
<hr/>				
Overall F	3.35**	19.33***	9.25***	2.78*
R ²	.16	.52	.34	.14
ΔF	1.22	70.67***	17.55***	8.11**
ΔR ²	.02	.48	.16	.10

Note: ^a $n = 76$. Values are standardized estimates.

^b Beta coefficients shown are standardized betas from each step.

⁺ $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$ (two-tailed)

For Hypothesis 2, results indicated strong support for all three HR-related outcome variables considered. Particularly, the level of human capital was significantly,

positively related to perceived labor productivity of the unit ($\beta = .75$, $p < .001$; $\Delta F = 70.67$, $p < .001$, $\Delta R^2 = .48$), unit-level task performance ($\beta = .44$, $p < .001$; $\Delta F = 17.55$, $p < .001$, $\Delta R^2 = .16$), and unit-level organizational citizenship behaviors ($\beta = .34$, $p < .01$; $\Delta F = 8.11$, $p < .01$, $\Delta R^2 = .10$), after the effect of company dummies are accounted for. For perceived labor productivity and unit-level organizational citizenship behaviors, control variables were not significantly related. For unit-level task performance, Cannon (control 3) had significantly, positive beta (.38, $p < .001$).

For Hypothesis 3, the condition that the independent variable, i.e. High Performance Work System, is related to the mediator (second condition put forth by Baron and Kenny [1986]) was not satisfied (see Hypothesis 1). Therefore, there is nothing that the High Performance Work System can mediate. Hence, Hypothesis 3 is not supported.

To examine the mediating effect of HR-related outcomes on the relationship between the level of human capital and overall unit performance (Hypothesis 4), I followed the same procedure by Baron and Kenny (1986) noted above. Specifically, I ran separate regression analyses where I entered the level of human capital in the second step, following the three company dummies and, then, entering only one of the HR-related outcomes in the third step by itself. The results of the analyses are illustrated in Table 9. As shown in Table 9, Model 2, the level of human capital was significantly, positively related to overall unit performance, which satisfies the first condition that the independent variable is related to the dependent variable ($\beta = .39$, $p < .001$). The second condition that the independent variable be related to the mediator is satisfied by supporting evidence for Hypothesis 2, i.e., the level of human capital was significantly,

positively related to all three HR-related outcomes. The third condition that the mediator is related to the dependent variable, i.e., overall unit performance, was only satisfied for perceived labor productivity. Therefore, only perceived labor productivity has the potential to act as a mediator.

When examining Model 3a, the standardized beta coefficient associated with the level of human capital became non-significant ($\beta = -.15, p > .1$) from that in Model 2 ($\beta = .39, p < .001$). Therefore, perceived labor productivity acted as a full mediator of the relationship between the level of human capital and overall unit performance while the other two HR-related outcomes did not act as a mediator. Therefore, these results provide some support for Hypothesis 4.

Hypotheses 5 through 8 dealt with the mediating mechanism from High Performance Work System to overall unit performance through collective normative contract and HR-related outcomes. For Hypothesis 5, the results depicted in Table 10 provide strong support for the hypothesis that posited a positive relationship between High Performance Work System and collective normative contract ($\beta = .52, p < .001$). High Performance Work System explained 22% additional variance ($\Delta F = 20.69, p < .001$) over and above that accounted by the firm control variables ($R^2 = .07, F = 1.97, p > .1$)

Table 9.
Results for Hypothesis 4^a

Variable	Overall Unit Performance ^b				
	Model 1	Model 2	Model 3a	Model 3b	Model 3c
<u>Step 1.</u> Control 1	-.14	-.11	-.08	-.12	-.10
Control 2	-.37***	-.28**	-.39***	-.27**	-.29
Control 3	.26**	.16	.17	.11	.15
<u>Step 2.</u> Level of Human Capital		.39***	-.15	.31**	.35
<u>Step 3a.</u> Perceived Labor Productivity			.73***		
<u>Step 3b.</u> Unit-Level Task Performance				.18	.12
<u>Step 3c.</u> Unit-Level Organizational Citizenship Behaviors					
Overall F	7.43***	10.38***	22.92***	8.99***	8.65***
R ²	.24	.37	.62	.39	.38
Change in F		14.92***	46.50***	2.55	1.48
Change in R ²		.13	.25	.02	.01

Note: ^a n = 76. Values are standardized estimates.

^b Beta coefficients shown in Model 2 are standardized betas from step 1 and 2.

+ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

Hypothesis 6 posited that collective normative contract is positively related to HR-related outcomes. The results of the regression analyses provided moderate but consistent support for this hypothesis. Specifically, collective normative contract was marginally, significantly related to perceived labor productivity ($\beta = .21, p < .1; \Delta F = 3.08, p < .1, \Delta R^2 = .03$) and unit-level task performance ($\beta = .19, p < .1; \Delta F = 3.03, p < .01, \Delta R^2 = .03$) but significantly, positively related to unit-level overall organizational citizenship behaviors ($\beta = .28, p < .05; \Delta F = 5.88, p < .05, \Delta R^2 = .07$).

Table 10.
Results for Hypotheses 5 and 6

Variable	Dependent Variables			
	Collective Normative Contract	Perceived Labor Productivity	Unit-Level Task Performance	Unit-Level OCB
<u>Step 1.</u>				
Control 1	.15	-.09	.04	-.10
Control 2	-.09	-.03	-.18	-.01
Control 3	.21+	.18	.38***	.15
<u>Step 2a.</u>				
High Performance Work System	.52***			
<u>Step 2b.</u>				
Collective Normative Contract		.21+	.19+	.28*
Overall F	7.40***	1.64	4.82**	2.15+
R ²	.29	.08	.21	.11
Change in F	21.97***	3.08+	3.03+	5.68*
Change in R ²	.22	.03	.03	.07

Note: ^a n = 76. Values are standardized estimates.

^b Beta coefficients shown are standardized betas from each step.

+ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

Table 11.

Results for Hypothesis 7

Variable	Perceived Labor Productivity			Unit-Level Task Performance			Unit-Level Overall OCB		
	Model	Model	Model	Model	Model	Model	Model	Model	Model
	1	2	3a	1	2	3b	1	2	3c
<u>Step 1.</u> Control 1	-.09	-.12	-.13	.04	-.02	-.02	-.10	-.16	-.17
Control 2	-.03	.01	.01	-.18	-.08	-.08	-.01	.09	.08
Control 3	.18	.13	.12	.38 ^{***}	.26 [*]	.26 [*]	.15	.04	.04
<u>Step 2.</u> High Performance Work System		.15	.05		.37 ^{***}	.36 ^{**}		.36 ^{**}	.29 [*]
<u>Step 3.</u> Collective Normative Contract			.19			.03			.15
Overall F	1.12	1.17	1.32	5.27 ^{***}	7.30 ^{***}	5.78 ^{***}	0.92	2.95 [*]	2.63 [*]
R ²	.04	.07	.09	.18	.29	.29	.04	.14	.16
Change in F		1.28	1.86		11.17 ^{***}	0.06		8.76 ^{***}	1.29
Change in R ²		.02	.02		.11	.00		.10	.02

Note: ^a n = 76. Values are standardized estimates.

^b Beta coefficients shown are standardized betas from the *last steps*.

⁺ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

Hypothesis 7, which posited the mediating role of collective normative contract, did not receive support. Table 11 shows the standardized betas associated with each step. Given that High Performance Work System is not significantly related to perceived labor productivity ($\beta = .15, p > .1$) when entered in the second step, collective normative contract cannot mediate the relationship between High Performance Work System and perceived labor productivity because this does not satisfy Baron and Kenny's (1986) first condition. Similarly, High Performance Work System was not significantly related to unit-level task performance ($\beta = .03, p > .1$) or unit-level organizational citizenship behaviors ($\beta = .15, p > .1$) when entered in the third step, which does not satisfy the third condition that the mediator is related to the dependent variable (Baron & Kenny, 1986). Thus, for unit-level task performance and unit-level organizational citizenship behaviors, there is no mediation. Hence, the results of these analyses do not support the hypothesis that collective normative contract acts as a mediator of the relationship between High Performance Work System and HR-related outcomes. Rather, collective normative contract appears to have indirect relationships to High Performance Works System and HR-related outcomes.

