CONTRACT HUMAN CAPITAL

HUMAN RESOURCE ARCHITECTURE

by

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A dissertation submitted to the

Graduate School-New Brunswick

Rutgers, The State University of New Jersey

For the degree of

Doctor of Philosophy

Industrial Relations and Human Resources

Written under the direction of

Dr. David Lepak

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New Brunswick, New Jersey

May, 2010

ABSTRACT OF DISSERTATION

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As contract human capital continues to grow and become a powerful force in the economy
contributing to the success of many organizations, it is vital for researchers to enhance their
understanding of how organizations engage and manage this component of their workforce.
Equally important, is to assess how individuals respond to and perform in a rapidly changing and
flexible workplace.

Indeed, the major findings of this study provide many helpful insights for understanding and
managing this increasingly important segment of the labor force. While much of SHRM
research has enhanced our understanding of how organizations differentiate managing their
"traditional" workforce, this study enhances our understanding of how organizations differentiate
managing contract human capital based on the interdependency and criticality of the work.

In support of contingency theory, the findings also demonstrate that the strategic reasons for
engaging contract human capital impact the choice of HR configuration for managing them. A
key strategic moderator is organizational flexibility. It seems organizations seeking functional
flexibility do so by investing more in the employment relationship, whereas, those seeking
coordination flexibility do so by investing less in the employment relationship.

The findings of this study also shed more light on the determinants and relationship of
contract human capital's perceptions of fairness (POF) and psychological contract breach

(PCB). Though there is a large body of research that supports POF moderating the relationship between HR configurations and PCB, this study found support for POF mediating the relationship.

Furthermore, it seems that some contract human capital who enter into these work arrangements to earn more money or develop a skill consider these as valuable outputs to be included in equity comparisons (Adams, 1965; Morrison & Robinson, 1997) when assessing fairness, whereas those whose work preference was flexibility or obtaining permanent employment consider these as promises to be evaluated when assessing psychological contract fulfillment.

Lastly, the results show how contract human capital are managed matters to both the individual and the work group. Alignment of the type of work performed and HR configurations were significantly related to individual task performance and organizational citizenship behaviors.

ACKNOWLEDGEMENTS

There are many people who I would like to acknowledge for their support throughout my career at Rutgers University. I would like to thank Barbra Lee and Susan Jackson who had the courage to take a chance on a non-traditional Ph.D. student. I would also like to thank my committee chair and advisor David Lepak for all of his support, advice, and friendship. His willingness to freely give his time and insights were greatly appreciated. I was also fortunate to have a great committee comprised of Mark Huselid, Susan Jackson and Dino Rutta. I am truly thankful for their ongoing encouragement and help.

Lastly, I could never have made the decision to enter and complete a doctoral program without the support and love of my family. I am forever grateful to my wife Mary Ann and son Kevin who have endured the long hours I worked on this dissertation. Their inspiration and never-ending love helped me navigate this journey that enabled me to fulfill a life-long goal.

TABLE OF CONTENTS

vi

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

Increased global competition and the rapid pace of technological change have put

tremendous pressure on firms to seek greater efficiencies and more flexibility in responding to

market demands and utilizing human capital (Kalleberg, 2000). In response to these pressures,

many organizations are transforming their workforces by relying more on contract human capital

to better respond to market fluctuations, control costs and access critical talent when needed.   A

2007 Bureau of Labor Statistic (BLS) census population survey estimated that nearly 15 million

workers (10.7% of the labor force) are employed in "alternative employment arrangements"

including independent contractors, temporary employees, on-call employees, and employees of

contract firms. Within this trend, contingent work in professional and technical functions is the

most rapidly growing.

In this study, contract human capital refers to any individual performing work for an

organization as a "non-employee." Thus, contract human capital consist of temporary employees,

independent contractors, consultants, and employees of business service or outsourced providers

that provide services to an organization. Though this segment of the workforce is continuing to

grow in numbers and importance, the employment relationships organizations have with contract

human capital and employees are quite different.

The relationship between employers and employees is based on the assumption that it would

continue indefinitely, and be at the employer's place of business under the employer's direction.

In exchange for a set wage, which helps mitigate the uncertainties of fluctuating markets,

employees agree to an incomplete yet implicit contract, which gives the employer tremendous

latitude in assigning different tasks as needed (Simon, 1991). The traditional employment

contract contains all sorts of implicit (and explicit) provisions that set the boundaries to the range of actions an employee will be directed to perform.

These boundaries define the "zone of acceptance" within which an employee can be expected to follow the directions of management (Simon, 1991). The expected long-term nature of the employment relationship allows employees to be repeatedly exposed to a range of management practices and get acclimated to an organization's culture, which helps forge a strong identification with the firm. The identification with the firm, along with an openness to a range of alternative behaviors create an employment relationship where there are many ways and ample opportunity for management practices to impact employees' behaviors and performance.

Alternatively, the employment relationship between contract human capital and the firm is very different. By its very nature the employment relationship is not necessarily expected to be long-term and consequently there is no protection in the form of a guaranteed wage against fluctuating markets. As a result, much of the financial risk is transferred to contract human capital and there is less of an opportunity to develop a strong identification with the firm. These conditions may narrow contract human capital's "zone of acceptance" limiting the range of possible work behaviors that is acceptable to them (Simon, 1991).

A large body of research has shown that firms use different modes of employment, such as hiring a regular employee or engaging contract human capital, for strategic reasons (Davis-Blake & Uzzi, 1993, Matusik & Hill, 1998); and choices regarding different employment modes are frequently driven by differences in the economic value human capital has to the firm (Davis-Blake & Uzzi, 1993). Other research has shown that firms alter the level of their HR investments in their employment relationships with employees and contract human capital based on their expected contributions to the firm (Tsui, Pearce, Porter & Tripoli, 1997).

When companies engage contract human capital that have valuable skills to work together with employees there is potential to impact an organization's success (Matusik Hill, 1998). However there are many ways contract human capital can be employed, such as working as part of a project team or working independently; and the economic value of the work they perform also vary. The challenge facing many organizations is to understand how to differentiate managing contract human capital across a range of employment modes that can positively impact the performance of both contract human capital and the work groups they work with.

Such a differential approach to managing contract human capital is reflected in the HR architecture developed by Lepak and Snell (1999, 2002), who using the dimensions of value and uniqueness, found support for how organizations differentiate managing multiple employment modes of employees, contract workers, and partnerships. Indeed, Gonzales and Tacorante (2004) found that 70% of the firms they surveyed relied on these different modes of employment.

In Castellano (2008), a framework (Figure 1) to understand how organizations may differentiate the management of contract human capital to improve individual performance is proposed. The framework highlights four types of work contract human capital can be hired to perform, based on the levels of interdependency and criticality of the work, which provides a two-by-two matrix of four engagement modes called: project work, knowledge work, contract work and partnership. Four HR configurations proposed to maximize the effectiveness of individuals working in the four engagement modes are referred to as: productivity-based, knowledge-based, compliance-based, and collaborative-based.

Insert Figure 1 about here

The results in Castellano (2008) showed that both the levels of interdependency and criticality of contract work were related to how organizations engage and manage contract human capital. However, the level of interdependency was only a factor for determining how contract human capital are managed when they work interdependently with a work group. Whereas, the level of criticality of the work performed by contract human capital was a significant factor impacting how they were managed in all situations.

When contract human capital perform work low in criticality, organizations tend to seek transactional employment contracts with them by alternating between the use of productivity-based and compliance-based HR configurations. Conversely, when contract human capital perform work high in criticality, organizations tend to seek relational employment contracts with them by alternating between knowledge-based and collaborative-based HR configurations.

Importantly, within this framework the proper alignment of engagement modes and HR configurations were expected to enhance contract human capital's performance defined as a combination of task performance, organizational citizenship behaviors (OCB) and perceptions of fairness. However, proper alignment of all engagement modes and HR configurations only resulted in improved task performance, whereas only knowledge workers, who were managed with a knowledge-based HR configuration, showed an increase in OCB and perceptions of fairness.

Though much progress has been made in our understanding of how organizations differentiate managing contract human capital, we still do not fully understand the determinants and consequences of these actions. Drawing from human capital, organizational economics (transaction cost/agency), equity, social identity, and psychological contract theories, the purpose of this study is to test a more fully developed framework of the different ways organizations can

engage and manage contract human capital, and the dynamic drivers that impact contract human capital's performance.

Specifically, the strategic reasons why organizations engage contract human capital is proposed to moderate the selection of relational or transactional HR configurations. Furthermore, how different individuals respond to and perform under differentiated HR configurations will be investigated. Looking beyond the alignment of engagement modes with HR configurations other factors that may impact how individuals perform are proposed.

Specifically, contract human capital's perceptions of psychological contract breach is proposed to mediate the relationship between HR configurations and their performance defined as task performance and organizational citizenship behaviors. In addition, contract human capital's work preferences and perceptions of fairness are proposed to moderate the relationship between HR configurations and perceptions of psychological contract breach. Lastly, who contract human capital select as referent others for equity comparisons is presented as a key moderator between HR configurations and their perceptions of fairness.

THEORITICAL BACKGROUND

A number of studies have identified how HR systems can positively impact individual and organizational outcomes. For example, Arthur (1994) argued that a commitment-based HRM system is associated with employee motivation and organizational citizenship behaviors, which in turn can positively impact organizational success. MacDuffe (1995) suggested that innovative HRM practices influence the discretionary behaviors of employees, which when aligned with firm's interests, can enhance firm performance. Huselid (1995) found that high performance work systems impacted employee turnover and labor productivity, and in turn firm performance.

Other HR systems that have been shown to enhance individual and firm performance include high involvement (Guthrie, 2001), human capital enhancing (Youndt, Snell, Dean, & Lepak, 1996), and innovative employment practices (Ichniowski et al., 1997).

While much of the SHRM research has focused on the "traditional workforce," it fails to address how a diversified pool of human capital consisting of employees and contract human capital work together. Organizations engage contract human capital for many reasons, such as enhancing workforce scalability (Wright & Snell, 1998), buffering core employees (Sanchez, 1995), having access to critical human capital when needed (Matusik and Hill, 1998) and enhancing organizational flexibility to respond to market fluctuations and variations in consumer demand (Harrison & Kelley, 1993).

Researchers concerned with understanding why some organizations perform better than others have often evoked the resource-based view as a model for explaining how some organizations create sustained competitive advantage (Barney, 1991). According to the resource-based perspective, successful organizations have unique capabilities or resources that can give them an advantage over their competitors. Consistent with this view, Nahapiet and Ghoshal, (1998), argue that the development of social capital can also be a source of competitive advantage. In particular, they propose that networks of relationships can influence an organization's competitiveness. Organizations that engage contract human capital can develop effective networks of social and intellectual capital which are vital for sustaining the competitive advantage of the firm. Thus, just as with regular employees, it is critical for organizations to understand how to engage and strategically manage contract human capital.

Modes of Engagement for Contract Human Capital

As shown in Figure 1, the type of work contract human capital can be hired to perform can vary along two dimensions. The first dimension, which has important implications for how firms manage contract human capital, is work interdependency. For example, the degree that contract human capital must work closely with employees, or are jointly responsible for performing tasks highlights important characteristics of contract human capital work. The range of work interdependency influences the extent to which the work performed by contract human capital needs to be coordinated versus integrated with work performed by employee coworkers.

The second dimension of work that may impact how firms engage contract human capital is the criticality of the work. Drawing from human capital theory, organizations are expected to strategically engage contract human capital who perform work that is valuable or require unique skills not readily available in the labor market.

The intersections of the levels of work interdependency and criticality form a two-by-two matrix of four different types of work contract human capital can be hired to perform called engagement modes: project work, knowledge work, contract work, and partnership. The two top quadrants (Quadrants 1 & 2) highlight work that is highly interdependent that is commonly integrated with a work group or team of employees. The two lower quadrants (Quadrants 3 & 4) highlight work that is performed independently that often needs to be coordinated with a work group. Additionally, the two left-sided quadrants (Quadrants 1 & 3) consist of "task work" that is of low criticality to the organization, whereas the two right-sided quadrants (Quadrants 2 & 4) consist of "knowledge work" that is of high criticality to the organization.

Interdependency

Variation in the nature of interdependency is related to the degree contract human capital must depend on the work group to perform their work, based on how workflow is organized, i.e. pooled, sequential, reciprocal, or integrated (Thompson, 1967); the amount of information that has to be exchanged with the work group to accomplish work goals; and the amount of time required working directly with the work group and in face-to-face communications (Bradway, 1997).

Contract work that is designed to be performed in a pooled or sequential way that requires a minimal amount of face-to-face communications and information to be exchanged with employees can be performed independently by contract human capital. Alternatively, contract work that is designed to be performed in a reciprocal or integrated way that requires face-to-face communications and information to be exchanged with employees can be performed by working interdependently with employees.

In determining how work performed by contract human capital is designed, organizations seek to minimize transaction costs. If these costs can be minimized by allowing contract human capital to use organizational resources, then it makes economic sense to organize the work so they can work interdependently within an organization (Williamson, 1985). If contract human capital have all the needed information and can use their own resources to perform their work, then it may be more cost effective for them to work independently.

Another factor to consider is how easy or difficult it is to monitor contract human capital behavior and work product. Based on agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976; Jensen & Murphy, 1990), an agency problem occurs when the goals of the principal (manager) and agent (contract human capital) are in conflict and it's difficult or costly for the

principal to monitor the actual behavior and output of the agent. If it is difficult for managers to monitor the behavior and output of contract human capital, it may be beneficial to have them work interdependently with the work group. Conversely, if there is no need to monitor behaviors and if the work product is easily observable then, all else being equal this type of work can be done independently.

Variations in the nature of independency of the work highlight two different ways organizations can manage contract human capital. Work that can be performed independently needs to be coordinated with the work group requiring a minimal amount communication and interactions. Alternatively, work that is performed interdependently needs to be integrated with the work group requiring an extensive amount of communication and interactions.

Criticality

Beyond interdependency, contract human capital vary in terms of the criticality of the work they perform. Drawing from Lepak and Snell (1998) criticality of contract human capital work has two dimensions: value and uniqueness. Value is based on the degree the work directly contributes to important work group or organizational goals, or the degree to which the work contributes to a firm's competitive advantage and core competencies. Uniqueness is based on the degree to which the type of work is rare and not readily available in the labor market, or the degree to which it is specialized or is idiosyncratic to a particular firm. However, unlike in Lepak and Snell (1998), uniqueness and value are combined to define the overall criticality of work.

Based on agency theory (Eisenhardt, 1988; McMahan, Virick, & Wright, 1999), organizations are unlikely to engage contract human capital to perform work that is strategically

valuable but not unique. Organizations would likely hire individuals to perform this type of

work in order to enhance their identification with the firm and better monitor their performance.

Conversely, drawings on human capital theory ((Becker, 1964; Jackson & Schuler, 1995)

organizations are likely to view work performed by contract human capital that requires unique

skills not readily available internally as being valuable. Indeed, in Castellano (2008) a factor

analysis of value and uniqueness items based on 110 contract human capital surveys resulted in

all items loading on one factor (eigevalue 2.99) along with a Cronbach Alpha of .89.

According to the resource-based view of the firm, organizations can gain competitive

advantage from the resources it has access to, if these resources are rare, valuable, inimitable,

and non-substitutable (Barney, 1991**).** A unique characteristic of contract human capital work

that is of high criticality is the emphasis on knowledge development and sharing. Such

relationships are also characterized by a high degree of collaboration. Collaboration refers to a

method by which competing interests reach win-win outcomes. High-collaborative work groups

are uniquely identifiable by high levels of at-stakeness, transparency, mindfulness, and the

synergy they display (Dougherty, 1992).

Conversely, contract work that is of low criticality is often characterized by the tasks that are

required to be performed, and often requires skills that are widely available in the labor market.

The key objectives of this type of engagement are to ensure a productive and compliant

relationship and proper coordination of all tasks.

Quadrant 1: Project Work

Contract human capital work that is interdependent with a work group and is of low

criticality can be characterized as project work. The focus of this engagement mode is the

integration of task work within a work group or team. The design of project work includes

standardized and narrowly defined tasks that are performed onsite with a team or work group.

This work is often embedded in a work group, which requires tasks to be performed in an

integrated or reciprocal way with employees. Due to the interdependency of the work, it is more

efficient to have contract human capital work onsite and use organizational resources, which

helps minimize transaction costs (Williamson, 1985). This work is also of low strategic value to

the organization, and does not require highly specialized or unique skills. Examples include

administrative support work performed by a temporary employee, general professional services

performed by a consultant, and technical work provided by an independent contractor.

Quadrant 2: Knowledge Work

Contract human capital work that is interdependent with a work group and of high criticality

to an organization can be characterized as a knowledge work. The focus of this engagement

mode is the integration of knowledge work within a work group or team. This type of job design

permits an open exchange of ideas and participatory decision making. This work is of high value

that directly contributes to an organization's strategic goals and requires highly specialized or

unique skills that are not widely available internally. Some examples include strategic project

work performed by a management consultant or highly specialized technical work performed by

a consultant.

Considering the strategic importance and uniqueness of this work, one may question why an

organization would rely on contract human capital rather than internalize this type of work. One

reason may be to fill in knowledge gaps when important expertise is unavailable or inadequate

internally (Leonard-Barton, 1995). Another reason may be due to the high cost associated with

developing certain competencies needed for limited periods of time. In fact, these arrangements can actually enhance organizational competencies (human capital) and social capital, and create sustainable competitive advantage (Barney, 1991).

Engaging contract human capital in areas impacting the core competencies of the firm can improve firm performance through the inflows of new skills and ideas (Matusik & Hill, 1998). To protect their strategic position in the marketplace, organizations carefully design work performed by contract human capital in highly critical positions, or when entrusting sensitive information with them (Bettis, et al., 1992).

Quadrant 3: Contract Work

Contract human capital work that can be performed independently and is of low criticality to an organization can be characterized as contract work. The focus of this engagement mode is coordination of task work conducted apart from the organization. The design of this type of work includes highly standardized and tightly-defined tasks that are considered contracted work services. Such work is of low value to the organization and requires general, non-specialized skills. Transaction cost theory suggests that such work involves simple economic transactions that take place "on the spot" that can be safely conducted in the free marketplace (Coase, 1937; Williamson, 1975). Here firms simply focus on the economic aspects of the contract (Rousseau, 1995) and strive to ensure compliance with present rules, regulations, and/or procedures.

These economic exchanges would likely contain explicit definitions for equivalence, a distinct timetable for the exchange, and terms which are discussible, negotiable, and enforceable (Mahoney & Watson, 1993).   As such, this work is conducted at "arms length" and requires minimal interactions with a work group. An example of such work includes outsourced services

such as security or basic computer program coding work performed by an independent contractor.

Quadrant 4: Partnership

Contract work that can be performed independently and is of high criticality to an organization can be characterized as a partnership. The focus of a partnership is the coordination of knowledge work to achieve strategic objectives. The design of this type of work would focus on developing a collaborative relationship and includes processes that encourage cooperation and information sharing. This work is of high value that directly contributes to an organization's strategic goals and requires highly specialized or unique skills. Examples of such work include engaging a law firm on a retainer, or partnering with an R&D or technical consulting firm. In all examples, a strategic decision was made to externalize the work often because it required a unique competency that would be too costly to develop internally.

In partnerships, external workers provide "non-resident knowledge-intensive services" to client firms (Sharma, 1997). Frequently this occurs through a co-production process in which both parties contribute to some specific outcome (Parkhe, 1993; Sharma, 1997). Through partnerships firms gain human capital without incurring the costs of internal employment while gaining the ability to maintain an ongoing relationship that is necessary for the application of unique and specialized skills (Lepak & Snell, 1999).

Contract Human Capital HR Configurations

A key challenge for organizations that manage contract human capital is attributable to the nature of the employment relationship itself, particularly in how it differs from regular

employees. The relationships contract human capital have with a client company can vary, based on their economic value to the organization. As a result, organizations are likely to differentiate how they manage contract human capital, based on the level of investments organizations are willing to make in the relationship (Tsui, Pearce, Porter & Tripoli, 1997).   The four engagement modes derived from the dimensions of interdependency and criticality highlight unique characteristics of the work contract human capital can be engaged to perform. To manage contract human capital across the different engagement modes, four HR configurations that support each mode is proposed, as shown in Figure 2.

Insert Figure 2 about here

The strategic human resource management research highlights a number of HR systems consisting of different HR practices that are argued to achieve a range of business objectives. The goal of control HR systems (Arthur, 1994) is to reduce costs or improve operational efficiency and consist of narrowly defined jobs, lower skill demands, and minimal training that result in a transactional employment relationship. The goal of high-commitment HR systems is to motivate employees to identify with organizational goals (Whitener, 2001) and consist of HR practices such as highly selective staffing, intensive training, and high level of compensation that result in a relational employment relationship.

High performance work systems (Huselid, 1995) strive to improve the knowledge, skills, and abilities of a firm's employees and contain elements of both high-commitment and high involvement (MacDuffie, 1995) HR systems and consist of such best practices as selective staffing, intensive training, performance appraisal, information sharing, etc.   Lepak and Snell

(2002) in examining the HR architecture developed multiple HR configurations consisting of HR practices addressing job design, selection, appraisal, compensation, and training.

Configurational theories are more concerned with how the pattern of multiple HR practices is related to performance. For example, MacDuffe (1995) identified specific configurations, or "bundles" of HR practices that enhance firm performance. Configurational theories are based on the assumption of equifinality and argue that multiple unique configurations of HR practices can enhance performance (Doty & Glick, 1994). The architectural perspective extends the contingent configuration perspective and suggests that not all employees within a single organization are managed by the same HRM practices or systems (Delery & Shaw, 2001; Lepak & Snell, 1999; Tsui, Pearce, Porter, & Hite, 1995).

The architectural perspective may also provide two other implications for the HRM systems – performance relationship. First, though employees vary in their strategic value to a firm (Stewart, 1997), all employees have the potential to impact a firm's bottom line. This is particularly relevant for firms that use multiple employment modes consisting of employees and contract human capital. Second, it may be that the configuration of HRM systems used for different employee groups, rather than a single HRM system, impacts performance.

Drawing from both Huselid (1995) and Lepak and Snell (2002), four HR practices have been selected for this study including selection, appraisal, compensation, and communication. Job design is excluded because of the close relationship it has with levels of interdependency and criticality of the work, which are independent variables in this study. Also excluded is training which is replaced with communication. The objective is to strike a balance between current constricting regulations, e.g. Vizcaino v. Microsoft (Monthly Labor Review, 1997) and the

practical need to include contract human capital in important communications that impact their work.

Training, particularly for developmental purposes, is commonly considered a benefit offered to employees. However, it is important to include contract human capital in internal communications and information sharing meetings that are related to their work. Effective communication and information sharing can enhance their performance and help foster a fair and equitable work environment (Colquitt, J. et al., 2001).

Based on previous research by Way (2002), Huselid (1995), MacDuffie (1995) and Youndt et al. (1996), each HR configuration is conceptualized as an additive index of HR practices. Organizations may alternatively use different combinations of HR practices to manage contract human capital. However, researchers do not know whether some HR practices have stronger effects than others, and whether complemtarities or synergies among such practices can further enhance individual and organizational performance (Delaney & Huselid, 1996).

The HR practices that are combined in the proposed HR configurations incorporate the assumption of equifinality **(**Delery & Doty, 1996), whereby identical outcomes can be achieved by a number of different systems of HRM practices. Operationally, the HR configurations increase in value by "increasing the number of practices they employ within the system or by using the practices in an HR system in a more comprehensive and widespread approach" (Youndt, Snell, Dean & Lepak, p.849).

As shown in Figure 2, four HR configurations are proposed that are aligned with four contract human capital engagement modes, based on the levels of interdependency and criticality of the work: productivity-based, knowledge-based, compliance-based, and collaborative-based. More broadly, productivity-based and compliance-based (Quadrants 1 & 3) reflect transactional

employment relationships, whereas knowledge-based and collaborative-based (Quadrants 2 & 4) reflect relational employment relationships.

Transactional contracts are short-term, have a purely economic or materialistic focus, and entail limited involvement by both parties. Relational contracts are long-term and broad, as they are not restricted to purely economic exchange but also include terms for commitment in exchange for growth or development in an organization (Morrison & Robinson, 1997; Rousseau & McLean Parks, 1993).

The two relational HR configurations are expected to be highly correlated as they are both high in criticality though differ on degree of interdependency. Organizations are likely to highly invest in both relationships. The two transactional HR configurations are expected to be moderately correlated as they are both low in criticality but differ on level of interdependency. Organizations are likely to invest less in both relationships; however, they are likely to moderately invest more if the relationship is highly interdependent.

Quadrant 1: Productivity-Based HR Configuration

Organizations that engage contract human capital that work in a highly interdependent way and perform work of low criticality, in project work engagement mode (Quadrant 1), are likely to use a productivity-based HR configuration for managing this type of work relationship. These contract human capital may be temporarily replacing regular employees or providing supplemental support to a project work team. Contract human capital hired for project work, are expected to have general skills and abilities necessary to perform required tasks and be able to work in a team-based environment. Because they work interdependently with a work group, their skills and behaviors should be complimentary with the work group (Harrison et al., 2002).

Organizations are expected to select these workers based on their abilities to perform required tasks and work in a team-based environment. Demonstrating generic teamwork skills, e.g., providing and accepting feedback, communication, cooperation, and adaptability, above and beyond an individual's skills and abilities, often determine team success or failure (Baker & Salas, 1992).

According to agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976; Jensen & Murphy, 1990), when it is possible to monitor the behavior of the agent at low cost, a behavior-oriented contract is the most efficient. The appraisal process in this HR configuration includes a focus on contract human capital adequately performing general tasks and observable team-based behaviors.

Due to the general nature of this work, compensation is expected to be based on the standard market rate. However, since these workers are working interdependently with a work group special consideration may be given to ensure equity with team peers. It is more important to ensure equity if it is a long-term assignment in order to maintain group cohesiveness and avoid possible regulatory violations.

Because the work is integrated with the work group's work, fostering a high degree of communication and trust can improve team cohesiveness (Brelade & Harman, 2000). Including contract human capital in internal communications and informational meetings that impact their work and team membership can help develop positive work relations. Based on interactional justice theory (Bies & Moag, 1986), treating these workers with respect and sensitivity and explaining the rationale for decisions can also help enhance equity perceptions.

Hypothesis 1a: The productivity-based HR configuration will be a positively related with work interdependency and a negatively related with work criticality.

Quadrant 2: Knowledge-based HR Configuration

Organizations that engage contract human capital that work in a highly interdependent way and perform work of high criticality, in knowledge work engagement mode (Quadrant 2), are likely to use a knowledge-based HR configuration for managing this type of work relationship. Organizations are expected to have a comprehensive selection process including the use of multiple interviews and/or tests for selecting these individuals to ensure they have the required job competencies and team-based skills. Interpersonal trust is a central characteristic of this type of employment relationship, which is needed to promote effective knowledge creation and sharing (Currall & Judge, 1995).

Given the importance of this work and the potential for an agency problem, the appraisal process is expected to focus on ensuring the goals of contract human capital are aligned with the work group (Eisenhardt, 1989; Jensen & Meckling, 1976; Jensen & Murphy, 1990). The appraisal is also expected to focus on contract human capital's contribution to strategic objectives and desired team-based behaviors including knowledge sharing.

Due to the high value and unique nature of this work, human capital theory would suggest that a competitive compensation be offered to these individuals especially considering that such individuals typically have bargaining power to negotiate a wage premium (Seagal & Sullivan, 1995). Equally important, based on equity theory (Adams, 1965; Leventhal, 1980) is to ensure pay equity with both industry and work group peers.

It is also important to create an environment that encourages an open exchange of information that fosters knowledge development and sharing. What is needed is an atmosphere

where there is an acceptance of others' opinions, and a willingness to incorporate all perspectives into decision-making processes (Mohammed & Ringseis, 2001).

Hypothesis 1b: The knowledge-based HR configuration will be positively related with work interdependency and criticality.

Quadrant 3: Compliance-Based HR Configuration

Organizations that engage contract human capital that work independently and perform work of low criticality, in contract work engagement mode (Quadrant 3), are likely to use a compliance-based HR configuration for managing this type of work relationship. Organizations are expected to select this type of contract human capital based on their abilities to perform the required tasks right away, as well as on their reputation and reliability to perform quality work.

Since these relationships are based on purely economic exchanges, the appraisal process is expected to focus on the desired end product or on specific and measurable results. Equally important is to ensure compliance with preset standards and procedures.   Due to the general and independent nature of this work, compensation is expected to be based on the standard market (going) rate. Considering the independent nature of the work, a minimal amount of communications is expected. The focus of any needed communication would likely be to effectively coordinate the work product with the work group.

Hypothesis 1c: The compliance-based HR configuration will be negatively related with work interdependency and criticality.

Quadrant 4: Collaborative-Based HR Configuration

Organizations that engage contract human capital that work independently and perform work of high criticality, in partnership engagement mode (Quadrant 4), are likely to use a collaborative-based HR configuration for managing this type of work relationship. Organizations are expected to have a comprehensive selection process for selecting this type of contract human capital to ensure the individuals providing the services have the needed expertise and competencies to contribute to strategic objectives, and to ensure the reputation and reliability of the partnership.

An important challenge managing these types of relationships arises whenever the company cannot perfectly and costlessly monitor partnerships' actions and information. The problems of inducement and enforcement then come to the fore (Pratt and Zeckhauser, 1985). Micro-economists have long been interested in examining the problem of motivating and controlling cooperative action. It is assumed that both parties are motivated by self-interest, and these interests may diverge.

The degree to which organizations can exercise control over contract human capital may pose a threat to reaching organizational quality standards and strategies (Allan, 2000). Therefore, the appraisal process is likely to include specific strategic objectives and their ability to collaborate with the work group.

Due to the high value and unique nature of this work, compensation is expected to be based on a competitive pay rate that ensures equity with industry peers. Given the importance of the work, a collaborative and open exchange of information is likely that fosters a trusting work environment and knowledge sharing.

Hypothesis 1d: The collaborative-based HR configuration will be negatively related with work interdependency and positively related with work criticality.

Interaction of Interdependency and Criticality

As both criticality and interdependency are expected to be determinants of four HR configurations, both are likely to interact when predicting each HR configuration.

Hypothesis 1e: The relationship between high criticality and knowledge-based HR configuration will be stronger for work high in interdependency.

Hypothesis 1f: The relationship between high criticality and collaborative-based HR configuration will be stronger for work low in interdependency.

Hypothesis1g: The relationship between low criticality and productivity-based HR configuration will be stronger for work high in interdependency.

Hypothesis 1h: The relationship between low criticality and compliance-based HR configuration will be stronger for work low in interdependency.

Degree of Alignment of Engagement Modes and HR Configurations

Alignment of HR configurations and engagement modes is an important construct in this study. Different configurations of HR practices are proposed to support different types of work within each contract human capital engagement mode. Each of the HR configurations consists of practices designed to ensure that contract human capital have the right skills and abilities and

are properly motivated to perform the work. As a result, there is an appropriate level of investment in the relationship that makes economic sense and achieves the right level of equity.

Thus, proper alignment of each engagement mode with its theoretically-based HR configuration results in balanced employment relationships (Tsui, Pearce, Porter & Tripoli, 1997): project work aligned with productivity-based HR configuration; knowledge work aligned with knowledge-based HR configuration; contract work aligned with compliance-based HR configuration; and partnership aligned with collaborative-based HR configuration.

Important, the proper alignment between engagement modes and HR configurations is expected to have a positive impact on contract human capital's performance and their relationship with the organization, described specifically as enhancing their task performance and organizational citizenship behaviors, and their perceptions of fairness.

A lack of alignment creates unbalanced employment relationships. An unbalanced relationship can be due to an underinvestment in the employment relationship resulting in a negative relationship with performance. For example, managing knowledge workers and partnerships with a transactional HR configuration (compliance-based or productivity-based) is an unbalanced relationship.

Alternatively, an unbalanced relationship can be due to an overinvestment in the employment relationship resulting in a positive relationship with performance. For example, managing contract workers and project workers with a relational HR configuration (knowledge-based or collaborative-based) is an unbalanced relationship.

Moderators of Alignment of Engagement Modes and HR Configurations

Strategic Reasons

In Castellano (2008), there were mixed results regarding the alignment of engagement modes and HR configurations. Though interdependency was significantly related to highly interdependent HR configurations (Castellano, 2008), organizations seem to primarily differentiate how they manage contract human capital based on the criticality of the work and establish either transactional or relational employment relationships. Thus, there may be other determinants beyond the type of work that influence how organizations manage contract human capital. One possible explanation is organizations may differentiate how they manage contract human capital based on the strategic reasons for engaging them.

Ostroff (2000) found that the relationship between clusters of HR practices and performance depended upon the business strategy of the firm, whereas, Arthur (1992) found evidence for an interactive effect of human capital investments and business strategy on employee retention (turnover) and firm productivity. This contingency perspective highlights the need to ensure what Nadler and Tusman (1980: 40) call congruence or fit defined as "the degree to which the needs, demands, goals, objectives and/or structure of one component are consistent with the needs, demands, goals, objectives, and/or structure of another component."

