THE IMPACT OF SUPERVISORY POWER AND VISIBILITY ON TELECOMMUTERS’ WORK OUTCOMES IN CHINA

A Thesis in
Human Resources and Employment Relations

by
Dong Fang

© 2010 Dong Fang

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science

May 2010
The thesis of Dong Fang was reviewed and approved* by the following:

Sumita Raghuram  
Associate Professor of Labor Studies & Employment Relations

Xiangmin Liu  
Assistant Professor of Labor Studies & Employment Relations  
Thesis Advisor

Julie Sadler  
Assistant Professor of Labor Studies & Employment Relations

Paul F. Clark  
Professor  
Head of the Department of Labor Studies & Employment Relations

*Signatures are on file in the Graduate School
Abstract

More and more multinational companies are adopting telecommuting as a new mode of work arrangement in China. Meanwhile, more and more local companies are also using telecommuting to bring flexibility to the workplaces and offering it as a benefit to attract employees. The cultural context in China is characterized by high power distance and collectivism. Supervisors have high reward power and legitimate power. They have the authority to allocate resources, assign tasks, define the work procedures, and make employment decisions. Employees care about being “in-group” and therefore visibility loss to their supervisors. This paper explored the impact of supervisory power and visibility on telecommuters’ work outcomes. The results showed that supervisory reward power and legitimate power were positively related with telecommuting frequencies. Supervisory reward power was also proved to have a positive impact on telecommuting performance. Visibility loss was found to be negatively related to telecommuting satisfaction. Additionally, the results showed that supervisory reward power had a stronger impact on telecommuting frequency for telecommuters whose supervisors were telecommuting compared to those whose supervisors were not telecommuting. Similarly, visibility loss had a stronger impact on telecommuting satisfaction for telecommuters whose supervisors were telecommuting compared to those whose supervisors were not telecommuting. I also discussed implications as to how to effectively manage telecommuters and improve their work effectiveness in the context of Chinese culture.
Table of Contents

LIST OF FIGURES ............................................................................................................................... v
LIST OF TABLES ................................................................................................................................. vi

Chapter 1 Introduction .......................................................................................................................... 1

Chapter 2 Theoretical Background .................................................................................................... 6

Review of Telecommuting Research ................................................................................................. 6
Definition of Telecommuting ............................................................................................................. 6
Antecedents and Outcomes of Telecommuting .................................................................................. 7
Cross-culture Research in Telecommuting ......................................................................................... 9

Position Power .................................................................................................................................. 10
Reward Power .................................................................................................................................... 12
Legitimate Power ............................................................................................................................... 14
Visibility Loss .................................................................................................................................... 16

Chapter 3 Model and Hypothesis ..................................................................................................... 20

Reward Power .................................................................................................................................... 20
Legitimate Power ............................................................................................................................... 21
Visibility Loss .................................................................................................................................... 23
Moderating Effect of Supervisory Telecommuting ........................................................................... 25

Chapter 4 Method ............................................................................................................................... 32

Measures ............................................................................................................................................ 32
Questionnaire Design .......................................................................................................................... 34
Data Collection ................................................................................................................................. 35
Data Demographics ............................................................................................................................. 35

Chapter 5 Results .............................................................................................................................. 37

Means, Standard Deviation and Correlation ....................................................................................... 37
Multiple Hierarchical Regression ......................................................................................................... 40
Reward Power, Legitimate Power, Visibility Loss and Telecommuting Frequency ......................... 40
Reward Power, Legitimate Power, Visibility Loss and Job Performance ........................................ 42
Reward Power, Legitimate Power, Visibility Loss and Telecommuting Satisfaction ..................... 43

Chapter 6 Discussion and Implication ............................................................................................... 47

Findings .............................................................................................................................................. 47
Practical Implications ........................................................................................................................ 51
Limitations and Directions for Future Research ............................................................................... 53

Chapter 7 Conclusion ......................................................................................................................... 54

Appendix: Telecommuting Work Survey ........................................................................................... 61
LIST OF FIGURES

Figure 1: the relationship between reward power and subordinates work outcomes ....................... 27
Figure 2: the relationship between legitimate power and subordinates work outcomes .................. 29
Figure 3: the relationship between visibility and subordinates work outcomes ............................. 31
Figure 4: Moderation Effect of Supervisory Telecommuting between Reward Power and Telecommuting Frequency ......................................................................................................................... 42
Figure 5: Moderation Effect of Whether Supervisory Telecommuting between Fear of Losing Visibility and Telecommuting Satisfaction .......................................................................................................................... 45
Figure 6: Hierarchical Regression Results .......................................................................................... 46
LIST OF TABLES

Table 1 Means, Standard Deviation, and Correlation .............................................................. 39
Table 2: Regression of Reward Power, Legitimate Power and Visibility Loss on Telecommuting Frequency ...................................................................................................................... 41
Table 3: Regression of Reward Power, Legitimate Power and Visibility Loss on Telecommuting Performance ................................................................................................................................. 43
Table 4: Regression of Reward Power, Legitimate Power and Fear of Losing Visibility on Telecommuting Satisfaction................................................................................................................. 44
Chapter 1 Introduction

In recent years, China’s economy has experienced rapid growth. China has been regarded as the most populous and potentially biggest market in the world. It has attracted Western investors to exploit its market and establish business branches or joint ventures. One of the major problems that Western investors and managers face is the cultural differences between Western and Chinese work culture. Understanding the unique work culture of China has been a focus for Western investors and managers (i.e. Farh & Cheng, 2000; Zhang, Jia & Liu, 2008).

As a form of flexible work arrangement, telecommuting has been adopted by more and more Western companies (Belanger & Allport, 2008). It is because telecommuting saves the cost of rent, real estate, maintenance, and property. Reduced spending on parking, transportation, travel expenses, as well as a significant reduction in payments of overtime and workers’ expenses give companies additional motivation to adopt this new work mode. Meta-analysis also showed that telecommuting can lead to increased motivation and satisfaction (Gajendran & Harrison, 2007). Given all of the benefits of telecommuting, more and more multinational companies are transplanting telecommuting to China hoping that it can also be effective there. Meanwhile, more and more local companies are adopting this new mode of work arrangement as well. They usually use the same telecommuting policy in China branches as they do in Western culture. However, the work culture in China is significantly different from Western work cultures, for example, American work culture, which is characterized by low power distance and individualism.

Derived from Confucianism, Chinese work culture is characterized by high power distance. In Hofstede’s study (1994), he defined power distance as “the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally”. In a high power distance culture like China, subordinates are accustomed to centralized and participated
leadership (Chen & Farh, 2001). There is large dependence of subordinates on superiors; the subordinates may respond by resentment/rejection or prefer their overt dependence which can afford them a degree of insulation/protection.

Power was defined as the capacity to influence others (French & Raven, 1959). French and Raven (1959) conceptualized power sources to five categories: reward power, legitimate, coercive power, expert power and referent power. Another approach to conceptualization of the sources of power was Yukl (1989) dichotomous classification of position power and personal power. In an organization, power is derived from the opportunities inherent in the person’s position (including legitimate power, coercive power, and reward power) and from personal and interpersonal attributes (including expert power and referent power). The two taxonomies are not mutually exclusive but instead represent different levels of abstraction (Yukl & Falbe, 1991). Each of the five power sources proposed by French and Raven can be viewed as components of a broader category of position or personal power (Wexley & Yukl, 1977).

In a high power distance culture like China, the power of supervisors stems from the formal positions in the organizational hierarchy. Supervisors have more position power compared to personal power. Among the three different types of position power, reward power and legitimate power are important in the telecommuting context in China. Supervisors have high reward power and legitimate power. Reward power reflects supervisor’s ability to control the resources, to give the subordinates pay raises, and to help subordinates get ahead in the organization. Legitimate power reflects their authority to assign tasks and to specify how the work is to be accomplished. The unequally distributed power in the workplace is widely accepted by subordinates. However, the adoption of telecommuting changes the distribution of position power. Supervisors have to delegate the power of deciding work schedule and procedure. Meanwhile, they have fewer opportunities to closely monitor their subordinates’ performance. The change in the distribution of position power can be regarded as a threat by the
supervisors. They may try to maintain their power by exercising more reward power and legitimate power. For example, they may formalize the work procedure, set goals for subordinates, and reward the subordinates who follow their instructions or achieve the goals. Regarding coercive power, it is the flip side of reward power. Therefore, the measurement of reward power captures coercive power to some degree. Study showed that there was substantial overlap in the scales measuring control over rewards and punishments (Yulk & Falbe, 1991). Besides, respondents may be reluctant to admit that their behaviors are influenced by the fear of punishment. Particularly in the Chinese work culture, people care about “face”. They may attribute the compliance to more socially acceptable reasons, such as respect for supervisors’ authority. Thus, this research will neglect coercive power.

This study will focus on the impact of unequally distributed power between supervisors and subordinates on subordinates working outcomes in the context of high power distance and collectivistic work culture in China. Thus, personal power is not as important as position power here. Supervisors’ position power (reward power, legitimate power, and coercive power) is tied with the position. It is unequally distributed in accord with the hierarchy in the organization. Supervisors’ personal power (expert power and referent power) is based on the subordinates’ perception of their supervisors’ personal and interpersonal attributes, for example, personality, knowledge, skills and ability. It is not necessarily unequal between supervisors and subordinates because competent subordinates who have good personality or high skills can have high personal power as supervisors do. Additionally, this study is set in the telecommuting context. I am interested in the impact of the changed distribution of power which is brought to the workplace by telecommuting. The adoption of telecommuting requires supervisors to delegate position power, but it does not change their personal power. In order to maintain the supervisory power, supervisors may change their influence tactics such as exercising more reward power or legitimate power. However, they are less likely to change their personal power because it is hard to improve their skills or change their personalities in a short period of time. Therefore,
this study will not investigate supervisory personal power. One of the main advantages of telecommuting is flexibility. Supervisors empower subordinates with the autonomy to decide the work schedule, location and procedure. In a low power distance culture, supervisors will feel more comfortable to do so and they will not view it as a threat to their authority since power is more equally distributed in their culture. On the contrary, in a high power distance culture, giving subordinates more autonomy means losing the power and influence over subordinates individually and the group collectively.