Table 12.
Results for Hypothesis 8

Variable	Overall Unit Performance ^b				
	Model 1	Model 2	Model 3a	Model 3b	Model 3c
<u>Step 1.</u> Control 1	-.14	-.17	-.09	-.17+	-.14
Control 2	-.37***	-.36***	-.36***	-.31**	-.36***
Control 3	.26**	.23*	.15	.13	.21*
<u>Step 2.</u> Collective Normative Contract		.17	.04	.11	.11
<u>Step 3a.</u> Perceived Labor Productivity			.62***		
<u>Step 3b.</u> Unit-Level Task Performance				.30**	
<u>Step 3c.</u> Unit-Level Organizational Citizenship Behaviors					.20+
Overall F	7.427***	6.31***	22.16***	7.03***	5.93***
R ²	.23	.26	.61	.33	.30
Change in F		2.50	63.38***	7.58**	3.52+
Change in R ²		.03	.35	.07	.04

Note: ^a n = 76. Values are standardized estimates.

^b Beta coefficients shown in Model 2 are standardized betas from step 1 and 2.

+ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

To examine Hypothesis 8 that proposed the mediating role of HR-related outcomes on the relationship between collective normative contract and overall unit performance, I regressed overall unit performance onto collective normative contract to examine if the independent variable (i.e., collective normative contract) is related to the dependent variable (condition 1). The result of the regression analysis indicated that collective normative contract was not significantly related to overall unit performance ($\beta = .17, p > .1$). Therefore, HR-related outcomes do not have a relationship to mediate. Hence, there is no support for the mediation. Table 12 depicts these results. Therefore, Hypothesis 8 was not supported.

Finally, the interaction hypothesis for the level of human capital and collective normative contract (Hypothesis 9) was tested by creating an interaction term, using a z-score transformed variables for the level of human capital and collective normative contract. The results of the moderated regression analyses where the level of human capital and collective normative contract was entered in Step 2 after controlling for the effect of company, followed by the introduction of the interaction term in Step 3, did not provide much support for this hypothesis. The beta coefficients associated with the interaction term was .10 ($p > .1$) when perceived labor productivity was the dependent variable, -.09 ($p > .1$) when unit-level task performance was the dependent variable, and -.21 ($p < .1$) when unit-level organizational citizenship behavior was the dependent variable. Therefore, Hypothesis 9 did not receive any support. Table 13 depicts these findings.

Table 13.
Results for Hypothesis 9

Variable	Dependent Variables ^b		
	Perceived Labor Productivity	Unit-Level Task Performance	Unit-Level OCB
<u>Step 1.</u>			
Control 1	-.09	.036	-.10
Control 2	-.03	-.176	-.01
Control 3	.18	.377	.15
<u>Step 2.</u>			
the Level of Human Capital	.75***	.44***	.35**
Collective Normative Contract	.23**	.21*	.29**
<u>Step 3.</u>			
The Level of Human Capital*			
Collective Normative Contract	-.10	-.09	-.21+
Overall F	15.81***	7.29***	3.75**
R ²	.58	.39	.25
Change in F	1.34	0.77	3.03+
Change in R ²	.01	.01	.03

Note: ^a n = 76. Values are standardized estimates.

^b Beta coefficients shown are standardized betas from the last steps.

+ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

To examine the proposed model more in its entirety, path analytic procedure in regression was used. The results of this path analytic, regression analyses are shown in Table 14. The standardized beta coefficient values are shown from the last step of the analysis for each dependent variable along with the incremental variance (ΔR^2) accounted for the last step.

Table 14.

Path Analytic Regression Analyses Results^a

Variable ^c	Dependent Variables ^b							Overall Unit Performance	
	Level of Human Capital	Collective Normative Contract	Perceived Labor Productivity		Unit-Level Task Performance		Unit-Level OCBs		
2. High Performance Work Systems	.14	.52***	-.11	-.14	.28*	.26*	.22	.18	-.02
3. Level of Human Capital			.77***	.82***	.40***	.42***	.32**	.38***	-.14
Collective Normative Contract			.28**	.33***	.08	.09	.19	.25 ⁺	.03
4. Level of Human Capital * Normative Contract				-.13		-.04		-.17	-.08
5. Perceived Labor Productivity									.70***
Unit-Level Task Performance									.14
Unit-Level OCBs									-.05
Overall F	3.35**	7.40***	15.74***	14.01***	8.54***	7.25***	3.66**	3.47**	11.30***
R ²	.16	.29	.58	.59	.43	.43	.24	.26	.64
Change in F	1.33	21.97***	42.19***	2.09	8.10***	0.15	4.50*	2.00	12.63***
Change in R ²	.02	.22	.52	.01	.14	.00	.10	.02	.21

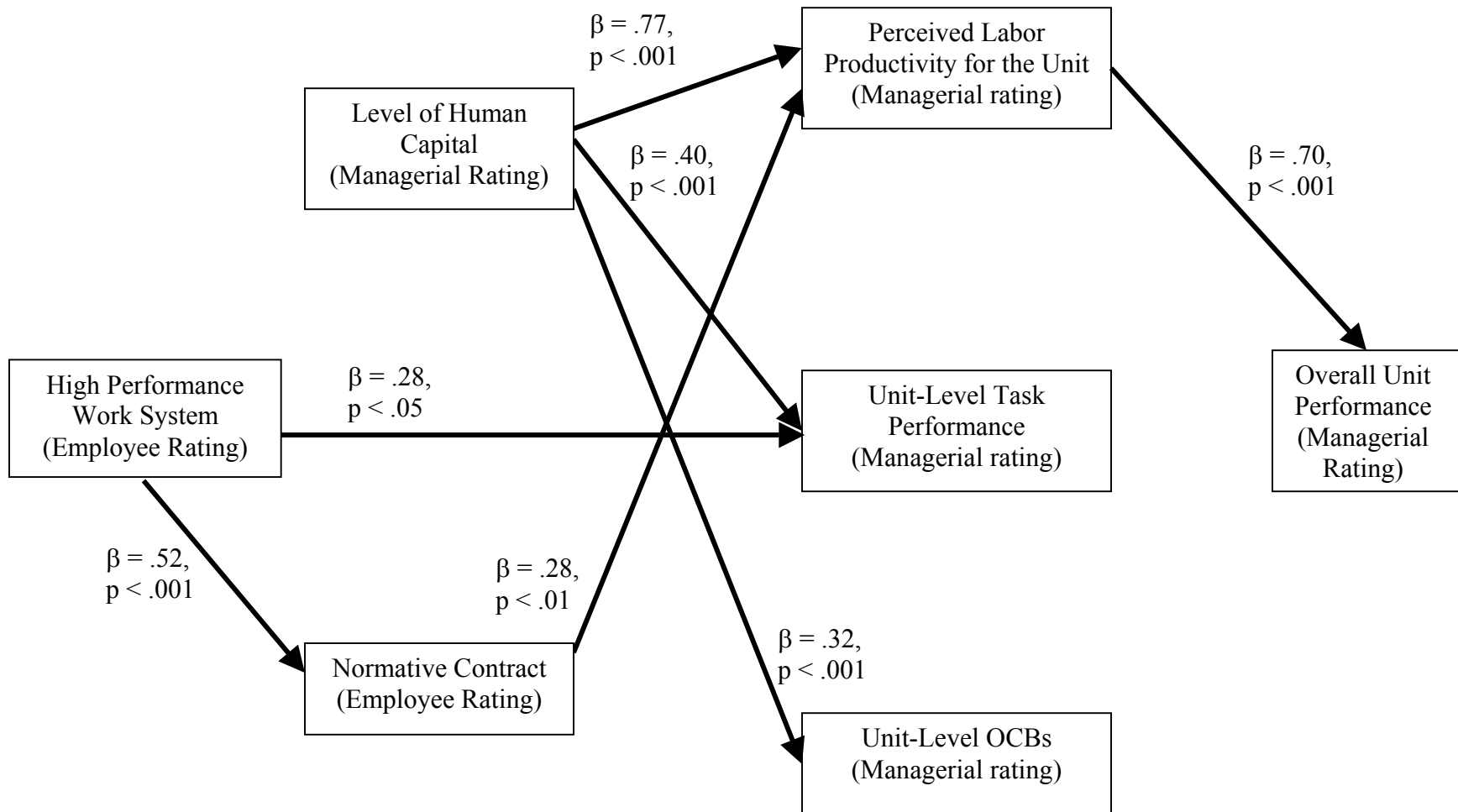
Note: ^a n = 76. Values are standardized estimates

^b Beta coefficients shown are standardized betas from the last steps.

^c Beta coefficients for the controls are not shown for clarity.