Commenting on the importance of external fit, Huselid (1995) posited that "All else being equal, …firms that tailor their work practices to their particular strategic and environmental contingencies should be able to realize additional performance gains" (p. 56). Other strategic HRM research conceptualizes HR systems as a continuum of two extremes ranging from a relational, high-commitment, high-performance focus to a transactional, more control oriented

focus (Arthur, 1992, 1994; Delery & Doty, 1996; Guthrie, 2001; Huselid, 1995), while some other researchers have argued that there may be other HR systems that may not be limited to a performance versus control dichotomy, but are designed to achieve specific objectives (Lepak & Snell, 1999, 2002; Youndt et al., 1996).

Though much of the research on the contingency perspective focuses on firm wide business strategies and HR systems, one of the goals of this study is to test whether the strategic reasons for engaging contract human capital alter how they are managed. One can conceptualize the four proposed HR configurations as a combination of transactional and relational employment relationships. Specifically the productivity-based and compliance-based HR configurations reflect a transactional relationship, whereas knowledge-based and collaborative-based HR configurations reflect a relational relationship. Depending on the specific strategy, a firm may decide to enter into different types of employment relationships with contract human capital.

Unlike Miles and Snow's, (1998) strategy topology with three strategic types: defenders, analyzers, and prospectors, or Porter's topology of differentiation, focus, and cost, both of which represent different ways an organization may choose to compete, the strategic reasons for engaging contract human capital reflect lower business-level needs. At this level, organizations are much more dynamic and not so easily categorized. Purcell (2004) argued that the important strategic decisions at this level determine how resources are deployed within its environment in order to satisfy the long-term goals of the organization, and how the business should be organized to implement its business strategy.

The hiring of contract human capital can help individual business groups achieve multiple strategic objectives. The array of strategic reasons for employing contract human capital can include the need to reduce human capital cost (Lautsch, 1999; Davis-Blake & Uzzi, 1992;

Matusik & Hill, 1998), gain access to specialized skills and expertise (Matusik & Hill, 1998; Broschak & Davis-Blake, 2006), respond to fluctuations in operational demands (Lepak, Takeuchi, & Snell, 2003; Gilley & Rasheed, 2000; Pfeffer & Baron, 1988; Lautsch, 1999; Harrison & Kelly, 1993; Nollen & Axel, 1996), and control human capital costs (Nollen & Axel, 1996; Davis-Blake & Uzzi, 1993; Atkins, 1984; Pfeffer and Baron (1988).

In this dissertation, I argue that the strategic reasons for engaging contract human capital is expected to moderate the alignment between engagement modes and HR configurations. Specifically, the strategic reasons for engaging contract human capital are expected to modify the relationship between criticality of the work and the selection of either relational or transactional HR configurations.

Cost Savings. Engaging contract human capital to reduce labor costs is a common strategy. Even if the corporate strategy focuses on a differentiation strategy there may be cost pressures in certain business units to reduce costs (Davis-Blake & Uzzi, 1992; Matusik & Hill, 1998). Contract human capital help firms reduce labor costs primarily due to benefit savings. Contract human capital are often not provided with all of the benefits associated with standard employment such as health care, unemployment insurance, and pension plans (Houseman, 2001; Matusik & Hill, 1998; Casey, 1989; Christopherson, 1989). In addition, firms utilizing contract human capital to reduce costs often do so by paying these workers at below market wage (Lautsch, 1999). And in situations when firms must pay wage premiums to engage high-skilled contract human capital (Hipple & Stewart, 1996), labor costs is controlled by only paying these workers for time worked.

Outsourcing components of their operations has been another method for organizations to reduce their labor costs. Firms pursuing this strategy seek to outsource non-strategic work that

can be provided by other organizations either more efficiently or at a reduced cost (Pfeffer & Baron, 1988). Outsourcing basic administrative or general services to outsource providers that have access to lower-cost labor willing to provide these services can result in significant savings (Matusik & Hill, 1998).

Drawing from transaction cost theory (Williamson, 1975, 1981) organizations hiring contract human capital to reduce costs are likely to want to minimize their investment in the relationship and seek a transactional employment relationship with these workers (McMahan, Virick, & Wright, 1999). Transactional contracts are short-term, have a purely economic or materialistic focus, and entail limited involvement by both parties (Morrison & Robinson, 1997; Rousseau & McLean Parks, 1993).

Organizations pursuing a cost-reduction strategy may modify the way they manage contract human capital. They are likely to want to pay contract human capital at or below market wages and have easy-to-monitor quantifiable and measurable objectives. Specifically, there will likely be a greater focus of using transactional HR configurations and less of a focus of using relational HR configurations.

Thus, the strategic reason to reduce cost is expected to modify the overall relationship between the level of criticality of the work and the selection of either transactional or relational HR configurations. Specifically, the overall positive relationship between work criticality and relational HR configurations is likely to be weaker meaning organizations are less likely to select relational HR configurations for managing contract human capital performing work of high criticality if the strategic reason for engaging these workers is to reduce cost, whereas the overall negative relationship between work criticality and transactional HR configurations is likely to be

weaker meaning that organizations are more likely to select transactional HR configurations for managing these individuals.

Hypothesis 2a: For firms engaging contract human capital to reduce costs, the positive relationship between work criticality and relational HR configurations will be weaker compared to firms not pursuing a strategy to reduce cost.

Hypothesis 2b: For firms engaging contract human capital to reduce costs, the negative relationship between work criticality and transactional HR configurations will be weaker compared to firms not pursuing a strategy to reduce cost.

Access to Needed Skills. Another strategic reason for engaging contract human capital is to gain access to knowledge that does not exist internally (Matusik and Hill, 1998; Wright & Snell, 1998), or gain access to highly specialized skills that are needed for a limited period of time (Belous, 1989). Knowledge is a potential source of competitive advantage at many firms. Not only must firms be able to create knowledge within their boundaries, but they must also expose themselves to an array of new ideas from all available talent outside the organization (Leonard-Barton, 1995).

Contract human capital can stimulate the accumulation and creation of valuable knowledge. Many contract human capital are carriers of best practices that may be unknown to core employees who have worked at fewer organizations throughout their careers (Matusik & Hill, 1998). They can also help firms fill in knowledge gaps when important expertise is unavailable or inadequate internally (Leonard-Barton, 1995). Drawing from human capital theory (Becker, 1964) organizations engaging contract human capital to access specialized knowledge and

expertise will likely invest more in the relationship due to the economic benefit to the organization and seek a relational employment relationship with these individuals.

Relational contracts are long-term and broad, as they are not restricted to purely economic exchange but also include terms for commitment in exchange for growth or development in an organization (Morrison & Robinson, 1997; Rousseau & McLean Parks, 1993). Organizations will likely use relational HR configurations for managing this type of contract human capital, which consists of paying above-market rates and fostering an environment conducive to joint decision making and knowledge sharing.

Thus, the strategic reason to access needed skills is expected to modify the overall relationship between the level of criticality of the work and the selection of either transactional or relational HR configurations. Organizations engaging contract human capital who perform work high in criticality to access needed skills are more likely to select relational HR configurations compared to firms not pursuing this strategy. In addition, firms may be less likely to select transactional HR configurations for managing contract human capital who perform work low in criticality if the strategic reason for engaging these workers is to access needed skills.

Hypothesis 2c: For firms engaging contract human capital to access needed skills, the positive relationship between criticality and relational HR configurations will be stronger compared to firms not pursuing a strategy to access needed skills.

Hypothesis 2d: For firms engaging contract human capital to access needed skills, the negative relationship between criticality and transactional HR configurations will be weaker compared to firms not pursuing a strategy to access needed skills.

Organizational Flexibility. Recent research suggests that one of the primary reasons why organizations use contract human capital is to respond to fluctuations in operational demands (Lepak, Takeuchi, & Snell, 2003; Gilley & Rasheed, 2000; Pfeffer & Baron, 1988; Lautsch, 1999; Harrison & Kelly, 1993; Nollen & Axel, 1996). Organizations often rely on contract human capital to provide greater flexibility in the deployment of human capital (Gilley & Rasheed, 200; Lepak, Takeuchi, & Snell, 2003; Pfeffer & Baron, 1988). Firms can achieve greater flexibility by integrating contract human capital in the core business. Such flexibility is commonly referred to as functional flexibility (Atkins, 1984). Alternatively firms may seek to control costs by adjusting the size of their workforce in response to fluctuating markets and achieving numerical or coordination flexibility (Wright & Snell, 1998).

Firms are better able to respond to volatility in product demand when contract human capital are involved in the core business (Lautsch, 2002). When contract human capital are integrated in the core business, firms can alter the mix of all human capital in response to economic, strategic, and technological developments (Kunda et al., 2002). Lautsch (2003) found that organizations are willing to invest in the relationship when engaging contract human capital to achieve functional flexibility.   For example, when firms seek to integrate human capital in the core business, these workers are more likely to receive compensation and benefits that are similar to those of core workers.

Furthermore, organizations are likely to carefully select these individuals to ensure they can effectively work with the work group and would be expected to engage in extensive information sharing with them. To achieve these objectives, organizations are more likely to select relational HR configurations for managing these types of employment relationships.

Organizations engaging contract human capital for the strategic reason to respond to fluctuations in operational demands are likely to do so by seeking functional flexibility. Thus, the strategic reason to respond to fluctuations in operational demands is expected to modify the overall relationship between the level of criticality of the work and the selection of either transactional or relational HR configurations. Specifically, the overall positive relationship between work criticality and relational HR configurations is likely to be stronger, meaning managers will use more relational HR configurations as the criticality of the work increases. Whereas the negative relationship between criticality and transactional HR configurations is likely to be weaker, meaning managers will use less transactional HR configurations as the criticality of the work increases.

Hypothesis 2e: For firms engaging contract human capital to respond to fluctuations in operational demand, the positive relationship between work criticality and relational HR configurations will be stronger compared to firms not pursuing a strategy to enhance organizational flexibility.

Hypothesis 2f: For firms engaging contract human capital to respond to fluctuations in operational demand, the negative relationship between work criticality and transactional HR configurations will be weaker compared to firms not pursuing a strategy to enhance organizational flexibility.

Control Human Capital Costs. Organizations also utilize contract human capital to control overall human capital costs (Nollen & Axel, 1996; Davis-Blake & Uzi, 1993; Atkins, 1984; Pfeffer and Baron (1988). Organizations seeking to control human capital costs do so by

achieving scalability (Wright & Snell, 1998) and enhancing numerical flexibility (Kunda et al., 2002; Pearce, 1998). Costs are controlled by the ability to quickly adjust staffing levels in response to market demands.

Pfeffer and Baron (1988) suggested that executives may attempt to control labor costs by limiting the amount of employees a manager may hire, but may leave managers free to hire contract human capital to complete work. They also, noted that in many jurisdictions, labor regulations protect employees more comprehensively than contract human capital, so organizations may seek to control labor costs by substituting contract human capital for employees.

Further, Osterman (1988) argued that competitive pressures increasingly force organizations to adopt a "core-periphery model" in which part of the labor force is made peripheral by the use of contract workers. In other words, firms can call upon contract human capital to modify the number of employees who perform tasks in-house according to variations in demand (Harrison & Kelly, 1993).

Engaging contract human capital to control costs can enable mangers to provide a "ring of defense" (Nollen & Axel, 1996) that protects the stability of standard workers (Huber, 2004) by protecting employees from environmental turbulence (Lepak & Snell, 1999; Matusik & Hill, 1998), and gain access to needed skills only needed intermittently (Davis-Blake & Uzi, 1993; Matusik & Hill, 1998; Broschak & Davis-Blake, 2006).

For firms seeking to control human capital costs, these costs are typically controlled by the ability to easily hire and fire these workers without impacting core operations. These relationships are likely to be short term and involve a pure economic exchange. Organizations

are not expected to invest too heavily in these relationships and are likely to seek a transactional relationship with these individuals.

Thus, the strategic reason to control human capital costs is expected to modify the overall relationship between the level of criticality of the work and the selection of either transactional or relational HR configurations. The overall positive relationship between work high in criticality and relational HR configurations is likely to be weaker, whereas the overall negative relationship between work low in criticality and transactional HR configurations is likely to be weaker.

Hypothesis 2g: For firms engaging contract human capital to control human capital costs, the positive relationship between work criticality and relational HR configurations will be weaker compared to firms not pursuing a strategy to control human capital costs.

Hypothesis 2h: For firms engaging contract human capital to control human capital costs, the overall negative relationship between work criticality and transactional HR configurations will be weaker compared to firms not pursuing a strategy to control human capital costs.

Impact on Performance

An important goal of this study is to investigate the performance implications of using different HRM systems for managing contract human capital in a team-based environment. As shown in Figure 1, the proper alignment of engagement modes and HR configurations is theorized to have a positive impact on contract human capital perceptions of fairness, task performance and organizational citizenship behaviors. However, in Castellano (2008) there were

mixed results regarding the alignment of engagement modes and HR configurations on these performance measures.

Specifically, proper alignment of all engagement modes and HR configurations did indeed result in a positive relationship with task performance. However, the only alignment to have a positive relationship with all three measures including organizational citizenship behaviors and perceptions of fairness was between knowledge work and knowledge-based HR configuration. Thus, there may be other mediating or moderating variables that need to be investigated to help us understand how contract human capital respond to differentiated HR configurations.

Mediators and Moderators between HR Configurations and Contract Human Capital Performance

One possible explanation of why alignment of engagement modes and HR configurations may not always result in positive contract human capital's performance and perceptions of fairness is different individuals may have different preferences and expectations regarding the terms of the employment relationship that conflict with the type of role they have with an organization. Such a conflict in expectations may result in a psychological contract breach. Perceived breach signals an imbalance in the social exchange process in which an employee does not receive expected outcomes from an organization for fulfilling his or her obligations ((Morrison & Robinson, 1997).

Research has shown a negative relationship between perceived breach and desirable outcomes such as job satisfaction, organizational commitment, and performance (Bunderson, 2001; Robinson & Morrison, 2000). Thus, I expect perceived psychological contract breach to mediate the relationship between alignment of HR configurations and performance.

In addition, contract human capital preferences and perceptions of fairness may moderate the relationship between HR configurations and psychological contract breach. Robinson and Morrison (2000) showed that attributions and fairness perceptions interacted with perceived breach to predict violation. Lastly, who individuals select as referent others for equity evaluations may moderate the relationship between HR configurations and perceptions of fairness. The overall framework for contract human capital human resource architecture is presented in Figure 3.

Insert Figure 3 about here

Psychological Contract Breach

A growing area of interest pertaining to the study of contract human capital work relates to the nature of the psychological contract held by those workers, i.e., the beliefs which workers have concerning the reciprocal obligations between themselves and their employing organizations (Connelly & Gallagher, 2004). Rousseau (1995) defined two types of exchange agreements between employers and employees: transactional and relational contracts. When workers and employers agree on the terms of the contract, their future exchanges develop into actions predictable by each party, facilitating planning, coordination, and effective performance (Rousseau, 1995).

Transactional contracts are short-term, have a primarily economic or materialistic focus, and entail limited involvement by both parties. Relational contracts are longer-term and broad, as they are not restricted to purely economic exchange but also include terms for loyalty in exchange for security or growth in an organization (Morrison & Robinson, 1997; Rousseau & McLean Parks, 1993).

Although workers and employers may differ in their perceptions and interpretations regarding the terms of employment (Coyle-Shapiro & Kessler, 2000, 2002; Porter et al., 1998), some degree of mutuality or shared understanding is essential for the parties to achieve their interdependent goals (Rousseau, 1995). Mutuality exists, for example, where both worker and employer concur that the employer has committed to providing a fair compensation or developmental opportunity.

Failure to reach such an explicit or implicit agreement can give rise to psychological contract breach (Morrison & Robinson, 1997; Rousseau, 1995). A "perceived psychological contract breach refers to the cognition that one's organization has failed to meet one or more obligations within one's psychological contract in a manner commensurate with one's contributions" (Morrison & Robinson, 1997: 230).

Alignment of engagement modes and HR configurations are based on ensuring balanced and reciprocal relationships. The level of investment of each HR configuration may vary, but is designed to achieve the appropriate level of equity based on the expected contributions of contract human capital. Thus, proper alignment of engagement modes and HR configurations should be negatively related to psychological contract breach.

Hypothesis 3a: Alignment of all engagement modes and HR configurations, i.e. knowledge work and knowledge-based HR configuration, partnership and collaborative-based HR configuration, project work and productivity-based HR configuration, and contract work and compliance-based HR configuration, will be negatively related to psychological contract breach.

A lack of alignment between engagement modes and HR configurations may be viewed as a psychological contract breach. If contract human capital perceive the employer has failed to meet one or more obligations within one's psychological contract in a manner commensurate with one's contributions, then they will reciprocate by not fulfilling all of the employer objectives.

A lack of alignment can result when organizations manage individuals engaged to perform work high in criticality (e.g. knowledge work, partnership) with transactional HR configurations. Considering the unique and valuable contributions made by contract human capital performing work of high criticality, they are likely to expect a social rather than an economic exchange with the organizations.

The transactional HR configurations are based on establishing an economic exchange, whereby the employer offers short-term, purely economic inducements in exchange for well-specified contributions by the worker. Alternatively, the relational HR configurations are based on establishing a social exchange which focuses on unspecified, broad, and open-ended obligations on the part of both parties (Blau, 1986). Social exchange engenders feelings of personal obligations, gratitude, and trust; whereas economic exchange does not (Blau, 1964).

Thus, using transactional HR configurations for managing contract human capital who are performing work of high criticality is likely to result in an unbalanced relationship resulting in a psychological contract breach. An unbalanced relationship occurs when the employee is expected to undertake broad and open-ended obligations, while the employer reciprocates with short-term and specified monetary rewards, with no commitment or investment in the relationship (Tsui, Pearce, Porter & Tripoli, 1997).

Hypothesis 3b: Using transactional HR configurations for managing contract human capital performing work of high criticality will be positively related to psychological contract breach.

A lack of alignment can also occur when individuals who are engaged to perform work of low criticality (e.g., project work, or contract work) are managed using relational HR configurations. In the unlikely event that this occurs it can be viewed as a positive imbalance, in which there is an overinvestment in the employment relationship. Workers and employers typically strive to maintain a fair balance in the reciprocal inducements and contributions each has offered the other (Blau, 1964). When one party's contributions generate an imbalance in the relationship, the indebted party experiences feelings of obligation to the other and seeks to reciprocate as means of restoring the balance (Eisenberger et al., 2001; Geenberg, 1980; Shore & Wayne, 1993).

Organizations that develop a social exchange with contract human capital who expect an economic exchange are making an overinvestment in the employment relationship, which should induce contract human capital to reciprocate and feel positive about the relationship. However, other research has shown that individuals tend to rationalize the overpayment, and thus the favorable exchange does not serve as an incentive to exceed performance expectations (Tsui, Pearce, Porter & Tripoli, 1997). Yet, it is unlikely that such individuals will experience unmet expectations resulting in a psychological contract breach.

Hypothesis 3c: Using relational HR configurations for managing contract human capital performing work of low criticality will be negatively related to psychological contract breach.

Psychological contract fulfillment has been found to associate positively with job satisfaction, organizational commitment (Coyle-Shapiro & Kessler, 2000), organizational trust (Robinson, 1996), and task performance and organizational citizenship behaviors (Robinson & Morrison, 1995; Tekleab & Taylor, 2000). Conversely, psychological contract breach has been found to associate positively with intention to quit (Guzzo, Noonan, & Elron, 1994; Robinson, 1996; Robinson & Morrison, 1995, 2000; Robinson & Rousseau, 1994; Turnley & Feldman, 1999, 2000), and negatively with in-role duties (Turnley & Feldman, 2000), job satisfaction, organizational commitment, and extra-role performance (Bunderson, 2001; Robinson & Morrison, 2000).

Contract human capital who perceive either a balanced or overinvestment employment relationship in which their employer has fulfilled the most important obligations to them will likely reciprocate through fulfilling all of their obligations to the employer. Contrary to expectations, the relationship between psychological contracts and organizational citizenship behaviors (OCB) was stronger for contract human capital than for regular employees, indicating that when contract human capital have positive attitudes about their relationship with an organization they engage in OCB (Van Dyne & Ang, 1998).

Thus, psychological contract breach is expected to mediate the relationship between alignment of HR configurations and contract human capital performance, defined as task performance (fulfilling assigned duties) and organizational citizenship behaviors. Specifically, a negative perception of psychological contract breach is likely to result in enhanced performance, whereas a positive perception of psychological contract breach is likely to result in reduced performance.

Hypothesis 3d: Perceived psychological contract breach will mediate the relationship between aligned HR configurations and contract human capital individual performance (task performance and organizational citizenship behavior). Specifically, a negative perception will result in positive performance and a positive perception will result in negative performance.

Contract Human Capital Work Preferences

Alignment of engagement modes and HR configurations are designed to promote balanced employment relationships and enhance reciprocity, which in turn should promote contract human capital's perceptions of psychological contract fulfillment resulting in positive performance. However, there may be other factors contributing to contract human capital's perceptions of psychological contract breach and individual performance beyond alignment of employment modes and HR configurations. A substantial body of research finds that the value or importance of work outcomes varies across individuals, which can impact their psychological contracts (Bartol & Lock, 2000).

Just as the strategic reasons for engaging contract human capital may moderate how organizations manage contract human capital, contract human capital's work preferences may moderate their perceptions of psychological contract breach. The literature on contact human capital suggests that they may choose to perform contract work for different reasons (Latamore, 2000), and these reasons my differentially influence the type of relationship they seek with the client organization (Moorman & Harland, 2002).

For example, some individuals voluntarily seek contract work as a means to achieve flexibility in balancing work and personal objectives (Van Dyne & Ang, 1998), to earn more

money (Ellingson et al., 1998), or to develop new skills that will help them to be more marketable (Albrecht, 1998). Other individuals may be working as contract human capital involuntarily and seek contract work as a means to permanent employment (Kalleberg & Schmidt, 1997).

Seek Flexibility. Some individuals may voluntarily choose contract human capital work because they want control over their time, i.e. flexibility (Ellingson et al., 1998). Contract human capital work may allow individuals to balance personal and non-work objectives such as educational goals, family and household responsibilities, freedom to travel, and a preference for seasonal hours (Van Dyne & Ang, 1998).

Individuals who need to balance personal and non-work objectives are likely to put a high value on the flexibility afforded them by working as contract human capital. Contract human capital knowingly may make trade-offs of types of compensation, and promotional opportunities for the chance to either work reduced hours, or to have greater flexibility to ensure that work fits well with out-of-work commitments (Feldman & Doerpinhaus, 1992).

All four engagement modes can provide individuals the flexibility to balance personal and non-work objectives. Individuals who seek and are provided with flexibility in how they work are likely to view a major component of their employment relationship as fulfilled. Thus, alignment of engagement modes and HR configurations should have a stronger impact on psychological contract fulfillment (negative relationship with psychological contract breach) for those workers who seek flexibility, as compared to workers who do not seek flexibility.

Hypothesis 4a: The negative relationship between aligned HR configurations and

psychological contract breach will be stronger for contract human capital whose work

preference is flexibility compared to contract human capital whose work preference is not

flexibility.

Earn More Money. Other contract human capital may value different work outcomes. There are some individuals who seek contract human capital work as an opportunity to earn more money (Ellingson et al., 1998). Contract human capital work offers both low-skilled and high-skilled individuals an opportunity to earn higher wages as compared to regular employees, though they do receive fewer benefits than regular employees. In addition, contract human capital receive pay for all hours worked, unlike many regular employees who are paid a salary (Van Dyne & Ang, 1998).

Though organizations compensate contract human capital based on their economic value to the firm, the majority of contact human capital working in low critical jobs typically receive a small compensating wage differential (Carey & Hazelbaker, 1986). Individuals working in high criticality jobs have bargaining power and often receive a larger compensating wage differential (Seagal & Sullivan, 1995).

One would expect individuals who prefer contract human capital work to primarily earn more money to view their assignment purely as an economic exchange and frame their psychological contract in more transactional terms (Rousseau, 1995). Such individuals are likely to jump from assignment to assignment in an effort to continually increase their income. Their primary metric for judging whether their employment contracts have been fulfilled is likely to be distributive justice, or the fairness of decision outcomes (Konovsky & Pugh, 1994).

All aligned HR configurations are designed to promote equity by ensuring contract human capital's outcomes are commensurate with their contributions, and are expected to be negatively

related with psychological contract breach (PCB). However, the negative relationship between aligned HR configurations and PCB should be stronger for those whose work preference is to earn more money and view their employment relationship purely as an economic exchange.

Hypothesis 4b: The negative relationship between aligned HR configurations and psychological contract breach will be stronger for contract human capital whose work preference is to earn more money compared to contract human capital whose work preference is not to earn more money.

Develop New Skills. Some individuals may have a preference to work as contract human capital because they seek opportunities to develop and learn new skills that would make them more employable in the future (Albrecht, 1998). Contract human capital work can offer an opportunity for individuals to acquire skills and work experience that will be valuable to other potential employers (Kalleberg, 2000; Hipple, 1998). In addition, many individuals, particularly those who are not highly-skilled, value the opportunity to work in a variety of jobs in order to develop new skills (Carey & Hazelbaker, 1986; Kalleberg, 2000).

Contract work provides individuals working in low criticality jobs an opportunity to develop new skills, gain useful experience, and find job leads. In addition, some highly-skilled contract human capital consider themselves "free agents" and seek opportunities to develop new skills and experience that enhance their marketability to other clients (Barley & Kunda, 2006).

All four engagement modes can provide individuals the opportunity to develop new skills and gain valuable experience. Contract human capital performing work high in criticality can gain unique skills that enhance their marketability, while others who perform work low in criticality may view the experience of working for an organization as a way to develop new skills

that enhance their employability. Contract human capital who place a high value on the opportunity to develop new skills are likely to perceive the main obligations of their psychological contract fulfilled.

Thus, alignment of engagement modes and HR configurations should have a stronger positive relationship with psychological contract fulfillment (negative relationship with psychological contract breach) for those individuals whose preference is to seek contract work to develop new skills compared to individuals who are not seeking to develop new skills.

Hypothesis 4c: The negative relationship between aligned HR configurations and psychological contract breach will be stronger for contract human capital whose work preference is to develop new skills compared to contract human capital whose work preference is not to develop new skills.

Seek Permanent Employment. Many individuals have been forced into contract work involuntarily, because restructuring and downsizing have eliminated many permanent jobs (Rousseau, 1997; Nollen & Axel, 1996). As a result, a large portion of contract human capital in the United States is underemployed people who would prefer regular jobs (Kalleberg & Schmidt, 1997). Based on a national survey of over 27,000 temporary and contract workers, 60 percent viewed contact work as a way to find a permanent job (Finegold, 2001).

Van Dyne and Ang (1998) suggest that contract human capital who are working involuntarily (i.e. they would rather have a regular permanent position), would likely prefer a "traditional" employment relationship. These individuals see contract human capital work as a way to gain access to a potential employer that has a temp-to-perm recruiting strategy (Carey &

Hazelbaker, 1986; Kalleberg, 2000). It is important to understand the motivations or reasons why individuals engage in contract work.

Individuals who see contract work as a way to access permanent positions are likely to prefer a social rather than economic exchange and seek a relational employment contract with their employer. Relational HR configurations are more inclusive and provide contract human capital greater opportunities to exchange information and be included in all internal communications. Due to the higher investment made in the relationship there is a good probability that such contract human capital would be highly considered if there was an opportunity for permanent employment.

Contract human capital whose work preference is to gain permanent employment will likely seek a relational employment contract and prefer to be managed with knowledge-based or collaborative-based HR configurations. Thus, relational HR configurations are expected to result in a stronger negative relationship with psychological contract breach for contract human capital seeking permanent employment compared to contract human capital not seeking permanent employment.

> *Hypothesis 4d: The negative relationship between aligned relational HR configurations and psychological contract breach will be stronger for contract human capital whose work preference is to gain permanent employment compared to contract human capital not seeking permanent employment.*

However, contract human capital who desire permanent employment are likely to view a transactional employment contract negatively. Transactional contracts are typically short-term, have a primarily economic focus, and entail limited involvement by both parties. By design,

transactional contracts are less inclusive and provide limited opportunities for social exchanges. Individuals who seek permanent employment are likely to prefer a social exchange with their employer, as reflected in a relational employment contract. Relational contracts are long-term and broad, as they are not restricted to purely economic exchanges but also include terms for loyalty in exchange for security or growth in an organization (Morrison & Robinson, 1997; Rousseau & McLean Parks, 1993).

Other research has shown that contract human capital seeking permanent employment may exert more effort, but have not conclusively shown the impact on psychological contract breach and performance. For example, Van Dyne and Ang (1998) suggest that contract human capital who are working such jobs involuntarily (i.e. they would rather have a regular permanent position), would likely exhibit higher levels of performance and cooperation. In Castellano (2008) only task performance improved as a result of alignment of transactional HR configurations, whereas OCB and perceptions of fairness did not. One explanation for why OCB did not occur is that there was a perception of psychological contract breach.

Furthermore, workers who have expectations of long-term relationships might perceive psychological contract breaches more frequently (Rousseau, 1995). By their very nature, transactional HR configurations are designed to promote very efficient relationships with a minimal amount of investment. Thus, contract human capital seeking permanent employment are more likely to view being managed with transactional HR configurations as a psychological contract breach.

Hypothesis 4e: The negative relationship between aligned transactional HR configurations and psychological contract breach will be weaker for contract human capital whose work

preference is to gain permanent employment compared to contract human capital whose

work preference is not to gain permanent employment.

Perceptions of Fairness

The alignment of engagement modes and HR configurations can also influence contract human capital's perceptions of fairness, which in turn may moderate their perceptions of psychological contract breach. Whereas breach of psychological contract is determined by comparing inputs and outcomes relative to what was promised; perceptions of fairness are evaluated by considering ratios of inputs and outcomes. A contract human capital's perception of past promises plays a prominent role in the determination of contract breach. In contrast, evaluations of equity include all job-relevant inputs and outputs, regardless of perceived promises (Morrison & Robinson, 1997).

Much of the literature on perceptions of fairness draws from equity theory based on the research conducted by Adams (1965), who used a social exchange theory framework to evaluate fairness. According to Adams, what people were concerned about was not the absolute level of outcomes per se but whether those outcomes were fair. Adams suggested that one way to determine whether an outcome was fair was to calculate the ratio of one's outcomes (e.g., compensation, development, and promotion) to their contributions or inputs (e.g., effort, time, education, intelligence, and experience) and then compare that ratio with that of a comparison other.

Beyond balancing inputs and outputs to ensure fairness, procedural justice is concerned with the processes used to make outcome decisions (Leventhal, 1980). Procedural justice is fostered

through voice during a decision-making process by adherence to fair process criteria, such as consistency, lack of bias, representation, accuracy, and ethicality (Leventhal, 1980).

Lastly, interactional justice is another contributing factor in individual's perceptions of fairness (Bies & Moag, 986), which focuses attention on the importance of the quality of the interpersonal treatment people receive when procedures are implemented. Interactional justice is fostered when decision makers treat people with respect and sensitivity and explain the rationale for decisions. More recently, interactional justice has come to be seen as consisting of two specific types of interpersonal treatment (Greenberg, 1990).

The first, labeled interpersonal justice reflects the degree to which people are treated with politeness, dignity, and respect by authorities or third parties involved in executing procedures or determining outcomes. The second, labeled informational justice, focuses on the explanations provided to people that convey information about why procedures were used in a certain way or why outcomes were distributed in a certain fashion.

Within this framework, each HR configuration is designed to ensure the investments in HR practices are commensurate with contract human capital contributions, thereby promoting distributive justice. Furthermore, each HR configuration reflects an ideal amount and quality of communication between management and contract human capital, which is expected to promote procedural and interactional justice. Effective communication and information sharing can help foster a fair and equitable work environment (Colquitt, J. et al., 2001). All in all, alignment of engagement modes and HR configurations should positively impact contract human capital's perceptions of fairness.

Hypothesis 5a: Alignment of engagement modes and HR configurations, i.e., knowledge

work and knowledge-based HR configuration, partnership and collaborative-based HR

configuration, project work and productivity-based HR configuration, and contract work and compliance-based HR configuration, will be positively related to contract human capital's perceptions of fairness.

A lack of alignment between engagement modes and HR configurations may create an unbalanced relationship thereby impacting contract human capital's perceptions of fairness. If contract human capital perceive their inputs are not commensurate with their outputs, or if they are treated rudely or are not given accurate and timely information, then they are likely to have negative perceptions of fairness.

A lack of alignment can result when organizations manage individuals engaged to work in partnerships or who perform knowledge work with transactional HR configurations. Managing contract human capital performing work of high criticality with transactional HR configurations can result in negative assessments of input-output ratios. Under transactional HR configurations, contract human capital performing work of high criticality are likely to feel their compensation does not equal their contributions. Furthermore, the lack of information and knowledge sharing indicative of an economic exchange will likely to be viewed negatively by these workers.

Hypothesis 5b: Using transactional HR configurations for managing contract human capital employed in knowledge work and partnership engagement modes will be negatively related to contract human capital's perceptions of fairness.