From subordinates’ perspective, telecommuters have fewer opportunities to demonstrate high performance in a face-to-face, high salient context to the supervisors. They may be negatively viewed by supervisors. Since supervisors have the capability to reward the desired behavior and the power to assign tasks, telecommuters would concerned that they might be less possible to get promotion, reward, and opportunities to accomplish important tasks. Would supervisors use their power differently to adjust to the changes telecommuting brings to the workplace? What impact supervisory power would have on the subordinates’ work outcomes? In this study, I am going to explore answers to these questions.

Another important trait of Chinese work culture is collectivism. In a collectivistic culture, the interests of the group outweigh the interests of the individual. A person’s identity is based on his or her membership in particular groups (Hofstede, 1994). People are supposed to be loyal to their groups. Supervisors manage groups, and employment decisions are based on group membership. Being loyal to the organizations, employees in turn gets the protection from the organization.

Professionally, telecommuters fear that when they are out of sight, they are out of mind for promotions and other organizational rewards (Kurland & Cooper, 2002) or negatively viewed by management (Mokhtarian & Salomon, 1997). Losing visibility will create barriers in telecommuters’
career development. Socially, telecommuters fear that they miss the informal interaction they garner by being around colleagues and friends (Kurland & Cooper, 2002) and therefore will be externalized as “outsiders”. In brief, they are losing visibility to their supervisors because they are “out of sight”. In a collectivistic culture, it means they lose their identities because they no longer belong to the group. As an outsider, they are less likely to be considered when supervisors make employment decisions. In an individualistic culture, losing visibility won’t be as important as that in collectivistic culture. An individual is distinctive from others as “I” rather than “we”. People do not care group memberships. Therefore, losing visibility is less important for people in individualistic cultures.

Thus, the questions are: can telecommuting fit in the climate of Chinese work culture? Should companies modify telecommuting policy to make it suitable in Chinese context? What changes should they make? Multinational companies usually use the same telecommuting policies as they do in Western work cultures which are significantly different from Chinese work culture. Few studies have probed into the feasibility and effectiveness of telecommuting in China. As more and more local companies are also adopting telecommuting as a new mode of work arrangement. It is important to explore what factors will affect the feasibility and effectiveness of telecommuting in China. This is the aim of this paper.
Chapter 2 Theoretical Background

Review of Telecommuting Research

Definition of Telecommuting

Early in 1950s, the literature on technological progress in electronics and information systems had provoked the idea of telecommuting, which implied that work can be located away from the traditional office (Jones, 1957). Telecommuting was mentioned as “remote working from office” in Nilles’s study in 1970s (Nilles et al. 1976). As the technology has improved rapidly and the use of information technology (IT) has increased dramatically, telecommuting has become an alternative mode of work. On the other hand, organization structure continues to flatten, thus, centralized and hierarchical management is no longer popular. Telecommuting brought a decentralized and flexible management style into the workplace. It is reported that about 9.9 million Americans telecommuted in 2005 and this number grew to 17.2 million in 2008 (WorldatWork, 2009). In the UK, there were 2.2 million people telecommuting in 2003 which grew 65% during the previous 4 years (Belanger & Allport, 2008). Scholars’ interest in this field continued to grow as well. It was stated that “with the effective use of teleworking, the ‘virtual organization’ may be the next stage in organizational development” (Chesbrougha & Teece, 1996).

Although the concept of telecommuting work is widely discussed, there is no universal definition. Telecommuting is also referred to as “teleworking,” “home-working,” “working-at-a-distance,” “remote work,” “virtual work,” “flexible work” or “off-site working”. All these terms can be seen in different literatures and have similar meanings (Raghuram, Tuertscher, & Garud, 2009). Summarizing the related research, most scholars agree that two elements are essential to distinguish telecommuting from other modes of work arrangement: first, the office is not the (only) place where work is conducted (Baruch, 2001) and secondly, IT is the tool that enables the telecommuting to happen (Mitchell, 1995). In this
study, the telecommuting work is defined as employees performing all or a substantial part of their work physically separated from the location of their employers (Baruch, 2001).

Antecedents and Outcomes of Telecommuting

Early research in the telecommuting field includes legal and union issues (i.e. Dimartinko & Wirth, 1990), gender issues (i.e. Holcomb, 1991), and the future of telecommuting (i.e. Handy & Mokhtarian, 1996). Later studies paved the way to explore the benefits of telecommuting adopting both employees’ and employers’ perspectives. On the individual level, one of the significant benefits of telecommuting is the reduction of commute time and expense. Employees also benefit from less office distraction that can hinder the smooth completion of assignments (Crandall & Gao, 2005). Many telecommuters feel less stressed and more productive working at home because they have more flexibility in arranging working time and location and which further reduces work-nonwork conflict (Raghuram & Wiesenfeld, 2004). Telecommuting has also proved to be related to perceived autonomy and lower work-family conflict (Gajendran & Harrison, 2007). However, the claims that telecommuting is beneficial for both employees and employers are often criticized by researchers. For example, social isolation, career stagnation and family conflict have been suggested to be negative consequences of telecommuting for individuals (Baruch & Nicholson, 1997).

From employers’ perspective, telecommuting has been regarded as a new way to enable flexible work arrangement which can help recruit and retain highly skilled workers who would otherwise be unable to work in a traditional office because of, for example, lack of mobility and child rearing responsibilities (Teo, Lim, & Wai, 1998). The reduction of office space and overheads can save cost. Researches also proved that telecommuting can lead to higher firm performance (Baruch, 2000) and lower turnover rate which can save cost as well (Teo, et al., 1998). Similarly, Gajendran & Harrison (2007) also proved that telecommuting has beneficial effects on job satisfaction, performance, turnover rate
and role stress. On the contrary, the negative effect of telecommuting is widely discussed as well. For example, the employers can lose control over telecommuters including monitoring telecommuters’ performance, company information security issues and health and safety issues (Baruch, 2001; Teo, et al., 1998). Moreover, the benefits of team working can be lost because the traditional group no longer exists (i.e. Piccoli, Powell & Ives, 2004).

Nowadays, many scholars have shifted their interests to explore the antecedents of telecommuting, for example, the willingness or readiness of employees to telecommute. Because that telecommuters are usually separated from traditional offices, fear of increased feelings of isolation (Cooper & Kurland, 2002), decreased connectedness to the organization (Wiesenfeld et al., 2001), decreased opportunities for promotion (Baruch & Nicholson, 1997), and frustration at feeling “out of loop” of the communication in the organization (Gainey, Kelley, & Hill, 1999) can reduce their willingness to telecommute. Other work related factors which are predictive of the employees’ choice to telecommute include manager’s support and trust (Hartman & Stoner, 1991; Kowalski & Swanson, 2005). Research also found that the motivations to telecommute are different due to gender and presence of children. Women are more likely than men to have family, personal benefits, and stress reduction as potential motivations for telecommuting, and more likely to possess the constraints of supervisor unwillingness, risk aversion, and concern about lack of visibility to management (Mokhtarian et al., 1998). In the same study, the results showed that respondents with children are more likely to be concerned about the lack of visibility to management.

Another focus of the research in the telecommuting field is on exploring factors that can lead to higher telecommuting effectiveness such as higher job performance and higher job satisfaction. These factors include managerial support and performance management system. As mentioned above, managerial support and trust can influence the employees’ choice of telecommuting. These two factors
were also proved to have a positive impact on telecommuting performance and satisfaction (Hartman & Stoner, 1991; Kowalski & Swanson, 2005). In the context of telecommuting, employees work out of the traditional office. That may weaken their connection with the organization. Studies show that a strong bond with their organization is considered essential to secure employees’ motivation, productivity, and reliability (Connaughton & Daly, 2004). Along with other factors, the result-based performance management system and clear evaluation criteria can lead to higher performance as well (Kowalski & Swanon, 2005; Raghuram, Garud, Wiesenfeld, & Gupta, 2001).

Cross-culture Research in Telecommuting

Researchers realized that telecommuting research should be expanded to cross culture research. Current cross-culture research in this field was country specific studies, mostly focusing on Western culture while few are done in Eastern culture. For example, Raghuram, London & Larsen (2001) examined the extent to which variances in flexible employment practices across fourteen European countries may be attributed to cultural variances. Their results showed that telework is related to femininity. They found that organizations in high femininity cultures used a greater proportion of telework. Nunes (2005) summarized relevant enablers and constraints that may influence the implementation of telework in business environment in Portugal. He concluded that telework in Portugal would only be possible if companies change their organizational procedures, from traditional management (by controlling the performance of workers in a system based on hours of work rather than on results obtained) into more modern and efficient ones. Higa & Shin’s research (2003) in Japan examined five successful telework adoption cases and four not-so-successful cases and compared these cases in terms of four telework phases of adoption. They suggested that the management changes as well as perception changes were critical in making the telecommuting implementation successful in Japan. These studies were based on different cultures, but less focus was put on the influence of cultural factors that may impact the attitudes of the telecommuters and their job.
USA is one of the countries where telecommuting is adopted more than in other countries. Studies carried out in USA have identified factors that can influence the feasibility and effectiveness of telecommuting from both supervisors’ and subordinates’ perspective. Research has proved that supervisors were reluctant to manage employees they cannot physically observe (Shamir & Salomon, 1985). Wiesenfeld, Raghuram, & Garud (1999) suggested that middle managers and supervisors may function as an obstacle to the spread of virtual work and their cooperation was essential if virtual work initiatives were to succeed. They held that managers may view the changes involved in the transition to a virtual context as a personal threat to identity, esteem, and control. Employers may cease to use telecommuting because they cannot control or monitor employees due to telecommuters’ physical location.

Research has proved that the impact of managerial attitudes and values differed by culture and were differentially related to managerial effectiveness (eg. Kobrin, 1988; Lee & Larwood, 1983). As we know, Chinese work culture is characterized by collectivism and high power distance whereas US culture values individualism and low power distance. When investigating the impact of management styles on job performance, Black and Porter (1991) found that managerial behaviors with a positive impact in the United States did not achieve the same positive results in Hong Kong because of the different work cultures in these two countries. People in high power distance and collectivist cultures prefer to be managed in a directive style, while those in low power distance and individualist cultures more often prefer a participative style (i.e. Dorfman et al, 1997; Fellows, Liu & Fong, 2003).