⁺ p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 (two-tailed)

Figure 8. Path Analytic Results



Note: non-significant paths are not shown

Figure 8 illustrates the results of the path analysis in a schematic form. To reduce cluttering, Figure 8 contains only those standardized beta coefficients that are significantly related ($p < .1$ and below) to other variables. In addition, it includes the rating sources (either employee response aggregates or managerial response aggregates) for each variable. In Figure 8, the dotted lines illustrates the main effects of High Performance Work System on the HR-related outcomes after the effects of the level of human capital and collective normative contract are accounted for, i.e., beta coefficients from the third step as shown in Table 14.

In general, the results depicted in Table 14 and Figure 8 are similar to the ones found when each variable was treated separately. Table 15 summarizes the results for all of the hypotheses advanced in this dissertation. In general, some of the hypotheses received moderate to strong support while others did not receive support

Table 15. Summary Results for the Hypotheses

Hypothesis 1.	High Performance Work System is positively related to the level of human capital – not supported
Hypothesis 2.	The level of human capital is significantly related to HR-related outcomes – strongly supported (3 out of 3 HR-related outcomes)
Hypothesis 3.	The level of human capital mediates the relationships between High Performance Work System and HR-related outcomes – not supported
Hypothesis 4.	HR-related outcomes mediate the relationship between the level of human capital and unit performance – some support (1 out of 3 HR-related outcomes, perceived labor productivity acted as a mediator)
Hypothesis	High Performance Work System is positively related to collective

5.	normative contract – strongly supported
Hypothesis 6.	Collective normative contract is significantly related to HR-related outcomes – moderately supported (significant for 1 of the 3 HR-related outcomes and marginally significant for the other 2)
Hypothesis 7.	Collective normative contract mediates the relationships between High Performance Work System and HR-related outcomes – not supported
Hypothesis 8.	HR-related outcomes mediate the relationships between collective normative contract and unit performance – not supported
Hypothesis 9.	The level of human capital and collective normative contract interact to influence HR-related outcomes – very limited support was provided.

Chapter 6

Discussion

The main objectives of the dissertation were to uncover the underlying mechanisms through which High Performance Work System affects unit performance by integrating two main theoretical perspectives, i.e., resource-based view of the firm and the behavioral perspective, that often have been employed and discussed but not directly tested. Although previous studies often implied that employees' human capital and behaviors are key to improving firm performance (e.g., Arthur, 1992, 1994; MacDuffie, 1995; Tsui et al., 1995; Wright et al., 1995), empirical examinations of the mediating mechanism, or what has been termed a "black box," through which a system of human resources management practices affects firm performance have only begun more recently (e.g., Batt, 2002; cf. AOM symposium: Unlocking the black box of strategic human resource management research; Burtons & O'Reilly, 2000; Chadwick, 2000; Wright, Gardner, Moynihan, & Park, 2000). Batt (2002: 587) echoed a similar concern more recently that "prior research is theoretically undeveloped and has not specified the mediating employee behaviors that explain the relationship between HR practices and performance." Applebaum et al. (2000) also noted that our understanding on the High Performance Work System's effects on the workers has been a major gap in the literature. The dissertation contributes to the strategic human resources management literature by explicating these mediating mechanisms.

More specifically, the findings provide empirical support for the assertions of the resource-based view of the firm that human capital can be considered one resource that may have positive impact on (unit) performance (e.g., Barney, 1991) and of the

behavioral perspectives that employees' attitudes and behaviors are the critical mediating mechanisms through which High Performance Work System impact (unit) performance (e.g., Jackson et al., 1989; Schuler & Jackson, 1987). Similarly, it is one of the first studies in the area of strategic HRM to demonstrate that the previous use of the resource-based view of the firm and the behavioral perspectives (McMahan, Virick, & Wright, 1999; Wright & McMahan, 1992) is not unfounded, as it provides an empirical evidence that explicitly test the mediating role of the resources (the level of human capital) and employee attitudes and behaviors (collective normative contract) as well as HR-related outcomes. Although the level of human capital did not act as a mediator, it had significant, positive relationships to all of the HR-related outcomes.

I found that there are, at least, one mediating mechanism where HR-related outcomes acted as mediators of the relationships between the level of human capital and overall unit performance and collective normative contract and overall unit performance. In addition, High Performance Work System was positively related to collective normative contract. Thus, High Performance Work System appears to have a positive influence on the shared perceptions regarding the terms of obligations or social exchange between establishment and the employees as a collective that have positive influence on perceived labor productivity of the unit. It may be the case that the increase in shared perceptions is accomplished through rigorous selection, higher incentives, better training and development, and appropriate performance appraisal and developmental feedback, among others, that attract and retain similar types of employees to the firm. Similarly, through better job design, better incentive structure, long-term focus on training and development and performance appraisal, it may be the

case that High Performance Work System improves upon the long-term relational aspects of employees' contract with the unit so that employees in general feel higher level of obligations to reciprocate.

In fact, Wright and Snell (1991) noted that HRM practices contribute to both competence and behavior managements. They referred to competence management as those HRM practices such as aptitude tests and skill training programs that are aimed at ensuring high level of competency or human capital for a firm's workforce. Behavior management focuses on those HRM practices intended for controlling and coordinating employee behavior, which include those practices such as incentives and performance management. For instance, selection and recruitment practices can influence the level of knowledge, skills, and abilities new recruits possess whereas training and development affect the level of knowledge, skills, and abilities or competence existing employees possess. At the same time, compensation / reward practices and performance management practices typically influence the behaviors exhibited by the employees within the firm. Similarly, Huselid (1995) found two factors, skills and motivation, for the HR policy items he used. Although I did not find a relationship between High Performance Work System and the level of human capital, the influence of High Performance Work System on the level of human capital and employee attitudes seems logical and a larger sample size might have been needed to uncover such effect.

The level of human capital and collective normative contract, in turn, have positive influence on HR-related outcomes so that the labor productivity of the unit increased, performance level for the unit improved, and overall organizational citizenship behaviors enriched.

Furthermore, perceived labor productivity acted as mediators of the relationships between the level of human capital and unit performance, and collective normative contract with unit performance. Although perceived labor productivity and turnover rate have been shown to act as mediators on the relationship between High Performance Work System and firm performance by Huselid (1995), this is one of the first studies that illustrate the mediating role of HR-related outcomes on the relationship between the level of human capital and/or collective normative contract, the central variables from the resource-based view of the firm and the behavioral perspective. These results extend the previous research by uncovering the underlying mechanisms that more accurately depict the processes that occur between High Performance Work System and unit performance.

However, there are some findings (or non-findings) that indicate that the process is more complicated than those depicted in Figure 8, the proposed model, and the results shown in Table 14, the path analytic result. Perhaps, as Becker and Huselid (1998) proposed, there are additional mediating mechanisms between High Performance Work System and unit performance that are not captured in this dissertation.

For example, the level of human capital and collective normative contract did not mediate the relationship between High Performance Work System and any of the HR-related outcomes, despite collective normative contract having relationships with High Performance Work System and perceived labor productivity. The level of human capital, on the other hand, was not related to High Performance Work System in the current dissertation. It may also be the case that some of these HR-related outcomes, although considered as a set in this dissertation, have interrelationships among each

other such that one variable may be an antecedent to the other. Due to the cross-sectional nature of the dataset, it is not possible to discern these relationships empirically in more detail. However, if the findings from individual-level studies extend to the unit-level of analysis, unit-level task performance and organizational citizenship behaviors may behave as antecedents to unit-turnover rate or perceived labor productivity. For instance, task performance and organizational citizenship behaviors are typically considered antecedents to voluntary turnover of the employees (e.g., Van Scotter, 2000; Williams & Livingstone, 1994). For example, Van Scotter (2000) analyzed the data longitudinally and found task performance and organizational citizenship behaviors to predict turnover decisions. If these relationships hold at the unit-level of analysis, it might be beneficial to further differentiate HR-related outcomes further, although longitudinal data collection at the unit-level of analysis from multiple sources will be a significant endeavor.