A lack of alignment can also occur when individuals engaged to perform work of low criticality, e.g., project or contract work, are managed with relational HR configurations. Organizations managing contract human capital performing work of low criticality with

relational HR configurations will likely result in a positive imbalance. Such a misalignment can be viewed as an over investment in the relationship resulting in positive assessments of input-output ratios.

Under relational HR configurations, organizations are likely to overpay contract human capital performing work of low criticality. Given the low value of the work and the general skills needed to perform the work, paying these individuals above the standard rate will result in very favorable distributive justice. In addition, relational HR configurations include an extensive amount of communication and knowledge sharing, as well as participation in decision making activities that impact the work.

Low-skilled contract human capital are likely to place a high value on the opportunity to learn and develop in such a relationship. All in all, the level of output from the organization in the form of compensation, and developmental opportunities will likely exceed the level of input from contract human capital in the form of their work contribution and level of skill resulting in favorable perceptions of fairness.

Hypothesis 5c: Using relational HR configurations for managing contract human capital employed in project work and contract work engagement modes will be positively related to contract human's capital perceptions of fairness.

Perceptions of Fairness as Moderator of HR Configurations and Psychological Contract Breach

Research has shown that an important component of the psychological contract interpretation process is contract human capital's assessment of how fairly they were treated while forming perceptions of the contract breach. Robinson and Morrison (2000) showed that

attributions and fairness perceptions interacted with perceived psychological contract breach. In particular, Morrison and Robinson (1997) argued that the interpretation of a psychological contract breach will be heavily influenced by perceived interactional fairness (Bies & Moag, 1986) or contract human capital' beliefs about interpersonal treatment that they experienced (e.g. respect, consideration, adequate explanation). Unfair interpersonal treatment signals to contract human capital that he or she is not valued or respected in the relationship (Brockner & Wiesenfield, 1996), which intensifies feelings of anger and betrayal.

Rousseau (1989) argued that the intensity of how an individual responds to psychological contract breach "is directly attributable not only to unmet expectations of specific rewards or benefits, but also to more general beliefs about respect of persons, codes of conduct and other patterns of behavior associated with relationships involving trust" (p. 129).

The use of fair practices demonstrates a supervisor's respect for the rights and dignity of workers. This demonstrated respect indicates that an authority is devoted to the principles of procedurally fair treatment, thus resulting in enhanced trust in the employment relationship (Lind & Tyler, 1988), which is an important part of psychological contract fulfillment (Rousseau, 1995).

Thus, contract human capital's perceptions of fairness are expected to moderate the relationship between aligned HR configurations and perceptions of psychological contract breach. Positive perceptions of fairness are likely to make the negative relationship between aligned HR configurations and psychological contract breach stronger, whereas negative perceptions of fairness is likely to make the relationship weaker.

Hypothesis 5d: The negative relationship between alignment of HR configurations and psychological contract breach will be stronger for contract human capital who have positive

perceptions of fairness compared to contract human capital who have negative perceptions of fairness.

Referent Other as Moderator of HR Configurations and Perceptions of Fairness

A key moderator of contract human capital's perceptions of fairness is the selection of referent others for equity comparisons. Adams (1965) hypothesized that people determine if they have been treated fairly by examining the ratio of their outcomes to inputs to the ratios of comparison others. Thus, the outcomes of comparison others (relative to inputs) is an important source of evidence used by individuals when forming justice judgments (Kulik & Ambrose, 1992).

In equity theory, the referent other is not necessarily in a direct exchange relationship with the focal employee. Rather, the referent is someone in a similar exchange relationship with the organization. Conversely, in determination of whether a breach of psychological contract occurred, the only relevant parties are the individual and the organization (Morrison & Robinson, 1997).

Contract human capital's orientation toward their coworkers can be either instrumental or relational, which may affect the choice of a comparison standard and their perceptions of fairness. Contract human capital who select other contract human capital or who identify more with their professional network may have a transactional orientation toward the organization, whereas contract human capital who identify more with their employee coworkers may have a relational orientation toward the organization (Rao et al., 2000).

Kulik and Ambrose (1992) argued that both personal factors and situational factors affect the availability and relevance of reference choice. Availability of a referent other is based on

contract human capital's access to information about coworkers. Relevance is determined by the perceived instrumentality of the referent for satisfying an individual's social comparison needs.

Other research, based on social identity theory, posits that individuals are attracted to others who have similar goals, such as career goals (Kristof-Brown & Stevens, 2001). Schneider (1987) argued that individuals may be attracted to others who have similar attitudes and values. Similar backgrounds, attitudes, and experience can increase the likelihood that individuals will be attracted to and like each other (Tsui & O'Reilly, 1989). Thus, individuals who voluntarily work as contract human capital to balance work and personal goals or to earn more money are likely to identify with others who have similar preferences.

Another important factor that increases an individual's identification with a group is the prestige of the group (Chatman, Bell, & Staw, 1986; March & Simon, 1958).   Early research demonstrated that the higher one's education and skill level, the more likely the individual will select a referent outside the company (Andrews & Henry, 1963). Likewise, Oldman, Kulik, et al., (1986) found that upper echelon individuals tend to use external referents; and Goodman (1974) found the higher one's education and professionalism are the greater the likelihood to use external referents. Thus, highly skilled contract human capital are likely to select other highly skilled individuals in their extended professional network as referent others.

The selection of different referents may determine which outputs are important to contract human capital when making fairness comparisons. Contract human capital who identify more with other contract human capital coworkers or with their industry peers and select them as referents for equity comparisons are likely to have an instrumental orientation toward their employer and employee coworkers. Such individuals may identify more with their peers or profession than with an organization and its employees.

As a result, they are likely to place a high premium on achieving their personal goals, e.g., balancing work and life responsibilities and being paid in accordance with their contributions, rather than achieving the organization's goals. Each HR configuration is designed to create a balanced relationship matching the inputs (contributions, skills, time) of contract human capital with organizational outputs (compensation, flexibility, development).

Thus, proper alignment of all HR configurations should fulfill the input-output ratios of those contract human capital who select other contract human capital or their industry peers as referents, which should have a strong positive impact on their perceptions of fairness compared to contract human capital who do not select other contract human capital or their industry peers as referents.

Hypothesis 6a: The positive relationship between alignment of HR configurations and perceptions of fairness will be stronger for contract human capital who select other contract human capital as referents compared to contract human capital who do not select other contract human capital or their industry peers as referents.

Hypothesis 6b: The positive relationship between alignment of HR configurations and perceptions of fairness will be stronger for contract human capital who select their industry peers as referents compared to contract human capital who do not select other contract human capital or the industry peers as referents.

Other contract human capital may prefer to compare themselves to their employee coworkers. Contract human capital who seek an organizational career may identify more with others who have similar career goals (Kristof-Brown & Stevens, 2001). In particular, lower-

skilled individuals who are involuntarily working as contract human capital may strongly identify with their regular employee coworkers. People tend to select referents for comparison that meet their personal objectives of equity advantage (Oldman, Kulik, Stepina, & Ambrose, 1986).

Contract human capital performing work that is of low criticality may not benefit by making equity comparisons with other contract human capital performing similar tasks. Through social identification and comparisons with regular employees, lower-skilled contract human capital can vicariously participate in the success and status of the group (Ashforth & Mael, 1989). Dissimilar referents may be selected due to a desire to select a referent that represents what the individual would like to become.   In their quest to achieve the highest equity considering the similarity of their inputs, contract human capital performing work of low criticality are likely to select their regular employee coworkers as referents.

Other contract human capital may also be uncomfortable with the unpredictability of contract work and prefer the stability of regular employment.   Research by Hartog, et al (2002) showed a relationship between an individual's degree of risk aversion and their desired type of employment relationship. Highly risk-averse individuals may find the protections of an internal labor market (ILM) are enough to retain them because they would have psychological difficulty with the sporadic nature of contract work.

Conversely, individuals who are not risk-averse may be more willing to give up the ILM protection for the potentially greater benefits of contract human capital work including higher pay and more flexibility in hours and location of work than are regular employees (Gregory, 2001; Kunda, et al, 2002). Thus, less risk adverse contract human capital who prefer the flexibility and opportunity to seek higher rewards are more likely to identify with other contract

human capital, whereas more risk adverse contract human capital who prefer the stability of an internal labor market are more likely to identify with their employee coworkers.

Contract human capital who select regular employee coworkers as referents for equity comparisons are likely to prefer a social versus an economic exchange with their employer. Individuals who prefer an economic exchange place a high value on distributive justice, whereas individuals who prefer a social exchange place a high value on procedural and interactional justice (McFarlin and Sweeney, 1992). Thus, contract human capital who select their employee coworkers will likely prefer a relational employment contract.

The relational HR configurations (knowledge-based, collaborative-based) focus on promoting a more inclusive working environment between contract human capital and their coworkers, consisting of more frequent communications, extensive information and knowledge sharing and involvement in decision making activities that impact their work. Contract human capital who compare themselves to their regular employee coworkers are likely to view relational HR configurations as promoting an equitable work environment.

Transactional HR configurations (productivity-based, compliance-based) by their very nature, focus on short-term highly quantified objectives and are much less inclusive. Thus, contract human capital who identify more with their regular employee coworkers may view transactional HR configurations as promoting an inequitable work environment.

Hypothesis 6c: The positive relationship between alignment of relational HR configurations and perceptions of fairness will be stronger for contract human capital who select employee coworkers as referents compared to contract human capital who do not select employee coworkers as referents.

Hypothesis 6d: The positive relationship between alignment of transactional HR configurations and perceptions of fairness will be weaker for contract human capital who select employee coworkers as referents compared to contract human capital who do not select employee coworkers as referents.

METHODS

Sources and Data Collection

The United States Army's Armament Research, Development and Engineering Center (ARDEC) agreed to be the primary sponsor for this research study. ARDEC is the internationally known center for the advancement of armaments technology and engineering innovations. Their services are delivered through interdisciplinary, cross-functional teams consisting of civilian and military personnel and a large network of defense industry partners. ARDEC employs approximately 3,000 civilians and several hundred onsite contractors. Over 66 percent of their workforce is engineers and scientists. Much of their civilian workforce is represented by a labor union.

Unlike many SHRM studies, the primary unit of analysis in this study is at the individual level. The two sources for data collection were contract human capital and their direct manager at ARDEC. Onsite meetings were held with ARDEC's Human Capital Management Office and Divisional Managers to review the survey protocol and identify work groups consisting of employees and contract human capital. It was agreed that surveys will be distributed both manually and online using Qualtrics survey software to these working groups.

Letters were sent to 510 vendors asking them to distribute letters and surveys (see appendix A) to all contract human capital they have working at ARDEC and their direct managers at ARDEC. Four hundred and eighty letters, which included an online link to the surveys, were sent to contract human capital, and 260 letters with an online link to the surveys were sent to their ARDEC managers. Thus, each ARDEC manager was asked to complete on average 2 contract human capital surveys (1.85).

Of the 480 surveys sent to contract human capital, 255 were completed for a response rate of 53%. Of the 480 surveys sent to 260 managers, 201 were completed for a response rate of 42%. Of the 255 surveys completed by contract human capital 15 could not be matched with manager surveys and 12 surveys had missing data. Of the 201 surveys completed by managers, 6 could not be matched with contract human capital surveys and 15 had missing data. Thus, 180 manager surveys were matched with 180 contract human capital surveys for a final response rate of 37.5% (360 total surveys out of 960 surveys).

Contract human capital manager surveys sent to workers' direct managers or supervisors requested information regarding the interdependency and criticality of the work, the strategic reasons for engaging contract human capital, the type of HR management practices used to manage contact human capital, and contractor human capital's task performance and organizational citizenship behaviors (OCBs). Contract human capital surveys sent to contract human capital requested information regarding the HR management practices they experienced (to cross-reference with manager's ratings), their preferences for contract work, perceptions of fairness and psychological contract breach, and who they select as referent others for equity comparisons.

Control Variables

To the extent possible, there is a need to control for systematic variance that is not due to the variables of interests in this study. A strength of this study design is conducting all research within one large organization that ensures possible intervening variables are controlled for, such as financial performance and organizational culture. Other variables that are specifically controlled for in this study include the length of time in assignment (total number of months), and work group size (total number of employee and contract human capital).

The length of time contract human capital work with an organization, measured in number of months, is a key control variable particularly considering some assignments can range from a few months to a number of years. In addition, there may be significant differences in how contract human capital are managed depending on the size of the work group. Managers provided data regarding size of the work group and contract human capital provided data on length of time with the organization.

HR Configurations

Four theoretically-based HR configurations: productivity-based, knowledge-based, compliance-based, and collaborative based were operationalized as an additive index of HR practices (MacDuffie, 1995; Youndt, et al., 1996), based on a 7-point Likert Scale   (1 = strongly disagree; 7 = highly agree). Data were collected from both contract human capital and their managers regarding the use of HR practices.

An analysis of the two data sets indicated very high agreement between managers' and contract human capital's selection of HR practices: productivity-based HR configurations ($r =$ .86, $p<.01$), knowledge-base HR configurations ($r = .87$, $p<.01$), compliance-based HR

configurations (r = .77, p<.01), and collaborative-based HR configurations (r = .85, p<.01).Thus, only mangers' rating of HR management practices were used for all analyses. For each configuration, the centered mean of all items was used in data analysis. The specific HR practices that comprise each configuration are presented in Table 1.

Insert Table 1 about here

Degree of Alignment

To test the degree of alignment of engagement modes and HR configurations all survey results were first categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales. High scales are split as above 3.5 and low scales are split at 3.5 and below. Next, each survey was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5. Finally, once each survey was allocated to the appropriate quadrant separate analyses for each HR configuration were performed on the dependent variable, e.g. task performance, OCB, PCB, etc.

In addition, analyses of an overall deviation from an idealized fit of HR configurations using all data were performed. The means of each theorized HR configuration for each quadrant were subtracted from an ideal mean of 7. The overall deviation is the extent that an HR configuration's mean score deviates from an ideal mean score of 7.

Scale Development

To conduct this study, six scales were used: interdependency, criticality, perception of fairness (POF), perceptions of psychological contract breach (PCB), organizational citizenship

behaviors (OCB), and task performance. For each scale, the centered mean of all items was used in data analysis.

Interdependency. To measure the interdependency of the work performed by contract human capital**,** a 5-item scale was used grounded in theoretical work by Thompson (1967), Barney (1991), Pearce and Gregersen (1991), and further modified by Liden, Wayne, and Bradway (1997). Based on a 7-point Likert Scale (1 = strongly disagree; 7 = strongly agree) managers provided data on the following items: The contract worker…works closely with employees; works onsite at the client's facilities; frequently coordinates efforts with employees; spends time in face-to-face communications with employees; and uses client resources, e.g. systems, equipment, facilities, supplies, etc.

Criticality. To measure the criticality of the work performed by contract human capital a 4-item scale was used grounded in theoretical work by Porter (1985), Snell et al. (1996), Ulrich & Lake (1991), Barney (1991), and Lepak and Snell (1999). Based on a 7-point Likert Scale (1 = strongly disagree; 7 = strongly agree) managers provided data on the following items: The work the contract worker performs…contributes to important work group or organization goals; contributes to the creation of customer value; requires skills not widely available in the labor market; and requires skills that are difficult for our company to duplicate.

Perception of Fairness. To measure contract human capital's perceptions of fairness, a 6-item scale was used grounded in theoretical work by Levanthal (1980), and Bies & Boag (1986). Based on a 7-point Likert Scale (1 = very unlikely; 7 = very likely), contract human capital provided data on the following items: Based on the compensation you received, how likely … does it reflect the effort you put into your work; is it appropriate for the work you have completed? Based on your interactions with your manager, how likely …has he/she been candid

in communications with you; has he/she communicated details in a timely manner; were his/her explanations regarding procedures reasonable; has he/she used consistent standards in evaluating your performance?

Perceptions of Psychological Contract Breach. To measure contract human capital's perceptions of psychological contract breach, a global measure of perceived contract breach was used. Measuring perceived contract breach as a global perception is consistent with existing conceptualizations of psychological contract breach as an overall evaluation of how well one's contract has been fulfilled by one's employer/client (Rousseau, 1989; Robinson, 1996; Robinson & Morrison, 2000). Using measures developed by Robinson, Kraatz, and Rousseau (1994); Robinson and Morrison, 2000, and Tekleab, Takeuchi, and Taylor (2005), a five-item scale was used.

Based on a 7-point Likert Scale (1 = strongly disagree; 7 = strongly agree) contract human capital provided data on the following items: I have not received everything promised to me in exchange for my contribution; So far my employer/client has done an excellent job fulfilling its promises to me (reverse code); My employer/client has done a good job meeting its obligations to me (reverse code); My employer/client has fulfilled the most important obligations to me (reverse code); Almost all the promises made by my employer/client during recruitment have been kept thus far (reverse code).

Organizational Citizenship Behaviors. To measure organizational citizenship behaviors, a 5-item scale was used grounded in theoretical work by Williams & Anderson, (1991), and Lee and Allen (2002). Based a 7-point Likert Scale (1 = strongly disagree; 7 = strongly agree), managers provided data based on the following items: Contract worker …offers ideas to improve the functioning of the work group; volunteers for things that were not required; performs his/her

work conscientiously; goes out of his or her way to help others; and always completes work on time.

Task Performance. To measure task performance, a 2-item scale was used grounded in theoretical work by Williams and Anderson (1991), using a 7-point Likert Scale (1 = strongly disagree; 7 = strongly agree), managers provided data based on the following items: Contract worker …adequately completes assigned duties; and fails to perform essential duties (reverse coded).

Categorical Variables

Three categorical variables predicted to moderate hypothesized relationships include: strategic reasons why contract human capital are engaged, contract human capital work preferences, and who contract human capital select as referent others for equity comparisons:

Strategic Reasons. To measure strategic reasons, four items were selected grounded in theoretical and empirical work by Lepak, Takeuchi, and Snell (2003); Davis-Blake and Uzzi (1992); Matusik and Hill (1998); Pfeffer and Baron (1988); Lautsch (2002); and Harrison and Kelly (1993). Managers provided data based on the following items: the primary strategic reason for employing this contract worker is to help us…reduce our human capital costs; gain access to specialized skills and expertise; respond to fluctuations in operational demands; and control our human capital costs.

Contract Human Capital Work Preferences. To measure contract human capital work preferences, eight items were selected grounded in theoretical and empirical work by Latamore (2000); Ellingson et al. (1998); Van Dyne and Ang (1998); and Albrecht (1998). Contract human capital provided data based on the following items: I am currently working as a contract worker because I…want greater control over my time and work schedule; enjoy having the

opportunity to work in different environments; want to experience a variety of different jobs; have an opportunity to earn more money; want to develop new skills that will make me more marketable; am hopeful the assignment may lead to a permanent position; value the opportunity to use a wide variety of skills; and don't have a choice for other work.

Referent Other. To measure who contract human capital select as referent others for equity comparisons, five items were selected grounded in theoretical work by Kulik and Ambrose (1992); Salanick & Pfeffer (1978); Goodman (1974); Oldman, Kulik, Stepina, and Ambrose (1986); Schneider (1987); Tsui and O'Reilly (1989). Contract human capital provided data based on the following items: When assessing the fairness of my compensation and working conditions I compare myself to…full-time employees of the client organization I work with; contract workers who I work with; other contract workers at this organization; other full-time employees of the client organization; and my industry and professional peers.

RESULTS

Interdependency Scale. To validate the independency scale, a factor analysis was performed using 180 manager surveys. A factor analysis of each items' standard score using Principal Component Extraction with Varimax Rotation resulted in all items loading on two unexpected factors, as shown in table 2. A review of eigenvalues indeed revealed two factors yielding values of 3.03 and 1.45 respectively.

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Insert Table 2 about here
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Though this scale has been used to reflect how traditional workers may work interdependently, it may not be applicable to how contract human capital may work with

traditional workers. Factor one reflects how closely contract human capital work with and interfaces with employee coworkers, whereas factor two reflects whether or not contract human capital work onsite. Since I am more interested in the degree to which contract human capital must work closely and interface with employees and not whether or not they are physically located onsite, I only used those items loading on factor one to represent the interdependency scale in this study.

A subsequent analysis of the new scale consisting of the items loading on factor one resulted in a eigenvalue of 2.48 which far exceeds the Kaiser criterion of 1, and a Cronbach's Alpha of .89 which exceeds the .70 recommended threshold (Nunnally, 1978).

Criticality Scale. To validate the criticality scales, a factor analysis was performed using 180 manager surveys. A factor analysis of each items' standard score using Principal Component Extraction with Varimax Rotation resulted in all items loading on one factor with an eigenvalue of 3.137 and equally high Cronbach Alpha of .91.

Since both interdependency and criticality reflect dimensions of work, a final analysis was performed to validate the use of these two scales independently. A factor analysis of each items' standard score using Principal Component Extraction with Varimax Rotation resulted in all items loading on the two expected factors, as shown in table 3. A review of eigenvalues for the two factors validated the independence of the interdependency and criticality scales yielding values of 4.02 and 1.66 respectively.

Insert Table 3 about here

Task Performance Scale. A factor analysis was conducted to validate whether the two items used to measure task performance can be used in one scale. Using survey data from 180

managers a factor analysis was conducted using Principal Component Extraction with Varimax Rotation method, which resulted in all items loading on one factor resulting in an eigenvalue of 3.43. Further validation of the use of all items in one scale was confirmed with a high .88 Cronbach alpha.

Organizational Citizenship Behaviors (OCB) Scale. A factor analysis was conducted to validate whether all items used to measure OCB can be used in one scale. Using survey data from 180 managers a factor analysis was conducted using Principal Component Extraction with Varimax Rotation method, which resulted in all items loading on one factor. The extraction results measuring the amount of variance of each item reflected in the scale ranged from .61 to .81 resulting in an eigenvalue of 3.58. Further validation of the use of all items in one scale was confirmed with a high .90 Cronbach alpha.

Perceptions of Fairness Scale. A factor analysis was conducted to validate whether all items used to measure perceptions of fairness can be used in one scale. Using survey data from 180 contract human capital a factor analysis was conducted using Principal Component Extraction with Varimax Rotation method, which resulted in all items loading on one factor. The extraction results measuring the amount of variance of each item reflected in the scale ranged from .51 to .87 resulting in an eigenvalue of 4.68. Further validation of the use of all items in one scale was confirmed with a high .92 Cronbach alpha.

Psychological Contract Breach Scale. A factor analysis was conducted to validate whether all items used to measure perceptions of fairness can be used in one scale. Using survey data from 180 contract human capital a factor analysis was conducted using Principal Component Extraction with Varimax Rotation method, which resulted in all items loading on one factor. The extraction results measuring the amount of variance of each item reflected in the scale

ranged from .84 to .94 resulting in an eigenvalue of 4.44. Further validation of the use of all

items in one scale was confirmed with a high .96 Cronbach alpha.

Means, Standard Deviations, and Correlations. Table 4 presents the means, standard

deviations, and correlations of all variables. The average length of service for contract human

capital participating in this study was 21.51 months; and the average size of the work group

consisted of approximately 20 employees and contact human capital. A review of all

correlations shows strong support for many of the hypotheses tested in this study.

Criticality, as expected, was positively related with knowledge-based (r = .69, p<.01) and

collaborative-based (r = .85, p<.01) HR configurations, and negatively related with productivity-

based (r = -.53, p<.01) and compliance-based (r = -.76, p<.01) HR configurations.

Interdependency, as expected, was positively related with productivity-based (r = .35, p<.01) and

knowledge-based (r = .74, p<.01), and negatively related with compliance-based HR

configuration (r = -.51, p<.01). However, interdependency was positively related with

collaborative-based HR configuration (r = .34, p<.01) whereas the expected relationship was

negative.

As expected, the two relational HR configurations (knowledge-based, collaborative-based)

were highly correlated (r = .70, p<.01), whereas the two transactional HR configurations

(productivity-based, compliance-based) were moderately correlated (r = .40, p<.01).

Cost strategy, as expected, was negatively correlated with knowledge-based (r = -.47, p<.01)

and collaborative-based (r = -.44, p<.01) HR configurations, and positively correlated with

compliance-based (r = .55, p<.01) HR configuration. There was no significant correlation with

productivity-based HR configuration. Accessing needed skills strategy was positively related to

knowledge-based (r = .66, p<.01) and collaborative-based (r = .76, p<.01) HR configurations and

negatively related to productivity-based (r = -.41, p<.01) and compliance-based (r = -.69, p<.01) HR configurations. Organizational flexibility strategy was significantly related with only productivity-based HR configurations (r = .31, p<.01). Controlling costs strategy was negatively related to knowledge-based (r = -.39, p<.01) and collaborative-based (r = -.39, p<.01), and positively related to compliance-based (r = .43, p<.01) HR configurations. There was no significant relationship with productivity-based HR configuration.

Looking at the relationships among task performance, organizational citizenship behaviors (OCB), perceptions of fairness (POF), psychological contract breach (PCB) and HR configurations reveal some interesting relationships. Task performance was positively related with knowledge-based (r = .47, p<.01) and collaborative-based (r = .42, p<.01) HR configurations, and negatively related with compliance-based (r = -.47, p<.01) HR configuration; however, task performance was not significantly related with productivity-based HR configuration.

The same relationships held true with OCB. There were positive relationships with knowledge-based (r = .63, p<.01) and collaborative-based (r = .50, p<.01), a negative relationship with compliance-based (r = -.56, p<.01) HR configuration, and no significant relationship with productivity-based HR configuration. These relationships also held true with POF. There were positive relationships with knowledge-based (r = .47, p<.01) and collaborative-based (r = .42, p<.01) HR configurations, a negative relationship with compliance-based (r = -.51, p<.01), and no significant relationship with productivity-based HR configuration. Not surprisingly the same relationships were noted with PCB. There was a negative relationship with knowledge-based (r = -.48, p<.01) and collaborative-based (r = -.41, p<.01), and a positive

relationship with compliance-based (r = .50, p<.01) and no relationship with productivity-based HR configuration.

As expected psychological contract breach was negatively related with task performance (r = -.70, p<.01), OCB (r = -.76, p<.01), and POF (r = -.84, p<.01). Of special note is the strong relationship between psychological contract breach and perceptions of fairness. Perceptions of fairness was also highly related with task performance (r = .81, p<.01) and OCB (r = .82, p<.01). There were no significant relationships among contract human capital's work preferences and task performance, OCB, POF and PCB.

Looking at the other hypothesized relationships regarding contract human capital's work preferences, preference for flexibility was positively related with productivity-based (r = .27, p<.01) and compliance-based (r = .45, p<.01) HR configurations, and negatively related with knowledge-based (r = -.36, p<.01) and collaborative-based (r = -.42, p<.01) HR configurations. A work preference to earn more money was positively related with knowledge-based HR configuration (r = .20, p<.01) and negatively related with compliance-based HR configuration (r = -.17, p<.05); there was no relationship with productivity-based or collaborative-based HR configurations.

Individuals' work preference to develop skills was negatively related with productivity-based (r = -.25, p<.01) and compliance-based (r = -.19, p<.05) HR configurations, and positively related with collaborative-based (r = .25, p<.01) HR configuration. There was no significant relationship with knowledge-based HR configuration. Individuals' work preference to gain permanent work was related with only productivity-based HR configuration (r = .21, p<.01).

A review of who contract human capital selects as referent others for equity comparisons indicate that "other full-time employees" referent was positively related with only productivity-

based HR configuration (r = .27, p<.01). "Other contract workers" referent was negatively related with knowledge-based (r = -.50, p<.01) and collaborative-based (r = -.53, p<.01) HR configurations, and positively related with productivity-based (r = .18, p<.05) and compliance-based (r = .52, p<.01) HR configurations. "Industry peers" referent was positively related with knowledge-based   (r = .36, p<.01) and collaborative-based (r = .61, p<.01) and negatively related with productivity-based (r = -.44, p<.01) and compliance-based (r = -.52, p<.01) HR configurations.

Insert Table 4 about here

Interdependency and Criticality as Predictors of HR Configurations. To test hypotheses 1a – 1h, a series of hierarchical regression analyses were performed to analyze the relationship between HR configurations and levels of interdependency and criticality of the work. Due to the need to assess interactions, the interdependency and criticality scales were standardized by taking the centered mean score for all scales.   Results are presented in Table 5.

Insert Table 5 about here

Hypothesis 1a was fully supported as a regression of productivity-based HR configuration on interdependency and criticality resulted in a significant positive relationship with interdependency (β = .45, p<.01), and a significant negative relationship with criticality (β = -.51, p<.01). Hypothesis 1b was fully supported as a regression of knowledge-based HR configuration resulted in a significant positive relationship with interdependency (β = .45, p<.01), and a significant positive relationship with criticality (β = -.34, p<.01). Hypothesis 1c was fully supported as a regression of compliance-based HR configuration resulted in a

significant negative relationship with interdependency (β = -.21, p<.01), and a significant

negative relationship with criticality (β = -.47, p<.01). Hypothesis 1d was not supported. Though

there was a significant positive relationship between collaborative-based HR configuration and

criticality (β = .62, p<.01), there was not as expected a significant negative relationship with

interdependency.

Hypothesis 1e was fully supported as there was a significant interaction on knowledge-based

HR configuration between criticality and interdependency (β = .07, p<.01). A chart plotting the

interaction is presented in Table 5a. There was no support for Hypotheses 1f – 1h as there were

no other significant interactions of criticality and interdependency on productivity-based,

collaborative-based, and compliance-based HR configurations.

Insert Table 5a about here

Strategic Reasons Test for Moderation. To test hypotheses 2a – 2h, four regression

analyses were performed for each hypothesis to analyze whether the relationship between high-

and low-criticality engagement modes and each HR configuration is moderated by the strategic

reasons for engaging contract human capital. Using a standardized centered-mean scale for

criticality and dummy codes for each strategic reason, four separate analyses were conducted to

assess whether there is a significant interaction between strategy and criticality measures on each

HR configuration.

Results of analyses for hypotheses 2a and 2b are presented in Table 6a.

Insert Table 6a about here

Hypothesis 2a was not supported as there were no significant interactions for both knowledge-based and collaborative-based HR configurations on criticality and strategy to reduce costs. However, there was as expected significant negative relationships between strategy to reduce costs and knowledge-based (β = -.80, p<.01) and collaborative-based (β = -.39, p<.01) HR configurations. Hypothesis 2b was partially supported as there was a significant positive interaction (β = .42, p<.01) of criticality and cost strategy for productivity-based HR configuration. However, there was not a significant interaction for compliance-based HR configuration, even though there was a strong and significant positive relationship (β = .94, p<.01) between cost strategy and compliance-based HR configuration. The plotted interaction shown in Table 6a clearly shows that the negative relationship between criticality and productivity-based HR configuration is weaker when contract human capital are engaged to reduce cost.

Results of analyses for hypotheses 2c and 2d are presented in Table 6b.

Insert Table 6b about here

Hypotheses 2c and 2d were not supported as there were no significant interactions of criticality and strategy to access needed skills for all four HR configurations. However, there were as expected significant positive relationships between strategy to access needed skills and knowledge-based (β = 1.03, p<.01) and collaborative-based (β = .72, p<.01) HR configurations, and a significant negative relationship between strategy to access skills and compliance-based HR configuration (β = -.66, p<.01).

Results of analyses for hypotheses 2e and 2f are presented in Table 6c.

Insert Table 6c about here

Hypothesis 2e was partially supported as there was a significant interaction between strategy to enhance organizational flexibility and criticality for knowledge-based HR configuration (β = -.58, p<.01), but not for collaborative-based HR configuration. The plotted interaction shown in Table 6c indicate a moderating effect, however the result was not exactly as predicted. It seems that when managers seek organizational flexibility they invest in a knowledge-based HR configuration regardless of the level of criticality.

Hypothesis 2f was supported as there were significant interactions between strategy to enhance organizational flexibility and criticality for both productivity-based (β = -.68, p<.01) and compliance-based (β = .31, p<.01) HR configurations. The plotted interactions shown in Table 6c reveal a moderating effect but highlight important differences between productivity-based and compliance-based HR configurations.

As expected, there was less utilization of a compliance-based HR configuration for managers selecting a flexibility strategy compared to not selecting a flexibility strategy for both low and high criticality work. Alternatively, there was a greater utilization of a productivity-based HR configuration for low criticality work when organizations seek flexibility and a lesser utilization of productivity-based HR configurations for high criticality work.

Results of analyses for hypotheses 2g and 2h are presented in Table 6d.

Insert Table 6d about here

Hypothesis 2g was partially supported as there was a significant interaction between strategy to control costs and criticality for collaborative HR configuration (β = -.28, p<.01), but no interaction for knowledge-based HR configuration. A review of the plotted interactions presented in Table 6d clearly shows that the positive relationship between criticality and collaborative-based HR configuration is weaker for managers wanting to control costs.

Hypothesis 2h was also partially supported as indicated by the significant interaction between strategy to control costs and criticality for a compliance-based HR configuration (β = .23, p<.05), but no interaction for productivity-based HR configuration. The plotted interactions presented in Table 6d clearly shows that the negative relationship between criticality and compliance-based HR configuration is weaker compared to the relationship where managers are not pursuing a strategy to control costs.