**Position Power**

Yukl & Falbe (1989) defined that position power derived from the opportunities inherent in the person’s power. It included reward power, legitimate power and coercive power. In general, power is a source of influence in a relationship. Take the downward relationship (supervisor-subordinate) for
example. As a superior, the supervisor has the authority (legitimate power) to assign a task or to demand a change in the subordinates’ behavior. The supervisor also has the ability to reward the subordinates for a desired behavior or based on the membership of the group (reward power). In exercising the power, supervisors are signaling to subordinates their expectations, demands and requirements. In perception of the extent of supervisory power, the subordinates may change their behavior according to the supervisors’ demands or expectations.

Many studies have focused on the relationship between power and subordinate work outcomes, for example, subordinate compliance, satisfaction and job performance. In general, research showed that unexercised power will increase satisfaction and decrease conflict (i.e. Gaski, 1984). In the telecommuting scenario, the telecommuters usually work out of office. They have more autonomy to decide the place and time to work. Supervisors may feel threatened by delegating more power to their subordinates. Especially in a high power distance culture, the extent of power is granted by the official position. Empowerment creates the imbalance between the actual power possessed by supervisors and the position of the supervisor. In this situation, supervisors may exercise their power by formalizing performance evaluation and job requirements or by closely monitoring employees (i.e. frequent performance discussing meetings). When supervisors cannot physically supervise telecommuters, they may also use their authority to specify what is to be accomplished, for example, setting targets for subordinates to pursue. Another strategy supervisors may take is to reward the subordinates who follow their instructions or achieve their goals with pay raises or promotions. This may be more acceptable to subordinates.

Telecommuting brings increased flexibility, autonomy and empowerment to the workplace. Research has showed that autonomy is positively related to job performance and subordinate satisfaction (Lee, 2008a). Research in the telecommuting field had also showed that telecommuting can
lead to increased productivity, motivation and satisfaction (Harpaz, 2002). However, the increased flexibility and diminished proximity that telecommuting brings to the workplace can make supervisors feel a loss of power. It will further influence their support for telecommuting and their supervision style over subordinates. They may exert more control over subordinates in order to regain their power. It may not match the communication and coordination requirements that telecommuters face once they begin to work remotely and may instead disrupt their idiosyncratic rhythm, hamper communication and coordination, and ultimately hinder their effectiveness (Majchrzak et al., 2000). Nevertheless, the potential impact of supervisory power on subordinates’ behavior and work outcomes has not been fully investigated. Given the cross cultural differences in the impact of supervisor behavior on subordinates, the relationship between supervisory power and subordinate work outcomes are also not conclusive. For example, research showed that in a high power distance culture, individuals did not perform as well when they were empowered as when compared to when they were disempowered (Eylon, 1999). Therefore, the supervisory power will not necessarily lead to lower satisfaction or lower performance.

**Reward Power**

French and Raven (1959) identified reward power as subordinates’ perceptions that a supervisor can reward them for a desired behavior. According to French and Raven, reward power depends on the power wielder (individual or group) administering “positive valences and reducing or removing negative valences”. In an organization, reward power is derived from the supervisors’ ability to facilitate the attainment of desired outcomes by the subordinates. It defines the extent of a supervisors’ ability to help subordinates get rewards and to control the essential resources. Research showed that among the power bases, reward power was the most often exercised power when high work autonomy was accorded (Lee, 2008b). In the case of telecommuting, it offers more autonomy than traditional work modes. Thus, reward power is an important position power in this study.
Supervisors exercise reward power when they have the ability to control and distribute reinforcers that are valued by followers. Such power can promote high self-confidence, motivated performance, and satisfaction in group members and result in high effectiveness ratings for supervisors who utilize it (Shaw, 1981). Hinkin and Schrisheim’s study (1988) showed a negative correlation between coercive power and satisfaction but positive correlations between all the other power bases including reward powers and satisfaction. Similarly, Lee (2008a) suggested that reward power showed a positive impact on subordinate satisfaction. Research demonstrated that reward power was positively related to perceived organizational support (Carson, Carson, and Pence, 2002), so it can further lead to the subordinates’ positive work outcomes. Among Korean managers, both subordinate compliance and satisfaction were significantly associated with the exercised reward power (Kim, Rahim & Kim, 1991). Using the data collected from technical staff of manufacturing companies, Lee’s study (2008b) also demonstrated that subordinates were most likely to accept the supervision through the exercise of reward power. Individuals who perceived the leader as controlling resources will were motivated to initiate a high quality relationship with supervisor which was proved to be positively related to work outcomes of job satisfaction and task performance (Aryee and Chen, 2006).

However, other studies suggested opposite results. Jurma and Wright (1990) proved that subordinates who worked with leaders who lost reward power were more satisfied than those whose leaders maintained reward power. Their results were consistent with Bachman’s study (1966) which showed that the more reward power supervisors had, the lower performance and satisfaction the subordinates have. There were other studies that suggested reward power had no significant or only a weak effect on work outcomes. For example, Dunne, Stahl & Melhard (1978) sampled project managers and found that reward power was hardly associated with subordinate compliances. Carson et al. (1993) also concluded that reward power was weakly and positively correlated with satisfaction.
Especially in China, supervisors know clearly what resources they have and they have the ability to allocate them. They evaluate the performance of subordinates and decide on the subordinates' promotions, pay raises and bonuses. Supervisors usually have considerable control over resources and rewards desired by subordinates. Reward power is usually considered as a positive influence attempts by supervisors. The supervisor solicits the compliance by providing reward, the bestowal of consequences that the subordinates evaluate as desirable, or relief. Supervisors who use a performance-contingent reward power may be perceived by their subordinates as friendly, considerate and supportive. When the subordinates telecommute, if their supervisor can provide the information, supplies and facilities that are essential for their work, they can work smoothly and effectively. When supervisors reward the telecommuters for high performance, they will feel motivated and regard it as a type of organizational support. Thus, they will feel satisfied with their work and feel encouraged to continue telecommuting.

**Legitimate Power**

Legitimate power is based on subordinates’ beliefs that a supervisor has the right to prescribe and control their behavior (French & Raven, 1959). Legitimate power involves values or standards that are accepted by the individual, by virtue of which the supervisors can assert their power. In an organization, the subordinates accept the authority of their supervisor to hold his/her position. It means that a supervisor will have the legitimate right to prescribe behavior for his/her subordinates. This authority is derived from the supervisor’s formal position within the organization. Yulk and Farlbe (1991) suggested that legitimate power was a very important source of day-to-day influences in organizations. It is essential for organizations to function smoothly and effectively because authority can be used without incurring costs associated with other types of power, such as expenditure of resources and the obligation to repay favors (Yulk & Farlbe, 1991).
Similar to reward power, studies showed no consistent relationships between legitimate power and subordinates’ work outcomes. There were some studies that suggested legitimate power had no clear relationship with performance. Based on five different organizational settings, Bachman’s study (1965) found that legitimate power was a very common or prominent basis of power, but it didn’t appear to be a consistent factor in satisfaction and performance. Bachman and his colleagues’ later study (1966) indicated that the managers who relied upon the use of legitimate power were considered less effective and leaded to lower subordinate satisfaction. There was no relationship between legitimate power and subordinate performance (Bachman, Smith & Slesinger, 1966).

Other studies showed significant relationship between legitimate power and the subordinates’ work outcomes. For example, Hinkin & Schriesheim (1988) reported a positive correlation between legitimate power and subordinate satisfaction although the relationship was weak. Carson et al. (1993) suggested that legitimate power was weakly and positively related with subordinate satisfaction. In contrast, Rahim (1989) surveyed a national sample of managers in the U.S. and found that legitimate power was negatively associated with satisfaction. But his study reported a positive relationship between legitimate power and subordinate compliance. Koh and Low (1997) sampled the accounting subordinates and drew the same conclusion that that legitimate power of accounting supervisors was significantly and positively associated with the compliance of accounting subordinates and negatively related to subordinate satisfaction.

In the telecommuting scenario, the extent of supervisors’ legitimate power relates to the amount of supervision and direction given to the subordinates and how closely their job activities are structured, monitored, and directed. It stems from the formal hierarchical position in the organization. Although some research has suggested that legitimate power had no or only a weak relationship with subordinates’ work outcomes, there are still reasons to believe that legitimate power would have a
negative impact on telecommuters' work outcomes. Telecommuters work out of office which reduces their opportunities to communicate and consult with their supervisors in a timely manner. They are granted with a certain degree of power to decide their work schedule, procedure and style. When the supervisor imposes too much constraint on the telecommuters’ autonomy, they may feel disrespected and decreased dignity. The exercise of legitimate power in telecommuters can contribute to the diminishing job performance (Vredenburgh & Brender, 1998). Studies also suggested that legitimate power is exercised to the extent that a supervisor was “breathing down one’s neck” that had a negative impact on the worker’s satisfaction (Fleishman & Harris, 1962).

**Visibility Loss**

Nowadays, as people are spending more and more of their time at work, the workplace has become an expanded vision of community (Burroughs & Eby, 1998). Many people choose their work groups as their referent. Coworker support, emotional safety, sense of belonging, and spiritual bond are becoming more and more important for people. Particularly in a collectivistic culture like China, the sense of belonging to a group is more important than that in an individualistic culture. People from individualistic cultures like USA tend to think only of themselves as individuals and as "I", distinctive from other people. In contrast, collectivistic cultures such as China have a greater emphasis on groups and think more in terms of "we"(Hofstede, 1993). Research showed that people in a collectivistic culture have a stronger desire for affiliation than individualistic cultures (Love, 2007).