Related, there may be contingent factors that have impact on these relationships found for the dissertation (cf., Youndt et al., 1996; Wright & Sherman, 1999; Wright & Snell, 1998). For example, the relationship between the level of human capital and perceived labor productivity may be enhanced for firms following differentiation strategy, whereas for firms pursuing cost leadership strategy, the relationship between the level of human capital and perceived labor productivity may be non-significant. The difficulty of finding support for the contingency or fit perspective has been noted before (Wright & Snell, 1998; see also Delery & Doty, 1996) and part of the reasons for not finding this contingency or the moderating effect of strategy may stem from the fact that the relationships associated with the mediating variables were not considered, i.e.,

strategy does not moderate the relationship between High Performance Work System and labor productivity per se but it may moderate the relationship between the level of human capital and labor productivity. This possibility also highlights the importance of a mediation approach to strategic HRM. Therefore, future research should extend the current findings by collecting additional variables that act as mediators and/or moderators to explicate the relationships between High Performance Work System and (unit) performance further.

Another non-significant finding relates to the proposed interaction between the level of human capital and collective normative contract (Hypothesis 9), which received limited support (one marginally significant interaction term out of three possible). It appears to be the case that the levels of human capital and collective normative contract have additive rather than an interactive effect on the HR-related outcomes. Although this interaction effect between ability and motivation is relatively more established at the individual-level of analysis in the individual task performance literature (e.g., Austin et al., 1991), perhaps, collective normative contract does not capture the “action” aspects of motivation (Kuhl, 1985). Kuhl distinguished between two motivational aspects: choice and action. “Choice motivation determines an individual's decision to engage in a specific behavior, whereas action, or control motivation, determines the individual's maintenance of effort and persistence” (Kirk & Brown, 2003: 41). Kanfer (1992) also noted a similar distinction between distal and proximal motivation processes where a notion of proximity to action is central to her framework. Proximal constructs, such as self-efficacy, have been seen to affect processes close to actual behavior such as translating intentions into behavior (Kirk & Brown, 2003), which is

similar to the notion of action motivation. On the other hand, distal constructs, such as need for achievement, have been argued to influence processes distant from actual behavior, such as intentions to behave (Kirk & Brown, 2003), which is similar to the notion of choice motivation. Therefore, team efficacy (referent-shift consensus model of self-efficacy: cf., Chan, 1998), defined as team members' aggregate belief and confidence in team's ability to mobilize resources for successful task completion (Chan, 1998), may be more proximal than collective normative contract. It might be the case that collective normative contract behaves in a more distal way such that team efficacy, for example, acts as more proximal construct that mediates the relationship between collective normative contract and HR-related outcomes. In addition, team efficacy may interact with the level of human capital to enhance the impact of ability on HR-related outcomes such that units with higher human capital level will obtain higher labor productivity or unit-level task performance level when team efficacy is also high.

It may also be the case that non-significant findings regarding the interaction effect of the level of human capital and collective normative contract is methodological, rather than substantive. As the difficulty of finding interaction effects with moderated regression analyses has been well recognized due, for example, to unreliability of measures and small sample size (e.g., Jaccard, Turrisi, & Wan, 1990; Jaccard & Wan, 1995). As noted in Aiken and West (1991), Busemeyer and Jones (1983) provided a formula to calculate the reliability of the cross-product terms. According to the formula, the reliability of the interaction terms used for the level of human capital and collective normative contract is .80. Hence, it is not the unreliability of the interaction terms that contributed to the lack of findings but it might have due to the relatively small sample

size obtained for the dissertation, although the sample size appears to be large enough for main effects with medium to strong effect sizes.

Assuming that the effect size of the interaction is relatively small (.1 to .3), as typically appears to be the case, I had .14 to .76 power to detect significance at .05 significance level for a sample size of 76 (cf., Cohen & Cohen, 1983). The correlation between the interaction term and the HR-related outcomes ranged from .10 to .12. Therefore, for the interaction effects, it appears likely that I did not have enough power, given the sample size of 76 units collected for the dissertation. Therefore, the present results need to be tested and replicated in future studies that utilize larger sample sizes for the unit.

Limitations

The results of the dissertation should be interpreted in light of its limitations. I focus on permanent employees rather than on the core employees for the dissertation due to this permanent (vs. temporary) distinction being more salient and accepted in the Japanese business world. In addition, it is still consistent with some of the prior research conducted in the US (e.g., Jackson et al., 1989) that used this distinction. Thus, the results of the dissertation should be generalizable to other non-Japanese studies that utilize permanent employees as their sample. However, the findings could have been stronger if only core employees were utilized for aggregation. Henceforth, these findings may be considered more conservative estimates of the relationships investigated in the current dissertation.

Second, the data collection procedure that was necessitated by the use of Japanese sample where it was extremely difficult to obtain employee attitudinal data,

the number of surveys distributed to the employees were dictated by the managers heading up the unit. It may be the case that the managers only chose those employees who would be most favorably predisposed to answer the questions in a positive manner. However, the mean of the responses obtained from the employees were 4.5 for collective normative contract (corresponding to neither agree nor disagree to somewhat agree) with a standard deviation of .70. The responses also had a range of 3.84 (minimum = 2.56 and maximum = 6.40) with no skewness in the distribution (skewness statistic = -.25). Therefore, it does not appear to be the case that employees who were selected responded to the questions in a positively biased manner. Therefore, when considering the responses as a whole, it appears more likely to be representative of the Japanese employees working in these units. However, future research should replicate the findings and assess if the responses for this dissertation are biased.

Third, the results of the dissertation might have been even stronger if there was more variability among the units. Although ICC(1) values found in the dissertation (.16 to .61) exceeded the median values found in the organizational literature of .12 by James (1982), many of the ICC(2) values just approached the recommended value of .60 by Glick (1985 as cited in Schneider et al., 1998). Recall that ICC(1) compares the variance between units of analysis (establishments in this case) to the variance within units of analysis using the individual ratings of each respondent (Schneider, White, & Paul, 1998) while ICC(2) compares the between unit variability to that of within unit variability, using the average ratings of respondents within each unit (Bartko, 1976). Therefore, it appears that a range restriction might have been a problem in some cases that constrained the size of the correlation possible, which might have contributed to

some of the null findings. Therefore, future studies may design the research to include more units that are not performing well.

Moreover, I cannot establish the causal relationship among the variables of interest due to the cross-sectional nature of the dissertation, although the sequences of variables depicted is consistent with Becker and Huselid (1998) and others. It may be the case that higher performing establishments are more able to institute High Performance Work System due perhaps to more slack resources that the establishments possess or more financial support that the establishments receive from the parent companies. However, this concern for reverse causality is mitigated somewhat because I found two sets of mediating effect. However, a longitudinal study that incorporates multi-wave design would be beneficial in explicating the causal relationships fully.

Fourth and related, the lower variability of variables across units may be due to the focus on only the permanent employees, which included both core and support employee groups. It may be the case that more standardized High Performance Work System is used for the permanent employees across industries and companies that might contributed to a reduction in the overall variability obtained for the present dissertation, thereby constraining the size of the correlations found. Thus, another improvement for future research may be to collect data from both permanent and temporary employees from multiple units because High Performance Work System are less likely to be used for temporary employees and examine the variability of a system of HR practices as well as other variables of interest and how it affects the results.

Finally, there may be some additional, methodological concerns with regard to the dissertation. First, all of the variables are perceptual in nature. Although the

difficulty of obtaining objective measure of performance at the unit-level of analysis has been well recognized (e.g., Gupta, 1987), it would have been ideal if an objective measure of unit performance were obtained. However, exploratory factor analysis clearly distinguished all the four outcome variables taken from the managers. Therefore, the relationships found between HR-related outcomes and unit performance does not appear to be affected by percept-percept bias.

Related, potential for common method biases may be a concern as many of the variables are obtained from the managers that may contribute to inflating the relationships among variables. However, this concern is minimized by several factors. First, I use ratings from two different sources (managers and employees) and obtained multiple responses so that these responses can be aggregated to the unit level of analysis. Second, the pattern of the significant relationships found does not indicate any significant biases associated with one particular source. More specifically, the ratings for High Performance Work System were obtained from the employees, which were significantly related to both the level of human capital (managerial ratings) and collective normative contract (employee ratings). Similarly, both the level of human capital and collective normative contract were related to HR-related outcomes (managerial ratings) in a differential manner. Finally, mediation analyses reduce the concern further as support was found for both the level of human capital (manager rated) and collective normative contract (employee rated) for the relationship between High Performance Work System (employee rated) and HR-related outcomes (manager rated). Therefore, overall evidence appears to suggest that the common method bias did not have substantial influences on the results for this dissertation.