Aligned HR Configurations Impact on Psychological Contract Breach. To test hypothesis 3a, four hierarchical regression analyses were performed to assess whether alignment of each HR configuration impacts contract human capital's perceptions of psychological contract breach (PCB). Thus, all survey results were categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales. High and low scales were split above and below 3.5. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5 and four separate regressions for each HR configuration on psychological contract breach scale were conducted.

Another regression analysis was performed assessing the overall deviation from an idealized fit of HR configurations on psychological contract breach. The means of each theorized HR configuration for each quadrant were subtracted from an ideal mean of 7. To the extent that an HR configuration's mean score deviates from an ideal mean score of 7, psychological contract

breach will be expected to increase; a lower deviation (the closer to the ideal mean of 7) is expected to be negatively related to psychological contract breach. Results of analyses for hypothesis 3a are presented in Table 7.

Insert Table 7 about here

The results of the analyses for hypothesis 3a show mixed results. Alignment of the two relational HR configurations was significantly related to psychological contract breach. Specifically, knowledge-based (β = -.70, p<.01), and collaborative-based   (β = -1.01, p<.01), were negatively related to PCB. However, alignment of the two transactional HR configurations (productivity-based, compliance-based) was not significantly related to PCB. Yet, the overall deviation from idealized fit of all HR configurations was significantly related to PCB (β = .53, p<.01).

Misaligned HR Configurations Impact on Psychological Contract Breach. To test hypotheses 3b and 3c four regression analyses were conducted to assess the misalignment of engagement modes and HR configurations on psychological contract breach. All survey data were categorized into high and low criticality by dividing the data using a median split of the criticality scales. To test hypothesis 3b two regressions were performed with all data above 3.5 on the criticality scale. Two regressions, one using productivity-based HR configuration and another using compliance-based HR configuration were performed to assess the impact of using transactional HR configurations for managing contract human capital performing work high in criticality on psychological contract breach scale.

To test hypothesis 3c two regressions were performed with all data equal to and below 3.5 on the criticality scale. Two regressions, one using knowledge-based HR configuration and

another using collaborative-based HR configuration were performed to assess the impact of using relational HR configurations for managing contract human capital performing work low in criticality on the standardized psychological contract breach scale. Results of the analyses are presented in Table 8.

Insert Table 8 about here

Hypotheses 3b and 3c were partially supported. Of the two underinvestment scenarios using transactional HR configurations for work high in criticality, there was a significant positive relationship (β = 1.10, p<.01) to psychological contract breach for compliance-based HR configuration; however, there was no significant impact on PCB for productivity-based HR configuration. A similar pattern was discerned for the overinvestment scenarios using relational HR configurations for work low in criticality. There was a significant negative relationship (β = -.51, p<.01) to PCB when using knowledge-based HR configuration; however, there was no significant relationship to PCB for collaborative-based HR configuration.

Psychological Contract Breach Test for Mediation. To test hypotheses 3d a test for mediation was performed to see if contract human capital's perceptions of psychological contract breach mediates the relationship between aligned HR configurations and individual task performance and OCB. All survey results were categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales. High and low scales were split above and below 3.5. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5.

Five hierarchical regression analyses (one for each HR configuration, and overall deviation from ideal fit) were performed for each performance measure (task performance and OCB) to see

if psychological contract breach (M for mediator) will mediate the effects of HR configurations (X for antecedent) on individual performance (Y for consequences). Using Baron and Kenny's (1986) approach to testing for mediation: X should be significantly related to Y; M significantly related to Y; X significantly related to M; and with M controlled, the X, Y, relationship should be non-significant (full mediation) or less significant (partial mediation); and with X controlled, the M, Y, relationship should remain significant. All would be necessary to show a mediation effect.

The results of the first step for mediation assessing the relationship between aligned HR configurations and deviation from ideal fit on task performance are presented in Table 9a.

Insert Tables 9a about here

The results of the first step assessing the impact on task performance indicate that the alignment of relational HR configurations was significantly related to task performance. Specifically, alignment of knowledge-based ((β = .49, p<.01) and collaborative-based (β = .73, p<.01) were positively related with task performance, whereas, there was no significant relationship between both compliance-based and productivity-based HR configurations with task performance. However, there was a significant relationship (β = -.40, p<.01) between deviation from ideal fit and task performance. The results assessing the impact of aligned HR configurations on organizational citizenship behaviors (OCB) are presented in Table 9b.

Insert Tables 9b about here

The results indicate that alignment of productivity-based (β = .89, p<.01), knowledge-based (β = .62, p<.01), and collaborative-based (β = .96, p<.01) HR configurations, and deviation from ideal fit (β = -.54, p<.01) was significantly related to OCB. There was no significant relationship between aligned compliance-based HR configuration and OCB.

The results of the second step for mediation assessing the relationship between psychological contract breach on task performance and organizational citizenship behaviors are presented in Table 9c.

Insert Tables 9c about here

Psychological contract breach (PCB) was significantly related to both task performance (β = -.44, p<.01) and organizational citizenship behaviors (β = -.55, p<.01). Note, the assessment of the relationship between aligned HR configurations and PCB was performed for hypothesis 3a and is shown in Table 7. Only knowledge-based, collaborative-based HR configurations and deviation from ideal fit were significantly related to PCB.

The last step for mediation assessing the relationship between aligned HR configurations and deviation from ideal fit on task performance and organizational citizenship behaviors while controlling for psychological contract breach is presented in Table 9d. Based on the results of the previous test for mediation, only knowledge-based and collaborative-based HR configurations and overall deviation from ideal fit can be tested. The results of the last step on task performance are presented in Table 9d.

Insert Table 9d about here

Though there was no change in the level of significance for all three analyses there is support for partial mediation as there were substantial reductions in all coefficients after

controlling for psychological contract breach (PCB). After controlling for PCB, knowledge-based coefficient reduced from β =.49 to β =.24, collaborative-based coefficient reduced from β =.73 to β =.41, and overall deviation from ideal fit coefficient reduced from β = -.40 to β = -.19. The results of the last step on organizational citizenship behaviors (OCB) are presented in Table 9e.

Insert Table 9e about here

Though there was no change in the level of significance for all three analyses there is support for partial mediation as there were substantial reductions in all coefficients after controlling for psychological contract breach (PCB). After controlling for PCB, knowledge-based coefficient reduced from β =.62 to β =.36, collaborative-based coefficient reduced from β =.96 to β =.59, and overall deviation from ideal fit coefficient reduced from β = -.54 to β = -.28.

Work Preferences Test for Moderation. To test hypotheses 4a – 4e, four regression analyses were performed for each hypotheses 4a – 4d (4d and 4e were done together) to analyze whether the relationship between aligned HR configuration and psychological contract breach is moderated by contract human capital's work preferences. All survey results were categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales. High and low scales were split above and below 3.5. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5   Next categorical dummy codes were entered for work preferences and four separate regressions were conducted to assess whether there is a significant interaction between HR configurations and work preferences on psychological contract breach.

Another four regression analysis were performed to analyze whether the relationship between overall deviation from ideal fit and standardized psychological contract breach scale is

moderated by contract human capital's work preferences. The results of twenty regression analyses are presented in Tables 10a – 10d.

Insert Tables 10a – 10d about here

Hypothesis 4a was partially supported as shown in Table 10a. Within the partnership quadrant, there was a significant interaction between collaborative HR configuration and flexible work preference (β = .96, p < .05). In addition, there was one significant interaction between overall deviation from ideal fit and flexible work preference (β = -.64, p < .05).

A look at the plotted interaction shown in Table 10a of the interaction of aligned collaborative-based HR configuration and work preference flexibility on PCB shows that for contract human capital engaged in partnership work whose work preference is primarily flexibility alignment with collaborative-based HR configuration has little impact on their perceptions of psychological contract breach, whereas for those who did not indicate a work preference for flexibility low alignments was related to high PCB and high alignment was related to lower PCB.

A similar pattern is seen in the interaction of overall deviation from aligned HR configurations and work preference flexibility on PCB. Deviation had little impact on perceptions of psychological contract breach for those contract human capital whose work preference is flexibility, whereas for those who did not indicate a preference for flexibility, as deviation from ideal fit increased the so did their perceptions of psychological contract breach increase.

Hypothesis 4b was not supported as there were no significant interactions between aligned HR configurations or deviation from ideal HR configurations fit and work preference to earn money on psychological contract breach.

Hypothesis 4c was not supported as there were no significant interactions between aligned HR configurations or deviation from ideal HR configurations fit and work preference to develop skills on psychological contract breach. However, there was a positive significant direct relationship (β = 2.35, p < .05) for contract workers' preference to develop skills and psychological contract breach.

Hypotheses 4d and 4e were not supported as there were no significant interactions between aligned HR configurations or deviation from ideal HR configurations fit and work preference to earn money on psychological contract breach.

Aligned HR Configurations Impact on Perceptions of Fairness. To test hypothesis 5a, four hierarchical regression analyses were performed to assess whether alignment of each HR configuration impacts contract human capital's perceptions of fairness. Thus, all survey results were categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales. High and low scales were split above and below 3.5. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5 and four separate regressions for each HR configuration on a standardized perceptions of fairness scale was conducted.

Another regression analysis was performed assessing the overall deviation from an idealized fit of HR configurations on perceptions of fairness. The means of each theorized HR configuration for each quadrant was subtracted from an ideal mean of 7. To the extent that an HR configuration's mean score deviates from an ideal mean score of 7, perceptions of fairness

will be expected to decrease; a lower deviation (the closer to the ideal mean of 7) is expected to be positively related to psychological contract breach. Results of the analyses are presented in Table 11.

Insert Table 11 about here

Hypothesis 5a was partially supported, as all aligned HR configurations, except compliance-based were significantly related to perceptions of fairness (POF). Specifically, alignment of productivity-based (β = .82, p<.05), knowledge-based (β = .67, p<.01), and collaborative-based (β = .62, p<.01) HR configurations were positively related to POF. Additionally, deviation from ideal fit was negatively related (β = -.53, p<.01) to POF.

Misaligned HR Configurations Impact on Perceptions of Fairness. To test hypotheses 5b and 5c four regression analyses were conducted to assess the misalignment of engagement modes and HR configurations on perceptions of fairness. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5. Four regressions were performed on perceptions of fairness assessing the impact of using transactional HR configurations (productivity and compliance) for individuals performing work high in criticality and using relational HR configurations (knowledge and collaborative) for individuals performing work low in criticality. Results of the analyses are shown in Table 12.

Insert Table 12 about here

Hypothesis 5b, assessment of the impact of underinvestment of HR configurations on perceptions of fairness (POF) was partially supported in that the use of compliance-based HR

configuration for work high in critically was negatively (β = -1.06, p<.01) related to POF, whereas the use of productivity-based HR configuration was not significantly related to POF.

Hypothesis 5c, assessment of the impact of overinvestment of HR configurations on POF was fully supported. Utilizing either knowledge-based (β = .49, p<.01) or collaborative-based (β = .68, p<.01) HR configuration for work low in criticality was positively related to POF.

Perception of Fairness Test for Moderation. To test hypothesis 5d, a test for moderation was performed to assess whether the relationship between aligned HR configurations and psychological contract breach is moderated by perceptions of fairness. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5. Using standardized scales for HR configurations and perceptions of fairness, four regression analyses were performed assessing whether there is a significant interaction between HR configurations and perceptions of fairness on psychological contract breach. A fifth regression was performed to assess whether there is an interaction between deviation of ideal fit and POF on psychological contract breach. Results of all regressions are presented in Table 13

Insert Table 13 about here

Results of analyses of hypothesis 5d indicate there is no significant interaction; thereby negating the hypothesis that perception of fairness moderates the relationship between HR configurations and psychological contract breach. However, instead of a moderation effect the findings indicate that perception of fairness may mediate the relationship between aligned HR configurations and psychological contract breach.

Referent Others Test for Moderation. To test hypotheses 6a – 6d, four regression analyses were performed for each referent choice to assess whether the relationship between aligned HR configurations and human capital's perceptions of fairness is moderated by referent choice for equity comparison.   Another three regression analyses were performed based on overall deviation from an idealized fit of HR configurations on perceptions of fairness for each referent choice. All survey results were categorized into four quadrants by dividing the data using a median split of the interdependency and criticality scales.

High and low scales were split above and below 3.5. Each survey response was allocated to the appropriate quadrant by comparing their mean interdependency and criticality scores to 3.5. Next categorical dummy codes were entered and regressions were conducted using different referent choices to assess whether these is a significant interaction between standardized HR configurations and referent others on contract human capital's perceptions of fairness. The results of the fifteen regression analyses are shown in Tables 14a – 14c.

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Insert Table 14a – 14c about here

Hypothesis 6a was not supported as there were no significant interactions between aligned HR configurations or deviation from ideal fit and the selection of other contract workers as referents on POF. However, there was a strong positive and significant direct effect ($\beta = 1.03$, p < .01) for contract workers selection of other contract workers as referents for equity comparisons and POF though surprisingly there was no significant interaction.

Hypothesis 6b was not supported as there were no significant interactions between aligned HR configurations or deviation from ideal fit and the selection of other industry peers as referents for equity comparisons on POF.

Hypothesis 6c was partially supported as shown in Table 16c. The alignment of only knowledge-based HR configuration on perception of fairness was significantly moderated by other full-time employee referent choice ($\beta = .49$, $p < .05$). There was no significant interaction with collaborative-based HR configuration.

A review of the plotted interactions shows that for knowledge workers who select other full-time employees as referents for equity comparisons there is a greater positive impact on POF for a high level of knowledge-based HR configuration and a greater negative impact on POF for a low level of knowledge-based HR configuration as compared to knowledge workers who do not select other full-time employees as referents.

Hypothesis 6d was not supported. Interestingly, there was a strong negative and significant direct effect ($\beta = -1.25$, $p < .01$) for contract workers selection of regular full-time employee as referents for equity comparisons and POF though there was no significant interaction.

REVISED CONTRACT HUMAN CAPITAL HR ARCHITECTURE

In light of the apparent mediating effect of perceptions of fairness between aligned HR configurations and psychological contract breach and the minimal support for a moderating effect of work preferences on perceptions of fairness, a revised framework is proposed as shown in Figure 4. One advantage of the revised framework is the treatment of perceptions of fairness and psychological contract breach as outcomes along with individual task performance and OCB. Indeed, all four measures are highly related as shown in Table 4.

To assess the revised framework a series of new hypotheses need to be tested. First, an analysis is needed to test whether perception of fairness (POF) indeed mediates the relationship between aligned HR configurations and perception of psychological contract breach (PCB). Two

other parts of the revised framework also need to be analyzed. Contract human capital's work preferences are now hypothesized to moderate the relationship between their perceptions of fairness and psychological contract breach. Also, the direct effects of aligned HR configurations are hypothesized to be positively related to both task performance and OCB. Lastly, following what was done in all previous analyses an assessment of the impact of misaligned (unbalanced) HR configurations on task performance and OCB will be performed.

Perception of Fairness Test for Mediation. Results of hypothesis 5d indicate there is no significant interaction; thereby negating the hypothesis that perception of fairness moderates the relationship between HR configurations and psychological contract breach. However, instead of a moderation effect the findings indicate that perception of fairness may mediate the relationship between aligned HR configurations and psychological contract breach.

Though Robinson and Morrison (2000) showed that attributions and fairness perceptions interacted with perceived psychological contract breach, they also argued that the interpretation of a psychological contract breach will be heavily influenced by perceived interactional fairness. Rousseau (1989) argued that the intensity of how an individual responds to psychological contract breach "is directly attributable not only to unmet expectations of specific rewards or benefits, but also to more general beliefs about respect of persons, codes of conduct and other patterns of behavior associated with relationships involving trust" (p. 129).

Thus, it is likely that POF mediates rather than moderates the relationship between HR configurations and PCB.

Hypothesis 7: Contract human capital's perceptions of fairness will mediate the relationship

between aligned HR configurations and their perceptions of psychological contract breach.

Work Preference Moderation of POF and PCB. In this new framework, alignment of HR configurations impacts contract human capital's perceptions of fairness which is expected to mediate the relationship with perceptions of psychological contract breach. However, there may be other factors that impact PCB beyond their POF, such as contract human capital's work preferences. Specifically the outputs contract human capital consider when forming equity perceptions may or may not differ from outputs that are evaluated when determining if there is a psychological contract breach.

Work Flexibility. Indeed, some contract human capital's primary work preference is flexibility. Work flexibility helps contract human capital balance work and life responsibilities. Individuals working as contract human capital to achieve work-life balance are likely to consider flexibility as an important condition of employment. As such, flexibility is likely to be considered an important obligation to be fulfilled in one's psychological contract. Thus, contract human capital whose primary work preference is flexibility will likely assess the fulfillment of their psychological contract based on their ability to balance work and non-work objectives above and beyond their perceptions of fairness. Contract human capital can achieve these objectives by working in all four engagement modes.

Hypothesis 8a: The negative relationship between perceptions of fairness and psychological contract breach will be weaker for contract human capital whose work preference is flexibility compared to contract human capital whose work preference is not flexibility.

Earn More Money. Unlike flexibility, a work preference to earn more money is likely to be a key determinant of an individual's perceptions of fairness. An important component of POF is distributive justice. According to Adams (1965), what people are concerned about was not the

absolute level of outcomes per se but whether those outcomes were fair. Adams suggested that one way to determine whether an outcome was fair was to calculate the ratio of one's outcomes (e.g., compensation) to their contributions or inputs (e.g., effort, time, education, intelligence, and experience) and then compare that ratio with that of a comparison other. Thus, justice is fostered where outcomes are consistent with implicit norms of allocations, such as equity or equality (Adams, 1965; Leventhal, 1980).

Contract human capital whose primary work preference is to earn more money will likely assess their ability to earn more money as a component of perceptions of fairness. Thus, it is unlikely that a preference to earn more money will impact the fulfillment of their psychological above and beyond their perceptions of fairness.

Hypothesis 8b: The negative relationship between perceptions of fairness and psychological contract breach will not be moderated by a work preference to earn more money.

Develop New Skills. An opportunity to develop new skills is also likely to be considered a valuable output comparable to money when individuals make equity decisions. Thus, contract human capital whose primary work preference is to develop new skills will likely assess their ability to develop new skills as a component of their perceptions of fairness. As a result, it is unlikely that a preference to develop new skills will impact the fulfillment of their psychological contract above and beyond their perceptions of fairness.

Hypothesis 8c: The negative relationship between perceptions of fairness and psychological contract breach will not be moderated by a work preference to develop new skills.

Permanent Employment. Contract human capital are likely to have an expectation for permanent employment in very few situations. There may be times when organizations utilize a temp-to-perm recruiting strategy where there would be an expectation that contract human capital work can lead to permanent employment; however, organizations mostly hire contract human capital explicitly because they do need to or are unable to make a permanent hire.

Thus, in most situations contract human capital would have to assess the likelihood for permanent employment when first entering into the employment contract. If permanent employment is a possibility, there would need to be a mutual understanding by both the employer and contract human capital.

However, contract human capital who perform knowledge work and whose work preference is to gain permanent employment may have different expectations. These individuals work in a highly interdependent way with permanent employees and directly contribute to the success of their work group. As a result, they are likely to seek a highly relational employment contract with the organization. Thus, I would expect a stronger negative relationship between POF and PCB for contract human capital performing knowledge work.

Hypothesis 8d: The negative relationship between perceptions of fairness and psychological contract breach will be stronger for contract human capital performing knowledge work whose work preference is to gain permanent employment compared to contract human capital whose work preference is not to gain permanent employment.

Aligned HR Configurations Impact on Task Performance and OCB. In Figure 4, contract human capital's task performance and organizational citizenship behaviors are now shown as direct outputs of aligned HR configurations. An important goal of this study is to investigate the

performance implications of using different HRM systems for managing contract human capital. Each of the HR configurations consists of practices designed to ensure that contract human capital have the right skills and abilities and are properly motivated to perform the work. Though there is a range of practices in each HR configurations the goal is to ensure there is an appropriate level of investment in the relationship that makes economic sense and achieves the right level of equity.

The result should be a positive impact on contract human capital's performance described specifically as enhancing their task performance and organizational citizenship behaviors. Thus, two additional hypotheses are proposed.

Hypothesis 9a: Proper alignment of contract human capital engagement modes and HR configurations will enhance contract human capital task performance defined as meeting assignment objectives.

Hypothesis 9b: Proper alignment of contract human capital engagement modes and HR configurations will enhance contract human capital organizational citizenship behaviors defined as performing work beyond the stated goals and/or helping co-workers achieve their goals.

Misaligned HR Configurations Impact on Task Performance and OCB. Lastly, given the mixed findings of aligned transactional HR configurations on outcomes such as psychological contract breach and perceptions of fairness I propose analyzing whether misaligned (unbalanced) HR configurations would impact contract human capital's task performance and OCB. A misalignment can occur if contract human capital performing work low in criticality (project

work, contract work) are managed with relational HR configurations (knowledge-based, collaborative-based) resulting in an overinvestment in the employment relationship.

Alternatively, misalignment can occur if contract human capital performing work high in criticality (knowledge-work, partnership) are managed with transactional HR configurations (productivity-based, compliance-based) resulting in an underinvestment in the employment relationship.

I would expect an overinvestment in the employment relationship would be positively related to both task performance and OCB, whereas an underinvestment would be negatively related to both task performance and OCB. Thus, four additional hypotheses are proposed.

Hypothesis 10a: Using relational HR configurations for managing contract human capital employed in project work and contract work engagement modes will be positively related to contract human capital's task performance.

Hypothesis 10b: Using transactional HR configurations for managing contract human capital employed in knowledge work and partnership engagement modes will be negatively related to contract human capital's task performance.

Hypothesis 10c: Using relational HR configurations for managing contract human capital employed in project work and contract work engagement modes will be positively related to contract human capital's organizational citizenship behaviors.

Hypothesis 10d: Using transactional HR configurations for managing contract human capital employed in knowledge work and partnership engagement modes will be negatively related to contract human capital's organizational citizenship behaviors.

RESULTS OF ANALYSES OF REVISED HR ARCHITECTURE

Perception of Fairness Test for Mediation. To test whether perception of fairness mediates the relationship between aligned HR configurations and psychological contract breach, Baron and Kenny's (1986) test for mediation was performed. The first step assessing the relationship between aligned HR configurations and psychological contract breach are shown in Table 7. The results indicate three confirmed relationships: knowledge-based (β = -.70, p < .01), collaborative-based (β = -1.01, p < .01), and deviation from ideal fit (β = .53, p < .01).

The second step assessing the relationship between aligned HR configurations and perception of fairness are shown in Table 11. The three relationships that satisfied step one are also confirmed in step two: knowledge-based (β = -.67, p < .01), collaborative-based (β = 1.05, p < .01), and deviation from ideal fit (β = -.53, p < .01). The third step, assessing the relationship between perception of fairness and psychological contract breach are shown in Table 15.

Insert Table 15 about here

The results show there is a significant negative relationship between psychological contract breach and perception of fairness (β = -.95, p < .01).

The last step assessed whether the relationship between the three significant relationships between HR configurations and psychological contract breach shown in step one changes as a result of controlling for perception of fairness. The results of this last step are shown in Table 16.

Insert Table 16 about here

Indeed the results indicate a full mediation effect. The previously significant relationships

between aligned knowledge-based (β = -.70, p < .01), and collaborative-based (β = -1.01, p <

.01) HR configurations and PCB, as well as the relationship between deviation from ideal fit (β =

.53, p < .01) and PCB are no longer significant when controlled for POF.

Work Preference Moderation of POF and PCB. To test hypotheses 8a – 8d, twenty

hierarchical regression analyses were performed to test the moderating effect of work

preferences between contract human capital's perceptions of fairness and psychological contract

breach. Sixteen regressions were performed based on contract human capital's perceptions of

fairness working in each engagement mode and each work preference. Four other regressions

were performed based on contract human capital's overall perceptions of fairness using the entire

data set and each work preference. Results of all analyses as are shown in Tables 17a – 17d.

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Insert Table 17a – 17d about here

Work Flexibility. Hypothesis 8a was partially supported as shown in Table 17a. Indeed,

there were significant interactions between work preference flexibility and perceptions of

fairness (POF) on psychological contract breach (PCB) for project workers (β = .79, p < .01),

knowledge workers (β = .86, p < .05), and partnerships (β = .68, p < .01). In addition, there was

a significant interaction between work preference flexibility and POF on PCB across all workers

(β = .59, p < .01). There was no significant interaction between work preference flexibility and

POF on PCB for contract workers. All of the plotted interactions shown in 17a indicate there is a

weaker relationship between POF and PCB for those contract human capital whose primary work preference is flexibility.

Earn More Money. Hypothesis 8b was fully supported, as shown in Table 17b. All of the regressions analyzing the moderating effect of human capital's work preference for money yielded no significant interactions.

Develop New Skills. Hypothesis 8c had mixed support, as shown in Table 17c. As expected, there were no significant interactions assessing the moderating effect of human capital's work preference for developing skills by type of work being performed; however, there was a significant interaction between POF and work preference for developing skills on PCB across all workers (β = -.23, p < .05). The plotted interaction shown in Table 17c shows a slightly weaker relationship between POF and PCB for contract human capital whose work preference is to develop new skills.

Permanent Employment. Hypothesis 8d was fully supported, as shown in Table 17d. There was as expected, one significant interaction between knowledge workers' POF and work preference for a permanent job on PCB (β = .30, p < .05). As shown in the plotted interactions in Table 17d, there was a stronger negative relationship between POF and PCB for contract human capital performing knowledge work whose work preference is to gain permanent employment.

Aligned HR Configurations on Task Performance and OCB. Hypotheses 9a and 9b were tested in the first step assessing whether psychological contract breach mediates the relationship between aligned HR configurations and deviation from ideal fit on task performance and organizational citizenship behaviors as shown in Tables 9a and 9b.

Hypothesis 9a was partially supported as the alignment of relational HR configurations was significantly related to task performance. Specifically, alignment of knowledge-based (β = .49,

p<.01) and collaborative-based (β = .73, p<.01) were positively related with task performance, whereas, there was no significant relationship between both compliance-based and productivity-based HR configurations with task performance. There was also a significant relationship (β = -.40, p<.01) between deviation from ideal fit and task performance.

Hypothesis 9b was partially supported as the alignment of productivity-based (β = .89, p<.05), knowledge-based (β = .62, p<.01), and collaborative-based (β = .96, p<.01) HR configurations, and deviation from ideal fit (β = -.54, p<.01) was significantly related to OCB. However, there was no significant relationship between aligned compliance-based HR configuration and OCB.

To test hypotheses 10a and 10b, four regression analyses were conducted to assess the misalignment of engagement modes and HR configurations on task performance. Two regressions were performed on task performance assessing the impact of using transactional HR configurations (productivity-based and compliance-based) for individuals performing work high in criticality. Two other regressions were performed on task performance assessing the impact of using relational HR configurations (knowledge-based and collaborative-based) for individuals performing work low in criticality. Results of the analyses are shown in Table 18.

Insert Table 18 about here

Hypothesis 10a was fully supported. Both knowledge-based (β = .29, p<.01) and collaborative-based (β = .41, p<.01) HR configurations were positively related with task performance for contract human capital performing work low in criticality. Hypothesis 10b was partially supported. Compliance-based HR configuration (β = -.78, p<.01) was negatively related with task performance for contract human capital performing work high in criticality.

However, there was no significant relationship between productivity-based HR configuration and task performance for contract human capital performing work high in criticality.

Misaligned HR Configurations on Task Performance and OCB. To test hypotheses 10c and 10d, four regression analyses were conducted to assess the misalignment of engagement modes and HR configurations on OCB. Two regressions were performed on OCB assessing the impact of using transactional HR configurations (productivity-based and compliance-based) for individuals performing work high in criticality. Two other regressions were performed on OCB assessing the impact of using relational HR configurations (knowledge-based and collaborative-based) for individuals performing work low in criticality. Results of the analyses are shown in Table 19.

Insert Table 19 about here

Hypothesis 10c was fully supported. Both knowledge-based ($\beta = .61$, p<.01) and collaborative-based ($\beta = .81$, p<.01) HR configurations were positively related with OCB for contract human capital performing work low in criticality. Hypothesis 10d was partially supported. Compliance-based HR configuration ($\beta = -.91$, p<.01) was negatively related with OCB for contract human capital performing work high in criticality. However, there was no significant relationship between productivity-based HR configuration and OCB for contract human capital performing work high in criticality.

SUPPLEMENTAL ANALYSES

A cluster analysis was performed to gain a better understanding on how different HR configurations were used to manage contract human capital engaged in different employment

modes based on the interdependency and criticality of the work. In addition, a structural

equation modeling analysis was conducted to assess the fit of two proposed models presented

in Figures 3 and 4.

Cluster Analysis Results for HR Configurations and Engagement Modes. A cluster

analysis was conducted to determine whether the HR configuration of the cases match with their

engagement modes. It was hypothesized that project work coincides with a productivity-based

configuration, knowledge work with knowledge-based configuration, contract work with

compliance-based configuration, and partnership with collaborative-based configuration. The

results are presented in Table 20.

Insert Table 20 about here

Code 1.00 in HR configuration pertains to productivity-based, code 2.00 pertains to knowledge-

based, code 3.00 for compliance-based and code 4.00 for collaborative-based. For the

engagement mode clustering, cluster 1 refers to knowledge work, wherein both interdependency

and criticality are high, cluster 2 refers to partnership, wherein interdependency is low and

criticality is high, cluster 3 refers to project work, wherein interdependency is high and criticality

is low, and cluster 4 refers to contract work, wherein both interdependency and criticality are

low.

There were 63 cases which were assigned to the knowledge work cluster; 39 cases were

assigned to the partnership cluster; 32 cases were assigned to the project work cluster; and 46

cases were assigned to the contract work cluster.

For the knowledge work cluster, 34 cases or 54% were from the knowledge-based

configuration, 16 cases or 25% were from the collaborative-based cluster, and a surprising 13

cases or 21% were from the compliance-based cluster. For the majority of the cases, the

hypothesis was correct in the sense that knowledge work matches with the knowledge-based

configuration.

For the partnership cluster, 24 cases or 62% were from the collaborative-based

configuration, 14 cases or 36% were from the compliance-based configuration, and 3% were

from the knowledge-based configuration. Again, the majority of the cases supported the

hypothesis that partnership matches with the collaborative-based configuration.

For the project work cluster, 18 cases or 56% were from the productivity-based

configuration, 10 cases or 31% were from the compliance-based configuration, and 4 cases or

13% were from the knowledge-based configuration. The majority of the cases supported the

hypothesis that project work matches with the productivity-based configuration.

For the contract work cluster, 40 cases or 87% were from the compliance-based

configuration, 5 cases or 11% were from the productivity-based configuration, and 1 case or 2%

came from the collaborative-based configuration. Thus, most of the cases supported the

hypothesis that contract work matches with the compliance-based configuration.

Structural Equation Model Results. Two structural equation models (SEM) using AMOS

were run to test which model has the better fit. The first model is shown in Figure 3 and the

second model is shown in Figure 4. The SEM analysis results of the first model and the model fit

summary are presented in Table 21. The SEM analysis results of the second model and the

model fit summary are presented in Table 22.

Insert Tables 21 and 22 about here

For the first model (Figure 3), it was observed that both interdependency and criticality were significant for HR configuration. HR configuration, in turn, was significant for perception of fairness but not for psychological contract breach. Perception of fairness was significant for psychological contract breach and psychological contract breach was significant for individual task performance and organizational citizenship behavior. The hypothesized model was sufficiently validated except for the relationship between HR configuration and psychological contract breach since their relationship was not significant.

The first model fit was found to be inadequate. While the p-value was very low at almost zero, the GFI and CFI were significantly less than 0.90 which is the baseline for an adequate fit (Hu & Bentler, 1999). Furthermore, the RMSEA is very large at 0.34, substantially greater than .10 indicating a poor-fitting model (Browne & Cudeck, 1993).

For the second model (Figure 4) all of hypothesized relationships were found to be significant. Interdependency and criticality were significant for HR configuration. In addition, HR configuration was significant for both individual characteristics and perception of fairness. Perception of fairness, in turn, was significant for psychological contract breach.

The model fit for the second model was also found to be inadequate. While the p-value was very low at almost zero, the GFI and CFI were significantly less than 0.90 which is the baseline for an adequate fit (Hu & Bentler, 1999). Furthermore, the RMSEA is very large at 0.36, substantially greater than .10 indicating a poor-fitting model (Browne & Cudeck, 1993).

When compared to the second model, the first model had a slightly better fit compared to the second model since its GFI and CFI were higher and it had a lower RMSEA.

DISCUSSION

As of the fourth quarter 2009 the Department of Labor estimated that nearly10% of the U.S. labor force are unemployed and upwards of 17% of the labor force are underemployed. A large percent of the underemployed consists of workers performing temporary and contract work. In addition, the DOL reported a significant increase in the number of independent contractors who now represent approximately 9% of the labor force. The fastest growing areas of employment working as independent contractors consist of the professional, technical, and managerial occupations (DOL, 2007).