Telecommuting reduces face-to-face communication, which is considered as the medium with the highest social presence and media richness (Gajendran & Harrison, 2007). Research showed that employees who have less temporal exposure, such as the time working in the office and face-to-face communication with coworkers, are more likely to be externalized employees or outsiders (Pfeffer & Baron, 1988). So telecommuters miss the informal interaction they garner by being around colleagues
and friends (Kurland & Cooper, 2002) and focal employees’ connection with supervisors and top management. In other words, they become “invisible” in the workplace.

On the other hand, telecommuting makes the managers lose their identities as group leaders because telecommuting moves the traditional group out of their sight. This is a serious loss for managers in a collectivistic culture like China because their identities are based on the control over the group. Thus, managers’ response to this situation would be externalizing the telecommuters as “outsiders”. If the telecommuters are no longer “in-group,” losing control over them becomes less important for managers.

Once the telecommuters have been externalized as “outsiders” by managers, they are losing opportunities for promotion and rewards. It is because in a Chinese workplace, supervisors manage groups, and employment decisions are based on group membership (Sims, 2009). Personalism plays an important role there. It means that personal criteria and relationships are used as a basis for decision making and action (Westwood, 1997). Law et al. (2000) also showed that supervisor-subordinate guanxi had explanatory power for supervisory decisions on promotion and reward allocation after controlling performance in China, where guanxi was defined as the social connections between people that are based implicitly on mutual interest and benefits (Yang, 1994). This makes a subordinate’s inclusion in a supervisor’s in-group important as it determines whether he or she enjoys the patronage of the supervisor (Aryee & Chen, 2006). Because telecommuters are less visible in the workplace, telecommuters lose the opportunities to interact with managers face-to-face, not to mention establish good personal relationships with them. In a high power distance culture like China, a leader who has high reward power will be able to differentiate between his or her subordinates as he or she may have more say in organizational decisions such as promotion and reward allocation (Erdogan & Liden, 2002). Telecommuters have fewer behavioral opportunities to demonstrate high performance in a face-to-face, highly salient context while the managers find it hard to evaluate the telecommuters’ performance and
commitment based on their behavior. In this circumstance, managers may question telecommuters’
loyalty, commitment (Desrosiers, 2001) and performance and telecommuters may consequently lose
opportunities of receiving rewards.

Telecommuting gives subordinates autonomy and flexibility which causes the managers to lose
power, authority and status over telecommuters. Another typical way of regaining power for managers
in a high power distance culture will be exerting more legitimate power over the subordinates. Because
telecommuters are working out of sight, the managers may find it hard to monitor their subordinates’
work schedule and procedure closely. Therefore, they will tend to specify how the work is to be
accomplished, embody centralization, articulated procedures, and close supervision and define what is
to be accomplished. They may prevent the telecommuters from accomplishing important tasks because
they are out of control and out of the “in-group”.

All of these managerial behaviors are sending messages to telecommuters that they are losing
visibility to their supervisors. Because the managers control the information, telecommuters may feel
they are isolated because they are cut off from the communication loop in the company. The managers
question the performance of telecommuters. They will have the tendency to forget telecommuters
when making the decisions on promotion and reward allocation. Telecommuters will fear that when
they are out of sight, they are out of mind for promotions and other organizational rewards (Kurland &
Cooper, 2002) or negatively viewed by management (Mokhtarian & Salomon, 1997). What’s more, they
will lose opportunities to accomplish important tasks because they are “invisible” and an “outsider”. In
brief, telecommuters will feel that if they do not take initiatives to increase visibility to managers, to give
the managers opportunities to more closely supervise them, and to ease the managers’ concern of
losing power, their career will be negatively influenced. So they may choose to decrease telecommuting
frequency. Their concerns may generate negative emotions, which can possibly negatively influence their satisfaction with telecommuting and performance.
Chapter 3 Model and Hypothesis

Reward Power

In the context of telecommuting, reward power is in the form of support. Supervisors provide the information, supplies and facilities that are essential for telecommuters to work effectively. Supervisory reward power also serves as motivation. Supervisors reward telecommuters for high performance with pay raises, bonuses or promotions.

Studies in the relationship between reward power and subordinate work outcomes had different conclusions. Research demonstrated that reward power was positively related to perceived organizational support (Carson, Carson, and Pence, 2002), so it can possibly lead to subordinates’ positive work outcomes. Lee (2008a) suggested that reward power showed positive relationship with subordinate satisfaction. It was found that among Korean managers, subordinate job satisfaction was significantly related with reward power (Kim, Rahim & Kim, 1991). Research showed individuals who perceived the leader as controlling resources will be motivated to initiate a high quality relationship with supervisor and further leaded to higher job satisfactions and task performance (Aryee and Chen, 2006).

Some other studies showed the opposite results. For example, Jurma and Wright (1997) proved that subordinates who worked with leaders who lost reward power were more satisfied than those whose leaders maintained reward power. Their results were also consistent with Bachman’s study (1966) which showed that more reward power would lead to the lower subordinate performance and satisfaction. However, none of these studies took consideration of cultural factors.

A lot of research has suggested that the impact of managerial behavior differed by culture and was differentially related to the subordinate work outcomes (eg. Kobrin, 1988; Lee & Larwood, 1983). It is important to analyze the relationship between the reward power and the work outcomes in the special work culture context. Considering that telecommuting is a new mode of work arrangement in
China, the special characteristics of telecommuting should be taken into account as well. In a high power distance and collectivistic culture like China, supervisors usually have considerable control over resources and rewards desired by subordinates. Reward power is usually served as a positive influence attempts by supervisors. And their exercise of reward power may be perceived by their subordinates as a type of support. The supervisory support is also highly valued by the subordinates. When the subordinates telecommute, if their supervisor can provide the information, supplies and facilities that are essential for their work, they can work smoothly and effectively. Moreover, if the high performance is rewarded properly by the supervisors, for example, pay raises or bonuses, they will feel motivated and regard it as a type of organizational support. In the supportive atmosphere, they will feel satisfied with their work and feel encouraged to continue telecommuting. Therefore, I propose the following hypothesis:

**H1a:** Higher level of supervisory reward power will be associated with greater subordinates’ telecommuting frequency

**H1b:** Higher level of supervisory reward power will be associated with higher telecommuters’ performance

**H1c:** Higher level of supervisory reward power will be associated with higher telecommuting satisfaction

**Legitimate Power**

When telecommuters work out of office, supervisors exercise legitimate power in the form of assigning the tasks, formalizing the work procedure, or setting the goals. They may hold more frequent performance discussing meetings in order to monitor telecommuters’ performance.
Like reward power, the research showed different results in investigating the relationship between legitimate power and subordinate work outcomes. Studies showed significant positive correlation between legitimate power and subordinate work outcomes. For example, Carson et al. (1993) suggested that legitimate power was weakly and positively related with subordinate satisfaction. Their results were consistent with Hinkin and Shriecheim's study (1988). Reversely, Rahim (1989) found that legitimate power was negatively associated with satisfaction in US. But his study reported a positive relationship between legitimate power and subordinate compliance. Koh and Low (1997) drew the same conclusion that that legitimate power of accounting supervisors were negatively related to subordinate satisfaction.

Again, it is important to consider the cultural factors and the characteristics of telecommuting in this case. In the telecommuting scenario, the extent of supervisors’ legitimate power relates to the amount of supervision and direction given to the subordinates and how closely their job activities are structured, monitored, and directed. It stems from the formal hierarchical position in the organization. Although some research has suggested that legitimate power had no or only weak relationship with subordinates’ work outcomes, there are still reasons to believe that legitimate power will have a negative impact on telecommuters' work outcomes in Chinese culture.

Studies have proved that to the extent supervisors standardize work processes, it reduces the discretion afforded to subordinates and may lead to rigid and cautious behavior (Child, 1974, Hitt et al., 1990). The supervisors may use their legitimate power to assign the tasks and standardize the work procedure of work, which is sending the message to the telecommuters that the supervisors feel threatened by giving subordinates more autonomy. This can lead to telecommuters’ “rigid and cautious behavior”, which is reducing the telecommuting frequency in this case. Especially in a high power distance and collectivistic culture in China, subordinates have stronger fears of disagreeing with their
supervisors (Smith & Hume, 2005), and “obligation and loyalty” is highly valued. In response to the implicit message the supervisors send, the subordinates will reduce telecommuting frequency.

Telecommuters work out of office which reduces the opportunities for them to communicate and consultant with their supervisors in a timely manner. They are supposed to be granted with certain degree of power to decide their work schedule, procedure and style. When the supervisor imposes too much constraint on the telecommuters’ autonomy, they would find it difficult to use their personal attributes (i.e. skills, knowledge and ability) to contribute to job performance. Too much constraint can also block their innovation and creativity. They may feel disrespected and decreased dignity. Thus, the exercise of legitimate power in telecommuters can contribute to or diminish subordinates’ job performance (Vredenburgh & Brender, 1998). Studies also have proved that the legitimate power is exercised to the extent that supervisor is “breathing down one’s neck” is found to have a negative impact on the worker’s satisfaction (Fleishman & Harris, 1962).

Therefore, I proposed the following hypothesis:

H2a: Higher supervisory legitimate power will be associated with lower subordinates’ telecommuting frequency

H2b: Higher supervisory legitimate power will be associated with lower telecommuters’ performance

H2c: Higher supervisory legitimate power will be associated with lower telecommuting satisfaction

Visibility Loss

Telecommuters are less “visible” to their supervisors. They lose opportunities to interact with their supervisors and demonstrate their performance in a face-to-face manner. They feel that they are
isolated because they are cut off from the communication loop in the organization. Visibility implies telecommuters’ concerns that “working out of sight” is “out of mind” for promotions and other organizational rewards (Kurland & Cooper, 2002), negatively viewed by management (Mokhtarian & Salomon, 1997) or be externalized as “outsiders” by management.

Telecommuters have belief that they will be viewed negatively by their supervisors if they are out of sight too frequently (Mokhtarian & Salomon, 1997). Thus, any negative feedback or negative performance appraisal can confirm that belief. Supervisors control the resources such as information which is necessary for accomplishing tasks. Telecommuters believe that they are cut off from the communication loop in the organization. Therefore, they are more apt to display a lack of confidence in their ability to inform interactive discussion for fear of being criticized because they believe that they need yet lack necessary information (Golden, Veiga, & Dino, 2008). They are more likely to experience increased anxiety (Baumeister & Tice, 1990), and, in more extreme cases, diminish their psychological or even physical health (DeWall & Baumeister, 2006) and consequently lead to lower performance and lower satisfaction.