Implications for Research and Practice

These limitations aside, the results of this dissertation have important implications primarily for scholars and for managers. First, it is one of the first studies that examined the linkages between High Performance Work System and (unit) performance. Finding these intermediate linkages helps scholars understand the processes further, which might be helpful in discovering additional mediators, moderators, or consequences at the different level of analysis. For example, by adopting a cross-level or multi-level perspective (Klein et al., 1994; Klein & Kozlowski, 2000; Ostroff & Bowen, 2000), the current results can be extended to examining individual consequences of High Performance Work System via the level of human capital and collective normative contract, or firm-level consequences of High Performance Work System through unit performance.

For the cross-level, “disaggregation” model where the influences of High Performance Work System at the unit on individual employees are explored, collective normative contract may be one of the critical linkages to increasing normative commitment (Meyer & Allen, 1991), which “refers to a perceived obligation to stay with the organization” (Irving, Coleman, & Cooper, 1997: 444), which is important because previous empirical studies have had difficulty in finding unique antecedents that predict normative commitment (cf., Irving et al., 1997; Ko, Price, & Mueller, 1997; Meyer, Allen, & Smith, 1993). Therefore, cross-level linkages between High Performance Work System, its mediators, and individual-level attitudes and behaviors can be examined in the future that may reveal unexpected or unexplored relationships among these variables.

For the cross-level, “aggregation” model where the effects of High Performance Work System at the unit on financial indicators of firm performance are investigated, HR-related outcomes such as unit-level organizational citizenship behaviors, or unit innovative behaviors (not examined) may spill over to other units within the organization to facilitate effective functioning of the firm as a whole. Thus, as Katz and Kahn (1964: 133) noted, “the resources of people in innovation, in spontaneous co-operation, in protective and creative behavior are thus vital to organizational survival and effectiveness.”

In addition, given that HR-related outcomes focused on aggregate behaviors at the unit-level of analysis, there may be additional variables that act as mediators on the relationships between the level of human capital and collective normative contract, and HR-related outcomes, in addition to the ones already noted above. For example, borrowing from the micro organizational behavior literature, organizational commitment and job satisfaction have been found to relate to turnover, performance, and organizational citizenship behaviors (e.g., Cohen, 1993; Organ & Ryan, 1995; Tett & Meyer, 1993), which may act as additional aggregate variables that mediate these relationships. Thus, there are additional opportunities at the unit level of analysis to examine these processes further.

One of the difficulties that previous empirical research has encountered in findings the moderating effects of strategy on the relationship between High Performance Work System and firm performance might be attributed to the existence of these mediating processes. It may be the case that strategy moderates the relationship between High Performance Work System and the level of human capital (for “buy”

strategy) or High Performance Work System and normative commitment (for “make” strategy: Miles & Snow, 1984) but not the other. Given the existence of these mediating processes, it is less likely to find significant moderating effect of strategy on the relationship between High Performance Work System to (unit) performance, as there was no direct relationship between these two when mediating variables are taken into account (see Figure 12). Therefore, the influence of organizational characteristics such as strategy may be better understood when these mediating processes are considered.

For managers, the results of the dissertation may be helpful in facilitating organizational interventions to increase the benefit of High Performance Work System. For instance, if the organizational decision makers have not felt that the firm is reaping the benefit of the High Performance Work System to the maximum extent possible, the source of the problem may be diagnosed by examining the level of human capital and/or collective normative contract for the specific units in the organization. If it is the case that the unit does not have sufficient number of employees with high knowledge, skills, and abilities, components of High Performance Work System such as selection and recruitment or training and development may be revised to enhance the level of human capital for the units. On the other hand, if it is the employee attitudes that were identified as a source of problem, some components of High Performance Work System such as performance appraisal and compensation may be modified to improve employees’ attitudes and consequent behaviors.

In addition to devising the components of High Performance Work System, the results from the dissertation highlights the importance of both the level of human capital and collective normative contract on labor productivity. Therefore, managers need to be

aware of these linkages, at minimum, and be ready to provide support to strengthen these linkages. For example, given that the level of human capital is positively related to all three HR-related outcomes, managers may be able to utilize a combination of management by objectives and performance incentives to underscore the linkages between high performance and reward to entice employees with higher knowledge, skills, and abilities to work harder and smarter so that their contribution to the unit will be higher. In a similar vein, employees' collective normative contract may be enhanced if the organization can show that they value and respect employee contributions and that they care (i.e., perceived organizational support: Eisenberger et al., 1986; Eisenberger et al., 1990). Once the employees' perceive that the organization has provided them something that they value, they are more likely to reciprocate by exerting more effort on the task as well as providing more extra-role behaviors that are beneficial to the organization as a whole.

Finally, given the strong relationship between labor productivity and overall unit performance, the highest return for the managers may reside in retaining highly skilled employees who also provide suggestions and helping to others to improve the efficiency and effectiveness of unit function. These employees are central in maintaining and improving overall unit performance. Thus, the benefits that accrue from retaining one such employee are likely to be substantially higher than retaining several mediocre employees.

Conclusion

In conclusion, the results of the dissertation contributes to the literature on strategic human resources management by opening up the black box to explicate the

mediating processes associated with High Performance Work System and performance with important implications for managers and scholars.

Appendix A.

Japanese Versions of the Surveys



ROBERT H. SMITH
SCHOOL OF BUSINESS

『管理者用質問票』
Manager Survey

「人事管理方式と従業員態度に関する調査」

この質問表は、企業における人事管理の実務方式と、個人の態度・行動、企業業績との関係を理解することを目的としています。高い質の分析結果を得るために、全ての質問に率直に回答して下さい。回答の内容は守秘致します。回答結果は、全て統計的に処理され、個人や企業のデータが外部にすることはありません。

貴事業所において用いられている人事実務方式と理念

I. 貴事業所（支店・営業所、工場など）で、次のような人事実務方式はどの程度用いられているでしょうか？下記の7段階の尺度でご回答下さい。

1. 全く用いられてない； 2. ほとんど用いられてない； 3. あまり用いられてない； 4. どちらともいえない
5. 少し用いられている； 6. かなり用いられている； 7. 広く用いられている

1. 職場会議など、公式の情報伝達や情報交換が広く行われている。.....	1	2	3	4	5	6	7
2. 従業員の担当業務について、職責、役割などを分析し、職務内容を明確にしている。....	1	2	3	4	5	6	7
3. 欠員のでたポジションは、内部からの昇進、昇格によって充足している。.....	1	2	3	4	5	6	7
4. 従業員の意見や満足調査を定期的に行っている。.....	1	2	3	4	5	6	7
5. 品質管理運動（TQCやQCC）を展開している。.....	1	2	3	4	5	6	7
6. 会社業績に連動した賞与その他のインセンティブ給を支給している。.....	1	2	3	4	5	6	7
7. 従業員の不満に対して公式の苦情処理を実施している。.....	1	2	3	4	5	6	7
8. 採用前に筆記試験、性格テスト、面接等を行い、慎重に採用している。.....	1	2	3	4	5	6	7
9. 業績評価をするために目標管理を行っている。.....	1	2	3	4	5	6	7
10. 業績目標の設定や評価に際して、自己申告や面談などにより、従業員の意見を重視している。.....	1	2	3	4	5	6	7
11. 定期昇給を行っている。.....	1	2	3	4	5	6	7
12. 長期的な雇用を維持している。.....	1	2	3	4	5	6	7
13. 移動に際しては、自己申告や社内公募などにより、本人の意思を尊重している。.....	1	2	3	4	5	6	7
14. 昇進・昇格の決定に際して、次のどのルールを最もよく用いますか。 A)業績考課のみ； B)業績考課プラス年功序列； C)年功序列プラス業績考課； D)年功序列のみ	A	B	C	D			
15. 昨年度、自己都合で会社を退職した従業員は何人ほどいますか？							人
16. 過去12ヶ月間に、従業員が受けた平均的な教育訓練時間はいくらでしょうか。							時間
17. 貴事業所の平均的な年間離職率はいくらでしょうか。							%

II. 貴事業所の企業文化、仕事方式、標準的な従業員等についての下記の記述に対する貴方の意見をお聞かせ下さい。7段階のどの段階に当てはまりますか。

1. 全く同意しない； 2. ほとんど同意しない； 3. あまり同意しない； 4. どちらともいえない； 5. 少し同意する； 6. かなり同意する； 7. 全く同意する