In light of these trends and the continuing economic pressures facing companies, the percent of the U.S. workforce working as contract human capital is likely to continue to grow. As a result, any research that can enhance our understanding of organizational and individual drivers and outcomes of engaging and managing contract human capital would be both timely and important for those who are interested in these important workforce trends.

The major findings of this study provide many helpful insights for effectively understanding and managing this increasingly important segment of the labor force including identifying new measures of contract human capital work, understanding how organizations differentiate how they manage contract human capital, how organizational motivation for engaging contract human capital matters, how contract human capital are managed matters, and refining our understanding of the determinants and relationship of contract human capital's perceptions of fairness and psychological contract breach.

New Measures of Contract Human Capital Work

A well-know scale to measure the interdependency of work developed by Thompson (1967), and further modified by Liden, Wayne, and Bradway (1997) did not adequately measure the work performed by contract human capital in this study. In previous studies measuring the interdependency of the work performed by regular employees, this scale loaded on one factor with a Cronbach Alpha exceeding .70 (Liden, Wayne, & Bradway, 1997). However, when used to measure the interdependency of the work performed by contract human capital the scale loaded on two factors.

Factor 1 described how closely contract human capital work with employees, whereas factor 2 describes whether or not contract human capital work onsite and use client resources. Significantly, this indicates that contract human capital can work closely with employees and not be physically at the same location. Given the advances in communication technology this is not surprising.

In Lepak and Snell's (1998) HR architecture study, two work dimensions were used including value and uniqueness that described four work modes. However, in this study both value and uniqueness loaded on one factor labeled criticality. In support of human capital theory ((Becker, 1964; Jackson & Schuler, 1995), it seems that organizations view contract work that requires unique skills not readily available internally as also being valuable. Given the strong relationship between criticality and relational HR configurations, it seems organizations are willing to invest in the employment relationship whether contract human capital contribute directly to important work group goals or possess unique skills needed for the work group to achieve its goals.

Organizations Differentiate How they Manage Contract Human Capital

While much of the SHRM research has enhanced our understanding of how organizations differentiate managing their "traditional" workforce (Arthur, 1994; Hueslid, 1995; Lepak & Snell, 1996) this study enhances our understanding of how organization differentiate managing contract human capital. Indeed, this study has shown that the levels of interdependency and criticality of the work performed by contract human capital are drivers impacting how they are managed.

Both work dimensions were significantly related to four theoretically based HR configurations: knowledge -, collaborative -, productivity -, and compliance-based comprising relational and transactional employment relationships. However, though criticality was positively related, interdependency was not as expected negatively related to collaborative-based HR configuration. In fact interdependency was significantly positively correlated with collaborative HR configuration.

Though individuals engaged in partnership work may not physically work at the client's facility, many do frequently coordinate efforts and work closely with employees. However, given that many individuals working in partnerships are located in remote locations, the geographic constraints may have been enough to make the relationship non-significant.

Organizational Motivation for Engaging Contract Human Capital Matters

In addition to the work dimensions of interdependency and criticality, I found that in support of contingency theory research (Arthur, 1994; Delry & Doty, 1996; Guthrie, 2001) the strategic reasons for engaging contract human capital also impacted the choice of HR configuration for managing them. Given the competitive pressures facing businesses, many

organizations engage contract human capital to help reduce cost (Davis-Blake & Uzzi, 1992; Houseman, 2001). Drawing from human capital theory (Becker, 1964; Jackson & Schuler, 1995) firms interested in reducing costs are likely to develop a transactional employment relationship with contract human capital.

Though there was no evidence for cost strategy modifying the selection of relational HR configurations, cost strategy was directly negatively related to both relational HR configurations. One reason for the nonsignificant interaction may be due to a selection problem, as there were as expected, few cases where managers selected a strategy to reduce costs and utilized either a knowledge-based or collaborative-based HR configuration. However, there was evidence that when organizations want to reduce cost there was a greater tendency to select a productivity-based HR configuration to manage contract human capital even if they performed work high in criticality.

Based on human capital theory (Becker, 1964), there was as expected significant positive relationships between strategy to access skills and both relational HR configurations, and significant negative relationships with both transactional HR configurations. However, there were no significant interactions. Once again, there is an apparent selection problem as, not surprisingly, there were very few cases where managers selected a strategy to access critical skills and selected either a productivity-based or compliance-based HR configuration.

An important contribution of this study is the significant findings related to organizational flexibility. The findings suggest that rather than engaging contract human capital to exclusively achieve numerical or coordination flexibility (Wright & Snell, 1998), organizations do indeed engage contract human capital to achieve functional flexibility (Atkins, 1994) in response to fluctuating organizational demands. Functional flexibility is achieved when

contract human capital are involved in the core business of the organization (Lautsch, 2000) and are not engaged strictly as a buffer for core employees.

It seems that when organizations seek organizational flexibility, they are willing to invest more in the relationship. For example, there was a greater tendency to use a knowledge-based HR configuration for work both low and high in criticality. However, this was not the case with collaborative-based HR configuration. One explanation for the lack of a significant interaction with collaborative-based is the low interdependency of partnership work. Both of these findings suggest that when organizations seek flexibility they integrate the work performed by contract human capital with the work group to enhance their functional flexibility.

Managers' willingness to invest more in the relationship with contract human capital, when seeking organizational flexibility, is also observed in the lack of utilization of transactional HR configurations. For example, there was less utilization of a compliance-based HR configuration for low criticality work when managers selected a flexibility strategy. Rather, managers were more likely to use a productivity-based HR configuration for work low in criticality when seeking organizational flexibility.

Organizations that are motivated to control costs seem to do so by achieving numerical flexibility. Not surprisingly, the one employment mode modified by the selection of a strategy to control costs is partnership. Given the high costs associated with these relationships combined with the externalization of this type of work, careful management of these relationships can help organizations effectively respond to fluctuating demand and control costs. The data suggest that managers were less likely to invest in a collaborative-based HR configuration for managing partnerships when their strategy was to control costs.

Evidence for not wanting to invest in the relationship, when the strategy is to control costs, is also provided in the assessment of the interaction with compliance-based HR configuration. There was a greater utilization for compliance-based HR configuration for low criticality work when managers wanted to control costs as compared to managers not pursuing a strategy to reduce costs.

How Contract Human Capital are Managed Matters

This study also highlights how contract human capital are managed matters to both the individual and the work group. An important measure of how contract human capital perceive their employment relationship is psychological contract breach. For both knowledge workers and partnerships, the alignment of relational HR configurations as expected was negatively related to psychological contract breach. However, for project and contract workers there was no relationship between aligned transactional HR configurations and psychological contract breach.

One interpretation of these findings is that psychological contract breach only matters when contract human capital are performing work high in criticality. It is likely that contract human capital performing work high in criticality have more obligations to be fulfilled, which if not fulfilled can lead to a psychological contract breach (Morrison & Robinson, 1997; Rousseau, 1995) as compared to contract human capital performing work low in criticality.

Drawing from research on unbalanced employment relationships (Tsui, Pearce, Porter, & Tripoli, 1997) I also assessed whether an underinvestment or overinvestment in the employment relationship (misalignment of HR configurations) would impact psychological contract breach. An underinvestment in the employment relationship would result by using transactional HR configurations for managing contract human capital performing work high in

criticality. Of the two underinvestment relationships, only compliance-based HR configuration had a significant positive relationship with psychological contract breach, whereas productivity-based HR configuration had no significant relationship.

An overinvestment in the employment relationship would result by using relational HR configurations for managing contract human capital performing work low in criticality. Of the two overinvestment relationships, only knowledge-based HR configuration had a significant negative relationship with psychological contract breach, whereas collaborative-based HR configuration had no significant relationship.

These findings suggest that there needs to be a significant change in the amount invested in the employment relationship compared to what one expects in order to impact contract human capital's perceptions of psychological contract breach (PCB). One may argue that a compliance-based HR configuration is more transactional than a productivity-based HR configuration; and a knowledge-based HR configuration is more relational than a collaborative-based HR configuration. Thus, it was only in the two most misaligned (unbalanced) employment relationships that we see an impact on psychological contract breach.

Contract human capital's perception of fairness (POF) is another important outcome investigated that impacts team functioning and individual performance (Greenberg, 1990, Colquitt, et al., 2001). Given that each HR configuration was designed to create balanced relationships and a high degree of equity, my expectation was that aligned HR configurations should promote positive perceptions of fairness. This held true for all deviations from an ideal fit of HR configurations and all aligned relationships except for alignment of compliance-based HR configuration, which was not significantly related to POF. Not unexpectedly, an

overinvestment in the relationships had a positive impact on POF and an underinvestment in the relationship had a negative impact on POF.

A key objective of this study was to understand how contract human capital's performance may be impacted by how they are managed. In Castellano (2008) there were significant positive relationships between all aligned HR configurations and task performance. However, in this study only the alignment of the two relational HR configurations (knowledge-based and collaborative-based) was positively related to contract human capital's task performance.

Surprisingly alignment of both transactional HR configurations (productivity-based and compliance-based) had no significant impact on their task performance. However, as managers deviated from selecting hypothesized HR configurations, there was a significant negative relationship with task performance. Thus, across all dimensions of work the closer managers' selections of HR configurations were to hypothesized configurations the more contract human capital's task performance improved.

One reason why alignment of productivity-based HR configurations was not significantly related to task performance may be due to the revised measure of interdependency. It may be that contract human capital who work closely and coordinate work with regular employees prefer to be managed with a relational HR configuration. Indeed, in an assessment of overinvested employment relationships I found significant positive relationships between project workers' task performance and both relational HR configurations. Thus, there is evidence that contract human capital performing work either high in criticality or high in interdependency perform better when managed using relational HR configurations.

How contract human capital are managed also impacts their organizational citizenship behaviors (OCB). In Castellano (2008), alignment with only knowledge-based HR

configuration resulted in a positive relationship with OCB. However, in the current study alignment of knowledge-based, collaborative-based and productivity-based HR configurations was positively related to OCB.

As with task performance, alignment of compliance-based HR configuration was not significantly related to OCB. Moreover, across all employment modes, as managers deviated from selecting hypothesized HR configurations, there was a significant negative relationship with contract human capital's OCB.

Expanding the findings of Robinson and Morrison (1996) and Tekleab and Taylor (2000) beyond a study of regular employees, this study also found a significant relationship between contract human capital's perceptions of psychological contract breach (PCB) and both task performance and organizational citizenship behaviors.

Determinants and Relationship of Contract Human Capital's POF and PCB

Lastly, the findings of this study shed more light on the determinants and relationship of contract human capital's perceptions of fairness (POF) and psychological contract breach (PCB). There is a large body of research that supports a moderating role of POF and PCB (Robinson & Morrison, 2000; Bies & Moag, 1986). However, in this study no support was found for POF moderating the relationship between aligned HR configurations and PCB. Alternatively, there was support for POF mediating the relationship between aligned HR configurations and psychological contract breach.

Drawing from a large body of research (Kulik & Ambose, 1992, Rao et al., 2000) I also expected who individuals select as referent others for equity comparisons would moderate the relationship between aligned HR configurations and perceptions of fairness. However, in only

one case did this moderating effect hold true. Contract human capital who perform knowledge work and compare themselves to full-time employees they work with had stronger positive perceptions of fairness when they experienced a high level of knowledge-based HR configuration and stronger negative perceptions of fairness when they experienced a low level of knowledge-based HR configuration, as compared to contract human capital who did not compare themselves to other full-time employees for equity comparisons.

To further assess the relationship between contract human capital's perceptions of POF and PCB, their work preferences were hypothesized to moderate the relationship. Indeed, a work preference for flexibility was shown to moderate all but one relationship between perceptions of fairness (POF) and perceptions of psychological contract breach (PCB). It seems that for many of these individuals the likelihood of having work flexibility was a determinant of PCB and not an output evaluated in their equity perceptions. For example, their perceptions of fairness had a small impact on their perceptions of PCB, whereas those whose preference was not flexibility, POF had a much larger impact on the PCB.

Regarding a work preference for developing new skills, it is unclear whether it's an output evaluated when making equity decisions or an obligation to be fulfilled in one's psychological contract. Though there were no moderating effects within each group of contract human capital by the type of work they do, there was a significant interaction between POF and work preference for developing skills on PCB across all workers. There seems to be a slightly weaker relationship between POF and PCB for all contract human capital whose work preference is flexibility.

Not surprisingly, a work preference for money had no significant moderating effects. One explanation is money is primarily an output evaluated during equity decisions and is important determinant of POF and not PCB for these workers.

Lastly, as hypothesized there was a moderating effect of a work preference for a permanent job between POF and PCB for only knowledge workers. These individuals typically are managed with a relational HR configuration and work in a highly interdependent way with regular employees. Results indicate there is a stronger perception of PCB when these individuals experience low POF as compared to those knowledge workers whose work preference is not to gain a permanent job.

The significant contribution of all of the findings regarding work preference is in refining our knowledge in what individuals include when assessing their inputs and outputs for equity comparisons and how that differs from how individuals evaluate whether agreed obligations have been fulfilled.

It seems that some individuals who enter into these work arrangements to earn more money or develop a skill consider these as valuable outputs to be included in equity comparisons (Adams, 1965; Morrison & Robinson, 1997) when assessing fairness, whereas those whose work preference was flexibility or obtaining permanent employment consider these as promises to be evaluated when assessing psychological contract fulfillment.

LIMITATIONS

One limitation of this study is the complexity of the proposed frameworks. However, the goal of this dissertation was to gather as much data as possible to assess the many facets of engaging and managing contract human capital. Though there were many significant findings

within portions of the frameworks; going forward further analyses will require the dismantling of the framework into more parsimonious models.

For example dividing the framework into strategic factors and individual factors would enable a deeper dive into these separate components. Smaller more parsimonious models would permit a more accurate analysis using structural equations. As is, there are far too many variables and multiple alignments to ever find a good-fitting model.

Another limitation, also a result of the complexity of the framework was finding enough combinations of data to perform all analyses. Though there was more than sufficient power for many of the analyses, the lack of some significant findings was due to low power. For example, there were very few cases whereby a manager selected a strategic reason for accessing skills and used a transactional HR configuration eliminating any possibility of finding a significant interaction. Thus, increasing the amount of data collected would help ensure there is enough of a sample size for each hypothesis.

There were also many unexpected findings regarding the management of contract workers. A review of the contract work positions indicates many are staffed by unionized outsourced providers. Previously many of these positions were staffed by the client organization. In conversations with client management, I learned there are challenges aligning the performance metrics used to assess individual workers and metrics used to evaluate the outsourced provider. Expanding the study to include other types of contract workers not working for an outsourced provider would be beneficial.

Lastly, the generalizeability of the findings is limited as a result of using one organization for data collection. Though this was an excellent organization that had many departments and

engaged a full range of contract human capital, it was a government facility. Expanding the study to include both private and public sector organizations would be more advantageous.

All in all, though there were limitations to this study there were quite a few significant findings that enhance our knowledge regarding how firms engage and manage contract human capital and the impact these arrangements have on individual perceptions and performance.

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FIGURE 1

FRAMEWORK FOR MANAGEING CONTRACT HUMAN CAPITAL
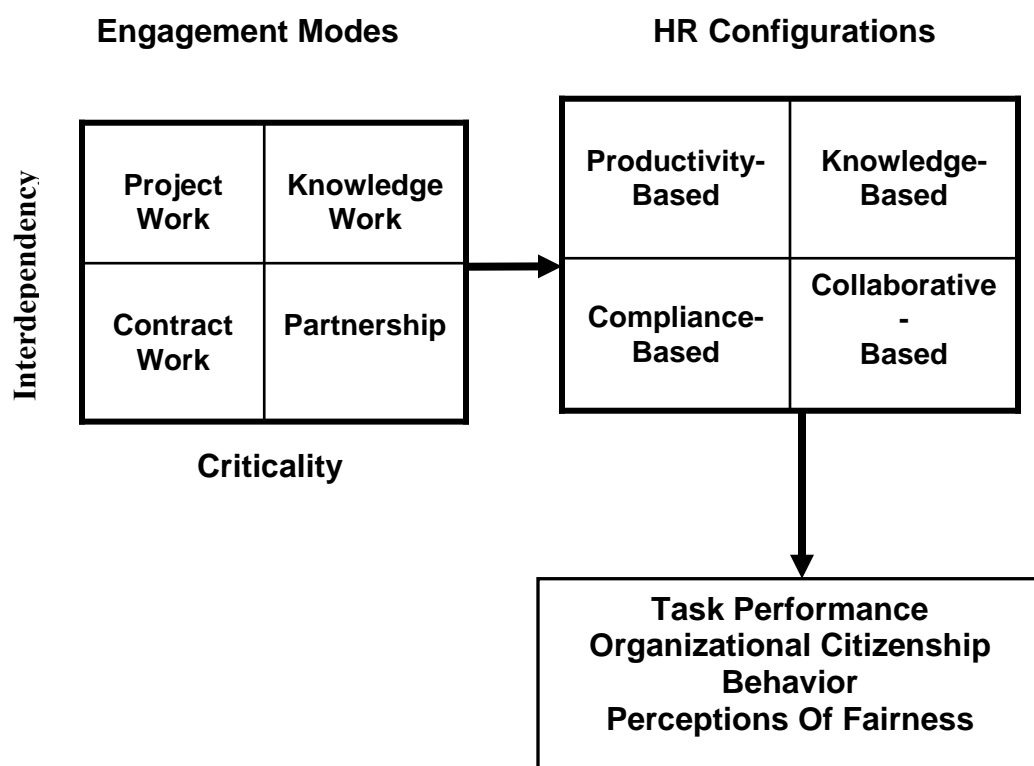
FIGURE 2

CONTRACT HUMAN CAPITAL HR CONFIGURATIONS

Transactional   *Relational*

	Transactional	Relational
High	Quadrant 1: **Productivity-Based** **H: 1a**	Quadrant 2: **Knowledge-based** **H: 1b**
Low	Quadrant 4: **Compliance-Based** **H: 1c**	Quadrant 3: **Collaborative-Based** **H: 1d**

Interdependency (vertical axis)

Low   **Criticality**   High

FIGURE 3

CONTRACT HUMAN CAPITAL HR ARCHITECTURE
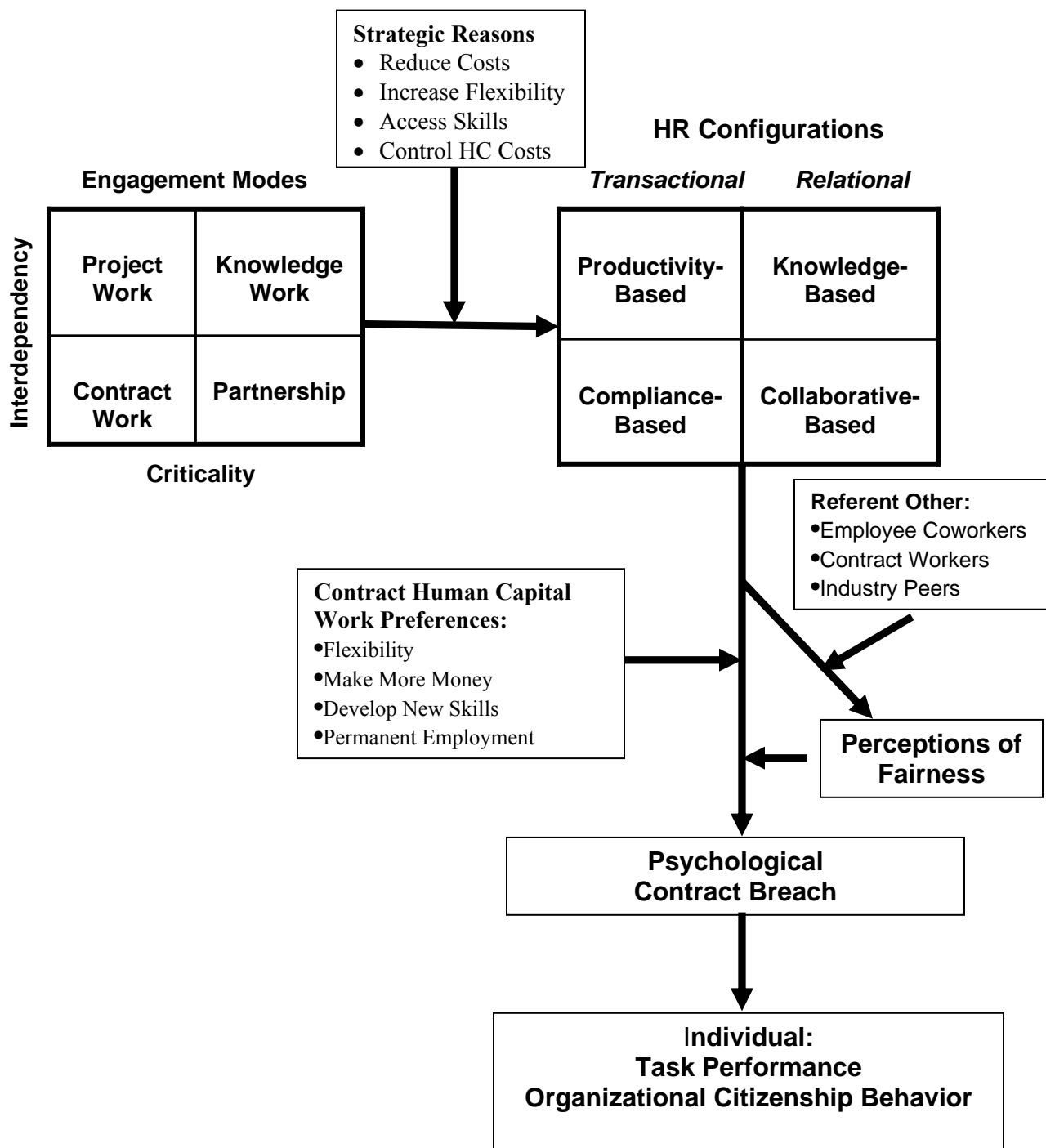
FIGURE 4

REVISED CONTRACT HUMAN CAPITAL HR ARCHITECTURE
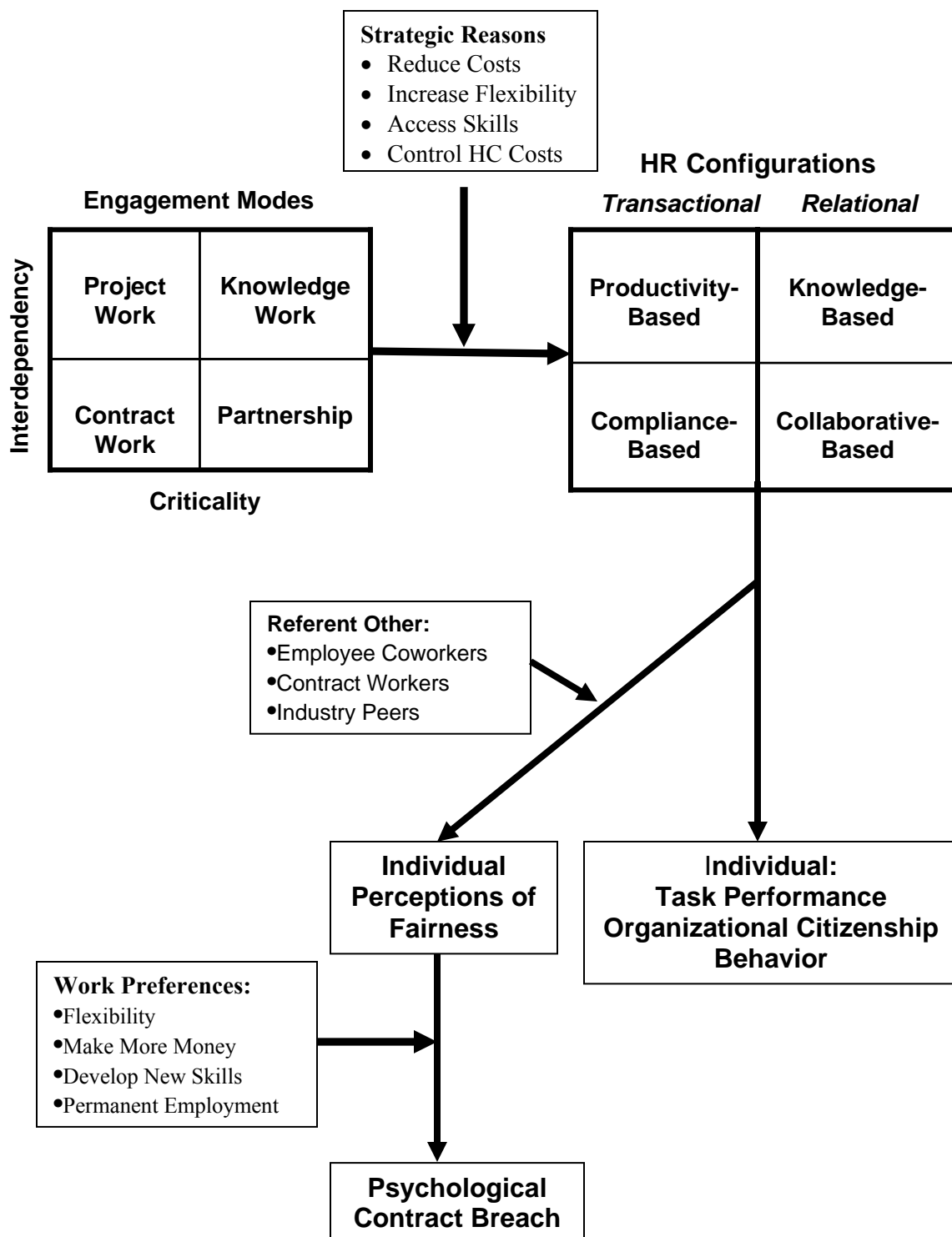
TABLE 1

HR Configurations

	Productivity	Knowledge	Compliance	Collaborative
The recruitment/selection process for this type of contract human capital ….				
…was comprehensive (used multiple interviews and/or tests, etc.).		X		X
… assessed their ability to perform general tasks.	X		X	
… assessed their industry knowledge and expertise.		X		
… assessed their ability to collaborate and work in teams.	X	X		
… assessed their reliability and reputation.			X	X
…focused on their ability to contribute to strategic objectives.				X
…emphasized their capacity to perform well right away.			X	
	Productivity	Knowledge	Compliance	Collaborative
Performance appraisal for this type of contract human capital is based on…				
… adequately performing general tasks.	X			
… specific quantifiable and measurable results.			X	
… their contributions to our strategic objectives.		X		X
… their willingness to share knowledge.		X		
… their compliance with preset standards and procedures.			X	
… their ability to work with others.	X	X		
…their ability to collaborate with the work group.				X

Compensation for this type of contract human capital…	Productivity	Knowledge	Compliance	Collaborative
… is highly competitive with industry pay rates.		X		X
… is based on the standard market wage (going rate).	X		X	
… is designed to ensure equity with work group peers.	X	X		
… includes a wage premium to cover benefit costs.		X		

The communication process with this type of contract human capital entails …	Productivity	Knowledge	Compliance	Collaborative
… inclusion in all work group communications.	X	X		
… extensive information and knowledge sharing.		X		X
… a basic exchange of information needed to coordinate work.	X		X	
… a high degree of collaboration with the work group or team.				X
…involvement in decision making activities that impact the work.		X		

TABLE 2

Factor Structure of Interdependency Scale

Questionnaire Item	1	2
Interdependency items		
The contract workers…		
Works closely with employees.	.87	
Works onsite at client's facilities.		.97
Frequently coordinate efforts with employees.	.92	
Spends time in face-to-face communication with employees.	.86	.33
Uses client resources, e.g., systems, facilities, supplies, etc.		.96

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

TABLE 3

Factor Structure of Interdependency and Criticality Scales

Questionnaire Item	1	2	Alpha
Interdependency items			.89
The contract workers…			
Works closely with employees.	.93		
Frequently coordinate efforts with employees.	.79		
Spends time in face-to-face communication with employees	.92		
Criticality Items			.91
The work contract worker performs…			
Contributes to important work group or organizational goals.		.79	
Contributes to the creation of customer value.		.87	
Requires skills not widely available in the labor market.		.85	
Requires skills that are difficult for our company to duplicate.		.93	

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

TABLE 4
Means, Standard Deviations, and Correlations among Variables
(Variables 1 -12)

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1. LOS	21.51	8.66	1.00											
2. SIZE	20.38	5.62	.40**	1.00										
3. Prod_HR	3.86	1.10	-.35**	-.23**	1.00									
4. Know_HR	4.07	1.34	.12	-.17*	.05	1.00								
5. Compl_HR	4.26	1.31	-.34**	-.02	.40**	-.78**	1.00							
6. Collab_HR	4.17	1.36	.39**	.09	-.56**	.70**	-.83**	1.00						
7. Interdependency	3.69	1.62	-.08	-.19*	.35**	.74**	-.51**	.34**	1.00					
8. Criticality	4.57	1.73	.26**	-.01	-.53**	.69**	-.76**	.85**	.42**	1.00				
9. Task Performance	5.81	1.03	.23**	-.01	-.09	.47**	-.47**	.42**	.22**	.22**	1.00			
10. OCB	5.05	1.19	.24**	-.04	.01	.63**	-.56**	.50**	.37**	.28**	.78**	1.00		
11. POF	4.98	1.39	.21**	.01	-.07	.47**	-.51**	.42**	.22**	.20**	.81**	.82**	1.00	
12. PCB	3.43	1.63	-.28**	.02	.09	-.48**	.50**	-.41**	-.23**	-.24**	-.70**	-.76**	-.84**	1.00
13. Cost_Strat	.18	.38	-.22**	.04	.08	-.47**	.55**	-.44**	-.31**	-.38**	-.37**	-.38**	-.37**	.26**
14. Skills_Strat	.38	.48	.37**	.07	-.41**	.66**	-.69**	.76**	.32**	.71**	.40**	.47**	.40**	-.40**
15. Flex_Strat	.22	.42	-.09	-.11	.31**	.05	-.12	-.01	.19*	-.17*	.03	.13	.10	-.08
16. Control_Strat	.21	.41	-.15	-.02	.10	-.39**	.43**	-.39**	-.27**	-.32**	-.16*	-.33**	-.23**	.31**
17. Wk_Pref_Flex	.30	.46	-.04	-.04	.27**	-.36**	.45**	-.42**	-.21**	-.40**	-.05	-.14	-.02	-.05
18. Wk_Pref_Money	.19	.39	-.07	-.07	.07	.20**	-.17*	.02	.18*	.12	.01	.03	-.08	-.01
19. Wk_Pref_Skills	.17	.38	-.01	.04	-.25**	.10	-.19*	.25**	.03	.25**	-.09	-.10	-.06	.08
20. Wk_Pref_Job	.17	.38	-.21**	-.14	.21**	.12	-.01	-.06	.20**	-.09	.05	.14	.05	.02
21. Other_FT	.32	.47	-.23**	-.06	.27**	.14	.01	-.09	.25**	-.07	-.10	-.05	-.11	.21**
22. Other_CW	.36	.48	-.06	-.01	.18*	-.50**	.52**	-.53**	-.40**	-.51**	-.08	-.16*	-.06	.01
23. Other_Peers	.33	.47	.28**	.07	-.44**	.36**	-.52**	.61**	.15*	.57**	.17*	.21**	.17*	-.20**

** p < 0.01
*p <.05

TABLE 4
Means, Standard Deviations, and Correlations among Variables
(Variables 13 - 23)

	Mean	s.d.	13	14	15	16	17	18	19	20	21	22	23
1. LOS	21.51	8.66											
2. SIZE	20.38	5.62											
3. Prod_HR	3.86	1.10											
4. Know_HR	4.07	1.34											
5. Compl_HR	4.26	1.31											
6. Collab_HR	4.17	1.36											
7. Interdependency	3.69	1.62											
8. Criticality	4.57	1.73											
9. Task Performance	5.81	1.03											
10. OCB	5.05	1.19											
11. POF	4.98	1.39											
12. PCB	3.43	1.63											
13. Cost_Strat	.18	.38	1.00										
14. Skills_Strat	.38	.48	-.37**	1.00									
15. Flex_Strat	.22	.42	-.25**	-.42**	1.00								
16. Control_Strat	.21	.41	-.25**	-.41**	-.28**	1.00							
17. Wk_Pref_Flex	.30	.46	.25**	-42**	.12	.14	1.00						
18. Wk_Pref_Money	.19	.39	-.01	.03	.08	-.11	-.32**	1.00					
19. Wk_Pref_Skills	.17	.38	-.18*	.28**	-.14	-.02	-.30**	-.22**	1.00				
20. Wk_Pref_Job	.17	.38	-.03	-.06	.04	.05	-.30**	-.22**	-.21**	1.00			
21. Other_FT	.32	.47	-.05	.01	-.02	.06	-.32**	-.21**	.16*	.51**	1.00		
22. Other_CW	.36	.48	.25**	-.45**	.03	.28**	.63**	-.07	-.29**	-.26**	-.48**	1.00	
23. Other_Peers	.33	.47	-.20**	.44**	-.01	-.33**	-.31**	.26**	.12	-.25**	-.51**	-.52**	1.00

** p < 0.01
*p <.05

TABLE 5

Results of Regression Analyses of HR Configurations on Interdependency and Criticality

