

CONTEXTUAL FACTORS AND CONTINGENT REWARD
LEADERSHIP: EMPLOYER ADOPTION OF TELECOMMUTING¹

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Abstract

Using a contingency perspective, this paper examines the conditions under which telecommuting is most likely to be adopted with data obtained from a sample of 122 CEOs. We hypothesized that telecommuting fits better in younger organizations, firms with a higher proportion of women and international employees in workforce, and companies that offer variable pay. We found evidence that confirm the prediction that telecommuting, a high proportion of international employees, and the use of variable compensation as an internal control mechanism tend to go hand in hand. We also hypothesize and find general support for the idea that a contingent reward leadership style at the top moderates the relationship between firm age, internationalization, and employer adoption of telecommuting. This study offers a novel theoretical approach to better understand organizational responsiveness to work-family issues in general and suggest future research avenues on the role and consequences of telecommuting specifically.

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CONTEXTUAL FACTORS AND CONTINGENT REWARD LEADERSHIP: EMPLOYER ADOPTION OF TELECOMMUTING

The notion of "fit" as an explanatory concept for the presence or absence of various employment practices has a long history in the field of human resource management (Butler, Ferris, Napier, 1991; Dyer, 1985; Fombrun, Tichy & Devana, 1984; Golden & Ramanujam, 1985; Milkovich, 1988). Its importance is summarized by Gomez-Mejia and Balkin (1992:115) as follows: "lack of *fit* or *equifinality* between two or more elements of a system reduces its overall effectiveness. If they lack fit, the constituent parts would function at cross-purposes, not at tandem in a synergistic fashion. Unless elements within the system are realigned and brought into consistency, the system will continue to operate suboptimally and, in extreme cases, fail to survive.... As a corollary, human resource practices should not be examined out of context as an independent phenomena." The basic argument in this literature is that, to be effective, the adoption of human resource policies and procedures (such as variable pay plans; c.f., Balkin & Gomez-Mejia, 1987) is contingent on the particular needs of the organization, and these needs are a function of such idiosyncratic factors as firm's age (Budhwar & Khatri, 2001), work force composition (Riggs, 1983; Balkin & Gomez Mejjia, 1987), and the management style of top executives (Wright, McManan, Snell, & Gerhart, 2001; Ortiz-Fuertes & Fernandez-Sanchez, 2003). This literature also emphasizes the fact that employment practices are not implemented in isolation but tend to be consistent amongst each other (for instance, variable pay tends to be associated with greater decentralization and autonomy granted to workforce, c.f., Gomez-Mejia & Balkin, 1992).

One practice that has not been studied from this contingency lens is telecommuting, in spite of its rapid growth in recent years (Golden, Veiga, & Simsek, 2006). Extant research on organizational responsiveness to work-family issues has included telecommuting as part of a broad category of flexible workplace options (e.g., Allen, 2001; Clark, 2001; Ingram and Simons, 1995; Milliken, Martin, and Morgan, 1998; Osterman, 1995). Yet, allowing employees to work at home may require stronger organizational adaptations than other types of "family friendly" policies such as flexible schedules. In this research, we address this gap by examining those conditions under which telecommuting is most likely to be adopted. We propose a "fit" model that combines leadership and contextual factors to predict the practice of telecommuting. We argue and find general support for the idea that telecommuting is most prevalent in small firms and when the organization has a large international workforce. We also find that a contingent reward leadership style at the top is more conducive to telecommuting in younger organizations and firms with a greater proportion of international employees. Further, we propose and empirically confirm the hypothesis that those firms which implement telecommuting also emphasize the use of variable compensation as an internal control mechanism.

This study contributes to the work-family literature in four ways. First, although much has been written about work flexibility during the past 30 years (e.g., Baltes et al 1999; Thompson & Prottas, 2005; Thomas & Gauster, 1995), very little scholarly research has focused on telecommuting per se. As noted above, telecommuting offers much greater employee autonomy than other types of "family friendly" plans such as flexible work hours, parental leave, on-site child care facilities and the like. Hence, both on theoretical and practical grounds telework is rather distinct and needs research attention of its own. Second, very little is known about characteristics that are shared by

organizations which offer telecommuting. Identifying these characteristics may provide clues as to contextual factors that influence the value added of telecommuting to organizational effectiveness. Third, most family-friendly policy research has ignored the role of monetary incentives. This limits our ability to draw conclusions about how telecommuting, which makes employee monitoring much more difficult, may be implemented without considering incentive alignment as a partial substitute for direct supervision.

Lastly, the influence of leadership in explaining the effects of family friendly programs on employee attitudes and behaviors remain relatively underresearched. As Wang and Walumbwa (2007) state: “leadership may be among the more potent moderators of the influence of family-friendly programs on follower work attitudes and behaviors” (p 400). To date we are not aware of any published studies that have investigated the interactive effects of organizational and work force characteristics with leadership style as predictors of telecommuting. Whereas technology is no longer a barrier to telework, managers’ attitudes toward telecommuting may be playing an important role in the strategic decision to offer this practice. Trust is a critical factor in the adoption of telecommuting and the effective functioning of virtual teams. However, some supervisors do not believe that employees will work as hard unless they are closely supervised (Cascio, 2000; Jarvenpaa, Knol, and Leidner, 1998) and they might resist the adoption of telecommuting practices among their employees (Topi, 2004). Leading a workforce with high degrees of discretion involves the adoption of a congruent management philosophy that relies more on trust and results oriented performance management systems. One aim of our study is to develop a better understanding of how CEOs leadership style moderates the relationship between contextual factors from particular collectives and the organizational decision to offer telecommuting. Because this study is based on a contingency framework that integrates literatures on organizational demographics, compensation, and leadership, it provides a potentially important theoretical contribution. Such integration should allow us to begin addressing the question of why some firms embrace telecommuting while others do not.

Theoretical Framework

Background

Telecommuting offers the possibility of working on-line from home. There has been a dramatic increase in the number of employees that are given this opportunity in the last few years. In the United States, for example, a survey issued by WorldatWork (2006)¹ reports that the number of employees whose employer allows them to telecommute at least one day per month has increased almost 40% during 2004-2006 (from 7.6 million in 2004 to 12.4 million in 2006). This number represents roughly 8 percent of the U.S. labor force and this figure is expected to reach at least 14 million by the end of the decade. In general, management scholars and practitioners seem to agree that the advantages of telecommuting practices for the organization and its employees offset the disadvantages (e.g., Neufeld & Fang, 2005). For the organization, telecommuting helps cut costs, such as overhead and facilities, providing greater flexibility in resource allocation. It can also improve attraction and retention of talent in a tight labor market without resorting to “an above market” compensation policy (Khalifa & Etezadi, 1997).

¹ WorldatWork 2006 Telework Trendlines, commissioned from the Dieringer Research Group (<http://www.workingfromanywhere.org/>).