Also, supervisors formalized the work procedure and schedule which may not match the communication and coordination requirements that telecommuters face once they begin to telecommute and may instead disrupt their idiosyncratic rhythm (Majchrzak et al., 2000). The supervisors may set their own demands and priorities under which telecommuters are unable to work optimally. In the high power distance and collectivistic culture, telecommuters may tend to comply with their supervisors’ request (Smith & Hume, 2005) rather than persist with what is best for doing the work well. Consequently, their performance can be lower. Besides, because telecommuters perceive the resistance of supervisors and visibility loss, they will be less committed to telecommuting. Research
showed that telecommuters’ commitment is vitally important for telecommuting effectiveness (Bjorkegren & Rapp, 1999). Therefore, I propose that:

H3a: Subordinates’ visibility loss will be negatively related to subordinates’ telecommuting frequency

H3b: Subordinates’ visibility loss will be negatively related to their performance

H3c: Subordinates’ visibility loss will be negatively related to their telecommuting satisfaction

**Moderating Effect of Supervisory Telecommuting**

As a new mode of work arrangement, telecommuting brings changes to the traditional work. Telecommuting changes the power distribution between subordinates and supervisors, the working style of subordinates and the supervision style of supervisors. It is important to consider the supervisors’ choice of telecommuting. By experiencing this new mode of work arrangement themselves, supervisors may have more understanding of its nature, advantages and disadvantages, and the appropriate solutions to the potential problems it may bring. These supervisors may have different attitudes toward telecommuting from those supervisors who are not telecommuting. Therefore, the impacts of reward power, legitimate power and visibility loss on telecommuters’ work outcomes will be different when supervisors are telecommuting compared to those when supervisors are not telecommuting.

When supervisors are telecommuting, they are more aware of the difficulties telecommuters may have and the support they may need than those who are not telecommuting. Supervisors who are telecommuting can better support telecommuters by providing necessary information, supplies and resources. For example, when telecommuters work at home, they may have trouble connecting to the intranet systems. Their work can be hindered because they do not have access to the online resources within the organization and may not be able to communicate with their coworkers and supervisors in a
timely manner. Supervisors who have telecommuting experience would have detected this problem and would prevent this situation from happening. They may creatively use different communication technologies to keep telecommuters in the loop of communication and make sure they have updated information. Supervisors who are telecommuting have thorough understanding of the nature of telecommuting compared to those who are not telecommuting. They will evaluate telecommuters’ performance in the perspective of outcomes rather than process because telecommuters’ performance is hard to observe. If the high performance is rewarded properly by the supervisors, they will feel motivated and regard it as a type of organizational support. In the previous research in telecommuting field, researchers have noted that managerial support can influence subordinates’ willingness to telecommute (Hartmen & Stoner, 1991; Kowalski & Swanson, 2005). They would more likely to continue telecommuting because they can get essential resources and information even if they work out of office. Also they can do their jobs better because their supervisors know and provide what they need. They would be more satisfied with their work arrangement and their jobs because their supervisors provide enough support compared to those whose supervisors are not telecommuting.

Supervisors who are not telecommuting may not notice the difficulties that telecommuters may have. They don’t know what resources and information are essential for telecommuters. They won’t provide resources proactively because they assume that subordinates would come to them when they need the resources. Supervisors may find it hard to monitor telecommuters’ work process. They cannot observe how their subordinates work and how much effort and time they input. They may question the performance of the telecommuters. These telecommuters can be negatively reviewed when management consider promotions, pay raises or bonuses. Telecommuters may feel they are not valued by the organization because their effort is not properly rewarded. They would find it hard to work outside of office because they cannot get necessary resources from their supervisors. Therefore, the relationship between supervisory reward power and telecommuters’ work outcomes will be weaker
because the supervisors who are not telecommuting have the reward power and yet don’t know how to use it.

In sum, I proposed that the relationship between reward power and work outcomes will be stronger when supervisors telecommute (Figure 1).

H4a: the positive relationship between supervisory reward power and telecommuting frequency will be stronger for those whose supervisors are telecommuting compared to those whose supervisors are not telecommuting

H4b: the positive relationship between supervisory reward power and telecommuters’ performance will be stronger for those whose supervisors are telecommuting compared to those whose supervisors are not telecommuting

H4c: the positive relationship between supervisory reward power and telecommuting satisfaction will be stronger for those whose supervisors are telecommuting compared to those whose supervisors are not telecommuting

Figure 1: the relationship between reward power and subordinates work outcomes
In the context of telecommuting, supervisors have to provide their subordinates with the autonomy to decide where and how to work. Supervisors may exercise their legitimate power to maintain their status. In this situation, they may set the goals, formalize the work procedures, define the working schedules and hold frequent performance discussion meeting. Telecommuters do not get the autonomy as they expect once they start telecommuting. They may think their supervisors are sending the messages that they feel threatened by giving subordinates more power to decide where and when to work, and therefore impose more control over the work process. Consequently, telecommuters may reduce their telecommuting frequency in order to eliminate supervisors’ concerns. Additionally, the constraints supervisors impose on the telecommuters’ autonomy will disturb their work pace and work style. They may find it hard to fully use their personal attributes such as skills, knowledge and ability to work effectively. They will feel disrespected and decreased dignity. It can lead to lower job performance (Vredenburgh & Brender, 1998) and lower satisfaction (Fleishman & Harris, 1962).

When the supervisors are telecommuting, their exercise of legitimate power is less likely to be interpreted as resistance of telecommuting. Although telecommuters need autonomy to work smoothly and effectively, they still need some directions and instructions from supervisor. For example, when subordinates work in the customer site negotiating with customers, supervisors need to provide guidance regarding negotiation procedures and acceptable prices and so on. When supervisors who are telecommuting exercise their legitimate power, subordinates are more likely to consider it as supervisory direction necessary in the telecommuting context rather than obstacle of work effectiveness. In addition, when supervisors are telecommuting, they understand the nature of telecommuting. They are less likely to exert unnecessary control over subordinates. Therefore, the impact of legitimate power on telecommuters’ work outcomes will be weaker for telecommuters whose supervisors are also telecommuting compared to those whose supervisors are not telecommuting (Figure 2).
H5a: the negative relationship between supervisory legitimate power and telecommuting frequency will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are telecommuting

H5b: the negative relationship between supervisory legitimate power and telecommuters’ performance will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are telecommuting

H5c: the negative relationship between supervisory legitimate power and telecommuting satisfaction will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are telecommuting

![Diagram](image.png)

**Figure 2: the relationship between legitimate power and subordinates work outcomes**

When supervisors work in the office, telecommuters have more concern about losing visibility. They fear that if their supervisors do not see them working in the office, they may be negatively viewed by management. They are afraid that they may be externalized as “outsiders” and consequently lose opportunities to accomplish important tasks, get promotions or pay raises. In this situation, telecommuters will increase the frequency of working in the office. If telecommuters keep worrying
about losing visibility, they will be distracted when they accomplish tasks. They are more likely to experience increased anxiety and consequently lead to lower performance and lower satisfaction.

When supervisors are telecommuting, visibility will be less important for the subordinates because the supervisors are not in the office as well. The factors that may influence the telecommuters’ work outcomes are removed in this situation. When supervisors work outside of office, they won’t determine their “in-group” members based on subordinates’ presence in office. Their telecommuting subordinates will not have to worry that they would be outsiders. Because the supervisors with telecommuting experience understand the nature of this work arrangement, they will be less likely to be bias against those telecommuters when they assign tasks and consider promotions and pay raises. Telecommuters won’t be worried about being ignored when supervisors make decisions regarding promotions and pay raises. When supervisors make decisions, their subordinates will less likely to think the decisions are not fair. They will be more likely to continue telecommuting. They can work more effectively because they won’t be distracted by fear of losing visibility.

H6a: the negative relationship between visibility loss and telecommuting frequency will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are not telecommuting

H6b: the negative relationship between fear of visibility loss and telecommuters’ performance will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are not telecommuting

H6c: the negative relationship between visibility loss and telecommuting satisfaction will be stronger for those whose supervisors are not telecommuting compared to those whose supervisors are not telecommuting
Figure 3: the relationship between visibility loss and subordinates work outcomes
Chapter 4 Method

Measures

The questionnaire consists of 27 items. A 7-point Likert’s scale is used for all the following measures. Higher values represent a higher level of agreement and vice versa. The specific items used in the questionnaire are in Appendix. The independent variables are reward power, legitimate power and visibility. The dependent variables include performance and telecommuting satisfaction. Whether supervisor is telecommuting or not serves as moderator.

**Reward power:** I used 3 item measurement developed by Yulk and Falbe (1991) are used in the study, including: “my supervisor would do things to increase my chance of getting a pay raise or bonus”, “my supervisor controls resources I need to do my work effectively (e.g., funds, supplies, equipment, facilities, and personnel)”, and “my supervisors would do things to help me get ahead in this organization”. The internal reliability Cronbach's coefficient alpha is 0.83.

**Legitimate Power:** I used 3 item measurement developed by Yulk and Falbe (1991) are used in the study, including “my supervisor may use the authority to give me tasks or assignments”“my supervisor may use the right to determine whether a task I do for him/her is acceptable or not”, “my supervisor may use the authority to specify how I should do a task for him/her”, and “my supervisor may use the authority to specify how I should do a task for him/her”. The internal reliability Cronbach's coefficient alpha is 0.90.

**Visibility Loss:** I used 4 items were used to measure this variable. Examples include:“Working from home reduces my promotion chances” and” there s a risk that I would be viewed negatively by management if I am not around” adapted from Mokhtarian & Salomon’s study (1998). The internal reliability Cronbach's coefficient alpha is 0.87.
**Telecommuting Frequency:** the subjects will be asked to indicate the proportion of time that they telecommute. Specifically, the subjects will be asked to indicate on average how many days they spend in each of these work locations: home, a facility that is not personal resident or assigned personal space in the company (eg. customer site), assigned personal space in the company or other locations (eg. coffee shop).