	Productivity	Knowledge	Compliance	Collaborative
Step 1	β	β	β	β
Constant	5.12	4.59	4.88	3.16
Group Size	-.02	-.06**	.03	-.02
Length of Service	-.04**	.04**	-.06**	.07**
R^2	.13	.07	.12	.15
Step 2				
Interdependency	.45**	.45**	-.21**	.02
Criticality	-.51**	.34**	-.47**	.62**
R^2	.69**	.73**	.67**	.75**
$\triangle R^2$	.56	.66	.55	.60
Step 3				
Inter. X Criticality	.01	.07**	.02	-.01
R^2	.69**	.75**	.67**	.75**
$\triangle R^2$	.00	.02	.00	.00
N	180	180	180	180

**p<.01
*p<.05
Two-tailed tests

TABLE 5
Interactions

Interaction of Interdependency and Criticality on
Knowledge-based HR Configuration
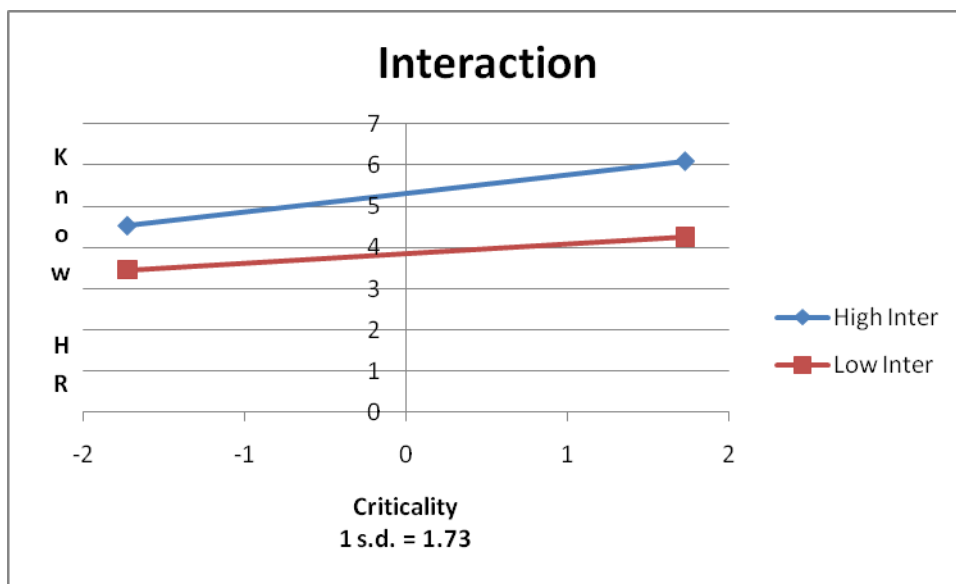
TABLE 6a

Results of Regression Analyses of HR Configurations on Criticality and Strategy to Reduce Costs

	Productivity	Knowledge	Compliance	Collaborative
Step 1	β	β	B	β
Constant	5.12	4.59	4.88	3.16
Group Size	-.02	-.06**	.03	-.02
Length of Service	-.04**	.04*	-.06**	.07**
R^2	.13	.07	.13	.16
Step 2				
Criticality	-.35**	.47**	-.49**	.60**
Reduce Costs	-.46*	-.80**	.94**	-.39*
R^2	.37**	.55**	.69**	.77**
$\triangle R^2$	.24	.48	.56	.61
Step 3				
Criticality X	.42**	.02	.18	-.15
Reduce Costs				
R^2	.42**	.55**	.69**	.77**
$\triangle R^2$	.05	.00	.00	.00
N	180	180	180	180

**p<.01
*p<.05
Two-tailed tests

Table 6a
Interactions

Interaction of Cost Strategy and Criticality on
Productivity-Based HR Configuration
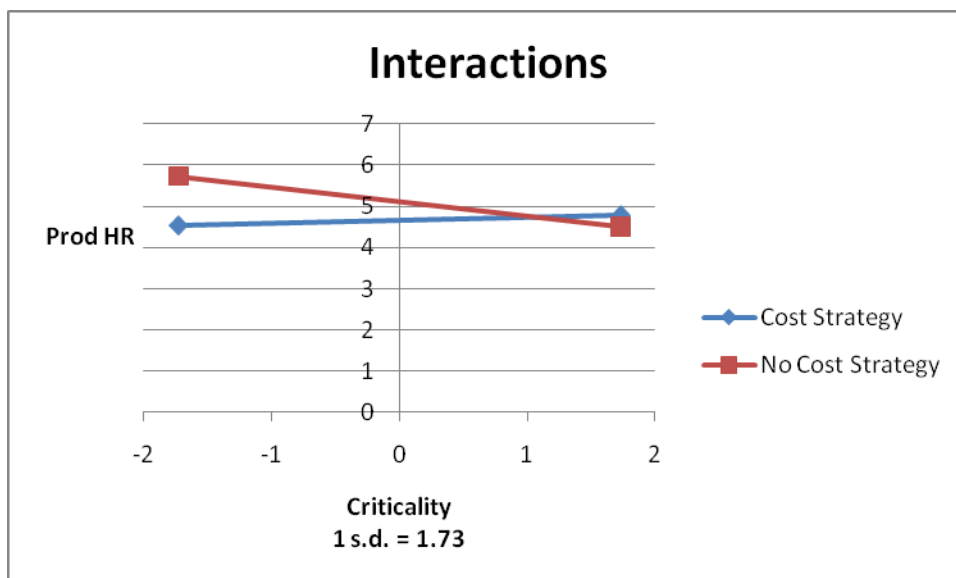
TABLE 6b

Results of Regression Analyses of HR Configurations on Criticality and Strategy to Access Needed Skills

	Productivity	Knowledge	Compliance	Collaborative
Step 1	β	β	B	β
Constant	5.12	4.59	4.89	3.16
Group Size	-.02	-.06**	.03	-.02
Length of Service	-.04**	.04**	-.06**	.07**
R^2	.13	.07	.13	.16
Step 2				
Criticality	-.32**	.34**	-.44**	.50**
Access Skills	.02	1.03**	-.66**	.72**
R^2	.35**	.57**	.65**	.78**
$\triangle R^2$	.22	.50	.52	.62
Step 3				
Criticality X Access Skills	-.08	-.14	.06	-.11
R^2	.35**	.57**	.65**	.78**
$\triangle R^2$	.00	.00	.00	.00
N	180	180	180	180

**p<.01
*p<.05
Two-tailed tests

TABLE 6c

Results of Regression Analyses of HR Configurations on Criticality and Strategy to Enhance Organizational Flexibility

	Productivity	Knowledge	Compliance	Collaborative
Step 1	β	β	β	β
Constant	5.12	4.59	4.89	3.16
Group Size	-.02	-.06**	.03	-.02
Length of Service	-.04**	.04**	-.06**	.07**
R^2	.13	.07	.13	.16
Step 2				
Criticality	-.29**	.55**	-.59**	.64**
Flexibility	.55**	.49**	-.84**	.18
R^2	.39**	.53**	.69**	.76**
$\triangle R^2$	.26	.46	.56	.60
Step 3				
Criticality X Flexibility	-.68**	-.58**	.31**	-.05
R^2	.50**	.58**	.71**	.76**
$\triangle R^2$	.11	.05	.02	.00
N	180	180	180	180

**p<.01
*p<.05
Two-tailed tests

Table 6c
Interactions

Interaction of Flexibility Strategy and Criticality on
Knowledge-Based HR Configuration
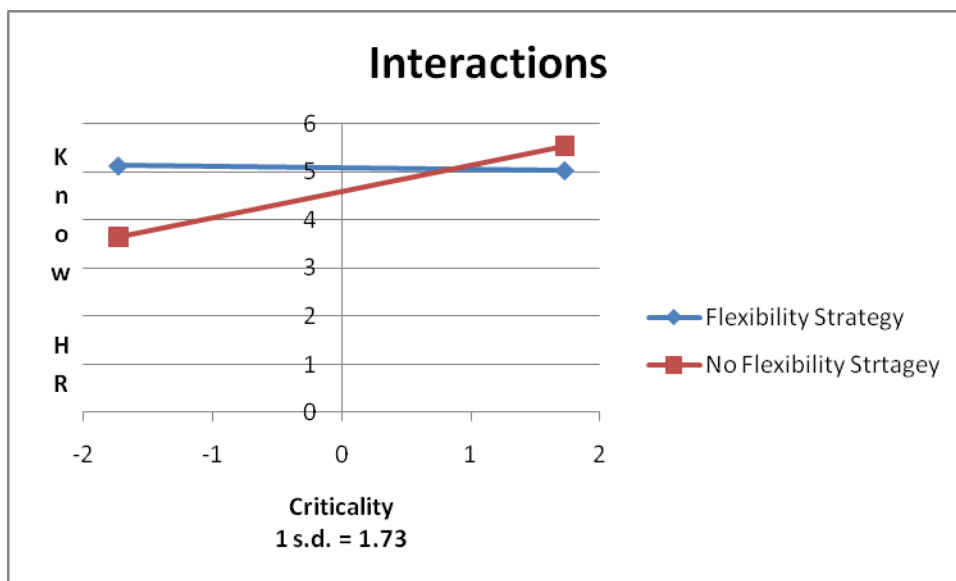
Interaction of Flexibility Strategy and Criticality on
Compliance-Based HR Configuration
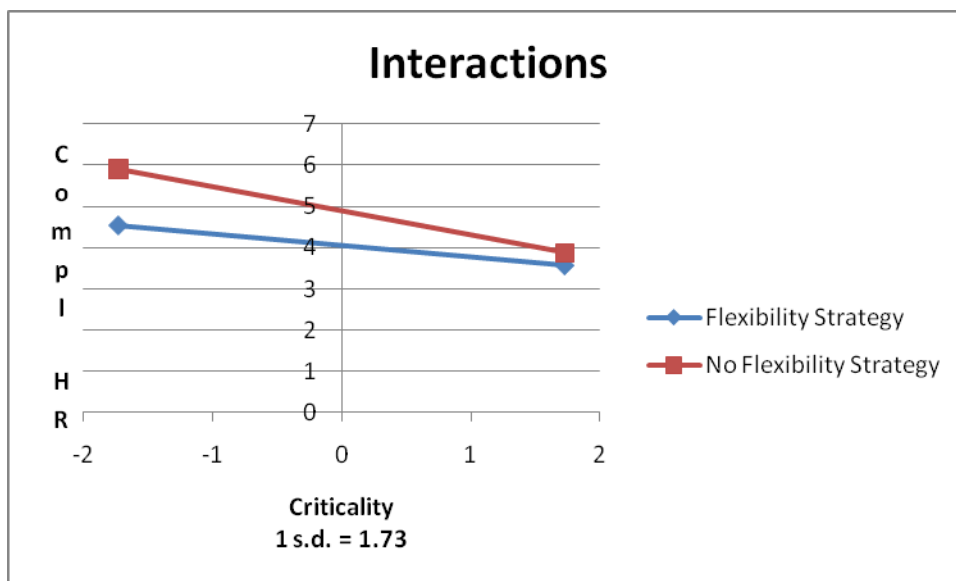
Table 6c (con't)
Interactions

Interaction of Flexibility Strategy and Criticality on
Productivity-Based HR Configuration
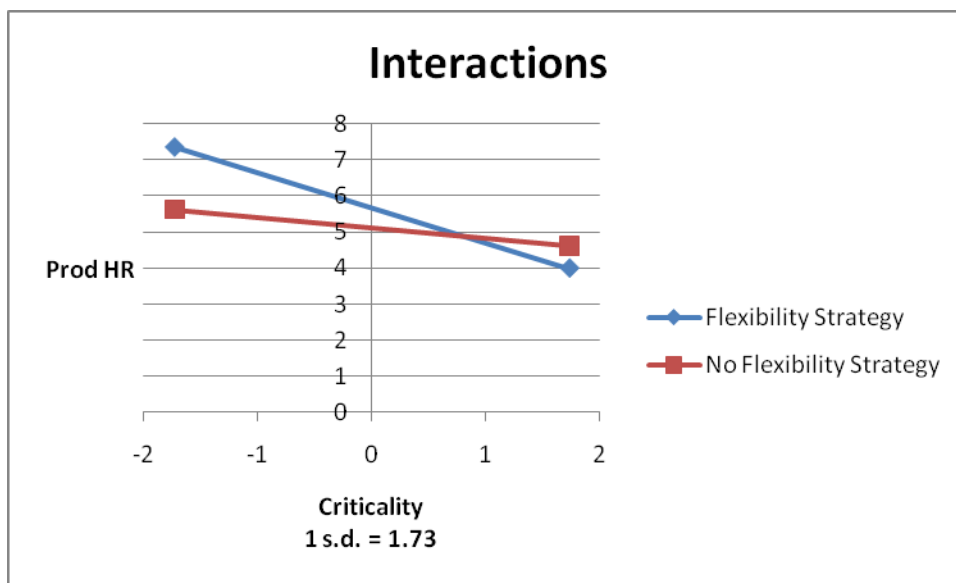
TABLE 6d

Results of Regression Analyses of HR Configurations on Criticality and Strategy to Control Human Capital Costs

	Productivity	Knowledge	Compliance	Collaborative
Step 1	β	Β	Β	β
Constant	5.12	4.59	4.89	3.16
Group Size	-.02	-.06**	.03	-.02
Length of Service	-.04**	.04**	-.06**	.07**
R^2	.13	.07	.13	.16
Step 2				
Criticality	-.33**	.49**	-.51**	.60**
Control Costs	-.24	-.61**	.62**	-.39**
R^2	.36**	.54**	.66**	.77**
$\triangle R^2$	.23	.47	.53	.61
Step 3				
Criticality X Control Costs	.09	-.24	.23*	-.28**
R^2	.36**	.55**	.66**	.78**
$\triangle R^2$	.00	.01	.00	.01
N	180	180	180	180

**p<.01
*p<.05
Two-tailed tests

Table 6d
Interactions

Interaction of Control Costs Strategy and Criticality on
Collaborative-Based HR Configuration
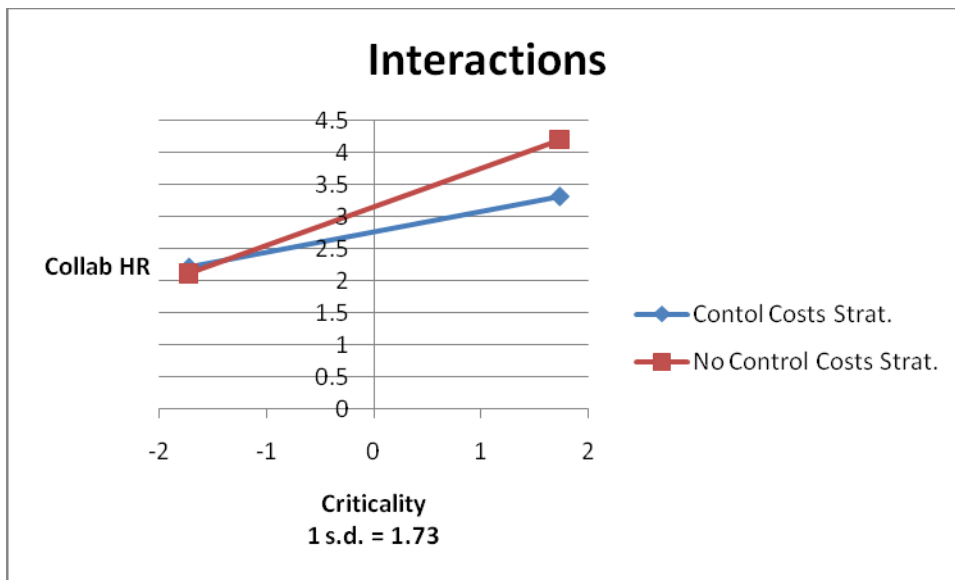
Table 6d Interactions

Interaction of Control Costs Strategy and Criticality on
Compliance-Based HR Configuration

TABLE 7

Results of Regression Analyses of Psychological Contract Breach (PCB) on Aligned HR Configurations and Deviation from Ideal Fit

	PCB			PCB			PCB
Step 1	β	**Step 1**	B	**Step 1**	β
Constant	3.20	Constant	3.73	Constant	4.75
Group Size	.02	Group Size	.08	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		**Step 2**		**Step 2**	
Productivity HR	-.69	Knowl. HR	-.70**	Compl. HR	-.37
R^2	.09	R^2	.41**	R^2	.12
$\triangle R^2$	.08	$\triangle R^2$	.20	$\triangle R^2$	.02
N	32	N	63	N	46

	PCB			PCB
Step 1	β	**Step 1**	β
Constant	4.60	Constant	3.9
Group Size	.01	Group Size	.04
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.10**
Step 2		**Step 2**	
Collab. HR	-1.01**	Deviation from Fit	.53**
R^2	.46**	R^2	.20**
$\triangle R^2$	.36	$\triangle R^2$	.10
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 8

Results of Regression Analyses of Psychological Contract Breach (PCB) on Misaligned HR Configurations

	PCB		PCB		PCB
Step 1	β	**Step 1**	β	**Step 1**	β
Constant	3.84	**Constant**	3.84	**Constant**	3.88
Group Size	.05	**Group Size**	.05	**Group Size**	.04
Length of Service	-.07**	**Length of Service**	-.07**	**Length of Service**	-.05
R^2	.12**	R^2	.12**	R^2	.05
Step 2		**Step 2**		**Step 2**	
Productivity HR (High Crit.)	.30	**Compl. HR (High Crit.)**	1.10**	**Knowl. HR (Low Crit.)**	-.51**
R^2	.14**	R^2	.50**	R^2	.16**
$\triangle R^2$	.02	$\triangle R^2$	.38	$\triangle R^2$	.11
N	102	**N**	102	**N**	78

	PCB
Step 1	β
Constant	3.88
Group Size	.04
Length of Service	-.05
R^2	.05
Step 2	
Collab. HR (Low Crit.)	-.39
R^2	.08
$\triangle R^2$	.03
N	78

**p<.01
*p<.05
Two-tailed tests

TABLE 9a

Results of Regression Analyses of Task Performance on Aligned HR Configurations and Deviation from Ideal Fit

	Task Perf.			Task Perf.			Task Perf.
Step 1	β	**Step 1**	B	**Step 1**	β		
Constant	6.19	Constant	5.78	Constant	4.43		
Group Size	-.01	Group Size	-.05	Group Size	.03		
Length of Service	-.01	Length of Service	.06**	Length of Service	.02		
R^2	.01	R^2	.22**	R^2	.04		
Step 2		**Step 2**		**Step 2**			
Productivity HR	.29	Knowl. HR	.49**	Compl. HR	-.06		
R^2	.05	R^2	.50**	R^2	.06		
$\triangle R^2$	.04	$\triangle R^2$	.28	$\triangle R^2$	.02		
N	32	N	63	N	46		

	Task Perf.			Task Perf.
Step 1	β	**Step 1**	B	
Constant	4.75	Constant	6.33	
Group Size	-.02	Group Size	-.02	
Length of Service	.04*	Length of Service	.03**	
R^2	.15	R^2	.07**	
Step 2		**Step 2**		
Collab. HR	.73**	Deviation from Fit	-.40**	
R^2	.55**	R^2	.21**	
$\triangle R^2$	.40	$\triangle R^2$	.14	
N	39	N	180	

**p<.01
*p<.05
Two-tailed tests

TABLE 9b

Results of Regression Analyses of Organizational Citizenship Behaviors (OCB) on Aligned HR Configurations and Deviation from Ideal Fit

	OCB		OCB		OCB
Step 1	B	**Step 1**	B	**Step 1**	β
Constant	5.56	Constant	5.53	Constant	2.50
Group Size	-.02	Group Size	-.07**	Group Size	.05
Length of Service	-.01	Length of Service	.06**	Length of Service	.06*
R^2	.01	R^2	.19**	R^2	.17*
Step 2		**Step 2**		**Step 2**	
Productivity HR	.89**	Knowl. HR	.62**	Compl. HR	.03
R^2	.22	R^2	.60**	R^2	.17*
$\triangle R^2$	.21	$\triangle R^2$	.41	$\triangle R^2$	.00
N	32	N	63	N	46

	OCB		OCB
Step 1	B	**Step 1**	B
Constant	3.74	Constant	5.90
Group Size	-.02	Group Size	-.03*
Length of Service	.05**	Length of Service	.04**
R^2	.18*	R^2	.08**
Step 2		**Step 2**	
Collab. HR	.96**	Deviation from Fit	-.54**
R^2	.71**	R^2	.28**
$\triangle R^2$	.53	$\triangle R^2$	.20
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 9c

Results of Regression Analyses of Task Performance and Organizational Citizenship Behaviors (OCB) on Psychological Contract Breach (PCB)

	Task Perf.		OCB
Step 1	β	**Step 1**	β
Constant	5.53	**Constant**	4.84
Group Size	-.02	**Group Size**	-.03*
Length of Service	.03**	**Length of Service**	.04**
R^2	.07**	R^2	.08**
Step 2		**Step 2**	
PCB	-.44**	**PCB**	-.55**
R^2	.49**	R^2	.58**
ΔR^2	.42	ΔR^2	.50
N	180	**N**	180

**p<.01
*p<.05
Two-tailed tests

TABLE 9d

Results of Regression Analyses of Task Performance on Aligned HR Configurations and Deviation from Ideal Fit while Controlling for Psychological Contract Breach

	Task Perf.		Task Perf.		Task Perf.
Step 1	β	**Step 1**	β	**Step 1**	β
Constant	5.78	**Constant**	4.75	**Constant**	5.53
Group Size	-.05*	**Group Size**	-.02	**Group Size**	-.02
Length of Service	.06**	**Length of Service**	.04*	**Length of Service**	.03**
R^2	.22**	**R^2**	.15	**R^2**	.07
Step 2		**Step 2**		**Step 2**	
Knowl. HR	.49**	**Collab. HR**	.73**	**Deviation**	-.40**
R^2	.50**	**R^2**	.55**	**R^2**	.21**
$\triangle R^2$	.28	**$\triangle R^2$**	.40	**$\triangle R^2$**	.14
Step 3		**Step 3**		**Step 3**	
PCB	-.36**	**PCB**	-.31**	**PCB**	-.40**
Knowl. HR	.24**	**Collab. HR**	.41**	**Deviation**	-.19**
R^2	.72**	**R^2**	.66**	**R^2**	.52**
$\triangle R^2$	.22	**$\triangle R^2$**	.11	**$\triangle R^2$**	.31
N	63	**N**	39	**N**	180

**p<.01
*p<.05
Two-tailed tests

TABLE 9e

Results of Regression Analyses of OCB on Aligned HR Configurations and Deviation from Ideal Fit while Controlling for Psychological Contract Breach

	OCB.		OCB.		OCB	
Step 1	β	**Step 1**	B	**Step 1**	β
Constant	5.53	**Constant**	3.74	**Constant**	4.84
Group Size	-.07**	**Group Size**	-.02	**Group Size**	-.03*
Length of Service	.06**	**Length of Service**	.05**	**Length of Service**	.04**
R^2	.19**	R^2	.18*	R^2	.08**
Step 2		**Step 2**		**Step 2**	
Knowl. HR	.62**	**Collab. HR**	.96**	**Deviation**	-.54**
R^2	.60**	R^2	.71**	R^2	.28**
$\triangle R^2$	.41	$\triangle R^2$	.53	$\triangle R^2$	.20
Step 3		**Step 3**		**Step 3**	
Knowl. HR	.36**	**Collab. HR**	.59**	**Deviation**	-.28**
PCB	-.38**	**PCB**	-.37**	**PCB**	-.49**
R^2	.80**	R^2	.83**	R^2	.63**
$\triangle R^2$	.20	$\triangle R^2$	.12	$\triangle R^2$	.35
N	63	**N**	39	**N**	180

**p<.01
*p<.05
Two-tailed tests

Table 10a

Results of Regression Analyses of Psychological Contract Breach on Aligned HR Configurations and Deviation from Ideal Fit and Work Preference Flexibility

	PCB		PCB		PCB	
Step 1	**β**	**Step 1**	**B**	**Step 1**	**β**	
Constant	3.20	Constant	3.73	Constant	4.75	
Group Size	.02	Group Size	.08*	Group Size	.04	
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*	
R^2	.01	R^2	.21**	R^2	.10	
Step 2		**Step 2**		**Step 2**		
Productivity HR	-.68	Knowl. HR	-.71**	Compl. HR	-.14	
Wk Flex	-.43	Wk Flex	-.29	Wk Flex	-.89	
R^2	.11	R^2	.42**	R^2	.19	
$\triangle R^2$	.10	$\triangle R^2$	.21	$\triangle R^2$	.09	
Step3		**Step 3**		**Step 3**		
Prod. HR x Wk Flex	1.20	Know. HR x Wk Flex	.66	Comp. HR x Wk Flex	-.48	
R^2	.18	R^2	.43**	R^2	.20	
$\triangle R^2$	.07	$\triangle R^2$	.01	$\triangle R^2$	.01	
N	32	N	63	N	46	

	PCB		PCB	
Step 1	**β**	**Step 1**	**B**	
Constant	4.60	Constant	3.90	
Group Size	.01	Group Size	.04*	
Length of Service	-.05	Length of Service	-.06**	
R^2	.10	R^2	.10**	
Step 2		**Step 2**		
Collab. HR	-1.08**	Deviation	.53**	
Wk Flex	-.79	Wk Flex	-.19	
R^2	.49**	R^2	.20**	
$\triangle R^2$	.39	$\triangle R^2$	.10	
Step 3		**Step 3**		
Collab. HR x Wk Flex	.96*	Deviation x Wk Flex	-.64*	
R^2	.56**	R^2	.23**	
$\triangle R^2$	.07	$\triangle R^2$	.03	
N	39	N	180	

**p<.01
 *p<.05
Two-tailed tests

Table 10a
Interactions

Interaction of Aligned Collaborative-Based HR Configuration
And Work Preference Flexibility on Psychological Contract Breach
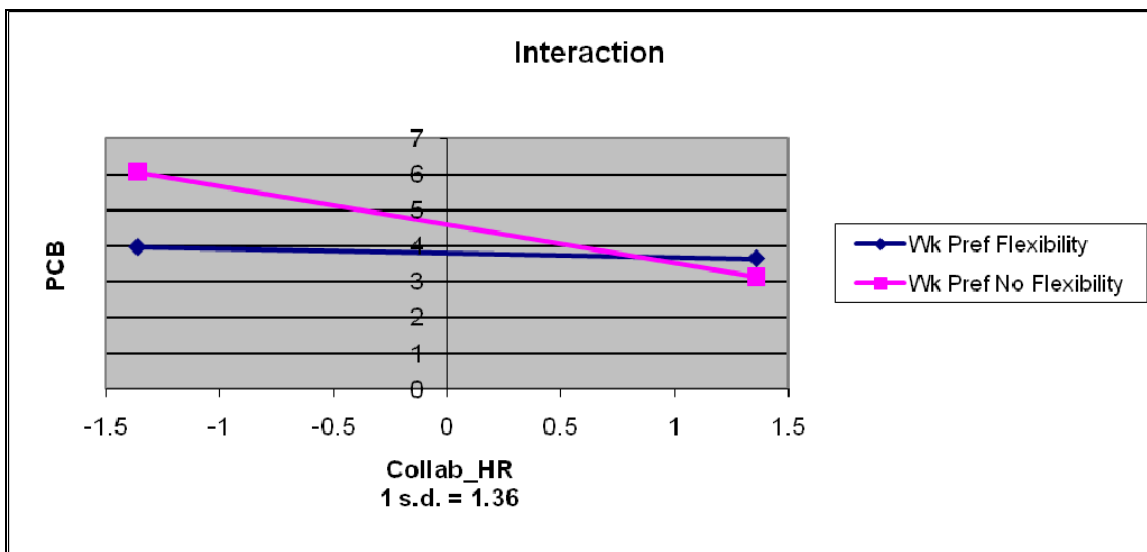
Interaction of Deviation from Aligned HR Configurations
And Work Preference Flexibility on Psychological Contract Breach
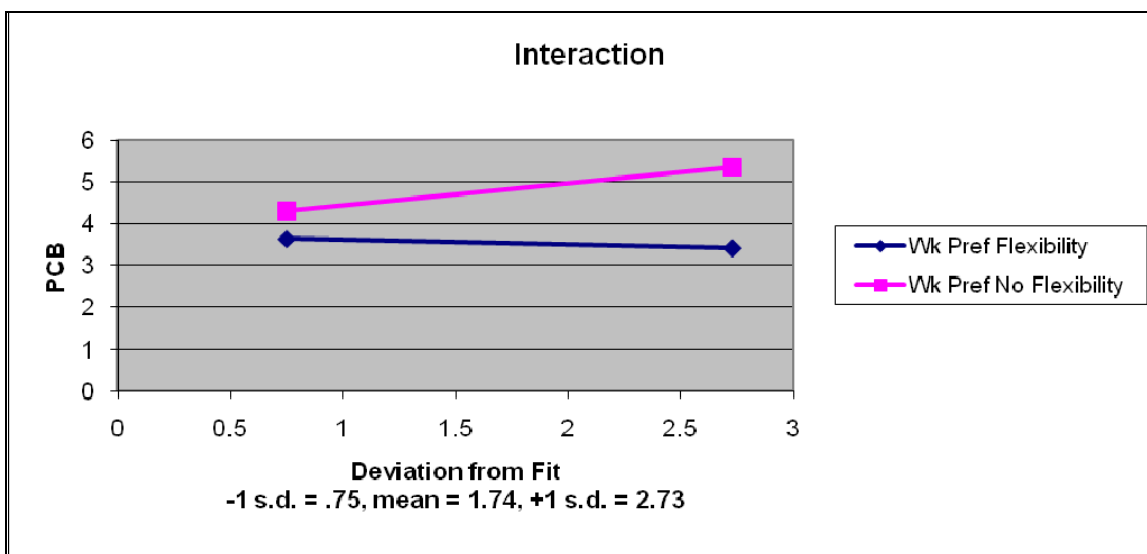
Table 10b

Results of Regression Analyses of Psychological Contract Breach on Aligned HR Configurations and Deviation from Ideal Fit and Work Preference Money

	PCB		PCB		PCB
Step 1	β	**Step 1**	β	**Step 1**	β
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		**Step 2**		**Step 2**	
Productivity HR	-.65	Knowl. HR	-.75**	Compl. HR	-.40
Money	-.86	Money	.44	Money	-.22
R^2	.13	R^2	.43**	R^2	.12
$\triangle R^2$	.12	$\triangle R^2$	.22	$\triangle R^2$	.02
Step 3		**Step 3**		**Step 3**	
Prod. HR x	1.75	Know. HR x Money	-.23	Comp. HR x Money	.72
R^2	.13	R^2	.43**	R^2	.14
$\triangle R^2$	.00	$\triangle R^2$	.00	$\triangle R^2$	.02
N	32	N	63	N	46

	PCB		PCB
Step 1	β	**Step 1**	β
Constant	4.59	Constant	3.91
Group Size	.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.10**
Step 2		**Step 2**	
Collab. HR	-1.01**	Deviation	.53**
Money	.02	Money	-.08
R^2	.46**	R^2	.20**
$\triangle R^2$	.36	$\triangle R^2$	.10
Step 3		**Step 3**	
Collab. HR x Money	-.81	Deviation x Money	.36
R^2	.48**	R^2	.21**
$\triangle R^2$	.02	$\triangle R^2$	.01
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

Table 10c

Results of Regression Analyses of Psychological Contract Breach on Aligned HR Configurations and Deviation from Ideal Fit and Work Preference Develop Skills

Step 1	PCB β	Step 1	PCB β	Step 1	PCB β
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		Step 2		Step 2	
Productivity HR	-.56	Knowl. HR	-.70**	Compl. HR	-.26
Dev Skills	1.35	Dev Skills	-.20	Dev Skills	2.35*
R^2	.17	R^2	.42**	R^2	.20*
$\triangle R^2$	.16	$\triangle R^2$	.21	$\triangle R^2$	.10
Step3		Step 3		Step 3	
Prod. HR x Dev Skills	-1.79	Know. HR x Dev Skills	-.05	Comp. HR x Dev Skills	
R^2	.21	R^2	.42**	R^2	.21
$\triangle R^2$	.04	$\triangle R^2$	.00	$\triangle R^2$	.01
N	32	N	63	N	46

Step 1	PCB β	Step 1	PCB β
Constant	4.60	Constant	3.90
Group Size	.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.10**
Step 2		Step 2	
Collab. HR	-1.06**	Deviation	.53**
Dev Skills	.73	Dev Skills	.26
R^2	.50**	R^2	.20**
$\triangle R^2$	.40	$\triangle R^2$	.10
Step 3		Step 3	
Collab. HR x Dev Skills	-.13	Deviation x Dev Skills	.26
R^2	.50**	R^2	.21**
$\triangle R^2$	.00	$\triangle R^2$	.01
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