	全く同意しない	全く同意する
我々の事業所の従業員は、...		
1. 技能が高い。.....	1	2
2. 同業界では、最高の従業員であると、広く認められている。.....	1	2
3. 創造的で明晰である。.....	1	2
4. 従業員は、彼らの職務や職種におけるエキスパートである。.....	1	2
5. 新しいアイデアや知識を開発する。.....	1	2
6. 従業員の技能や専門的経験は、我々の事業所に固有のものである。.....	1	2
7. 問題を分析し解決するために、相互協力の仕方を心得ている。.....	1	2
8. お互いに仕事に関する情報を共有し、相互に学ぶ。.....	1	2

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9. 会社の他の部門の人々と交流し、アイデアを交換する。.....	1	2	3	4	5	6	7
10. 事業上の問題を解決するために、顧客、供給業者、提携先などと手を結び、協働する。.....	1	2	3	4	5	6	7
11. 我々の事業所の従業員は、他部門で起こる問題や機会に対して、自部門の知識を適用する。.....	1	2	3	4	5	6	7
12. 我が社は、知識を蓄積するために、特許や特許のライセンスを用いる。.....	1	2	3	4	5	6	7
13. 我が社の知識の多くは、マニュアルやデータベースなどの形で蓄えられている。.....	1	2	3	4	5	6	7
14. 我が社の企業文化（受け継がれた経験や慣行）は、価値の高いアイデア、ビジネスの仕方などを含んでいる。.....	1	2	3	4	5	6	7
15. 我が社は、知識・情報を組織構造、システム、業務過程のなかに蓄えている。.....	1	2	3	4	5	6	7
16. もし、主要な人物が組織を去ったら、我が社のきわめて重要な知識や情報が失われてしまう。.....	1	2	3	4	5	6	7

従業員の行動

III. 貴事業所で働く標準的な従業員についての下記の記述に対する貴方の意見をお聞かせ下さい。7段階のどの段階に当てはまりますか。

1. 全く同意しない； 2. ほとんど同意しない； 3. あまり同意しない；
4. どちらともいえない； 5. 少し同意する； 6. かなり同意する； 7. 全く同意する

全く同意しない 全く同意する

貴事業所の従業員は、...

1. 仕事をする際に、仕事の手順を改善しようとする事が多い。.....	1	2	3	4	5	6	7
2. より効果的に仕事をするために、仕事の仕方を変えようとする事が多い。.....	1	2	3	4	5	6	7
3. 職場あるいは所属部門に、改善された業務方式を広めようとする事が多い。.....	1	2	3	4	5	6	7
4. 会社にとって一層効果的な業務方式を制度化しようとする。.....	1	2	3	4	5	6	7
5. 生産的の低い、あるいは生産性を低下させる会社の規則や政策をしばしば 変えようとする。.....	1	2	3	4	5	6	7

職務業績：貴事業所の従業員は、...

1. 担当業務を適切に遂行しようとする。.....	1	2	3	4	5	6	7
2. 職務記述書などで定められた責任を適切に果たす。.....	1	2	3	4	5	6	7
3. 定められた職務業績目標を達成する。.....	1	2	3	4	5	6	7
4. 彼らの業績評価に直接影響する活動を重視する。.....	1	2	3	4	5	6	7
5. 達成しなければならない職務内容を軽視する。.....	1	2	3	4	5	6	7
6. 必要な任務をうまく達成できない。.....	1	2	3	4	5	6	7
7. 仕事量の多い同僚を手助けする。.....	1	2	3	4	5	6	7
8. 欠勤した同僚の仕事を代行する。.....	1	2	3	4	5	6	7
9. 上司の管理業務を手伝う。.....	1	2	3	4	5	6	7
10. 時間を割いて、同僚の抱える問題や心配事に耳を傾ける。.....	1	2	3	4	5	6	7
11. 新任の従業員を自主的に助ける。.....	1	2	3	4	5	6	7
12. 同僚に個人的な問題や心配事に関心を持つ。.....	1	2	3	4	5	6	7
13. 同僚と会社や仕事についての情報を共有する。.....	1	2	3	4	5	6	7
14. 従業員の出勤率は、良好である。.....	1	2	3	4	5	6	7
15. 出勤出来ないときは、予め連絡をする。.....	1	2	3	4	5	6	7
16. 職場秩序を維持するために作られた非公式のルールを守る。.....	1	2	3	4	5	6	7
17. 会社の設備・備品等を大切に使用する。.....	1	2	3	4	5	6	7

労働生産性についての認識

1. 従業員の生産性は、我々の主要な競争相手よりも高い。.....	1	2	3	4	5	6	7
2. 我々の事業所の従業員は、能率的な方法で成果を生み出す。.....	1	2	3	4	5	6	7
3. 従業員の成果を生み出す能力は、競争相手よりも高い。.....	1	2	3	4	5	6	7

仕事上の相互依存性：貴事業所の従業員は、...

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- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 1. 仕事を遂行するために、上司から情報や助言を得なければならない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. 自分だけでできる独立した仕事に従事している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. 他人の仕事と照し合せたり、協働する必要がほとんどない仕事に従事している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

貴事業所の業績

IV. 貴事業所の業績

貴事業所と他の類似した事業を遂行している事業所の過去3年間の業績を比較して、どのように評価していますか。

- | | 1. 非常に悪い | 2. ずっと悪い | 3. 悪い | 4. 同等である | 5. 良い | 6. ずっと良い | 7. 非常に良い | 非常に悪い | 非常に良い |
|---|----------|----------|-------|----------|-------|----------|----------|-------|-------|
| 1. 他の事業所と比較した場合、貴事業所の業績はいかがでしょうか。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 2. 貴事業所が顧客に提供する製品、サービス、あるいはシステムについてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 3. 顧客に提供する製品、サービス、あるいはシステムの開発状況についてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 4. 重要な顧客を惹きつける能力についてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 5. 重要な顧客を維持する能力についてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 6. 顧客・クライアントの満足度についてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 7. 上司と部下との関係、管理者と一般従業員との関係についてはいかがでしょう。.. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 8. 従業員全般の間関係についてはいかがでしょう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |

個人的な経歴情報 (個人的な経歴)

年齢: 歳 性別: 1. 男性 2. 女性 国籍: 1. 日本人 2. その他(具体的に) _____

最終学歴: 1. 高校卒 2. 短大・高専・専門学校卒 3. 大卒 4. 大学院卒

現在の会社に勤務した期間: 年 ヶ月

現在の事業所に勤務した期間: 年 ヶ月

現在の職種に従事した期間: 年 ヶ月

現在の職務に従事した期間: 年 ヶ月

現在の職位: 1. 一般社員クラス 2. 主任クラス 3. 係長クラス 4. 課長クラス

5. 部長クラス 6. 専門職クラス

私の博士論文に関わる研究の調査にご参加頂き、
誠にありがとうございました!

「人事管理方式と従業員態度に関する調査」

この質問表は、企業における人事管理方式と、個人の態度・行動、企業業績との関係を分析することを目的としています。高い質の分析結果を得るために、全ての質問に率直に回答して下さい。また、各項目が貴事業所にとって重要であると思われる場合は、右端の重要度欄に重要度を数字で記入して下さい。

I. 貴事業所において従業員全般に対して用いられている人事管理方式

回答方法

1. 下記の項目について、右側の7段階方式を用いて、同意の程度を回答してください。該当する数字を○で囲んでください。また、各項目が貴事業所にとって重要であると思われる場合は、右端の重要度欄に重要度を数字で記入してください。