In addition, a recent study by Golden, Veiga, and Simsek (2006) shows that telecommuting helps employees reduce potential work-family conflict allowing them to balance these two realms of their life. There are also benefits for society in general. There is some initial evidence that telecommuting may help reduce traffic congestion and air pollution (Nelson, 2004). As part of the 1999 National Telecommuting and Air Quality Act, the “ecommuter” programs were created in five metropolitan areas in the United States in which companies could gain emission credits by reducing the vehicles miles travelled by their employees through telework programs. Despite its purported advantages, telework may be more appropriate for some settings than others. The ensuing section develops the theoretical logic to hypothesize which factors are most conducive to its adoption by particular firms.

The Fit of Telecommuting with Workforce Characteristics

We propose that the composition of workforce is likely to influence a firm’s decision to offer telecommuting. Specifically, we hypothesize that telecommuting fits better a work force that is predominantly female and with a high international representation.

Gender. Resource dependence theory asserts that organizations that satisfy the demands of stakeholders that control critical resources are able to ensure their continued support (Pfefer and Salancik, 1978). Based on this theory, work-family researchers (Goodstein, 1994; Ingram & Simons, 1995; Milliken et al., 1998; Osterman, 1995) have argued that as the percentage of female employees in the organization increases, so does the dependency of the organization on this social group and, therefore, the pressures to offer work-family benefits to be responsive to their needs. Indeed, the presence of female employees has been identified as an important driving force in organizational responsiveness to work-family issues (Kammerman & Kahn, 1987; Milliken, Dutton & Beyer, 1990) and telecommuting has been popularly seen as a way to help balance work and family life (Rau & Hyland, 2002). While males may also benefit from telecommuting, its advantages are probably more salient to women. This is because women are fully responsible for child bearing, and still carry most of the societal burden for child rearing and domestic endeavors (Johnson, 2005; Kluwer et al, 2002), particularly in a “high masculinity” culture such as Spain (Hofstede, 1980). At least for some women telecommuting may be the only option to be gainfully employed, particularly during child bearing years. Thus, organizations with higher percentages of women in their workforces are more likely to offer the option of telecommuting to satisfy their demands, and, therefore, facilitate recruitment, retention, and the provision of (lower cost) non-monetary compensation that is highly valuable to them. Another way of looking at this from a contingency perspective is that telecommuting is a better fit in organizations whose work force is primarily female since it addresses women’s specific needs in terms of balancing work and family life. Accordingly, we hypothesize that the proportion of women in the firm will be positively related to the adoption of telecommuting.

Hypothesis 1: The greater the proportion of women in the workforce, the more likely the organization will offer telecommuting to their employees.

International Employees. Globalization has brought firms the opportunity to operate beyond their national borders. As the world becomes a “flat” (Friedman, 2006),

internationalization increases geographical dispersion among employees and the use of virtual teams (Cascio, 2000; Jarvenpaa, Knoll, and Leidner, 1998; Jarvenpaa and Laidner, 1999; Malhotra, Majchrzak, and Rosen, 2007). Telecommuting clearly fits with these contextual conditions since it allows organizations to overcome the physical barriers of distance and travel across national borders, allowing flexibility and cost savings (e.g., Agpar, 1998; Davenport and Pearlson, 1998). Telecommuting takes central stage in virtual organizations (Kurlan & Egan, 1999) and these new forms of organizations use telecommuting as a valuable practice to decentralize their operations and offer continuous service to customers by linking remote locations (Potter, 2003) and hiring overseas workers (Crandall & Gao, 2005). At the same time, as the firm relies on international employees to conduct its activities, they become an important constituency that is likely to exert pressure on the organization to offer telecommuting. Failure to do so would make it more difficult to attract and retain talented international employees who are embedded in their communities and who might prefer to work from their home base. Because telecommuting fits with the nature of decentralized task completion processes and the preferences of international employees, we expect to find a positive link between their representation in the workforce and the adoption of telecommuting.

Hypothesis 2: The greater the proportion of international employees, the more likely the organization will offer telecommuting as a working option.

The Fit of Telecommuting with Organizational Characteristics

As it is the case with other human resource practices (Gomez-Mejia & Balkin, 1992), we expect that certain organizational features are more amenable to the adoption of telecommuting. Specifically, we argue that firm age and size are inversely related to the offering of telework.

Firm Age. The human resource literature suggests that the practices adopted by organizations to attract and retain employees change as the firm goes through different stages of development due to multiple considerations of fit (Balkin & Gomez-Mejia, 1987; Heneman, Tansky, & Camp, 2000; Leung, 2003). Young organizations are exposed to the liabilities of newness (Aldrich and Auster, 1986). Such liability is manifested in the lack of financial and material resources (Hannan and Freeman, 1984), lower organizational legitimacy (Williamson, 2000) and a high level of uncertainty (Gartner, Bird, & Starr, 1992). Limited financial resources may hamper young firms' ability to offer attractive remuneration packages. Lack of name recognition, lesser prestige and unestablished reputation reduce their "marquis value" as employers-of-choice (Williamson, 2000) and their higher rate of mortality (Hannan & Freeman, 1989) implies that considering the option to work for a relatively young firm is a high personal risk (Bruderl & Schussler, 1990). Young firms must therefore design human resource practices that compensate for this liability without consuming cash resources that they do not possess. Telecommuting seems to be a practice that helps these young companies deal with these constraints. It offers employees high flexibility (an important non-monetary reward) and it is relatively easy and inexpensive to implement. Hence, it may assist young firms in a cost effective fashion to partly overcome the liability of newness when trying to attract talent to their companies and reduce attrition rates. Thus, we expect the following:

Hypothesis 3: The younger the company, the more likely it will offer telecommuting to their employees.