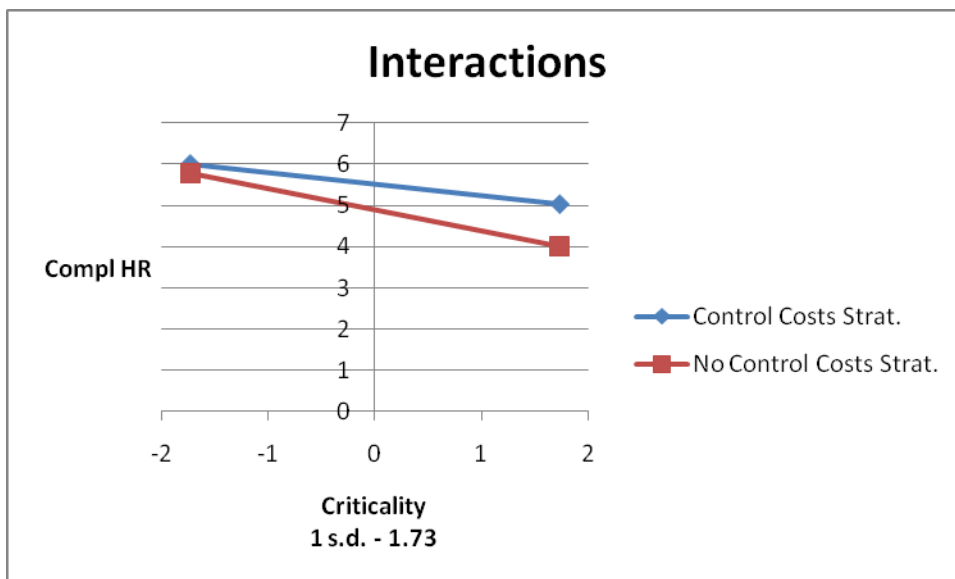**Table 10d**

Results of Regression Analyses of Psychological Contract Breach on Aligned HR Configurations and Deviation from Ideal Fit and Work Preference Perm Job

	PCB		PCB		PCB
Step 1	**β**	**Step 1**	**Β**	**Step 1**	**β**
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		**Step 2**		**Step 2**	
Productivity HR	-.70	Knowl. HR	-.70**	Compl. HR	-.37
Job	.31	Job	.05	Job	-.15
R^2	.10	R^2	.41**	R^2	.12
$\triangle R^2$	.09	$\triangle R^2$	.20	$\triangle R^2$	.02
Step3		**Step 3**		**Step 3**	
Prod. HR x Job	-.14	Know. HR x Job	-.55	Comp. HR x Job	1.15
R^2	.10	R^2	.44**	R^2	.17
$\triangle R^2$	.00	$\triangle R^2$	.03	$\triangle R^2$	.05
N	32	N	63	N	46

	PCB		PCB
Step 1	**β**	**Step 1**	**Β**
Constant	4.60	Constant	3.91
Group Size	.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.10**
Step 2		**Step 2**	
Collab. HR	-.99**	Deviation	.53**
Job	.27	Job	-.09
R^2	.46**	R^2	.20**
$\triangle R^2$	.36	$\triangle R^2$	.10
Step 3		**Step 3**	
Collab. HR x Job	-.57	Deviation x Job	.41
R^2	.47**	R^2	.21**
$\triangle R^2$	.01	$\triangle R^2$	.01
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 11

Results of Regression Analyses of Perceptions of Fairness (POF) on Aligned HR Configurations and Deviation from Ideal Fit

	POF			POF			POF
Step 1	**β**	**Step 1**	**B**	**Step 1**	**β**
Constant	5.41	Constant	5.02	Constant	2.32
Group Size	-.01	Group Size	-.08*	Group Size	.07
Length of Service	-.01	Length of Service	.08**	Length of Service	.05
R^2	.01	R^2	.21**	R^2	.11
Step 2		**Step 2**		**Step 2**	
Productivity HR	.82*	Knowl. HR	.67**	Compl. HR	-.359
R^2	.16	R^2	.49**	R^2	.14
$\triangle R^2$	.15	$\triangle R^2$	.28	$\triangle R^2$	.03
N	32	N	63	N	46

	POF			POF
Step 1	**β**	**Step 1**	**B**
Constant	4.04	Constant	4.62
Group Size	-.02	Group Size	-.03
Length of Service	.04	Length of Service	.04**
R^2	.07	R^2	.04**
Step 2		**Step 2**	
Collab. HR	1.05**	Deviation from Fit	-.53**
R^2	.53**	R^2	.18**
$\triangle R^2$	.46	$\triangle R^2$	.14
N	39	N	180

**p<.01
 *p<.05
Two-tailed tests

TABLE 12

Results of Regression Analyses of Perceptions of Fairness (POF) on Misaligned HR Configurations

	POF		POF		POF
Step 1	β	**Step 1**	β	**Step 1**	β
Constant	4.88	**Constant**	4.88	**Constant**	3.82
Group Size	-.05*	**Group Size**	-.05*	**Group Size**	.03
Length of Service	.05**	**Length of Service**	.05**	**Length of Service**	.02
R²	.10*	**R²**	.10**	**R²**	.03
Step 2		**Step 2**		**Step 2**	
Productivity HR (High Crit.)	-.14	**Compl. HR (High Crit.)**	-1.06**	**Knowl. HR (Low Crit)**	.49**
R²	.10	**R²**	.56**	**R²**	.19**
△R²	.00	**△R²**	.46	**△R²**	.16
N	102	**N**	102	**N**	78

	POF
Step 1	β
Constant	3.82
Group Size	.03
Length of Service	.02
R²	.03
Step 2	
Collab. HR (Low Crit)	.68**
R²	.15**
△R²	.13
N	78

**p<.01
*p<.05
Two-tailed tests

TABLE 13

Results of Regression Analyses of Psychological Contract Breach (PCB) on Aligned HR Configurations and Perception of Fairness (POF)

	PCB		PCB		PCB
Step 1	β	**Step 1**	Β	**Step 1**	β
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.07*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		**Step 2**		**Step 2**	
Productivity HR	.12	Knowl. HR	.06	Compl. HR	-.66*
POF	-.98	POF	-1.13**	POF	-.81**
R^2	.72**	R^2	.86**	R^2	.52**
$\triangle R^2$	.71	$\triangle R^2$	.65	$\triangle R^2$	.42
Step3		**Step 3**		**Step 3**	
Prod. HR x POF	-.13	Know. HR x POF	.05	Comp. HR x POF	.24
R^2	.72**	R^2	.86**	R^2	.53**
$\triangle R^2$	.01	$\triangle R^2$	.00	$\triangle R^2$	.01
N	32	N	63	N	46

	PCB		PCB
Step 1	β	**Step 1**	Β
Constant	4.60	Constant	3.91
Group Size	.01	Group Size	.04
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.09**
Step 2		**Step 2**	
Collab. HR	.09	Deviation	.03
POF	-1.05**	POF	-.94**
R^2	.90**	R^2	.71**
$\triangle R^2$	.80	$\triangle R^2$	
Step 3		**Step 3**	
Collab. HR x POF	.02	Deviation x POF	.01
R^2	.90**	R^2	.71**
$\triangle R^2$	.00	$\triangle R^2$	
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 14a

Results of Regression Analyses of Perceptions of Fairness (POF) on Aligned HR Configurations and Deviation from Ideal Fit and Other Contract Workers

Step 1	POF β		Step 1	POF β		Step 1	POF β
Constant	5.41		Constant	5.02		Constant	2.32
Group Size	-.01		Group Size	-.08		Group Size	.07
Length of Service	-.01		Length of Service	.08**		Length of Service	.05
R^2	.01		R^2	.21**		R^2	.11
Step 2			Step 2			Step 2	
Prod. HR	.82*		Know. HR	.68**		Comp. HR	-.48
Contr. Wks	.09		Contr. Wks	.16		Contr. Wks	1.03*
R^2	.16		R^2	.49**		R^2	.26*
$\triangle R^2$	.15		$\triangle R^2$	.28		$\triangle R^2$	.15
Step3			Step 3			Step 3	
Prod. HR x Contr. Wks.	-.72		Know. HR x Contr. Wks.	-.08		Comp. HR x Contr. Wks.	.68
R^2	.19		R^2	.49**		R^2	.29*
$\triangle R^2$	.03		$\triangle R^2$	.00		$\triangle R^2$	.03
N	32		N	63		N	46

Step 1	POF β		Step 1	POF β
Constant	4.04		Constant	4.62
Group Size	-.02		Group Size	-.03
Length of Service	.04		Length of Service	.04**
R^2	.07		R^2	.05**
Step 2			Step 2	
Collab. HR	1.05**		Deviation	-.53**
Contr. Wks	.01		Contr. Wks	-.10
R^2	.53**		R^2	.20**
$\triangle R^2$	.46		$\triangle R^2$	.15
Step 3			Step 3	
Collab. HR x Contr. Wks.	-.09		Deviation x Contr. Wks.	.24
R^2	.53**		R^2	.20**
$\triangle R^2$	.00		$\triangle R^2$	.00
N	39		N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 14b

Results of Regression Analyses of Perceptions of Fairness (POF) on Aligned HR Configuration and Deviation from Ideal Fit and Other Peers

	POF β		POF β		POF β
Step 1		**Step 1**		**Step 1**	
Constant	5.41	Constant	5.02	Constant	2.32
Group Size	-.01	Group Size	-.08	Group Size	.07
Length of Service	-.01	Length of Service	.08**	Length of Service	.05
R^2	.01	R^2	.21**	R^2	.11
Step 2		**Step 2**		**Step 2**	
Prod. HR	.78*	Know. HR	.85**	Comp. HR	-.35
Peers	.38	Peers	-.14	Peers	.09
R^2	.17	R^2	.49**	R^2	.14
$\triangle R^2$	.16	$\triangle R^2$	.28	$\triangle R^2$	.03
Step 3		**Step 3**		**Step 3**	
Prod. HR x Peers	-1.79	Know. HR x Peers	-.41	Comp. HR x Peers	.47
R^2	.23	R^2	.52**	R^2	.14
$\triangle R^2$	.06	$\triangle R^2$	.03	$\triangle R^2$	.00
N	32	N	63	N	46

	POF β		POF β
Step 1		**Step 1**	
Constant	4.04	Constant	4.62
Group Size	-.02	Group Size	-.03
Length of Service	.04	Length of Service	.04**
R^2	.07	R^2	.05**
Step 2		**Step 2**	
Collab. HR	.95**	Deviation	-.52**
Peers	.46	Peers	.30
R^2	.54**	R^2	.20**
$\triangle R^2$	.47	$\triangle R^2$	.15
Step 3		**Step 3**	
Collab. HR x Peers	.28	Deviation x Peers	.05
R^2	.55**	R^2	.21**
$\triangle R^2$	.01	$\triangle R^2$	.01
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 14c

Results of Regression Analyses of Perceptions of Fairness (POF) on Aligned HR Configurations and Deviation from Ideal Fit and Other FT Employees

	POF		POF		POF
Step 1	**β**	**Step 1**	**β**	**Step 1**	**β**
Constant	5.41	**Constant**	5.02	**Constant**	2.32
Group Size	-.01	**Group Size**	-.08	**Group Size**	.07
Length of Service	-.01	**Length of Service**	.08**	**Length of Service**	.05
R²	.01	**R²**	.21**	**R²**	.11
Step 2		**Step 2**		**Step 2**	
Prod. HR	.79*	**Know. HR**	.66**	**Comp. HR**	-.40
FT EE	-.29	**FT EE**	.10	**FT EE**	-1.25**
R²	.17	**R²**	.48**	**R²**	.29**
△R²	.16	**△R²**	.28	**△R²**	.18
Step3		**Step 3**		**Step 3**	
Prod. HR x FT EE	1.05	**Know. HR x FT EE**	.49*	**Comp. HR x FT EE**	-.95
R²	.23	**R²**	.52**	**R²**	.34**
△R²	.06	**△R²**	.04	**△R²**	.05
N	32	**N**	63	**N**	46

	POF		POF
Step 1	**β**	**Step 1**	**β**
Constant	4.04	**Constant**	4.62
Group Size	-.02	**Group Size**	-.02
Length of Service	.04	**Length of Service**	.04**
R²	.07	**R²**	.05**
Step 2		**Step 2**	
Collab. HR	1.03**	**Deviation**	-.53**
FT EE	-.47	**FT EE**	-.19
R²	.54**	**R²**	.20**
△R²	.47	**△R²**	
Step 3		**Step 3**	
Collab. HR x FT EE	-.41	**Deviation x FT EE**	-.28
R²	.55**	**R²**	.21**
△R²	.01	**△R²**	.01
N	39	**N**	180

**p<.01
 *p<.05
Two-tailed tests

TABLE 14c
Interactions

Results of Regression Analysis of Perceptions of Fairness (POF) on Aligned Knowledge-based HR Configuration and Full-Time Employee Referent
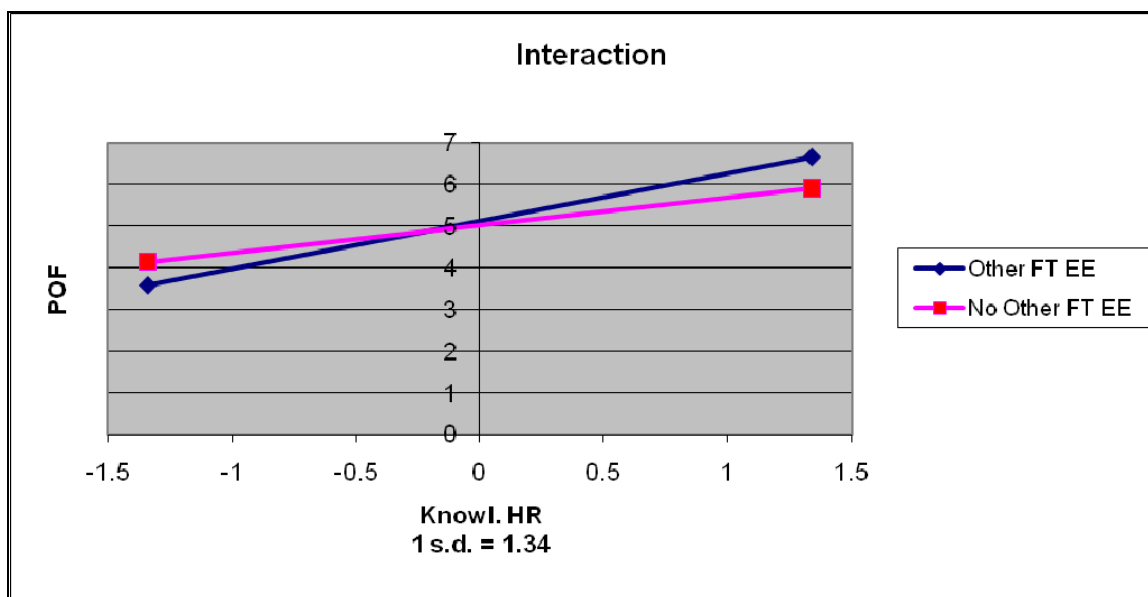
TABLE 15

Results of Regression Analysis of Psychological Contract Breach (PCB) on Perceptions of Fairness (POF)

	PCB
Step 1	β
Constant	3.91
Group Size	.04
Length of Service	-.06**
R^2	.10**
Step 2	
POF	-.95**
R^2	.72**
$\triangle R^2$	.62
N	180

**p<.01
*p<.05
Two-tailed test

TABLE 16

Results of Regression Analyses of Psychological Contract Breach (PCB) on Aligned HR Configurations and Deviation from Ideal Fit while Controlling for Perception of Fairness (POF)

	PCB. β		PCB β		PCB β
Step 1		**Step 1**		**Step 1**	
Constant	3.74	Constant	4.60	Constant	3.20
Group Size	.08*	**Group Size**	.01	**Group Size**	.02
Length of Service	-.10**	**Length of Service**	-.05	**Length of Service**	-.02
R^2	.21**	R^2	.01	R^2	.01
Step 2		**Step 2**		**Step 2**	
Knowl. HR	-.70**	**Collab. HR**	-1.01**	**Prod. HR**	-.69
R^2	.41**	R^2	.46**	R^2	.09
$\triangle R^2$	.20	$\triangle R^2$	.45	$\triangle R^2$	.08
Step 3		**Step 3**		**Step 3**	
Knowl. HR	.06	**Collab. HR**	.09	**Prod. HR**	.12
POF	-1.13**	**POF**	-1.05**	**POF**	-.99**
R^2	.86**	R^2	.90	R^2	.72**
$\triangle R^2$	.45	$\triangle R^2$	.44	$\triangle R^2$	.63
N	63	**N**	39	**N**	32

	PCB. β		PCB β
Step 1		**Step 1**	
Constant	4.75	Constant	3.91
Group Size	.04	**Group Size**	.04
Length of Service	-.08*	**Length of Service**	-.06**
R^2	.10	R^2	.09**
Step 2		**Step 2**	
Coml. HR	-.37	**Deviation**	.53**
R^2	.12**	R^2	.19**
$\triangle R^2$	.02	$\triangle R^2$	.10
Step 3		**Step 3**	
Coml. HR	-.65*	**Deviation**	.03
POF	-.81**	**POF**	-.94**
R^2	.52**	R^2	.71**
$\triangle R^2$	.40	$\triangle R^2$	.52
N	46	**N**	180

**p<.01
 *p<.05
Two-tailed tests

Table 17a

Results of Regression Analyses of Psychological Contract Breach on Perceptions of Fairness and Work Preference Flexibility

	PCB		PCB		PCB
Step 1	β	**Step 1**	B	**Step 1**	β
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R²	.01	R²	.21**	R²	.10
Step 2		**Step 2**		**Step 2**	
POF (Project Wk)	-.96**	POF (Know Wk)	-1.11**	POF (Cont. Wk)	-.70**
Wk Flex	-.40	Wk Flex	-.35	Wk Flex	-.56
R²	.73**	R²	.86**	R²	.49**
△R²	.72	△R²	.65	△R²	.38
Step3		**Step 3**		**Step 3**	
POF x Wk Flex	.79**	POF x Wk Flex	.86*	POF x Wk Flex	.16
R²	.81**	R²	.87**	R²	.49**
△R²	.08	△R²	.01	△R²	.00
N	32	N	63	N	46

	PCB		PCB
Step 1	β	**Step 1**	β
Constant	3.96	Constant	3.91
Group Size	-.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R²	.10	R²	.10**
Step 2		**Step 2**	
POF (Partnership)	-1.01**	POF (Overall)	-.95**
Wk Flex	-.48*	Wk Flex	-.24
R²	.91**	R²	.72**
△R²	.81	△R²	.62
Step 3		**Step 3**	
POF x Wk Flex	.68**	POF x Wk Flex	.59**
R²	.94**	R²	.75**
△R²	.03	△R²	.03
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

TABLE 17a
Interactions

Results of Regression Analyses of Psychological Contract Breach on Overall Perceptions of Fairness and Work Preference Flexibility
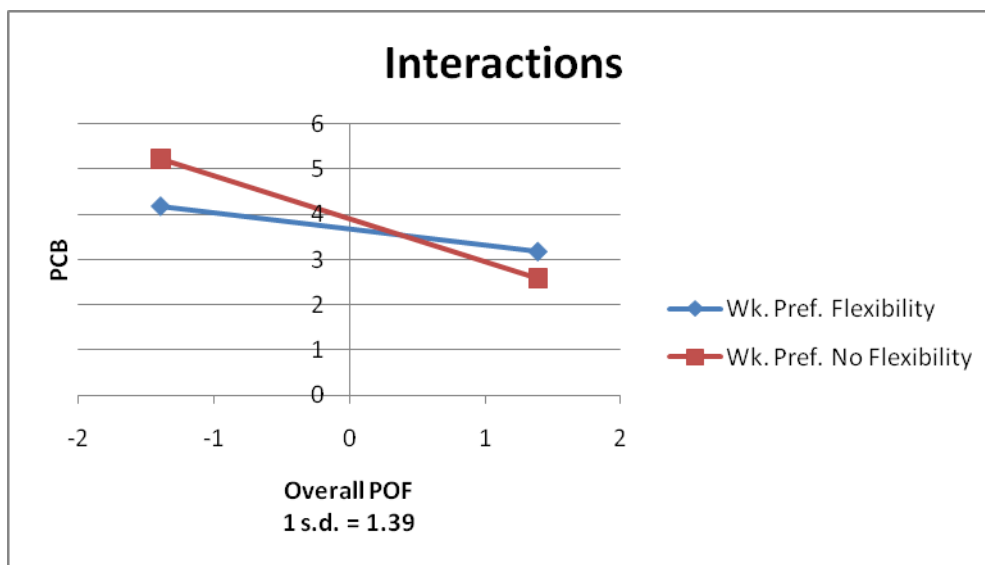
Results of Regression Analyses of Psychological Contract Breach on Project Workers' Perceptions of Fairness and Work Preference Flexibility

TABLE 17a (con't)
Interactions

Results of Regression Analyses of Psychological Contract Breach on Knowledge Workers' Perceptions of Fairness and Work Preference Flexibility

Results of Regression Analyses of Psychological Contract Breach on Partnerships' Perceptions of Fairness and Work Preference Flexibility

Table 17b

Results of Regression Analyses of Psychological Contract Breach on Perceptions of Fairness and Work Preference Money

	PCB		PCB		PCB
Step 1	**β**	**Step 1**	**β**	**Step 1**	**β**
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R²	.01	R²	.21**	R²	.10
Step 2		**Step 2**		**Step 2**	
POF (Project Wk)	-.96**	POF (Know Wk)	-1.11**	POF (Cont. Wk)	-.78**
Money	-.20	Money	-.24	Wk Flex	-.55
R²	.72**	R²	.86**	R²	.47**
ΔR²	.71	ΔR²	.65	ΔR²	.37
Step3		**Step 3**		**Step 3**	
POF x Money	-.56	POF x Money	.19	POF x Money	-.37
R²	.72**	R²	.87**	R²	.49**
ΔR²	.00	ΔR²	.01	ΔR²	.02
N	32	N	63	N	46

	PCB		PCB
Step 1	**β**	**Step 1**	**β**
Constant	4.60	Constant	3.91
Group Size	.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R²	.10	R²	.10**
Step 2		**Step 2**	
POF (Partnership)	-1.00**	POF (Overall)	-.96**
Money	-.20	Money	-.34*
R²	.90**	R²	.73**
ΔR²	.80	ΔR²	.63
Step 3		**Step 3**	
POF x Money	-.17	POF x Money	-.70
R²	.91**	R²	.73**
ΔR²	.01	ΔR²	.00
N	39	N	180

**p<.01
*p<.05
Two-tailed tests

Table 17c

Results of Regression Analyses of Psychological Contract Breach on Perceptions of Fairness and Work Preference Develop Skills

	PCB		PCB		PCB
Step 1	**β**	**Step 1**	**β**	**Step 1**	**β**
Constant	3.20	**Constant**	3.74	**Constant**	4.75
Group Size	.02	**Group Size**	.08*	**Group Size**	.04
Length of Service	-.02	**Length of Service**	-.10**	**Length of Service**	-.08*
R²	.01	**R²**	.21**	**R²**	.10
Step 2		**Step 2**		**Step 2**	
POF (Project Wk)	-.94**	**POF (Know Wk)**	-1.11**	**POF (Cont. Wk)**	-.70**
Dev Skills	.49	**Dev Skills**	.21	**Dev Skills**	.92
R²	.72**	**R²**	.86**	**R²**	.47**
△R²	.71	**△R²**	.65	**△R²**	.37
Step3		**Step 3**		**Step 3**	
POF x Dev Skills	-.52	**POF x Dev Skills**	-.22	**POF x Dev Skills**	3.06
R²	.74**	**R²**	.87**	**R²**	.48**
△R²	.02	**△R²**	.01	**△R²**	.01
N	32	**N**	63	**N**	46

|	PCB		PCB
Step 1	**β**	**Step 1**	**β**
Constant	4.60	**Constant**	3.91
Group Size	.01	**Group Size**	.04*
Length of Service	-.05	**Length of Service**	-.06**
R²	.10	**R²**	.10**
Step 2		**Step 2**	
POF (Partnership)	-1.00**	**POF (Overall)**	-.95**
Dev Skills	.37	**Dev Skills**	.14
R²	.91	**R²**	.72**
△R²	.81	**△R²**	.62
Step 3		**Step 3**	
POF x Dev Skills	-.08	**POF x Dev Skills**	-.23*
R²	.91	**R²**	.73**
△R²	.00	**△R²**	.01
N	39	**N**	180

**p<.01
*p<.05
Two-tailed tests

TABLE 17c
Interactions

Results of Regression Analyses of Psychological Contract Breach on Overall
Perceptions of Fairness and Work Preference Develop Skills
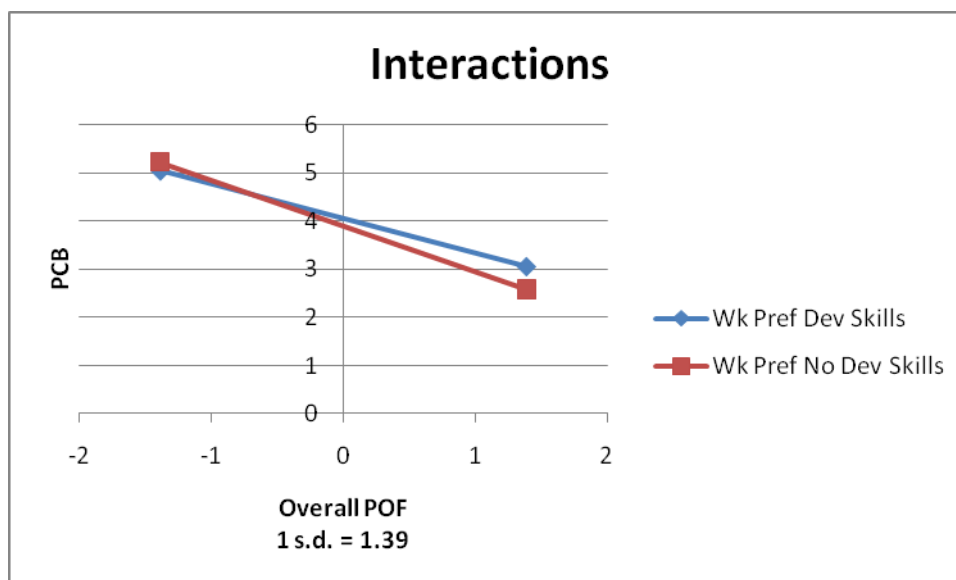
Table 17d

**Results of Regression Analyses of Psychological Contract Breach on Perceptions of
Fairness and Work Preference Permanent Job**

	PCB		PCB		PCB
Step 1	**β**	**Step 1**	**β**	**Step 1**	**β**
Constant	3.20	Constant	3.74	Constant	4.75
Group Size	.02	Group Size	.08*	Group Size	.04
Length of Service	-.02	Length of Service	-.10**	Length of Service	-.08*
R^2	.01	R^2	.21**	R^2	.10
Step 2		**Step 2**		**Step 2**	
POF (Project Wk)	-.97**	POF (Know Wk)	-1.12**	POF (Cont. Wk)	-.75**
Job	.36	Job	.39*	Job	.02
R^2	.72**	R^2	.87**	R^2	.46**
$\triangle R^2$	.71	$\triangle R^2$	.66	$\triangle R^2$	.36
Step3		**Step 3**		**Step 3**	
POF x Job	-.22	POF x Job	-.30*	POF x Job	-.15
R^2	.73**	R^2	.88**	R^2	.46**
$\triangle R^2$	.01	$\triangle R^2$	.01	$\triangle R^2$	.00
N	32	N	63	N	

	PCB		PCB
Step 1	**β**	**Step 1**	**β**
Constant	4.60	Constant	3.91
Group Size	.01	Group Size	.04*
Length of Service	-.05	Length of Service	-.06**
R^2	.10	R^2	.10**
Step 2		**Step 2**	
POF (Partnership)	-.99**	POF (Overall)	-.96**
Job	.15	Job	.22
R^2	.90**	R^2	.72**
$\triangle R^2$	.80	$\triangle R^2$	.62
Step 3		**Step 3**	
POF x Job	-.32	POF x Job	-.19
R^2	.91**	R^2	.73**
$\triangle R^2$	.01	$\triangle R^2$	.01
N	39	N	180

 **p<.01
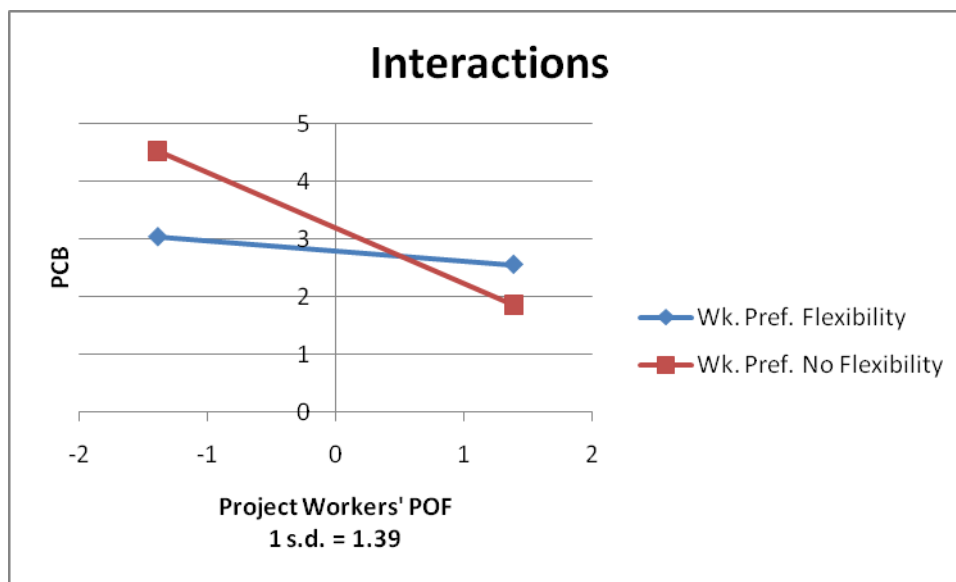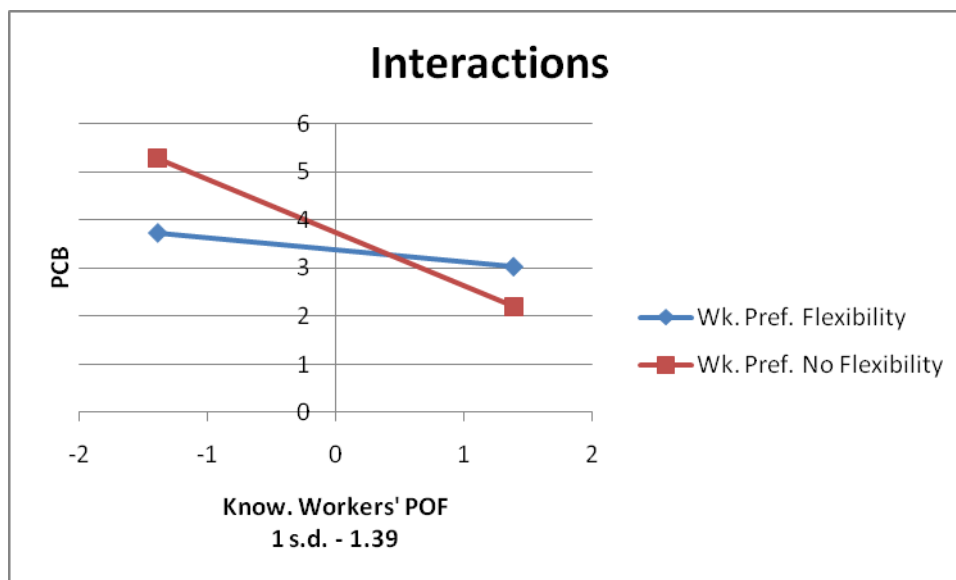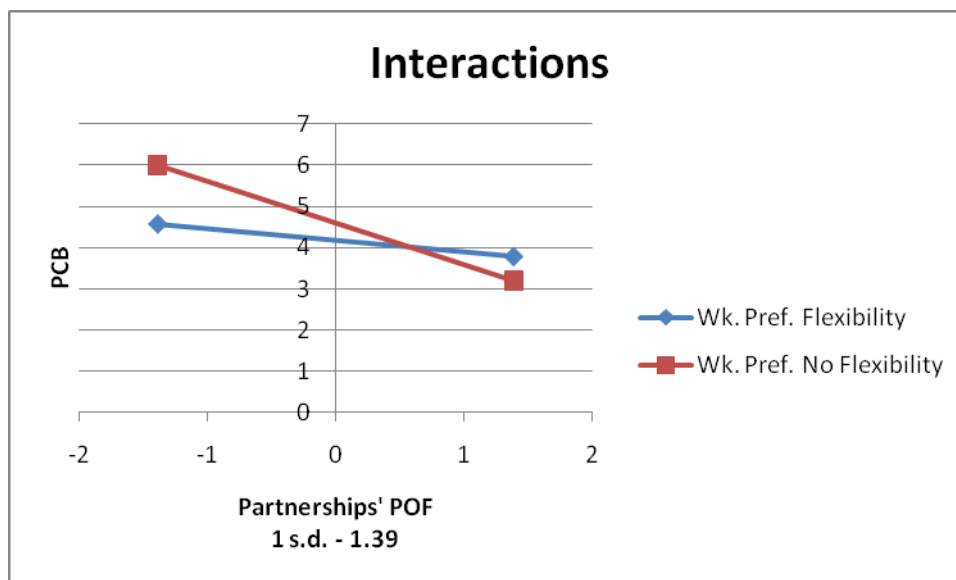 ***p<.05**
Two-tailed tests