**Telecommuting Performance:** I used 3 items developed in previous studies to measure the perceived performance of individuals including quality, quantity and customer report (Witt, Burk, Barrick & Mount, 2002). Examples include “the quality of my work is high,” “customers report satisfaction with my work,” and “my supervisor is satisfied with my work”. The internal reliability Cronbach's coefficient alpha is 0.83.

**Telecommuting Satisfaction:** this variable is used to measure the extent to which the telecommuters are satisfied with the work arrangement and their willingness to continue working at home. I used 2 items are used to measure the telecommuting satisfaction: “I would be likely to continue working from home.” And “All in all I am satisfied with my current work arrangement”. The internal reliability Cronbach's coefficient alpha is 0.83.

Gender serves as a control variable in the model. There were studies showed that women were more likely than men to have motivations for telecommuting because they may share more responsibility to take care of the housework (Mokhtarian & Baagley, 1998) especially when they had pre-school children at home. The study also controlled the tenure and how long the respondents have been working with their current supervisors. The longer tenure the employees have and the longer they work with their supervisor, they may feel more comfortable to adopt the new mode of work arrangement since they have more seniority and may have built up a good relationship with supervisors. They may have fewer concerns. Moreover, the extent to which the telecommuting is used in the
organization and the presence of formal telecommuting policy are two other control variables. A formal telecommuting policy would provide guidelines for telecommuters and give employees more encouragement to use this new work mode. By the same token, if telecommuting is prevailing in the company, the employees would have more motivation to telecommute.

**Questionnaire Design**

The major part of the survey utilized a closed-question format. It provided the respondents a list of acceptable answers. It is considered as the simplest way to provide the respondents the same perceptions of what constitutes an adequate answer. Most questions were asked in a Likert format with seven-point scale ranging from (1) strongly disagree, to (7) strongly agree. The seven-point scales were used because they will provide more variation and reduce the respondents’ ability to discriminate between the scale values. Three open questions were included: “What are the benefits you think of telecommuting?”, “What are problems you think telecommuting will create for you?”, and “what other comments do you have?”.

Confidentiality and anonymity were ensured. In the beginning of the survey, respondents were assured that the answers would be treated confidentially and only the research staff in this study would have access to the data. Also, it was emphasized the purpose of the study and the importance of completion of the questionnaires for the study. The respondents were informed that there were no “correct” answers and the completion of the survey was voluntary.

The entire survey, including the items, the introduction, and instructions, was double translated, first into Chinese, and then back into English. The translators are all native Chinese speakers who were also fluent in English. Every translator performed the translation independently. Two translators were employed to translate the English survey into Chinese and two additional translators then back-translated the survey into English. The back-translation was compared to the original English version.
There was few discrepancies appear. When the back-translation was not equivalent to the original items, the translation process was repeated. This translation process minimized the systematic error due to translation mechanisms, and thus further ensured construct validity of the measures.

**Data Collection**

Surveys were distributed in eight consulting firms in Beijing. Online survey was used in the study. The copy of the questionnaire with a cover letter was sent to the HR managers for review to further assure them that the questionnaire involved no questions about the business secrets and that the company names won't be revealed in the paper. Then the HR managers helped send the link of online survey to their employees. Generally, it took the participants 10-15 minutes to fill out the survey. The responses of the questionnaires were coded automatically in the online worksheet once they finished filling out the survey.

**Data Demographics**

There were 250 surveys were distributed electronically and 160 responses were received. 150 of them are usable responses. Among the companies participated in the study, two of them have more than 1,000 employees and 57 employees from these two companies filled out the survey. There were three companies have 100-300 employees each. 74 participants were from these three companies. The rest of the respondents (30) were from three other companies which have less than 50 employees each. All of these companies are private consulting firms who have telecommuting policies and provide options of telecommuting for their employees.

The sample was comprised of 95 males (63.5%) and 55 females (36.5%). The majority of them do not have preschool children (84.4%). Over half of the participants were HR consultants (55%). Among the respondents, 9.4% of the participants were technician; 9.3% of them performed administration or general management in their companies; 6.3% of them were sales. And the rest of
them held other positions in their companies, for example, legal functions and communication functions. Most of the respondents had worked 1-4 years in their company (88.2%), while 11.8% of them had more than 4 years tenure. There were 92.8% of them working with their current supervisors for less than 4 years. There were 42.7% of the respondents indicating that their supervisors were also telecommuting while the rest of them reported their supervisor weren’t telecommuting.
Chapter 5 Results

Means, Standard Deviation and Correlation

Table 1 provided correlations, means, and standard deviations for all the variables used in the analysis. These variables included gender, supervisory telecommuting, tenure, how long has been working with current supervisor, the extent to which telecommuting is used in the company, reward power, legitimate power, visibility loss, telecommuting frequency, telecommuting performance and telecommuting satisfaction.

From table 1, the means for reward power (4.89) and legitimate power (4.27) were high. It is consistent with the characteristics of Chinese work culture. In the high power distance culture, supervisors have control over valuable resources, have the right to reward subordinates and have the authority to assign task and define the work procedure. Similarly, it was noted that the mean of visibility loss is also high (4.23). It means that these telecommuters were afraid of losing visibility to management. In a collectivistic culture, people emphasize on group and their identities are based on group membership. Telecommuters work out of sight. They would have more concerns about losing opportunities of promotion and important task because they have less time communicate with their supervisors, demonstrate their abilities and build good relationships with supervisors in a face-to-face manner.

The significant correlation between gender and telecommuting frequency was consistent with the previous study. Women have more motivation for telecommuting because they are more likely than men to benefit from increased time for family and stress reduction (Mokhtarian & Bagley, 1998). Supervisory telecommute was negatively correlated with telecommuting frequency, job performance, and telecommuting satisfaction. It partly supported the hypothesis. Supervisors’ choice of telecommuting can influence the subordinates’ attitude and behavior. When supervisors telecommute,
the subordinates are more likely to telecommute and have higher job performance and satisfaction. The extent to which the telecommuting was used in the companies was also positively related with telecommuting frequency. It served as one of the control variables in the model.

Reward power was positively related with telecommuting frequency and job performance. Legitimate power was also positively correlated with telecommuting frequency, which was opposite to what I anticipated. The correlation also showed negative relationship between visibility loss and telecommuting satisfaction.
Table 1: Means, Standard Deviation, and Correlation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (1=male, 2=female)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor telecommute</td>
<td>1.44</td>
<td>0.48</td>
<td>-.288*</td>
<td>.392**</td>
<td>-.124</td>
<td>.042</td>
<td>.136</td>
<td>.097</td>
<td>.136</td>
<td>.136</td>
<td>.071</td>
<td>.123</td>
<td>.116</td>
</tr>
<tr>
<td>Tenure</td>
<td>2.67</td>
<td>1.35</td>
<td>.024</td>
<td>.239</td>
<td>.092</td>
<td>.042</td>
<td>.136</td>
<td>.097</td>
<td>.136</td>
<td>.136</td>
<td>.071</td>
<td>.123</td>
<td>.116</td>
</tr>
<tr>
<td>Working time with supervisor</td>
<td>1.15</td>
<td>0.92</td>
<td>.024</td>
<td>.239</td>
<td>.092</td>
<td>.042</td>
<td>.136</td>
<td>.097</td>
<td>.136</td>
<td>.136</td>
<td>.071</td>
<td>.123</td>
<td>.116</td>
</tr>
<tr>
<td>Telecommuting in the company</td>
<td>1.73</td>
<td>0.27</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
</tr>
<tr>
<td>Supervisory telecommute</td>
<td>1.23</td>
<td>0.95</td>
<td>.024</td>
<td>.239</td>
<td>.092</td>
<td>.042</td>
<td>.136</td>
<td>.097</td>
<td>.136</td>
<td>.136</td>
<td>.071</td>
<td>.123</td>
<td>.116</td>
</tr>
<tr>
<td>Telecommuting performance</td>
<td>1.73</td>
<td>0.27</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
</tr>
<tr>
<td>Telecommuting frequency</td>
<td>1.73</td>
<td>0.27</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
</tr>
<tr>
<td>Visibility</td>
<td>1.34</td>
<td>0.52</td>
<td>.46</td>
<td>.491**</td>
<td>.270**</td>
<td>.048</td>
<td>.123</td>
<td>.144</td>
<td>.123</td>
<td>.144</td>
<td>.048</td>
<td>.123</td>
<td>.144</td>
</tr>
<tr>
<td>Legitimate power</td>
<td>1.73</td>
<td>0.27</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
</tr>
<tr>
<td>Reward power</td>
<td>1.69</td>
<td>0.58</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
<td>.136</td>
</tr>
<tr>
<td>Telecommuting satisfaction</td>
<td>1.73</td>
<td>0.27</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
<td>.137</td>
</tr>
<tr>
<td>N=150</td>
<td></td>
<td></td>
<td>3.65</td>
<td>1.80</td>
<td>1.32</td>
<td>.037</td>
<td>.272*</td>
<td>.484*</td>
<td>.484*</td>
<td>.484*</td>
<td>.484*</td>
<td>.484*</td>
<td>.484*</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01
**Multiple Hierarchical Regression**

**Reward Power, Legitimate Power, Visibility Loss and Telecommuting Frequency**

Multiple hierarchical regression was used to test the propositions. Specifically, in testing these propositions, gender, tenure, how long the subjects had been working with their supervisor and the extent to which telecommuting is used in the company were controlled (see Step 1 in Table 2). The hypothesis 1a stated that reward power is positively related with telecommuting frequency. Hypothesis 2a and 3a proposed that legitimate power and visibility loss would be negatively related with telecommuting frequency. In Step 2a, the main effects of reward power, legitimate power and visibility loss were entered simultaneously (see Step 2a in Table 2). Main effects of reward power ($\beta=0.25$, $p<.01$) and legitimate power ($\beta=0.16$, $p<.05$) were significant. However, the effect of legitimate power was in the opposite direction as expected. It was indicated that the more legitimate power the supervisor had, the more subordinates would telecommute. Besides, visibility loss was proved to have no effect on telecommuting frequency. In Step 2b, the moderator was entered into the model. The result showed that it is not a significant predictor of telecommuting frequency.