1. 全く同意しない 2. 同意しない 3. あまり同意しない 4. どちらともいえない
5. 少し同意する 6. 同意する 7. 全く同意する

2. また、下記の人事管理方式が貴事業所にとってかなり重要であると思われる場合には重要度の欄にチェックマーク (✓) を入れてください。

事業所の職務や雇用の特徴	全く同意しない	全く同意する	重要度
1. 従業員の担当する職務は、さまざまな課業を含んでいる。.....	1 2 3 4 5 6 7		___
2. ジョブ・ローテーション（配置転換）が行われている。.....	1 2 3 4 5 6 7		___
3. 従業員は、自発的に仕事をすることが認められている。.....	1 2 3 4 5 6 7		___
4. 新卒採用の抑制などにより、社内の従業員の雇用確保を優先している。...	1 2 3 4 5 6 7		___
5. 困難な仕事への挑戦が奨励されている。.....	1 2 3 4 5 6 7		___
6. 異動に際しては、社内公募や自己申告などにより、本人の希望が重視されている。.....	1 2 3 4 5 6 7		___
7. 採用選考は、いろいろなテストや面接などを行い、綿密に行われる。...	1 2 3 4 5 6 7		___
8. 採用選考では、数多くの応募者の中から最適の人を選び出す。.....	1 2 3 4 5 6 7		___
9. 採用選考では、特定の職務への採用ということではなく、何でもできる万能型で、最優秀の人が採用されている。.....	1 2 3 4 5 6 7		___
10. 上位のポジションの欠員補充については、社内からの昇進を重視している。.....	1 2 3 4 5 6 7		___
11. 採用選考では、潜在的な習得能力に重きをおいている。.....	1 2 3 4 5 6 7		___
12. 採用においては、新卒よりも即戦力となる経験者が優先されている。.....	1 2 3 4 5 6 7		___
13. 教育訓練は、計画的に、継続して実施されている。.....	1 2 3 4 5 6 7		___
14. 教育訓練には、主として、セミナーなど外部の教育訓練を利用する。.....	1 2 3 4 5 6 7		___
15. 教育訓練は、従業員全員を対象として行われる。.....	1 2 3 4 5 6 7		___
16. 教育訓練では、企業固有の技能・知識を養成しようとしている。.....	1 2 3 4 5 6 7		___
17. 教育訓練では、OJTによる経験的な能力の蓄積を重視している。.....	1 2 3 4 5 6 7		___
18. 業績評価は、客観的で定量的な結果にもとづいて行われている。.....	1 2 3 4 5 6 7		___
19. 業績評価では、目標管理が行われ、従業員の自主的な目標設定と実績評価が重視されている。.....	1 2 3 4 5 6 7		___
20. 業績評価は、育成のためのフィードバックを含んでいる。.....	1 2 3 4 5 6 7		___
21. 業績評価では、業績だけではなく、能力向上を重視している。.....	1 2 3 4 5 6 7		___
22. 業績評価では、部・課などのチームとしての業績を重視している。.....	1 2 3 4 5 6 7		___
23. 業績評価では、長時間働く人の方が高く評価される。.....	1 2 3 4 5 6 7		___
24. 広範な福利厚生制度が提供されている。.....	1 2 3 4 5 6 7		___
25. 賃金水準は高い。.....	1 2 3 4 5 6 7		___

- | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|-------|
| 26. 賃金は知識・技能に結びつけられている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | _____ |
| 27. 部・課などを単位にした集団的な奨励給が用いられている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | _____ |
| 28. 賃金体系や昇給においては勤続年数が重視されている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | _____ |
| 29. 毎年、定期昇給を実施している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | _____ |
| 30. 賃金は成果中心主義である。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | _____ |

II. 雇用関係に関する従業員の態度

この項では、事業所内において、一般的に従業員が雇用主に対して抱いている態度について調査することを目的にしています。従業員が、通常、事業所あるいは会社に対して抱いている態度について、最も適した番号に○をつけてください。

- | | | | | | | | | | |
|--|------------|----------|------------|--------------|-----------|---------|-----------|---------|--------|
| | 1. 全く同意しない | 2. 同意しない | 3. 少し同意しない | 4. どちらともいえない | 5. 少し同意する | 6. 同意する | 7. 全く同意する | 全く同意しない | 全く同意する |
| 1. 今日、私たちが仕事でがんばれば、私たちの長期的な雇用に役立つ。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 2. 職場と私たちの関係はお互いの発展・成長に貢献する。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 3. 私たちには、より困難な仕事に挑戦する機会が多くある。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 4. 私たちは、今、一生懸命働くことをいとわない。やがて会社が私たちの努力に報いてくれることを確信している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 5. 会社が最後まで私たちの面倒をみってくれるから、私たちは会社にとって最善の利益となるよう行動している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 6. 私たちは、会社が今、何をしてくれるかということだけに關心があり、長期的に会社がどんなことをしてくれるかということには關心がない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 7. 会社と私たちの関係は厳密に経済的な関係であり、元来、私たちは賃金を得るために働いている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 8. 仕事時間と個人的な時間とは、はっきりと区別していきたい。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 9. 会社は、会社の繁栄への私たちの貢献を評価してくれる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 10. もし、もっと安い賃金で働く人を見つけられるなら、会社は私たちの代わりにそのような人たちを雇うと思う。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 11. 会社は、仕事の上での私たちの余分の努力を認めてくれない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 12. 私たちが仕事上の不満を訴えても、会社は無視してしまう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 13. 会社は、私たちに影響する決定をする時に、私たちの最善の利益を考慮しない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 14. 私たちが問題を抱えているときに、会社から支援が得られる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |

次の項での質問については、平均的な従業員ではなく、回答者自身の考えを最も適切に表す番号に○をつけてください。

1. 全く同意しない 2. 同意しない 3. 少し同意しない 4. どちらともいえない
5. 少し同意する 6. 同意する 7. 全く同意する

- | | | | | | | | |
|--|---|---------|---|--------|---|---|---|
| | | 全く同意しない | | 全く同意する | | | |
| 1. 会社は、会社の繁栄に対する私の貢献を評価してくれる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. 会社は、私に影響する決定をする時に、私の最善の利益を考慮してくれない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. 私が問題を抱えているときに、会社から支援が得られる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. 会社は、私の幸福を本当に考慮してくれる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. 私は、自分の仕事を遂行するに際して同僚から情報を得なければならない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. 私は、他人に依存せず、自分ひとりでやれる仕事をしている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. 私は、自分の仕事を適切に行うために、同僚と密接に協働しなければならない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. 全般的にいえば、私は自分の仕事に満足している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

従業員用質問票
Employee Survey

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9. 全般的にいえば、私はこの職場で働くことに満足している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. 全てを総合すると、私は今の仕事に満足している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. 私は、会社での仕事生活に大きな意義を見込んでいる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. 私は、会社における大きな家族の一員である、と感じている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. 私は、気持ちの上でもこの会社に結びついていると感じている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. 仕事を終えて帰宅すると、ひどく疲れていて、したいこともほとんどできない。.... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. 毎日、仕事にほとんどの時間をとられてしまい、個人的に関心のあることが
できない。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. 仕事のため、家族・友人と過ごしたい時間も無くなってしまう。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. 仕事のために、自分の家族への責任が果たせないことが多い。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. 個人的な事柄(趣味や介護・育児などの要求)が自分の仕事の妨げになっている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. 自分の個人的生活(趣味、個別の交際等)を大切にし、残業を断ったり、仕事を早め
に切り上げることが多い。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. 家族との生活のため、仕事上の責任が果たせないことが多い。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. 仕事のため気持ちの上でも消耗している。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. 朝起きたときに疲労を感じ、また一日仕事をしなければならぬのかと
憂鬱になる。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. 自分の仕事の上で働きすぎていると感じている。..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

個人的情報

今の会社で仕事を開始する前に、どのくらいの時間の訓練を受けましたか。 およそ_____ 時間

仕事をする前の最終学歴：1. 中卒 2. 高卒 3. 各種専門学校卒 4. 短大・高専卒 5. 大卒 6. 大学院卒

現在の会社に勤務した期間：_____年 _____ヶ月

現在の事業所に勤務した期間：_____年 _____ヶ月

現在の職務に従事した期間：_____年 _____ヶ月

現在の業種で働いた期間：_____年 _____ヶ月

次の項目にお答え下さい。

年齢： _____ 歳 性別：1. 男性 2. 女性

人種・民族 1. 日本人 2. その他（具体的に）_____ 結婚の有無：1. 未婚 2. 既婚

現在の職位：1. 一般社員クラス 2. 主任クラス 3. 係長クラス 4. 課長クラス
5. 部長クラス 6. 専門職クラス

雇用状況：1. 正社員 2. パートタイマー 3. 契約社員 4. 派遣社員

私の博士論文に関わる研究の調査にご回答頂き、
誠にありがとうございました！

Appendix B.