Firm Size. Another variable that is likely to affect the adoption of telecommuting is organizational size. Smaller firms are more likely to adopt telecommuting practices based on technical rationality arguments. From a technical rationality perspective, organizations adopt new practices based on their purported benefit (e.g., Mansfield, 1961, 1963; Rogers, 1995; David, 1969; Davies, 1979). The advantages of telecommuting to smaller firms fall into three categories: financial, operational and cultural. First, in terms of finance, smaller firms have less financial resources and might be more likely to offer telecommuting as a way to offset their weak cash flow position. For instance, some of the contingency based literature in human resources suggests that smaller companies buffer their short-term economic pressures by offering lower fixed compensation to employees and instead provide a variety of programs that substitute financial commitments (via higher salaries) with incentives that promise greater upside potential (Balkin and Gomez-Mejia, 1987). Instead of dispensing unaffordable financial rewards, smaller firms may offer telecommuting as a non-monetary incentive to attract and retain talent and to foster employees' intrinsic motivation. Second, operationally, smaller firms have less formal structure, possess less standardization and are more flexible (Carrier, 1994). In a less bureaucratic organization, employers have more freedom to offer telecommuting to employees (Osterman 1994; Sheppeck and Militello; 2000) who might benefit from it without worrying about employees' comparisons and avoiding perceptions of injustice (for instance, believing that others are taking an unfair advantage of the system). Smaller work settings breed greater familiarity making it more difficult for poor performers to go undetected (Cardon & Stevens, 2004); this allows for greater employee discretion (through a program such as telework) without a corresponding increase in formal rules and regulations to mitigate deviant behaviors (such as misstating number of hours worked or shirking). Finally, in terms of culture, small companies tend to experience less organizational inertia (Rumelt, 1995) and develop more entrepreneurial cultures (Ettlie, 1983). Accordingly, they are more inclined to adopt innovative employment practices (Williamson, 2000; Barber et al 1999), such as telecommuting. Telecommuting is further buttressed in smaller firms by the fact that these organizations tend to have a clan type culture (Ouchi, 1981) and emphasize employee involvement with looser task and supervisory structures (Heneman, Fisher, & Dixon, 2001).

Hypothesis 4: The greater the size of a company, the less likely it will offer telecommuting to its employees.

The Fit of Telecommuting with Other HR Practices: The Case of Variable Compensation

As noted earlier, contingency models in human resource management emphasize the internal fit of HR practices. According to this view, HR practices seldom occur in isolation; rather, they tend to form meaningful clusters or patterns. This means that firms tend to choose HR practices that are internally consistent (Gomez-Mejia & Balkin, 1992).

A long stream of research under the aegis of agency theory suggests that variable pay would be congruent with the practice of telecommuting. Agency theory has been a popular framework for analyzing relationships that involve delegation from one party

(the principal) to another (the agent) in return for a fee, and has been the dominant paradigm in corporate governance research since the early 1970s (Ezzamel, 2005). The seminal article by Jensen and Meckling (1976), which focused on the role of managers as agents of shareholders, has been cited more than 3,000 times during the past three decades. Agency theory has been used not only to examine the compensation design of top executives (e.g., Murphy & Jensen, 1990) but also for sales personnel (Eisenhardt, 1985), the entire workforce (Werner, Tosi & Gomez-Mejia, 1995), various organizational levels (Werner & Tosi, 1995), faculty (Gomez-Mejia & Balkin, 1992) and expatriates (Sanders & Carpenter, 1998). In essence, agency theory proposes that when delegation is involved, conflict of interest may be present between principal (the employer) and agent (employee). For instance, principal may wish for maximum productivity and high quality at low cost while employee may be interested in the highest possible payment for a given level of effort (Holstrom, 1979).

Opportunism refers to actions by agents that reflect the pursuit of personal interest at the expense of principals. Agent opportunism is likely to be greatest under certain conditions. First, when information asymmetry is high, such as when agent has more information about the task at hand than principal (Eisenhardt, 1989). Second, when there is high physical and emotional distance between the parties, such as CEO and dispersed shareholders (Cruz et.al, 2008). In other words, the assumption of agent opportunism is less likely to hold when information asymmetry is low or in a proximal agency relationship where the parties are highly interdependent, work closely with each other, and may be emotionally attached. While most management scholars would disagree with a uniform assumption of employee opportunism (see, for instance, O'Reilly & Chatman, 1986) and some find it repulsive (see, for instance, Donaldson, 1990) it would be naïve to believe that it might not arise under certain conditions (see, for instance, literature on trust; c.f., Mayer, Davis & Schoorman, 1995; Schoorman, Mayer & Davis, 2007). Thus, whenever delegation is present it is important to understand the contextual antecedents to potential agent opportunism and the most appropriate control devices available to principals to curb its severity.

Consistent with above arguments, telecommuting provides fertile grounds for opportunistic behaviors (for instance, attending to non-work related matters on company time or exaggerating the numbers of hours worked) for two reasons. First, information asymmetries are likely to be high when employees are located away from the office since it is more difficult to observe and judge their activities in comparison to those who work on company premises. Second, telecommuting is a prototypical “distant agency relationship” given that there is limited ongoing interaction with superiors and peers.

Greater potential for opportunism under delegation implies that control mechanisms should be put in place to reduce that possibility (Eisenhardt, 1989). Direct supervision or close monitoring are not very practical under telework since the employee spends much of his/her time and efforts at home rather than in the office. Human resources practices that help meet this challenge by providing a substitute to monitoring will facilitate the adoption of telecommuting. One such practice is the use of “incentive alignment” through the use of variable pay (Eisenhardt, 1989). Outcome-based incentive systems are designed to reward employees for their performance when agreed upon objectives have been reached (Milkovich & Newman, 2007). Hence, use of “incentive alignment” systems fits in an environment in which employee behaviors are

difficult to observe and information asymmetries are high (Eisenhardt, 1985, Conlon and Parks, 1990), as it is the case with telecommuting. Formally stated:

***Hypothesis 5:** Organizations that adopt telecommuting are more likely to emphasize variable pay in their compensation system.*

The Moderating Role of Leadership

Managerial interpretation research suggests that “a key part of understanding variance in an organization’s actions is understanding differences in managers’ levels of attention to issues” (Milliken et al., 1998). Once certain issues have been attended to and considered viable, they are more likely to be translated into action (Dutton & Ashord, 1993; Milliken, 1990). Drawing on this notion, we postulate a moderating role of strategic leadership (Finkelstein & Hambrick, 1996; Cannella & Monroe, 1997; Carpenter, Geletkanycz & Sanders, 2004) as a determinant of the organization’s decision to offer telecommuting. In particular, we suggest that two of the contextual factors discussed earlier (namely firm’s age and percentage of international employees) are likely to interact with leadership style in influencing this decision.

Contingent Reward Leadership Style and Firm Age. Several researchers suggest that for telecommuting to be effectively implemented, managers need to make a transition from managing time to managing results (e.g., Cascio, 2000). This leadership style based on performance management and reinforcement is known as contingent reward leadership (Avolio, Bass, and Jung, 1998). Leaders showing a contingent reward style establish relationships with their subordinates based on exchange processes making it clear to followers what they have to do to be effective and what they can expect as rewards for their performance (Bass, 1985, 1990). Contingent reward leadership style has been found to be positively associated with followers’ commitment and performance (Bycio, Hackett, & Allen, 1995; Podsakoff, Todor, Grover, & Huber, 1984).