Additionally, supervisory telecommuting served as a moderator in the relationship stated in hypothesis 1a and 2a. In testing the moderation effect, all two-way interactions were simultaneously added to the main effect in Step 3 (see Step 3 in Table 2). In support of the propositions, one interaction emerged as significant – the interaction of supervisory telecommuting and reward power ($\beta=0.76$, $p<.05$). The degree to which the interaction contributed towards explaining variance in telecommuting frequency over and above the main effects was significant ($\Delta R^2=.04$). The interaction terms explained an additional 4% of the variance in telecommuting frequency. Hypothesis 4a was proved. On the other hand, legitimate power became an insignificant predictor in Step 3, neither did the interaction terms. In Step 4, only the significant predictor and interaction terms were enter.
To explore the nature of the significant interaction effects, telecommuting frequency was then regressed on the reward power for each of the subgroups – those whose supervisors were telecommuting, and those whose supervisors were not telecommuting. As shown in Figure 4, points were plotted for the extent of telecommuting. It suggested that for those whose supervisors were telecommuting, reward power was more strongly related to telecommuting frequency. For those whose supervisors were not telecommuting, reward power was not as strongly related to telecommuting frequency. In sum, reward power appeared to be a more critical factor in influencing telecommuting frequency for those whose supervisors were telecommuting.
In Hypothesis 1b, reward power was expected to have positive effect on telecommuters’ job performance whereas hypothesis 2b and 3b proposed that legitimate power and visibility loss would have negative effect on job performance. The same regression method as described earlier was used to test the hypothesis. As shown in Table, after controlling the control variables in Step 1, the main effect of reward power, legitimate power and visibility loss were tested in Step 2a. Only reward power appeared to be a significant predictor ($\beta=0.34$, $p<0.01$). It explained 11% additional variance of the job performance. Hypothesis 1b was supported. In Step 2b, the moderator was entered ($\beta=0.29$, $p<0.01$). In Step 3, all three two-way interaction terms were entered in order to test the moderation effect proposed in hypothesis 4b, 5b and 6a. None of them appeared to be significant.
Table 3: Regression of Reward Power, Legitimate Power and Visibility Loss on Telecommuting Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Telecommuting Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step1</td>
</tr>
<tr>
<td></td>
<td>St. β</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.14</td>
</tr>
<tr>
<td>Tenure</td>
<td>0.19</td>
</tr>
<tr>
<td>Working time with supervisor</td>
<td>-0.36</td>
</tr>
<tr>
<td>Telecommuting in the company</td>
<td>0.18</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Reward power</td>
<td></td>
</tr>
<tr>
<td>Legitimate power</td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td></td>
</tr>
<tr>
<td>Moderator</td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting</td>
<td></td>
</tr>
<tr>
<td><strong>Moderation Effect</strong></td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Reward power</td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Legitimate power</td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Visibility</td>
<td></td>
</tr>
<tr>
<td>$R^2$(adj.)</td>
<td>0.02</td>
</tr>
<tr>
<td>Δ $R^2$(adj.)</td>
<td>0.11**</td>
</tr>
<tr>
<td>Overall F</td>
<td>1.67</td>
</tr>
<tr>
<td>Sig. F Change</td>
<td>5.37</td>
</tr>
</tbody>
</table>

*p<.05; **p<.001; N=150

**Reward Power, Legitimate Power, Visibility Loss and Telecommuting Satisfaction**

It was expected that reward power would have positive effect on telecommuting satisfaction (Hypothesis 1c). Hypothesis 2c and 3c proposed that legitimate power and visibility loss would be negatively related with telecommuting satisfaction. Same as the method stated above, control variables were entered in Step 1. In Step 2a, main effects of reward power, legitimate power and visibility loss were tested. Only visibility loss was proved to be significant ($β=-0.26$, $p<0.01$). Moderator was entered in Step 2b($β=-0.34$, $p<0.01$). Interaction terms were included in Step 3. The interaction of supervisory
telecommuting and visibility loss was significant (\(\beta=-1.25\), p<0.01). The interaction terms interpreted additional 7% of the variance of telecommuting satisfaction (p<0.05). In Step 4, only the significant predictor and interaction terms were included.

Table 4: Regression of Reward Power, Legitimate Power and Fear of Losing Visibility on Telecommuting Satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step1</th>
<th>Step2a</th>
<th>Step2b</th>
<th>Step3</th>
<th>Step4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>St. (\beta)</td>
<td>t</td>
<td>St. (\beta)</td>
<td>t</td>
<td>St. (\beta)</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.13</td>
<td>1.33</td>
<td>0.15</td>
<td>1.51</td>
<td>0.14</td>
</tr>
<tr>
<td>Tenure</td>
<td>-0.11</td>
<td>-1.01</td>
<td>-0.09</td>
<td>-0.76</td>
<td>-0.09</td>
</tr>
<tr>
<td>Working time with supervisor</td>
<td>0.18</td>
<td>1.65</td>
<td>0.17</td>
<td>1.59</td>
<td>0.11</td>
</tr>
<tr>
<td>Telecommuting in the company</td>
<td>0.08</td>
<td>0.76</td>
<td>-0.04</td>
<td>0.38</td>
<td>-0.11</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reward power</td>
<td>0.09</td>
<td>0.90</td>
<td>0.07</td>
<td>0.69</td>
<td>0.31</td>
</tr>
<tr>
<td>Legitimate power</td>
<td>0.06</td>
<td>0.61</td>
<td>0.09</td>
<td>0.99</td>
<td>-0.36</td>
</tr>
<tr>
<td>Visibility</td>
<td>-0.26**</td>
<td>-2.68</td>
<td>-0.21*</td>
<td>-2.26</td>
<td>-0.95**</td>
</tr>
<tr>
<td><strong>Moderator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting</td>
<td>0.34**</td>
<td>3.14</td>
<td>1.32**</td>
<td>2.67</td>
<td>1.13**</td>
</tr>
<tr>
<td><strong>Moderation Effect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Reward power</td>
<td>0.31</td>
<td>-0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Legitimate power</td>
<td></td>
<td></td>
<td>-0.67</td>
<td>1.78</td>
<td></td>
</tr>
<tr>
<td>Supervisory telecommuting*Visibility</td>
<td>-1.25**</td>
<td>-2.708</td>
<td>-1.21*</td>
<td>2.64</td>
<td>-1.21*</td>
</tr>
<tr>
<td>R(^2)(adj.)</td>
<td>0.02</td>
<td>0.06</td>
<td>0.14</td>
<td>0.21</td>
<td>0.21</td>
</tr>
<tr>
<td>(\Delta R(^2))(adj.)</td>
<td>0.05</td>
<td>0.08**</td>
<td>0.07*</td>
<td>0.19**</td>
<td></td>
</tr>
<tr>
<td>Overall F</td>
<td>1.47</td>
<td>4.12</td>
<td>14.11</td>
<td>18.12</td>
<td>9.87</td>
</tr>
<tr>
<td>Sig. F Change</td>
<td>2.65</td>
<td>9.99</td>
<td>4.01</td>
<td>8.40</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; N=150

To explore the interaction effect, telecommuting satisfaction was then regressed on the visibility loss for each of the subgroups – those whose supervisors were telecommuting, and those whose supervisors were not telecommuting. As shown in Figure 5, points were plotted for the extent of telecommuting satisfaction. The figure showed that for those whose supervisors were telecommuting, the more the visibility loss will lead to the less telecommuting satisfaction. For those whose supervisors were not telecommuting, visibility loss did not appear to have the same significant effect.
In sum, the results supported Hypothesis 1a that higher supervisory reward power was associated with higher telecommuting frequency and Hypothesis 2a that higher supervisory reward power was associated with higher telecommuting performance. Hypothesis 4a was also supported which stated that supervisory reward power had a stronger positive impact on telecommuting frequency for those whose supervisors were telecommuting compared to those whose supervisors were not telecommuting. Supervisory legitimate power was proved to be positively related with telecommuting frequency. Visibility loss was proved to have a negative impact on telecommuting satisfaction. It had a stronger impact on telecommuting satisfaction for those whose supervisors were telecommuting compared to those whose supervisors were not telecommuting. So Hypothesis 3c and 6c were proved. The following figure illustrated all the proved hypotheses.

Figure 5. Moderation Effect of Whether Supervisory Telecommuting between Visibility Loss and Telecommuting Satisfaction
Figure 6: Hierarchical Regression Results
Chapter 6 Discussion and Implication

Findings

Previous research provides no clear indication of the impact of reward power and legitimate power on working outcomes. Given the fact that telecommuting is introduced as a new mode of work arrangement in China, no research has been done in investigating the relationship between supervisory power and telecommuters’ working outcomes.

The results showed that higher level of supervisory reward power was associated with higher telecommuting frequency and job performance. Legitimate power was found to be positively related with telecommuting frequency. Visibility loss can lead to lower telecommuting satisfaction. It was found that supervisory reward power had stronger effect on telecommuting frequency for those whose supervisors telecommute. The results also suggested that visibility loss had stronger effect on telecommuting satisfaction for those whose supervisors telecommute.

Reward power was proved to have a positive impact on telecommuting frequency and job performance. In the special case of telecommuting work in China, reward power is regarded as a positive supervisory influence. Supervisors who build a connection between reward and desired behavior such as high performance are perceived by their subordinates as fair and supportive. When the telecommuters work out of sight, most of them are concerned that they are cut off from the communication loop within the organization and lose the opportunity to demonstrate their ability and performance to their supervisors face-to-face. They need supervisors to provide the information, supplies and facilities that are essential for their work. If supervisors do so, the subordinates can work smoothly and effectively even when they are working out of office. Moreover, they will feel motivated and regard it as a type of organizational support. When supervisors reward the telecommuters for positive work outcomes, for example, high performance, the telecommuters would have less concern
about being negatively viewed by supervisors. Thus, they will feel encouraged to continue telecommuting. I was surprised to find reward power had no effect on telecommuting satisfaction. It may be because the effect of other factors was stronger so that the effect of reward power was mitigated.