Table 17d
Interactions

Results of Regression Analyses of Psychological Contract Breach on Knowledge Workers' Perceptions of Fairness and Work Preference Permanent Job
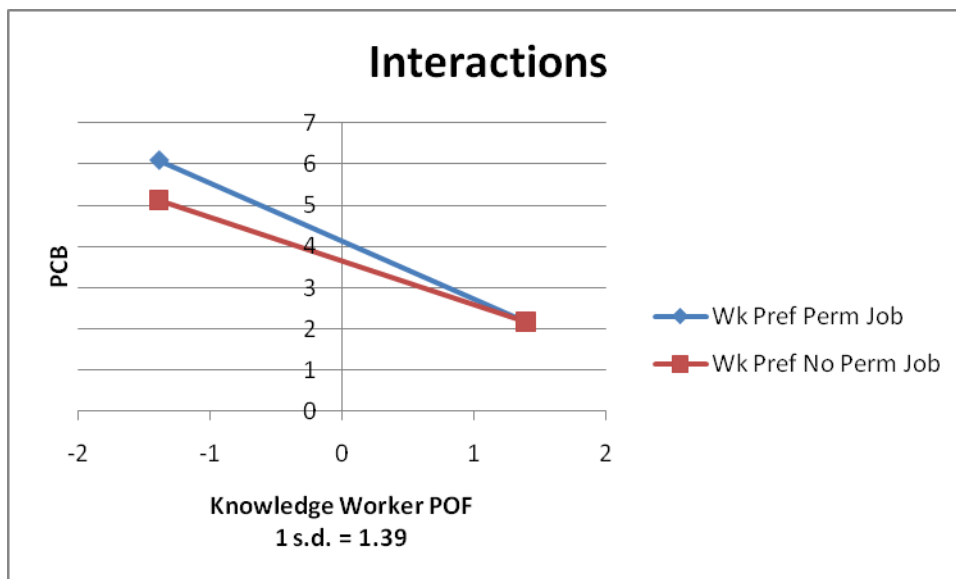
TABLE 18

Results of Regression Analyses of Contract Human Capital's Task Performance on Misaligned HR Configurations

	Task Perf.		Task Perf.		Task Perf.
Step 1	**β**	**Step 1**	**β**	**Step 1**	**β**
Constant	5.64	**Constant**	5.64	**Constant**	5.30
Group Size	-.04*	**Group Size**	-.04*	**Group Size**	.01
Length of Service	.04**	**Length of Service**	.04**	**Length of Service**	.01
R²	.12**	**R²**	.12**	**R²**	.01
Step 2		**Step 2**		**Step 2**	
Prod. HR (High Crit.)	-.08	**Compl. HR. (High Crit.)**	-.78**	**Know. HR (Low Crit.)**	.29**
R²	.13**	**R²**	.57**	**R²**	.11*
△R²	.01	**△R²**	.45	**△R²**	.10
N	102	**N**	102	**N**	78

	Task Perf.
Step 1	**β**
Constant	5.30
Group Size	.01
Length of Service	.01
R²	.01
Step 2	
Collab. HR (Low Crit.)	.41**
R²	.04
△R²	.00
N	78

**p<.01
*p<.05
Two-tailed tests

TABLE 19

Results of Regression Analyses of Contract Human Capital's Organizational Citizenship Behaviors (OCB) on Misaligned HR Configurations

	OCB		OCB		OCB
Step 1	**β**	**Step 1**	**B**	**Step 1**	**β**
Constant	5.14	**Constant**	5.14	**Constant**	4.01
Group Size	-.05*	**Group Size**	-.05*	**Group Size**	.01
Length of Service	.05**	**Length of Service**	.05**	**Length of Service**	.03
R²	.11**	**R²**	.11**	**R²**	.03
Step 2		**Step 2**		**Step 2**	
Prod. HR (High Crit.)	.11	**Compl. HR (High Crit.)**	-.91**	**Know. HR (Low Crit.)**	.61**
R²	.12**	**R²**	.59**	**R²**	.36**
△R²	.01	**△R²**	.48	**△R²**	.33
N	102	**N**	102	**N**	78

	OCB
Step 1	**β**
Constant	4.01
Group Size	.01
Length of Service	.03
R²	.03
Step 2	
Collab. HR (Low Crit.)	.81**
R²	.28**
△R²	.25
N	78

**p<.01
*p<.05
Two-tailed tests

TABLE 20

Cluster Analysis of HR Configurations and Engagement Modes

Cases	Knowledge HR Configuration	Wk. Cluster	HR Configuration	Partnership Wk. Cluster	HR Configuration	Project Wk Cluster	HR Configuration	Contract Wk. Cluster
1	2.00	1	3.00	2	1.00	3	1.00	4
2	3.00	1	4.00	2	3.00	3	1.00	4
3	2.00	1	4.00	2	1.00	3	3.00	4
4	2.00	1	2.00	2	3.00	3	3.00	4
5	2.00	1	3.00	2	3.00	3	1.00	4
6	2.00	1	3.00	2	3.00	3	3.00	4
7	3.00	1	3.00	2	1.00	3	3.00	4
8	2.00	1	3.00	2	1.00	3	1.00	4
9	3.00	1	4.00	2	1.00	3	1.00	4
10	2.00	1	4.00	2	1.00	3	3.00	4
11	2.00	1	4.00	2	2.00	3	3.00	4
12	3.00	1	4.00	2	1.00	3	3.00	4
13	2.00	1	3.00	2	2.00	3	3.00	4
14	2.00	1	4.00	2	2.00	3	3.00	4
15	2.00	1	3.00	2	1.00	3	3.00	4
16	3.00	1	3.00	2	1.00	3	3.00	4
17	2.00	1	3.00	2	1.00	3	3.00	4
18	2.00	1	4.00	2	3.00	3	3.00	4
19	2.00	1	3.00	2	3.00	3	3.00	4
20	3.00	1	4.00	2	1.00	3	3.00	4

21	3.00	1	4.00	2	1.00	3	3.00	4
22	3.00	1	3.00	2	1.00	3	3.00	4
23	3.00	1	4.00	2	2.00	3	3.00	4
24	2.00	1	4.00	2	1.00	3	3.00	4
25	2.00	1	4.00	2	1.00	3	3.00	4
26	2.00	1	4.00	2	3.00	3	3.00	4
27	2.00	1	4.00	2	1.00	3	3.00	4
28	3.00	1	4.00	2	1.00	3	3.00	4
29	2.00	1	4.00	2	3.00	3	3.00	4
30	2.00	1	3.00	2	1.00	3	3.00	4
31	2.00	1	4.00	2	3.00	3	3.00	4
32	2.00	1	4.00	2	3.00	3	3.00	4
33	2.00	1	4.00	2			3.00	4
34	2.00	1	4.00	2			3.00	4
35	2.00	1	3.00	2			3.00	4
36	3.00	1	4.00	2			3.00	4
37	2.00	1	4.00	2			3.00	4
38	2.00	1	3.00	2			3.00	4
39	2.00	1	4.00	2			3.00	4
40	2.00	1					3.00	4
41	3.00	1					3.00	4
42	2.00	1					3.00	4
43	2.00	1					4.00	4
44	3.00	1					3.00	4

45	4.00	1		3.00	4
46	4.00	1		3.00	4
47	2.00	1			
48	2.00	1			
49	2.00	1			
50	4.00	1			
51	4.00	1			
52	4.00	1			
53	4.00	1			
54	4.00	1			
55	4.00	1			
56	4.00	1			
57	4.00	1			
58	4.00	1			
59	4.00	1			
60	4.00	1			
61	4.00	1			
62	4.00	1			
63	4.00	1			

HR Configurations:
1.00 = Productivity-based
2.00 = Knowledge-based
3.00 = Compliance-based
4.00 = Collaborative-based

TABLE 21

Structural Equation Model Results for First Model (Figure 3)

			Estimate	S.E.	C.R.	P
HRConfig	<---	Int_Close	-0.05	0.015	-3.422	***
HRConfig	<---	Crit_Scale	-0.227	0.039	-5.761	***
POF_Scale	<---	HRConfig	-1.29	0.301	-4.285	***
PCB_Scale	<---	HRConfig	0.303	0.172	1.757	0.079
PCB_Scale	<---	POF_Scale	-0.938	0.053	-17.611	***
Indiv. Performance	<---	PCB_Scale	-0.559	0.036	-15.554	***

First Model Fit Summary

	CMIN	DF	P	GFI	CFI	RMSEA
Model	715.656	33	0.01	0.618	0.646	0.34

TABLE 22

Structural Equation Model Results for Second Model

			Estimate	S.E.	C.R.	P
HRConfig	<---	Int_Close	-0.057	0.016	-3.623	***
HRConfig	<---	Crit_Scale	-0.195	0.038	-5.07	***
Indiv	<---	HRConfig	-1.582	0.352	-4.489	***
POF_Scale	<---	HRConfig	-1.569	0.375	-4.185	***
PCB_Scale	<---	POF_Scale	-0.985	0.048	-20.346	***

Second Model Fit Summary

	CMIN	DF	P	GFI	CFI	RMSEA
Model	820.009	34	0	0.588	0.592	0.359

APPENDIX A

COVER LETTERS AND QUESTIONNAIRES

AMSRD-AAR-D

MEMORANDUM FOR: ARDEC Human Capital Contractors

SUBJECT: Voluntary Survey

1. We request on a no cost voluntary basis that you administer two surveys, one to each contract employee you have working at ARDEC and one for the supervisor of each contract employee. Our goal is to understand how ARDEC engages and manages contact human capital. The survey results will be analyzed to develop a framework that will positively impact ARDEC's organizational performance.

2. Attached are two letters we would like for you to distribute. Each includes an online link to the surveys. Please provide Bill Castellano at Rutgers University with a list of the contract employees and managers you are surveying on ARDEC's behalf. Bill will monitor each vendor's response rate to ensure we collect all necessary data needed for this study. His contacts information is as follows:

      Bill Castellano, Ph.D. Candidate

      Rutgers University   Tel: 732-445-7958
      94 Rockefeller Road   Cell: 732-513-2630
      Piscataway, NJ 08853   EM: wcastell@rci.rutgers.edu

3. Your cooperation is appreciated and vital to us in our ongoing efforts to enhance the effectiveness of the management of contract human capital necessary for achieving ARDEC's mission.

                     _____
                     Director, ARDEC

AMSRD-AAR-D

MEMORANDUM FOR: Contract Human Capital Managers

SUBJECT: Contractor Human Capital Management Survey

1. Cooperative Research and Development Agreement (CRADA) for research of human capital management practice.

2. We are requesting participation of contract human capital managers. They should complete a survey for each contract employee they directly manage.
Contract managers are to assess their contract employees in accordance with the survey. The results will determine the most efficient means of engaging contract employees in supporting ARDEC's mission.

3. The Human Capital Management Office (HCMO) is teaming with RUTGERS University to perform a human capital management study involving contracting personnel. RUTGERS University was chosen due to their expertise in human capital management. This six week study will use surveys to understand how ARDEC manages and engages contract human capital. The results will be analyzed to develop a framework that will positively impact ARDEC's organizational performance and enhance motivation towards achieving its mission.

4. This survey is meant for contract managers. It will request information concerning the type of work, human resource management practices, and the overall work performance of contractors. The survey will assess the current means of managing human capital in order to later determine the best practices for improving management.

5. The survey will take approximately 15 minutes. All results are strictly confidential and are only shared among the principal researchers. Your name and other contact information will not be published. Participation and accurate responses are imperative in the outcome of this study. However, participation is optional and you may skip any questions. Please use the following link to access the survey:
http://smlr.rutgers.edu/ARDEC

_____

Director, ARDEC

AMSRD-AAR-D

MEMORANDUM FOR: ARDEC Vendors' Contract Employees

SUBJECT: Contract Human Capital Management Survey

1. Reference Cooperative Research and Development Agreement (CRADA) for research of human capital management practice.

2. We are requesting participation of the ARDEC Vendors to survey their contract employees. All contract employees are to assess the way they are managed in accordance with the survey. The results will determine the most efficient means of improving performance towards ARDEC's mission.

3. The Human Capital Management Office (HCMO) is teaming with RUTGERS University to perform a human capital management study involving contracting personnel. RUTGERS University was chosen due to their expertise in human capital management. This six week study will use surveys to understand how ARDEC manages and engages contract human capital. The results will be analyzed to develop a framework that will positively impact ARDEC's organizational performance and enhance motivation towards achieving its mission.

4. This survey is meant for contract employees. It will request information concerning the type of work, human resource management practices, and the overall work performance of contractors. The survey will assess the current means of managing human capital in order to later determine the best practices for improving management.

5. The survey will take approximately 15 minutes. All results are strictly confidential and are only shared among the principal researchers. Your name and other contact information will not be published. Participation and accurate responses are imperative in the outcome of this study. However, participation is optional and you may skip any questions. Please use the following link to access the survey:
http://smlr.rutgers.edu/ARDEC

_____
Director, ARDEC

Informed Consent for Contract Human Capital
Manager Survey

Thank you for agreeing to participate in this research study being conducted by the School of Management and Labor Relations at Rutgers University. The purpose of this research is to understand how organizations engage and manage contract human capital.

As a participant, you will complete a brief survey (approximately 15 minutes) that asks questions about how you engage and manage contract workers and questions regarding contract workers' job performance. You are requested to complete a survey for each contract worker you directly manage. We are also surveying each contract worker that you manage and will ask similar questions concerning how they were engaged and managed. All survey responses will be confidential. No one other than the principal investigator will have access to survey data. Our goal is to report aggregate information concerning the responses from all participants in which there will be no information that can identify you or the contract worker/s.

Your responses are very valuable to the ultimate success of this important study. By participating in the study you are helping to advance the management of contract human capital in today's organizations.

There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

The information in the study records will be kept strictly confidential. Data will be stored securely in a locked cabinet and/or restricted-access computer and will be made available only to persons conducting the study unless you specifically give permission in writing to do otherwise. No reference will be made in oral or written reports which could link you to the study.

When the results of this study are published or presented at a professional conference, only aggregated data will be used with no identifying information. If there is a request to develop a customized company report, once again, only aggregate data with no identifying information will be used. Additionally, there must be at least five survey pairs before a report can be generated.

If you have any questions about the study procedures, you may contact William Castellano, Principal Investigator, at (732) 445-7958, wcastell@rci.rutgers.edu, or David Lepak, Faculty Advisor, at 732-445-1389, lepak@smlr.rutgers.edu, located at:
Rutgers University
School of Management and Labor Relations
94 Rockafeller Road
Piscataway, NJ 08854-8075

If you have any questions about your rights as a research participant, you may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 ext. 2104
Email: humansubjects@orsp.rutgers.edu

Please sign below if you agree to participate in this research study:
Subject _____ Date _____

Principal Investigator _____ Date _____

Contract Human Capital Manager Survey

Name: _____ Department Name: _____

Contract Worker Name: _____ Title: _____

How long has this contract worker been working at this organization (indicate number of months)? _____

What is the size of the work group or team that this contract worker supports (indicate total number of employees and contract workers)? _____

In this section of the survey we are interested in understanding the strategic reason for employing this contact worker.

Directions: Please circle a number (1-7) indicating the degree to which the following statements describes the strategic reason for engaging this contract worker.

	Strongly Disagree					Highly Agree	
The strategic reason for employing this contract worker is to help us…							
…reduce our human capital costs.	1	2	3	4	5	6	7
…gain access to specialized skills and expertise.	1	2	3	4	5	6	7
…respond to fluctuations in operational demands.	1	2	3	4	5	6	7
…control our human capital costs.	1	2	3	4	5	6	7

In this section of the survey we want you to focus on the type of work being performed by the contract worker.

Directions: Please circle a number (1-7) indicating the degree to which the following statements describes the level of interdependency of the work being performed by the contract worker.

	Strongly Disagree					Highly Agree	
The contract worker…							
…works closely with employees.	1	2	3	4	5	6	7
…works onsite at client's facilities.	1	2	3	4	5	6	7
…frequently coordinates efforts with employees.	1	2	3	4	5	6	7
…spends time in face-to-face communications with employees.	1	2	3	4	5	6	7
…uses client resources, e.g. systems, facilities, supplies, etc.	1	2	3	4	5	6	7

Directions: Please circle a number (1-7) indicating the degree to which the following statements describes the level of criticality of the work being performed by the contract worker.

	Strongly Disagree					Highly Agree	
The work the contract worker performs…							
…contributes to important work group or organization goals.	1	2	3	4	5	6	7

…contributes to the creation of customer value.	1	2	3	4	5	6	7
…requires skills not widely available in the labor market.	1	2	3	4	5	6	7
…requires skills that are difficult for our organization to duplicate.	1	2	3	4	5	6	7

In this section of the survey we want you to focus on the type of human resource management practices used to manage this contract worker.

Directions: Please circle a number (1-7) indicating the extent to which you agree with the following statements concerning the human resource management practices used for managing this contract worker.

	Strongly Disagree					**Highly Agree**	

Recruitment and Selection
The recruitment/selection process for this contract worker:

…was comprehensive (used multiple interviews and/or tests, etc.).	1	2	3	4	5	6	7
…assessed their ability to perform general tasks.	1	2	3	4	5	6	7
…assessed their industry knowledge and expertise.	1	2	3	4	5	6	7
…assessed their ability to collaborate and work in teams.	1	2	3	4	5	6	7
…assessed their reliability and reputation.	1	2	3	4	5	6	7
…focused on their ability to contribute to strategic objectives.	1	2	3	4	5	6	7
…emphasized their capacity to perform right away.	1	2	3	4	5	6	7

Performance Appraisal
The performance appraisal process for this contract worker is based on:

…adequately performing general tasks.	1	2	3	4	5	6	7
…specific quantifiable and measurable results.	1	2	3	4	5	6	7
…their contributions to our strategic objectives.	1	2	3	4	5	6	7
…their willingness to share knowledge.	1	2	3	4	5	6	7
…their compliance with preset standards and procedures.	1	2	3	4	5	6	7
…their ability to work with others.	1	2	3	4	5	6	7
…their ability to collaborate with the work group.	1	2	3	4	5	6	7

Compensation
Compensation for this contract worker:

…is highly competitive with industry pay rates.	1	2	3	4	5	6	7
…is based on the standard market wage (going rate).	1	2	3	4	5	6	7
…is designed to ensure equity with work group peers.	1	2	3	4	5	6	7
…includes a wage premium to cover benefit costs.	1	2	3	4	5	6	7

Communication
The communication process with this contract worker entails:

…inclusion in all work group communications.	1	2	3	4	5	6	7
…extensive information and knowledge sharing.	1	2	3	4	5	6	7
…a basic exchange of information needed to coordinate work.	1	2	3	4	5	6	7
…a high degree of collaboration with the work group or team.	1	2	3	4	5	6	7
…involvement in decision making activities that impact the work.	1	2	3	4	5	6	7

In this section of the survey we want you to focus on your assessment of the overall work performance of this contract worker.

Directions: Please circle a number (1-7) indicating the extent to which you agree with the following statements concerning the work performed by the contract worker.

	Strongly Disagree					**Highly Agree**	

Contract worker …

...adequately completes assigned duties.	1	2	3	4	5	6	7
…fails to perform essential duties.	1	2	3	4	5	6	7
…offers ideas to improve the functioning of the work group.	1	2	3	4	5	6	7
…volunteers for things that were not required.	1	2	3	4	5	6	7
…performs his/her work conscientiously.	1	2	3	4	5	6	7
…goes out of his or her way to help others.	1	2	3	4	5	6	7
…always completes work on time.	1	2	3	4	5	6	7

Informed Consent for Contract Worker's Survey

Thank you for agreeing to participate in this research study being conducted by the School of Management and Labor Relations at Rutgers University. The purpose of this research is to understand how organizations engage and manage contract human capital.

This survey should take no more than 10 minutes to complete. We are also surveying your direct manager. Your survey responses will be confidential. No one other than the principal investigator will have access to survey data. Our goal is to report aggregate information concerning the responses from all participants in which there will be no information that can identify you or your manager.

Your responses are very valuable to the ultimate success of this important study. By participating in the study you are helping to advance the management of contract human capital in today's organizations.

There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

The information in the study records will be kept strictly confidential. Data will be stored securely in a locked cabinet and/or restricted-access computer and will be made available only to persons conducting the study unless you specifically give permission in writing to do otherwise. No reference will be made in oral or written reports which could link you to the study.

When the results of this study are published or presented at a professional conference, only aggregated data will be used with no identifying information. If there is a request to develop a customized company report, once again, only aggregate data with no identifying information will be used at the company level. Additionally, there must be at least five survey pairs before a report can be generated.

If you have any questions about the study procedures, you may contact William Castellano, Principal Investigator, at (732) 445-7958, wcastell@rci.rutgers.edu, or David Lepak, Faculty Advisor, at 732-445-1389, lepak@smlr.rutgers.edu, located at:

Rutgers University
School of Management and Labor Relations
94 Rockafeller Road
Piscataway, NJ 08854-8075

If you have any questions about your rights as a research participant, you may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 ext. 2104
Email: humansubjects@orsp.rutgers.edu

Please sign below if you agree to participate in this research study:

Subject _____ Date _____

Principal Investigator _____ Date _____

Contract Human Capital Survey

Name: _____ Title: _____

ARDEC Manager's Name: _____ ARDEC Department Name: _____

How long have you been working at this organization (indicate number of months)? _____

What is the size of the work group or team that you work with (indicate total number of employees and contract workers)? _____

What is your employment status? Please check the appropriate box:
Employee of a temporary staffing or consulting firm ____
Independent Contractor _____
Employee of a business service firm____

In this section of the survey we are interested in understanding what your preferences are for working as a contract worker

Directions: Please circle a number (1-7) indicating the extent to which you agree with the following statements concerning your preferences for working as a contract worker.

	Strongly Disagree				Strongly Agree		
I am currently working as a contract worker because I…							
…want greater control over my time and work schedule.	1	2	3	4	5	6	7
…enjoy having the opportunity to work in different environments.	1	2	3	4	5	6	7
…want to experience a variety of different jobs.	1	2	3	4	5	6	7
…have an opportunity as a contact worker to earn more money.	1	2	3	4	5	6	7
…want to develop new skills that will make me more marketable.	1	2	3	4	5	6	7
…am hopeful the assignment may lead to a permanent position.	1	2	3	4	5	6	7
…value the opportunity to use a wide variety of skills.	1	2	3	4	5	6	7
…don't have a choice for other work.	1	2	3	4	5	6	7
…I am an employee of a service provider to ARDEC	1	2	3	4	5	6	7

In this section of the survey we want to know who you compare yourself to when assessing the fairness of your compensation and working conditions

Directions: Please circle a number (1-7) indicating the extent to which you agree with the following statements concerning who you compare yourself to.

	Strongly Disagree				Strongly Agree		
When assessing the fairness of my compensation and working conditions I compare myself to…							
…full-time employees of the client organization who I work with	1	2	3	4	5	6	7
…contract workers who I work with.	1	2	3	4	5	6	7
…other contract workers at this organization	1	2	3	4	5	6	7
…other full-time employees of the client organization	1	2	3	4	5	6	7
…my industry and/or professional peers	1	2	3	4	5	6	7

In this section of the survey we want you to focus on the human resource management practices you experienced while working at this company.

Directions: Please circle a number (1-7) indicating the extent to which you agree with the following statements concerning the human resource management practices you experienced.

	Strongly Disagree				**Strongly Agree**		

Recruitment and Selection

The recruitment/selection process you experienced:

…was comprehensive (used multiple interviews and/or tests, etc.).	1	2	3	4	5	6	7
…assessed your ability to perform general tasks.	1	2	3	4	5	6	7
…assessed your industry knowledge and expertise.	1	2	3	4	5	6	7
…assessed your ability to collaborate and work in teams.	1	2	3	4	5	6	7
…assessed your reliability and reputation.	1	2	3	4	5	6	7
…focused on your ability to contribute to strategic objectives.	1	2	3	4	5	6	7
…emphasized you capacity to perform right away.	1	2	3	4	5	6	7

Performance Appraisal

The performance appraisal process is based on:

…adequately performing general tasks.	1	2	3	4	5	6	7
…specific quantifiable and measurable results.	1	2	3	4	5	6	7
…your contributions to meeting strategic objectives.	1	2	3	4	5	6	7
…your willingness to share knowledge.	1	2	3	4	5	6	7
…your complying with preset standards and procedures.	1	2	3	4	5	6	7
…your ability to work with others.	1	2	3	4	5	6	7
…your ability to collaborate with the work group.	1	2	3	4	5	6	7

	Strongly Disagree				**Strongly Agree**		

Compensation

Your compensation:

…is highly competitive with industry pay rates.	1	2	3	4	5	6	7
…is based on the standard market wage (going rate).	1	2	3	4	5	6	7
…is designed to ensure equity with your work group peers.	1	2	3	4	5	6	7
…includes a wage premium to cover benefit costs.	1	2	3	4	5	6	7

Communication

The communication process with you entails:

…inclusion in all work group communications.	1	2	3	4	5	6	7
…extensive information and knowledge sharing.	1	2	3	4	5	6	7
…a basic exchange of information needed to coordinate work.	1	2	3	4	5	6	7
…a high degree of collaboration with the work group or team.	1	2	3	4	5	6	7
…involvement in decision making activities that impact your work.	1	2	3	4	5	6	7

In this section of the survey we are interested in your overall impressions on how you were managed.

Directions: Please circle a number (1-7) indicating the degree to which the following statements describes your experience.

	Not At All					**To a Large Extent**	

Based on the compensation you received, to what extent …

| … does it reflect the effort you put into your work? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| … is it appropriate for the work you have completed? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Based on your interactions with your manager, to what extent …

... has he/she been candid in communications with you?	1	2	3	4	5	6	7
… has he/she communicated details in a timely manner?	1	2	3	4	5	6	7
…were his/her explanations regarding procedures reasonable?	1	2	3	4	5	6	7
…has he/she used consistent standards in evaluating? your performance?	1	2	3	4	5	6	7

In this section we want to know how well all of your expectations working in this assignment have been met.

Directions: Please circle a number (1-7) indicating the degree to which the following statements describes your experience.

	Not At All					**To a Large Extent**	

I have not received everything promised to me in exchange for my contributions.	1	2	3	4	5	6	7
So far my employer/client has done an excellent job fulfilling its promises to me.	1	2	3	4	5	6	7
My employer/client has done a good job of meeting its obligations to me.	1	2	3	4	5	6	7
My employer/client has fulfilled the most important obligations to me.	1	2	3	4	5	6	7
Almost all the promises made by my employer/client during recruitment have been kept thus far.	1	2	3	4	5	6	7

APPENDIX B

JOBS IDENTIFIED BY ENGAGEMENT MODES

Knowledge Work

Systems Engineer
Senior Systems Analyst
Operations Research Analyst
Computer Scientist
Mechanical Engineer
Quality Assurance Engineer
Senior Engineer
Chemist
Physical Scientist
Materials Engineer
Human Capital Officer

Project Work

Equipment Specialist
Safety Specialist
Systems Analyst
Quality Assurance Specialist
Safety Specialist
Program Manager
Training Instructor
Business Analyst
Logistics Analyst

Contract Work
Janitor
Painter
Maintenance Specialist
Electrician
Carpenter
Plumber
Security Guard
Security Specialist

Partnership
Mechanical Engineer
Information Technologist
Product Developer
Database Engineer
Scientist
Systems Designer
Senior Engineer

Physical Scientist
Weapons Design Specialist
Manufacturing Engineer
Communication Systems Engineer
Systems Engineer
Systems Specialist

CURRICULUM VITA

EDUCATION

5/10   **Rutgers University**
Graduate School – New Brunswick, N.J
Ph.D. Industrial Relations and Human Resource Management

5/09   **Rutgers University**
Graduate School – New Brunswick, N.J.
Masters of Science
Industrial Relations and Human Resource Management

12/95   **Rutgers University**
Graduate School - New Brunswick, N.J.
Masters of Science
Human Resources Management

6/90   **Pace University, New York, N.Y.**
Lubin School of Business
Bachelors in Business Administration
Human Resources Management
Magna Cum Laude

ACADEMIC EXPERINCE

6/05 – 5/10   **Rutgers University**
                Doctoral Program, IR and Human Resource Management
Full-time doctoral student and instructor conducting research and teaching in human resource management

6/09 – present **Rutgers University**
                Director HRM Undergraduate Programs
Responsible for program design, marketing and administration of SMLR's undergraduate HR minor program

1/08 – present   **Rutgers University Center for Human Resource Strategy**
                    Associate Director
Liaison with board member firms' executive human resource managers to identify areas of interests and conducting research

TEACHING EXPERIENCE

Spring, 2010. Rutgers University Graduate School of Management and Labor Relations
Course Title: HR Strategy IV: Designing and Implementing Human Capital Strategies in an Era of Change (sections 01, 02)

Spring, 2010 Rutgers University Graduate School of Management and Labor Relations
Course Title: Financial Decisions

Spring, 2010. Rutgers University Undergraduate School of Management and Labor Relations
Course Title: Global Human Resource Management

Fall, 2009. Rutgers University Undergraduate School of Management and Labor Relations
Course Title: Introduction to Human Resource Management (sections 01,03)

Fall, 2009. Rutgers University Graduate School of Management and Labor Relations
Course Title: Economics and Demographics of Labor Markets

Summer, 2009. Rutgers University Graduate School of Management and Labor Relations
Course Title: Labor Economics

Spring, 2009. Rutgers University Graduate School of Management and Labor Relations
Course Title: Financial Decisions

Fall, 2008 Rutgers University Graduate School of Management and Labor Relations
Course Title: Financial Decisions

Summer, 2008 Rutgers University Graduate School of Management and Labor Relations
Course Title: Economics and Demographics of Labor Markets

Spring, 2008 Rutgers University Graduate School of Management and Labor Relations
Course Title: Financial Decisions

Fall, 2007 Rutgers University Graduate School of Management and Labor Relations
Course Title: HR Strategy IV: Designing and Implementing Human Capital Strategies in an Era of Change

Summer, 2007 Rutgers University Graduate School of Management and Labor Relations
Course Title: Economics and Demographics of Labor Markets

Spring, 2007 Rutgers University Graduate School of Management and Labor Relations
Course Title: HR Strategy IV: Designing and Implementing Human Capital Strategies in an Era of Change

Summer, 2006 Rutgers University Graduate School of Management and Labor Relations
Course Title: Economics and Demographics of Labor Markets

Fall, 2005 Rutgers University Graduate School of Management and Labor Relations
Course Title: HR Strategy IV: Strategic Human Resource Management

PROFESSIONAL EXPERIENCE

3/03-3/05   **Flex Corp Systems**
                         Chief Marketing Officer
Built an HR outsourcing business from $2.5 million in revenues to $30 million

2/85 - 3/02   **Merrill Lynch and Company, Inc.**

5/97 - 3/02   **Vice President, Global Staffing**
Managed Global Staffing focusing on firm-wide development of recruiting strategies, executive search, talent management, vendor management, staffing technologies and recruitment advertising

3/94 - 5/97   **Vice President, Organizational Change**
Managed HR Policy & Planning and EEO/Community Relations responsible for aligning HR practices and programs with the global business strategy

9/91 - 3/94   **Vice President, Individual Investor Group HR**
Provided HR generalist support including employee relations, staffing, compensation and performance management for two business groups consisting of over 4,000 employees nationwide.

9/89 - 9/91   **AVP, Operations, Systems & Technology HR**
Provided HR generalist support including staffing, employee relations, compensation, and performance management for a business group of over 2,500 employees.

3/87 - 9/89   **Employment Manager, Operations, Systems & Technology HR**
Managed professional and college recruiting hiring over 800 employees a year.

2/85 - 3/87   **Sr. Executive Recruiter**
Supported the Capital Markets and Corporate Finance Groups

PUBLICATIONS

Papers

Castellano, W.G. 2010. Contract Human Capital HR Architecture. Dissertation submitted
     to the Graduate School-New Brunswick **Rutgers University**.

Gully, S.M., Phillips, J.M. & Castellano, W. 2010. Innovation-oriented advertising

messages, job seeker goal orientation and recruiting effectiveness. (Under Review at JAP) To be presented at the **Academy of Management Annual Meeting,** Montreal, CA.

Phillips, J. M., Gully, S. M., & Castellano, W. 2009. A model of the role of recruitment messages in applicant diversity and attitudes toward diversity. Interactive paper presented at the **Academy of Management Annual Meeting**, August 7-11, Chicago, IL.

Gully, S. M., Phillips, J. M., Castellano, W., & Han, K. 2009. A model of the role of recruitment messages in recruiting environmentally responsible applicants. Interactive paper presented at the **Academy of Management Annual Meeting**, August 7-11, Chicago, IL.

McKay, P., Avery, D., Castellano, W., & Morris, M. 2009. It's cheaper to keep them: A model of the psychological diversity climate-voluntary turnover relationship, presented at the **Society for Industrial and Organizational Psychology,** New Orleans, LA.

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