We expect that HR practices such as telecommuting fit better in younger organizations with a contingent reward leader at the top for three interrelated reasons. First, young organizations are characterized for their use of informal, rather than formal control systems (Galbraith, 1982; Churchill and Lewis, 1983; Miller and Friesen, 1984). Contingent reward leaders tend to empower employees to use their own discretion, trusting that they devote their best efforts toward the attainment of organizational goals rather than act in an opportunistic fashion (Avolio, Bass, and Jung, 1998). Hence, in young organizations with a strong contingent reward leadership, organizational control systems (for instance, close supervision and time management) are deemphasized. This clearly favors employees working away from the home office with full commitment at the top. Second, young companies put a strong emphasis on open systems criteria of effectiveness. That is, success in these organizations tends to be associated with their capabilities to spur growth and acquire resources rather on the basis of internal processes and rational goal models (Quinn and Cameron, 1983). Thus, young firms with contingent reward leaders might be more willing to let employees telecommute because they tend to focus on results rather than process. Lastly, the role of leadership in promoting a particular HR practice, such as the use of telecommuting, is likely to be stronger in younger companies. In these companies, the orientation of the firm is tied closely to one central actor, the so-called “leadership imperative” (Miller, 1983). The influence of leadership would be reduced through time as firm’s complexity increases

and the leaders need to delegate to others responsibility for actual day to day operations (Kimberly 1980; Rumelt, 1995). Thus,

***Hypothesis 6:** Contingent reward leadership moderates the relationship between a firm's age and telecommuting in such a way that the relationship is higher when the CEO follows a contingent reward approach.*

Contingent Reward Leadership Style and International Employees. Following a similar logic, we expect that firms with a high proportion of international employees and which are led by CEOs with a contingent reward orientation are more likely to adopt telecommuting. Leaders using contingent rewards establish clear goals and expectations for their subordinates. These leaders clarify what needs to be done and the rewards that subordinates will get if they achieve performance targets (Bycio, Hackett & Allen, 1995; Goodwin, Wofford & Whittington, 2001). As a consequence, these leaders believe they are keenly aware of the rewards that motivate their employees and are more likely to become sensitive to the demands and expectations of a particular group of employees, such as the international workforce.

Several scholars have recently noted that leading employees who are geographically dispersed present a unique leadership challenge (e.g., Malhotra, Majchrzak, & Rosen, 2007; Topi, 2004). Topi (2004), for example, suggests that “many managers are still uncomfortable with the idea of being responsible for a team if they are not able to be in face-to-face contact with team members” (p: 81). Addressing this leadership challenge requires managers who are willing to provide greater autonomy to employees. To compensate for the risk of control loss, managers with a contingent reward orientation would pay close attention to performance outcomes and tie rewards to observed results (Bycio et al., 1995). When leaders manage by linking results to expected rewards, they might feel more comfortable leading a dispersed international workforce. Thus, organizations with a high number of international employees will be more likely to offer telecommuting, especially when led by executives who reward employee performance not based on observed time or effort, but on measurable results. Another way of looking at this is that telecommuting as a HR practice fits better under a dual condition of contingent reward leadership and high employee discretion (as would be the case with a more decentralized international workforce). Formally stated:

***Hypothesis 7:** The relationship between the proportion of international employees and the adoption of telecommuting will be stronger in firms with high contingent reward leadership.*

Method

Sample and Procedure

The sample used for this study consists of 122 medium size Spanish firms. These organizations came from the SABI database (“Sistemas de Análisis de Balances Ibericos”) for the year 2001. This is a comprehensive database covering most firms in Spain and Portugal. It includes financial information, age, industry sector, and other miscellaneous data for each company and is similar to COMPUSTAT in the United States, except that it includes firms that are not publicly traded. This database was part of a larger project focused on ownership and governance practices in Spain, so only companies with more than 50 employees and with complete information for the variables of interest during the period 1996-2000 were selected.

Following the criteria noted above, the population of our study was composed of 1070 Spanish firms. We linked archival data from SABI with information provided by CEOs given that not all the required information to test our hypotheses was available in SABI. Information coming from each source is described below.

A survey was developed to be completed by the CEO of each company via face-to-face interview or phone interview. The survey was used to measure variables that could not be obtained from archival sources. A total of 122 chief executive officers responded to the survey, with a response rate of 11%. This CEO participation rate of 11% is comparable to “the 10.12 percent rate typical for studies which target executives in upper echelons” (Geletkanycz 1997: 622; see also Hambrick, Geletkanycz, & Fredrickson, 1993; Judge & Dobbins, 1995; Koch & McGrath, 1996; McDougall & Robinson, 1990). Moreover, it is also similar to those obtained in previous paper-and-pencil surveys completed by top executives of Spanish firms specifically (Gallo & Cappuyns, 1997; Gallo & Villaseca, 1996).

We conducted several additional analyses to check for nonresponse bias. A Kolmogorov-Smirnov test indicated that there were no significant differences between respondents and nonrespondents by geographic location, industry distribution, age, size, or performance (measured as return on assets in 2001). On average, our sample firms had been operating for more than 30 years. The average number of employees in the firms is 92. Forty-four percent had fewer than 100 employees and only 14 percent had more than 500. Regarding the sector of their activity, 62% belong to the industrial sector and 51% to the service sector.

Measures of Independent, Dependent, and Moderator Variables

Gender composition. We asked CEOs to indicate the percentage of female employees in the firm as a proportion of the total number of employees.

Firm age. This variable was measured as the year of foundation as it appears in the SABI database, to capture the influence of organizational life-cycle on the adoption of telecommuting.

Firm size. This variable was measured as the average value of sales for the period 1996-2001 and was obtained from the SABI database. As usual, we used its log value, given its highly skewed distribution.

International workforce. We asked CEOs to indicate the number of *international employees* in the firm as a proportion of the total number of employees.

Variable pay. We asked CEOs to indicate the number of employees who received some kind of variable compensation as a proportion of the total number of employees.

Contingent reward leadership. We measured contingent reward leadership by using the corresponding scale from the multifactor leadership questionnaire or MLQ (Bass and Avolio, 1990), which is composed of four items (e.g., “I make clear what one can expect to receive when performance goals are achieved”). Responses by CEOs to

the four items in the MLQ scale were measured with the 5-point scale ranging from 0-not at all to 4-almost always. The Cronbach alpha of the scale was .75.

Telecommuting. To measure the dependent variable, the survey included the following question to the CEO of the firm: “Does your company offer telecommuting certain number of hours a week?” Companies with the presence of telecommuting were coded as 1 and the others were coded as 0.

Measures of Control Variables

We introduced controls for CEO tenure in the firm, industry sector, firm risk and past firm performance.

CEO Tenure. *CEO tenure* in the firm might increase the organizational inertia to continue with traditional practices and decrease the chances to offer new employment practices, such as telecommuting. CEO tenure was measured as the number of years that the CEO had been working within the firm, obtained from SABI.

Industry Sector. Firms in the *service sector* might be more likely to offer telecommuting to their employees because the nature of their work fits better with the use of information technology (Milliken et al., 1998). We used a dummy variable to account for this industry effect. The variable, obtained from SABI, takes a value of 1 if the firm belongs to the service sector and 0 otherwise.