Industrial Affiliations of the Companies for Primary (One-Digit) SIC Code

Agriculture, Forestry, & Fishing

NONE

Mining

Sumitomo Kinzoku Kouzan

Construction (group coding 1)

Kurogane Kousakujo

Maeda Kensetsu

Nihon Seitai

Taihei Seisakujo

Manufacturing (group coding 2)

Ajinomoto Takara Corporation

Aoinetsu Kougyou

Asahi Kasei Amidasu

Canon

Daiku Denki Seisakujo

Eiwa Kasei Kougyou

Fuji Denki

Fuji Kasei

Gaikin Plant

Honshuu Kagaku

Ishikawajima Harima Jyuukougyou

Itogumi Mokuzai

Kanematsu

Kao

Koiwai Nyuugou

Kyokuyou Suisan

Kyouwa Hakkou – Iyakuhin

Mazda

Mitsubishi Gas Kagaku Gouseijushi

Mitsubishi Gashin Kagaku

Mitsubishi Jushi

Mitsui Kagaku – Haisii

Mitsui Kagaku Sanshi

Mitsui Kinzoku
Mitsui Kinzoku Kougyou – Atsuen Kakou Jigyoubu
Mitsui Kinzoku Kougyou – Ceramic Jigyousho
Mitsui Kinzoku Kougyou – Douhaku Jigyou Honbu
Mitsui Kinzoku Kougyou – Hachinohe Seirenjo
Mitsui Kinzoku Kougyou – Hikoshima Seirenjo
Mitsui Kinzoku Kougyou – Himaku Zairyuu Jigyoubu
Mitsui Kinzoku Kougyou – Kamioka Kougyoujo
Mitsui Kinzoku Kougyou - MCS
Mitsui Kinzoku Kougyou – Mitsuike Jimusho
Mitsui Kinzoku Kougyou – Nirezaki Jigyousho
Mitsui Kinzoku Kougyou – Paato Raito Jigyoubu
Mitsui Kinzoku Kougyou – Sougou Kenkyuujo
Mitsui Kinzoku Kougyou – Takehara Seitetsujo
Mizakura Kyougyou
Nihon Denchi
Nihon Piranii Kougyou
Nikkei Kinzoku Kogaisha
Okinawa Dennou
Okinawa Shokuryo
Okinawa Yakult
Riken
Seiko Epson
Shouwa Yakuhin Kakou
Sony
ST Kagaku
Tagagi Kougyou
Tama Chuuou Sangyou
Tonbo Enpitsu
Touei Foods
Yaezan Okishoku
Yamato Kagaku Kougyou
Youkouzoku Kagakuhin Co.
Yuuki Gousei Yakuhin Kougyou
**Transportation, Communication, Electric, Gas, & Sanitary Services
(group coding 3)**

Hokkaido Kuukou
Hokusou Sekiyu
Idemitsu Kousan
J-Power Systems
Kokusai Cleaning
Kousan Kaiyou
Mitubishi Souko
Nagase Sekiyu
Nagoya Terebi Jigyuu
Nihon Contena Terminal
Teikoku Tsuushin Kougyuu
Terebi Asahi
Wholesale Trade (group coding 4)
Canon Hanbai
GE Yokokawa Medical
Hikarigaoka Kousan
Itohira Kousan
Jetronix
Kyouwa Medix
Maruichi Sanshou
Marunin Shouji
Mitsubishi Shouji
Miyako Okishoku
Nakamura Bussan
Nihon Chemical Shouji
Nihon Kousan
Okishoku Shouji
Sekkou Shouji
Tokuho Shouji
Retail Trade (group coding 5)
DIX
Hitachi Taga Technology
Hogi Medical
KMS
Korudia
Nihon Acuroid

SE Labo
SG
Shinsei
Shizuoka Gas
Shuei Trading
Takeo – Fukuoka Branch
Touyou Kougei
Finance, Insurance, & Real Estate (group coding 6)
C.P.U.
Global Insurance
Juutaku Anshin Hoshou
Mito Shouken
Oioi Songai Hoken
Ryuugin Hoshou
Ryuukyuu D.C.
Ryuukyuu Ginkou
Ryuukyuu Lease
Sanin Goudou Ginko
Shinkou Shouken – Ootsu Branch
Touden Kougyou Insurance Center
Tougin Lease
Services (group coding 7)
A. Human Net
Amurasu PTY Ltd.
Aoi Promotion
Asahi Beer
ASM – Japan
Big Ability
Central Jyouho Center
Consultanto
Daiichi Lease (Service – Leasing)
Diya-Tec
E-Venture Support
Forum
Fuji Xerox Sougou Kyouiku Kenkyuujo
Izumigou Appointment Center

Izumigou Plaza Hotel Toba
Izumigou Yatsugatake Branch
Izumigou Yokohama Branch
Jinzai Haken Center Okinawa
Kokubu
Kokusai Jinji Kenkyuujo
Leading Edge Inc.
Mercer HR Consulting
Moon Beach Resort Hotel
Nihon Bousei Kougyou
Nihon Gijutsu Iten
Nihon Kyuushoku Service
Nikkan Kougyou Koukokusha
Nikkan Kougyou Service Center
Nishii Associates
Nomura Sougou Kenkyuujo
Point
Ryuukyu Biru Management
Touwa Food Service
Trans-Tec
Ueno Trans-Tec
US
Visvalley
Yatsugatake Izumigou Honsha
YK Service
Public Administration
Shakai Hoken Roumu Jimusho
Songai Hokenryouritsu Sanshutsu Kikou

Appendix C

High Performance Work System: “To what extent do you agree with the following statements? When answering this section, please think about those HR practices used for the average employees in the establishment!”

Job Design

1. jobs include a wide variety of tasks.
2. employees are involved in job rotation.*
3. employees are empowered to make decisions.*
4. employees have a high degree of job security.
5. employees are encouraged to take up challenging assignments.*
6. employees’ request for job assignments is taken into account in job rotation decisions.*

Selection

7. selection is comprehensive (uses interviews, tests, etc.).*
8. selection involves screening many job candidates.*
9. selection focuses on selecting the best all around candidate, regardless of the specific job.*
10. selection emphasizes promotion from within.*
11. selection places priority on their potential to learn (e.g., aptitude).*
12. selection emphasizes their capacity to perform well right away.

Training & Development

13. training is continuous.*
14. training uses outside instruction (seminars, conferences, etc.).
15. training programs are comprehensive.*
16. training programs strive to develop firm-specific skills/knowledge.*
17. the training programs emphasize on-the-job experiences.*

Performance Management

18. performance is based on objective, quantifiable results.*
19. performance appraisals include management by objective with mutual goal setting.*
20. performance appraisal include developmental feedback.*
21. performance appraisal emphasize development of abilities/skills.*
22. performance appraisal emphasizes the output of the team.
23. performance appraisal is geared toward those who put in longer hours.

Compensation & Incentives

24. compensation packages include an extensive benefits package.*
25. our compensations include high wages.*
26. the incentive system is tied to skill-based pays.*
27. the incentive system has a group-based component (gainsharing, etc.).
28. our incentive system values seniority.
29. our incentives include annual increases in salary.
30. are contingent on performance.*

Human Capital: “Our employees working in the unit...”

1. are highly skilled.
2. are widely considered the best in our industry.
3. are creative and bright.
4. are experts in their particular jobs and functions.

Collective Normative Contact

1. The things employees do on the job today will benefit their standing in the long run.
2. Our relationship with the establishment continues to evolve and develop
3. We have significant opportunities to take on assignments that enhance our value
4. We don't mind working hard today—We know we will eventually be rewarded by our establishment
5. We try to look out for the best interest of the establishment because we can rely on our establishment to take care of us.

HR-Related Outcomes

Perceived Labor Productivity

1. The employees' productivity is higher than those of my major competitors.*
2. The employees in this establishment produce outputs in an efficient manner.*
3. The employees' productive power is higher than those of the competitors.*

Unit-Level Task Performance: “The employees...”

1. adequately complete assigned duties.*
2. fulfill responsibilities specified in job description.
3. perform tasks that are expected of them.*
4. engage in activities that will directly affect their performance evaluation.*
5. neglect aspects of the job they are obligated to perform (reverse-coded).*
6. fail to perform essential duties (reverse-coded).*

Unit-Level Organizational Citizenship Behaviors: “The employees in our unit...”

1. help others who have heavy work loads.*
2. help others who have been absent.*
3. assist supervisors with their work (when not asked).*
4. take time to listen to co-workers' problems and worries.*
5. go out of way to help new employees.*
6. take personal interest in other employees.*
7. pass along information to co-workers.
8. have attendance at work that is above the norm.*
9. give advance notice when unable to come to work.*
10. adhere to informal rules devised to maintain order.*
11. conserve and protect organizational property.*

Subjective Unit Performance: “How would you compare the establishment's [.....] over the past 3 years to that of the other establishments that do the same kind of work?”

1. performance
2. quality of products, services, or program*
3. development of new products, services, or programs*
4. ability to attract essential employees*

5. ability to retain essential employees*
6. satisfaction of customers or clients*
7. relations between management and other employees
8. relations among employees in general

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