Business Risk. We controlled for business risk since the notion of fit also implies that the adoption of certain HR practices is likely to depend on managerial responses to environmental conditions (Miller, Wiseman & Gomez-Mejia, 2002). Firms that compete in markets that are exposed to conditions of change, turbulence or growth (i.e under conditions of high business risk) are more likely to be exposed to new ideas and practices, and to be pressured to adopt them (Osterman, 1994; Roche, 1999). In contrast, in a stable environment, where products, customer tastes and technologies change very slowly and predictably, fewer complex decisions are needed to adapt the firm to its environment (Miller and Lee 2001), so companies would be less likely to adopt novel practices such as telecommuting. Moreover, the literature suggests that external risk affects the offering of other human resource practices such as variable compensation (Bloom & Milkovich, 1998) and also influences the extent to which firms try to substitute fixed compensation for other types of inducements (Gomez-Mejia & Balkin, 1992). Following previous studies (Bromiley, 1991; Miller & Chen, 2004; Miller, Wiseman, & Gomez-Mejia, 2002), we measured external business risk by using the coefficient of variation of return on assets (ROA, obtained from SABI) within each industry sector during the five years prior to our survey (1996-2001). We identified the firm’s industry sector by a three-digit code similar to the corresponding SIC code in the United States. Stock market return data could not be used to calculate a coefficient of variation, as many of these firms were not publicly traded.

Firm Performance. We also controlled for past firm performance since previous research has found evidence on the link between past performance and the decision to pursue an innovative work practice strategy (Dunlop and Weil, 1996; Pil and MacDuffie, 1996). Effective organizations may experience higher inertia to maintain traditional practices that are working well and less likely to adopt new initiatives. For instance Wright et al. (1998), in a sample of petro-chemical refineries, observed that

those companies that had experienced worse returns during the previous three years were the ones to recognize the need to involve human resources in the decision-making process. Past performance was measured as the firm's return on assets in 2001, obtained from SABI the year before the survey was administered.

Results

Table 1 shows the means, standard deviations and correlations among all variables. None of the correlations among the independent and the control variables exceeds .70 and the highest correlation is between firm age and CEO tenure ($r=.48$), indicating that multicollinearity is not a problem for the regression analyses. Logistic regression analyses were used to test all hypotheses. As customary, control variables were entered first, followed by main effects. Multiplicative terms were added last to examine the hypothesized interactions, as shown in Table 2. We first focus on the main effects, and then we discuss the results of the moderating role of CEO's contingent reward leadership style.

Insert Table 1 and Table 2 about here

Contextual Factors

Model 1 of Table 2 shows the results of logistic regression tests for telecommuting as a dependent variable and hypothesized predictors (namely percentage of women and international employees in workforce, firm age, and variable compensation) as independent variables. Hypothesis 1 proposed a positive relationship between the percentage of women in work force and the adoption of telecommuting. Our results do not provide support for this hypothesis. Hypothesis 2 stated a positive relationship between the percentage of international employees and the adoption of telecommuting. Our results provide strong support for this hypothesis. The results of the regression analysis indicate that the proportion of international employees shows a positive and statistically significant beta coefficient predicting the decision to offer telecommuting ($\beta = 2.715$, $p<01$). Hypothesis 3 suggests that company age is negatively related to the adoption of telecommuting. This hypothesis was not supported. The results of the regression analysis show that firm age was not a significant predictor of telecommuting. Hypothesis 4 stated a negative relationship between a firm's size and the adoption of telecommuting. Our results provide strong support for this hypothesis. The results of the regression analysis indicate that firm size shows a negative and statistically significant beta coefficient predicting the decision to offer telecommuting ($\beta = -2.762$, $p<01$). Finally, Hypothesis 5 stated a positive relationship between the percentage of employees with variable pay and the adoption of telecommuting. Our results provide strong support for this hypothesis. The results indicate that there is a positive and significant correlation between the percentage of employees with variable pay and telecommuting ($r = .29$, $p<.01$). Table 2 shows that this relationship remains significant in the multiple regression analyses. The percentage of employees with variable pay shows a positive and statistically significant beta coefficient predicting the decision to offer telecommuting to employees ($\beta = 1.453$, $p<01$).

The Moderating Role of Contingent Reward Leadership

Hypotheses 6 and 7 propose that CEOs contingent reward leadership style moderates the relationship between two organizational and workforce characteristics (firm's age and the percentage of international employees) and the decision to offer telecommuting, so that when organizations are young and have a high percentage of international employees, they will be more likely to offer telecommuting to their employees if they are led by CEOs with high levels of contingent reward leadership. To test these hypotheses, control variables, hypothesized predictors and contingent reward leadership were first entered as main effect in the equation. Next, we created interaction terms by multiplying firm age and percentage of international employees by contingent reward leadership (see model 2 of Table 2). We found support for both hypotheses. The interaction term of firm age and contingent reward leadership significantly predicts telecommuting ($\beta = -1.784, p < .05$). To check that this interaction goes in the expected direction, we followed the procedures suggested by Aiken and West (1991) to calculate the slopes of the regressions (see Figure 1). As expected, young firms are more likely to offer telecommuting to their employees under high contingent reward leadership. Thus, Hypothesis 6 was supported, indicating that the age of the firm is related to the adoption of telecommuting, only when the CEO reports high contingent reward leadership.

Insert Figure 1 about here

Hypotheses 7 states that contingent reward leadership moderates the relationship between the percentage of international employees in the firm and the decision to offer telecommuting. To test this hypothesis, we followed the same procedures stated above (see model 2 of Table 2). The interaction term of percentage of international employees in the firm and contingent reward leadership significantly predict telecommuting ($\beta = 3.322, p < .01$). We plotted this interaction using Aiken & West's (1991) procedures (see Figure 2). As expected, firms with high percentage of international employees are more likely to offer telecommuting under high contingent reward leadership. The increase of telecommuting as a function of the percentage of international employees becomes steeper when CEOs report using a high contingent reward leadership style. In contrast, telecommuting as a function of percentage of international employees flattened toward zero when CEOs report low contingent reward leadership. These results support Hypothesis 7.

Insert Figure 2 about here

Discussion

The purpose of this research was to examine the conditions under which telecommuting is most likely to be adopted by organizations. We sought to explore this question using a contingency lens which emphasizes the notion that organizational practices are not implemented in isolation but tend to fit amongst each other (Baird and Meshoulam 1988; Donaldson, 2000). In particular, we were interested in understanding whether the absence or presence of telecommuting could be explained by certain contextual factors and the leadership style of top executives. Our findings suggest that telecommuting is more commonly found when variable compensation is a key component of pay strategy, in smaller firms, and when there is a high percentage of international employees. Furthermore, we found that CEOs contingent reward leadership style is more conducive

to the adoption of telecommuting practices in younger organizations and those with a larger percentage of international employees.

These findings are consistent with the general fit approach taken in our study and offer some initial answers to a pivotal question in contemporary human resource management practices: why do some organizations offer telecommuting and others do not?. Given that there is an increasing expectation in society that organizations should make an effort to help employees balance their work and family domains and that telecommuting is popularly seen as one of the most relevant practices in this area, it is important to develop a more informed understanding of the factors that motivate organizations to adopt such practice. We discuss here the key contributions of our results for theory and practice, the limitations of the study, as well as directions for future research.

Contribution to theory

We found evidence that the percentage of international employees has a direct effect on the adoption of telecommuting. These results are consistent with the basic arguments of resource dependence (Pfeffer and Salancik, 1978) and contingency theorists (Donaldson, 2000) that firms adopt certain organizational practices in order to obtain needed resources. Having a large percentage of international employees in various locations makes telecommuting an ideal practice to overcome the physical barriers of distance to coordinate individuals' actions. It can also facilitate the attraction and retention of this needed resource. Similarly, telecommuting makes it possible to achieve cost efficiencies by tapping a broad labor force without having to invest in facilities and equipment across multiple foreign settings. For instance, many hospitals in the United States are currently hiring the services of imaging technicians in India via telework at a small fraction of what it would cost in the USA, taking advantage of time zone differences for 24 hour coverage (McGregor & Hamm, 2008).

As expected, we also found evidence of a negative relationship between firm size (one of our context variables) and the adoption of telecommuting. This finding is consistent with the technical rationality argument that smaller firms are more likely to adopt telecommuting because it provides financial and operational benefits, and it is consistent with their entrepreneurial culture. Yet, this finding is somewhat inconsistent with previous studies on general organizational responsiveness to work-family issues. The basic argument in this literature is that large organizations are under greater legitimacy pressures to respond to work-family issues. From this perspective, large organizations would more readily adopt telecommuting to convey an image of family friendly organizations. Supporting this argument, studies have found that large organizations were more likely to be more responsive to work-family issues than small ones (Morgan & Milliken, 1992; Ingram & Simons, 1995). Several explanations are possible to account for these seemingly inconsistent results. Previous studies did not focus specifically on telework. Rather, they use broad indexes of work-family responsiveness. For instance, Morgan and Milliken used a general index of work-family responsiveness with 16 family-friendly practices and 5 factors. Telework was included in the "miscellaneous" category together with resource and referral services for elder care, contributions or assistance to community child care and elder care programs. Our results suggest that size has idiosyncratic effects on telework and that technical considerations are important in explaining the adoption of telecommuting.

Telecommuting reduces the programmability of tasks as employees enjoy greater discretion and work independently. While some of the tasks may be relatively simple (for instance, process documents), others may be rather complex (for instance, interpreting CAT scans sent over the internet from the opposite side of the planet). Direct observation of employee behavior is nearly impossible under telework since there is little face to face communication with supervisors and peers. This represents a prototypical “distant” agency relation which makes it difficult for managers to control employees’ activities and that is prone to the so-called “moral hazard” or “hidden action” problem, whether real or imagined (because it is difficult to verify effort, intentions, and conduct). Under these conditions, it is a better fit to compensate employee’s contribution based on results rather than time. Having incentive systems with a significant proportion of variable pay facilitates the monitoring of employees’ outputs (Eisenhardt, 1989). Our results showing a positive relationship between telework and variable compensation are consistent with this theoretical expectation.

One of the key contributions of our study is the analysis of leadership style as a factor influencing the adoption of telecommuting. Particularly, we argue that CEOs contingent reward leadership style moderates the relationship between certain contextual factors and the adoption of telecommuting. We hypothesized and found that CEOs contingent reward leadership style intensifies the effects of a firm’s percentage of international employees on the adoption of telecommuting. Furthermore, we found that young organizations led by a CEO with a strong contingent reward leadership style are more likely to offer telecommuting than young organizations led by a CEO with a low level of contingent reward leadership style. These findings add to the literature on corporate decision-making by showing that within the general constraints of resource dependence factors, the nature of the task, and organizational life cycle there are firm-specific leadership styles affecting the decision-making process regarding the adoption of work-family practices, such as telecommuting. In doing so, our study contributes to bridge the gap between parallel streams of research on corporate decision making that have been rarely studied together. Future studies should examine the interaction of top managers’ leadership styles and other resource dependence, organizational, and institutional factors in the adoption of work-family practices.

Our findings also enrich current understanding of organizational decision-making process regarding work-family issues by focusing on the specific practice of telecommuting. As noted earlier, some studies have examined the adoption of work-family practices using general indexes of adoption that simply add the number of practices being adopted by the organization (e.g., Osterman, 1995; Milliken et al 1998). This procedure assumes that all work-family practices are similar and that the strength in the adoption of work-family practices can be measured on a continuum based on the number of practices being adopted. A general index of adoption of work-family practices, however, is a measure too broad to capture the specific factors affecting the adoption of specific work-family practices. In this study, we have taken a contingency perspective assuming that each practice has its own idiosyncratic fit with other organizational practices and design factors. In particular, our results show that the adoption of telecommuting is related to the proportion of international employees and employees with variable pay as well as the interaction between CEOs leadership style, internationalization, and organizational life cycle factors.

We conducted post-hoc analyses to provide some empirical evidence to support the above argument that telecommuting has its own idiosyncratic fit with other firm and work force characteristics practices, human resource, and leadership style. We were interested in testing the notion that our hypothesized variables were significant for telecommuting but not for other family friendly practices. We used schedule flexibility, reduced work load (i.e., part-time work) and financial benefits (i.e., a direct company financial support for dependent care expenses), as alternative family friendly practices and run parallel analyses². Our findings in general strongly suggest that there is something unique about telework that is not equally applicable to other family friendly practices. Comparing those multivariate findings, we found that the predictors of telecommuting as hypothesized are generally significant with telecommuting as a dependent variable but the same is not true for other work-family friendly practices as dependent variables. The beta coefficients for proportion of international employees ($\beta = 2.715$, $p < .01$), percentage of employees with variable pay ($\beta = 1.453$, $p < .01$), firm size ($\beta = 1.45$, $p < .01$) and the interactions with contingent reward leadership ($\beta = -1.784$, $p < .05$ and $\beta = 3.322$, $p < .01$) are all significant for telecommuting. In contrast, the pattern for these same variables is very weak for schedule flexibility ($\beta = .464$, ns; $\beta = .065$, ns; $\beta = -1.20$, $p < .01$; $\beta = .150$, ns and $\beta = -.268$, ns, respectively), for reduced work load ($\beta = -.098$, ns; $\beta = .232$, ns; $\beta = -.135$, ns; $\beta = -.166$, ns; $\beta = -.126$, respectively) and for financial benefits ($\beta = -.607$, ns; $\beta = 1.206$, $p < .05$; $\beta = -.225$, ns; $\beta = -.319$, ns; $\beta = .580$, ns; $\beta = -.831$, ns, respectively). In summary, five of our seven hypotheses were confirmed with telecommuting. For reduced work none of the hypothesized predictors reached statistical significance. For flexible work hours only one out of seven predictors (size, negatively related) was statistically significant. Likewise, for economic aid only one out of seven predictors (age, negatively related) reached statistical significance. Thus, our data shows that "family friendly" practices should not be lumped together as a single monolith, as many researchers have done in the past, and should be treated separately, both theoretically and empirically.

With regard to the percentage of female employees in organizations, we found that the number of women in a firm's workforce did not predict the adoption of telecommuting as we expected. This finding, however, is consistent with previous results reported by Ingram and Simons (1995) and Milliken et al. (1998) when explaining overall organizational responsiveness to work-family issues, although it is inconsistent with findings reported by Goodstein (1994, 1995). Milliken et al (1998) suggest that the effects of the number of women in organizations are complex and that "numbers do not necessarily translate into influence over corporate policies" (p: 589). These authors offer two possible explanations. First, an increasing number of women are part-time workers or occupy low-level positions in the organization. Consequently, they have little power to influence organizations benefits programs. Second, even when women are in management positions, they may be reluctant to ask for work-family benefits for fear of losing their jobs. In contrast, Goodstein (1994) found a positive relationship between the percentage of women and the adoption of work-family practices. One explanation for these contradictory results is that as we argued above, each work-family practice is associated to specific organizational factors. Goodstein examined organizational responsiveness to the adoption of child care benefits that seems to be closely related to the percentage of women in the organization. Clearly,

² These analyses are available upon request.

additional research is needed to determine other factors that may influence the effect of the percentage of women on telecommuting.

Limitations and Future Research

Our study has focused on several key contextual variables expected to influence the adoption of telecommuting. It would be interesting in the future to conduct more fine-grained analysis of how some of these variables impact the adoption and relative effectiveness of telecommuting. For example, cultural distance, language, and international diversification may be examined to further explore the role of international employees in this process. Likewise, variable compensation can take many forms (for instance, “on-the spot awards,” gainsharing, annual bonuses, and long-term income) and may be linked to individual, team, divisional and corporate level performance criteria (Gomez-Mejia, Balkin & Cardy, 2007). It might well be that some types of incentives are more appropriate than others when telecommuting is adopted. Finally, the nature of the task may also influence whether or not telecommuting is a good fit. For instance, highly programmable tasks that require minimal interaction and cross-coordination may make it easier to implement telecommuting.

Although contingent reward leadership has been well substantiated as a key leadership style in organizations, one of the limitations of this study is that we have examined only one type of leadership style. We purposely selected contingent reward leadership because it fits with the practice of telecommuting. However, we recommend that researchers conducting future studies examine a broader set of leadership styles to see if they demonstrate similar moderating effects (for example, see recent work by Wang & Walumbwa, 2007, on the moderating role of transformational leadership in the consequences of family-friendly programs). For example, the test of charismatic leadership as moderator would expand our efforts. Followers of charismatic leaders establish a strong emotional relationship with their leaders and identify with their goals and vision (Bass, 1985; Conger, 1989; House & Shamir, 1993). This charismatic style also results in an internal control of employees. Thus, one could argue that charismatic leaders would be more willing to let employees telecommute because they believe that employees are emotionally committed to the organization and their work. Another limitation is that contingent reward leadership was measured only through CEO’s self-reported assessments. Although this procedure might be acceptable as an initial test of these ideas, future efforts should include additional evaluations of leadership styles, such as subordinates’ assessments, in order to ensure the construct is being captured in a valid manner.

Implications for practice

The results of the present study provide some interesting implications for improving organizational functioning. We found strong support for the enhancing effects of contingent reward leadership style in the adoption of telecommuting under certain conditions. This finding suggests that for telecommuting to be offered as an organizational benefit, executives need to move away from traditional face-to-face and direct supervision to alternative forms of motivation based on performance management and contingent reward practices. Consequently, we would emphasize the importance of efforts to develop contingent reward skills among top executives to enhance the adoption of telecommuting practices. The leadership literature suggests ways to develop leadership skills and competences that emphasize such behaviors as goal-setting, performance management and positive rewards (Bass, 1990; Bass et al, 2003; Dvir,

Eden, Avolio and Shamir, 2002). Also, our findings emphasize the importance of variable compensation and the presence of international employees to facilitate the adoption of telecommuting. These employment practices are within an organization's control. Managers who want to facilitate telecommuting should carefully attend to the employees' pay strategy making variable compensation a key part of it and design the organization and its tasks to take advantage of an international workforce.

From a practical perspective, a key issue that remains unresolved is the extent to which telecommuting differs from other family friendly policies in terms of its consequences for work-related attitudes and behaviors. In recent years a growing number of academics and practitioners have predicated the benefits of family friendly policies such as maintaining a high level of job performance and productivity (e.g., Baltes, Briggs, Huff, Wright & Neuman, 1999; Batt & Valcour, 2003; Ginsberg, 1998; Halprein, 2005). However, as noted by Wang & Walumbwa, (2007: 398) "only equivocal conclusions can be drawn from existing research." Perhaps simply focusing on family friendly policies as the unit of analysis may overlook critical differences in these programs. For instance, several authors argue that family-friendly policies enhance organizational commitment (extent to which an individual identifies with and is emotionally attached to the firm; c.f., Mowday, Steers, Porter, 1979) and mitigate work withdrawal (such as absences, tardiness, and intention to quit) (e.g., Batt & Valcour, 2003; Berg, Kalleberg & Applebaum, 2003; Frye & Breugh, 2004). While this may well be true for some family friendly programs (such as flexible work hours) the same conclusion may not hold to the same degree for telecommuting. In fact, working away from the office and with minimal social interaction with peers and supervisors may hamper affective, continuance, and normative commitment to the organization. Our knowledge of what creates and maintains positive returns from the implementation of telecommuting vis-à-vis other family friendly policies is quite limited. This is one area where theoretical insights and empirical research are sorely needed.

Related to the prior discussion, our data did not allow us to assess the extent to which a better fit leads to higher effectiveness, which is one of the central tenets of contingency theory (Van de Ven, 1991 ?). Presumably, smaller firms, companies with a high proportion of international employees, organizations that emphasize variable pay, and under certain leadership conditions should derive greater advantages from telework vis-à-vis organizations that do not share this profile. Future research can examine variations in effectiveness-related dependent variables as a function of telework-contextual fit (such as employee turnover, magnitude of applicant pool, labor costs, productivity figures, subjective and quantitative assessments of performance, and the like). This would require a longitudinal research design far more complex than the one we used here but answering the "so what" question is clearly paramount for organizations contemplating the adoption of telework or other work-family friendly practices.

CONCLUSION

Given the potential benefits of telecommuting, organizational researchers clearly need to know more about the contextual factors that facilitate the adoption of this practice. This study highlights the value of using a fit approach to understand the conditions under which organizations are more likely to offer telecommuting to their employees. Although limited to two theoretical approaches, the study nevertheless provides additional insights about the integration between managerial interpretation and resource dependence explanations on organizational responsiveness to work-family issues. Finally, this study provides strong evidence in support of contingent reward management as catalyst for the adoption of telecommuting in organizations.

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TABLE 1: Descriptive Statistics and Correlations among Study Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. CEO Tenure in the Firm	14.02	10.79										
2. Service Sector	.42	.50	.10									
3. Firm Risk	2.27	5.50	.10	.35								
4. Firm Performance	.06	.08	-.02	-.01	-.06							
5. Percentage of female employees	1.66	.72	-.13	.05	-.17	-.05						
6. Percentage of international employees	7.55	15.12	-.08	.11	.18	.08	-.07					
7. Firm age	30.93	14.58	.48	.17	.05	-.07	-.15	.10				
8. Firm Size	4.34	.54	-.05	.24	.04	.02	.00	.15	.16			
9. Percentage of employees with variable pay	22.98	30.00	-.19	.19	-.01	-.06	.02	.06	-.04	.04		
10. Contingent reward Leadership	4.09	.76	-.09	-.06	-.04	.14	.07	-.09	-.12	.10	.06	
11. Telecommuting	.10	.30	.06	.17	.19	-.05	-.11	.31	.10	-.15	.29	-.02

Note. $N = 122$. Correlations greater than .18 are significant at $p < .05$; correlations greater than .23 are significant at $p < .01$. Firm size is related to sales and is in logarithmic scale to avoid a large standard deviation; service sector, 0 = no, 1 = yes; percentage of women in the firm, 1 = less than 50%, 2 = between 50-75%, and 3 = more than 75%.

TABLE 2: Results of Logistic Regression Tests for the Effects of Contextual Factors and Leadership Interactions on Telecommuting

Variable	Telecommuting Model 1		Model 2	
	β	s.e.	β	s.e.
Controls				
CEO tenure in the firm	.261	.410	1.297	.905
Service sector	.732	.480	1.297	.658
Firm Risk	.045	.306	1.029	.415
Firm Performance	-.224	.382	-.251	.718
Contextual factors				
<i>Female employees (%)</i>	-.460	.450	-1.081	.637
International employees (%)	.886**	.296	2.715**	.888
Firm age	.146	.359	-.852	1.142
Firm size	-1.438**	.612	-2.762**	.969
Employees with variable pay (%)	1.163**	.369	1.453**	.558
Strategic leadership				
Contingent reward leadership			.683	.568
Interaction contextual factors with contingent reward leadership				
Firm age X contingent reward			-1.784*	.789
International (%) X contingent reward			3.322**	1.484
Model Chi Squared	30.89**		50.41**	
Log likelihood	47.55		28.02	
R^2 Cox Snell	.22		.34	

* $p < .05$; ** $p < .01$

FIGURE 1: Effects of the Interaction between Firm Age and Contingent Reward Leadership on Telecommuting^a

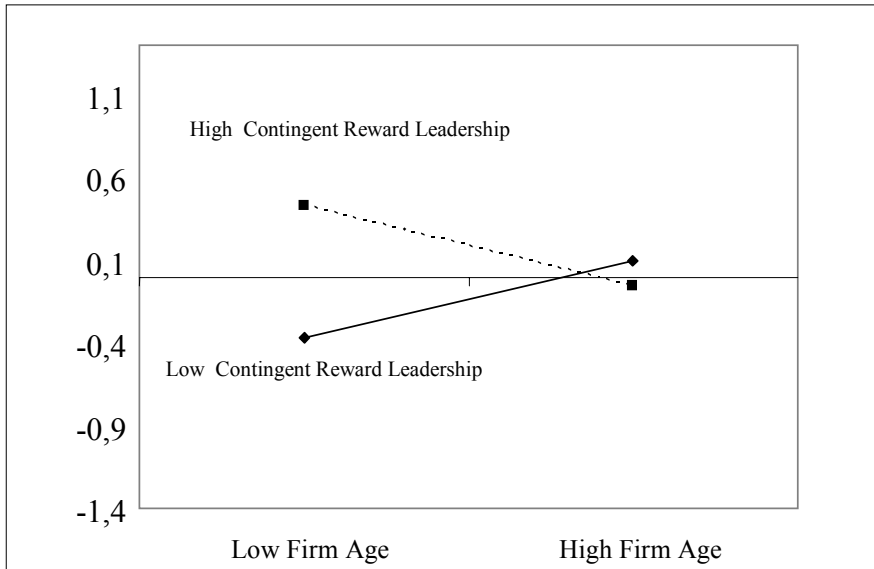
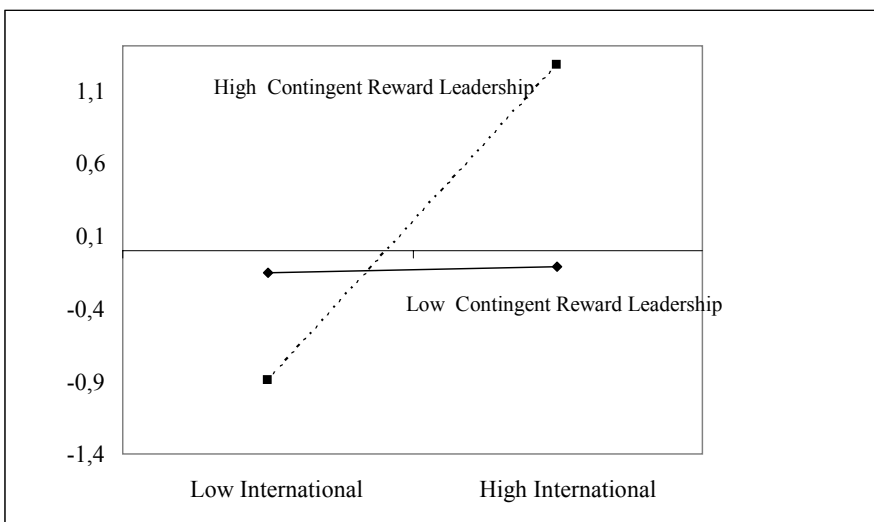


FIGURE 2: Effects of the Interaction between Percentage of International Employees and Contingent Reward Leadership on Telecommuting



^a The interaction equation is: $Y = C + \beta_1 IV_1 + \beta_2 IV_2 + (\beta_3 \times IV_1 \times IV_2)$. For each graph, the variable on the Y axis is *telecommuting*.