When supervisors are also telecommuting, they may be more aware of the working style of telecommuters and more sensitive to the telecommuters’ needs. They would provide information and resources needed by telecommuters. They may be result-oriented when evaluating telecommuters’ work outcomes since it is hard to observe the working process of telecommuters. They may have less bias toward telecommuters compared with those supervisors who are not telecommuting. In this case, subordinates would feel less concerned that being out of sight means out of mind. They are encouraged by the supervisors support, therefore, they will tend to continue telecommuting or even increase the frequency. The results showed no significant moderation effect of supervisory telecommuting on the relationship between reward power and job performance. One of the possible reasons is that we measured job performance by self-report questionnaires. People all have the tendency to give a positive evaluation for themselves. Another explanation may be that supervisors who are telecommuting are more sensitive to the telecommuters needs compared with those who are not telecommuting but not actually providing more resources because they have the same resources as the other supervisors. Therefore, there were no significant differences between telecommuters whose supervisors are telecommuting and those whose supervisors are not telecommuting.

Legitimate power was only found to have significant effect on telecommuting frequency. Specifically, the result showed that the more legitimate power the supervisors had, the more subordinates would telecommute. It was opposite to what I expected. The results should be considered in the context of Chinese work culture. Generally, telecommuting work brings autonomy to the
workplace. The more supervisors exercise their legitimate power, the more they may disturb the telecommuters’ own working rhythm. However, in a high power distance culture in China, research showed that individuals did not perform as well when empowered as when disempowered (Eylon, 1999). The collectivistic culture nurtures the employees to expect their managers to lead them in a directive way because it makes them feel they are a part of the group (Lu & Lee, 2005). They feel more comfortable to work in a way that supervisors take control of the work procedures and assign the tasks. When they are telecommuting, they have been used to being told what to do and they would like it to remain that way. On contrary, when supervisors do not give instruction in a directive way because telecommuters are less likely to keep timely communication, they would rather reduce telecommuting frequency and work in office more often.

The statistical analysis did not provide support for the relationship between legitimate power and other two work outcomes – job performance and telecommuting satisfaction. In a high power distance and collectivistic culture in China, legitimate power is a very important source of day-to-day influence that is essential for organizations to function smoothly and effectively. As showed in the data, the level of legitimate power reported was high. From employee’s perspective, legitimate power has been regarded as an indispensable part in the daily work. They consider it to be the authority that strives from the formal hierarchy position in the organization, which is accepted as a norm in the high power distance culture. Therefore, the legitimate power had no significant impact on the job performance and telecommuting satisfaction.

Visibility loss was found to have a significant negative impact on telecommuting satisfaction. It supported the hypothesis. Telecommuters who fear losing visibility have the belief that they will be viewed negatively by their supervisors if they are out of sight too frequently (Mokhtarian & Salomon, 1997) and be cut off from the communication loop in the organization. They are more apt to display a
lack of confidence in their ability to inform interactive discussion for fear of being criticized because they believe that they need yet lack necessary information (Golden, Veiga, & Dino, 2008). So they are more likely to experience increased anxiety (Baumeister & Tice, 1990), and, in more extreme cases, diminish their psychological or even physical health (DeWall & Baumeister, 2006) and consequently lead to lower satisfaction. I was surprised to find that this variable did not have a significant effect on the other two work outcomes. One of the possible explanations is that reward power has such a strong effect on telecommuting frequency and job performance that mitigates the effect of visibility.

The moderation effect of supervisory telecommuting was significant on the relationship between visibility and telecommuting satisfaction. However, it was not as expected that the impact of visibility would be stronger for those whose supervisors are not telecommuting. The results showed the opposite was true. In the situation where supervisors are not telecommuting, subordinates can increase their visibility to them simply by working in the office more often. However, when supervisors are telecommuting, it is harder for telecommuters to increase visibility to them. For those telecommuters who worry about losing career promotion chances and being cut off from the communication loop within the organization, they may choose to increase their visibility to higher managements, other supervisors and coworkers hoping that they can get information from other sources and gain opportunities from them. So the more they are concerned about losing visibility, the less they will telecommute. The regression results showed that when supervisors are not telecommuting, the telecommuters are less satisfied with the current work arrangement and less willing to continue telecommuting. The reason why visibility loss did not have significant effect on telecommuting frequency may be that there were other stronger predictors that were not captured by the model. For instance, they are not satisfied because they don’t have enough time to communicate with coworkers or they are externalized as outsiders by their groups.
Practical Implications

Little research in telecommuting work has been done in China. When this new work arrangement was introduced into workplaces in China, companies transplanted the telecommuting policies used in Western countries (mostly from USA) and are still using them. Numerous studies have demonstrated that the management style, working style, and factors influence management effectiveness and employee work outcomes are different in Eastern countries and Western countries because of the different culture. This study sheds light on how to effectively manage telecommuters and improve their work effectiveness.

As noted by Kowalski & Swanson(2005), managerial support is one of the most important factors that influence the subordinates choice of telecommuting and their satisfaction. Therefore, supervisors can show their support by choosing to telecommute themselves. The results of current study indicated that visibility loss is one of the factors that can have a negative impact on telecommuters’ satisfaction, especially when their supervisors are also telecommuting. Thus, the supervisors can be supportive by exercising their reward power, for example, providing essential information and resources, promoting subordinates who have higher performance regardless of different work arrangement they use.

At the organization level, the result-based performance management system and clear evaluation criteria can lead to higher performance as well (Kowalski & Swanson, 2005; Raghuram, Garud, Wiesenfeld, & Gupta, 2001). Because the telecommuters are working out of office, it is hard to monitor the work procedure. Therefore, it will be more effective to monitor the results instead. On the other hand, in presence of result-based performance management and clear evaluation, telecommuters would be less concerned that they may be negatively evaluated because their supervisors may be bias.
In China, employees like to be lead in a directive way. This study provided strong support for this. While the supervisors should delegate proper power to the telecommuters in respect of deciding working schedules and procedures, they should at the same time provide necessary guidelines and directions. It is important for supervisors to provide instant feedback regarding the telecommuters’ work. The telecommuters may regard it as another type of support. They will feel more comfortable to keep working out of office.

In this study, most of the subjects responded in the open-ended questions that the major negative part of telecommuting is inefficient communication with both supervisors and coworkers. It is consistent with previous studies which indicated that communication was a major challenge of telecommuting. When supervisors and subordinates are working together from different physical locations, communication becomes more complicated but more essential for working effectively. It is also necessary to prevent telecommuters from feeling isolated. As a type of formal communication, a telecommuting policy should clearly address the issues of hours to be worked, management by distance, reimbursable expenses and use of equipment and other work-related issues. It can help clear the confusion on these issues and save communication time on them for both management and telecommuters.

Informal communication is also important so that telecommuters can develop relationships with supervisors and coworkers and feel they are part of the organization. Regular group meetings, email intranet systems, newsletters within the organizations and social events for all are different ways to convey information among employees. Supervisors should creatively use communication technologies and use several ways that are convenient for all to provide feedback as substitution for face-to-face communication, for example, conference calls and online chat.
Limitations and Directions for Future Research

Over half of the respondents were consultants and sales people. This means that the nature of their job require them to telecommute. Although they all have the choice to decide the extent of telecommuting beyond that which is necessary, this may influence their answer to the questions. For example, when they were asked whether they were willing to continue to telecommute, they may give a higher score because they wanted to. This problem was considered in the early stage of the study. Nevertheless, I decided to include consultants and sales people because telecommuting is still a new work arrangement in China and it is hard to get a large sample if consultants and sales are excluded. Future study can sample telecommuters whose jobs do not require telecommuting and compare the difference between them and those whose jobs require telecommuting.

Since the study was based on self-reported data, mono-method variance can be a methodological concern. When the survey was distributed within the company, most of the respondents were from the same department. They can share the information with other coworkers related to the supervisors within the departments. Thus, the self-reported score could be substituted with the average of all the respondents in the department. Because the scores of job performance were self-reported, the respondents would have the tendency to give higher scores. In future study, researchers can try to use supervisor rated performance instead of subordinate self-reported scores.

This sample for this study is from companies which allow their employees to telecommute. It would be interesting if future study can compare the perception of people who are not allowed to telecommute and those who are allowed. This study is conducted from the perspective of subordinates. Future study can also explore the supervisors’ perceptions on telecommuting.
Chapter 7 Conclusion

To conclude, this study has proposed and tested a multivariate model for better understanding the factors that influence the telecommuters’ work outcomes in China. The model focused on the supervisory power and the telecommuters’ visibility loss.

Specifically, the results suggested that reward power and legitimate power were two significant predictors of telecommuting frequency. The higher reward power and legitimate power will lead to increased telecommuting frequency. Reward power was also proved to have a positive impact on telecommuters’ job performance. Besides, the study demonstrated that the more telecommuters were concerned about losing visibility, the less they were satisfied. Supervisors’ behavior was noted as an important moderator in this study. When supervisors are telecommuting, reward power had a stronger impact on telecommuting frequency while visibility loss had stronger power to explain the decreased telecommuting frequency.

Based on the findings, I suggested that organizations should have a formal telecommuting policy and build a result-based performance evaluation system with clear evaluation criteria. They should also provide opportunities for telecommuters to communicate with other employees in the organizations such as holding social events. Supervisors’ support is essential. They can show their support by choosing to telecommute themselves, providing resources, or reward subordinates without bias.
Reference


Appendix: Telecommuting Work Survey

Dear employees:

I am a graduate student in Pennsylvania State University. I am doing this research for my thesis.

My aim is to study the impact of country culture on the adoption of telecommuting work. The data is only for my thesis purpose. It is anonymous and we will keep the information confidential. We won’t make any comment on any specific companies since we are not able to know which company or individual the data is from.

It should take you no more than 10 minutes to complete the questionnaire. Participation in this survey is voluntary. You do not have to answer any questions you do not want to answer, if you have any questions or concerns about the survey, please contact Dong Fang by email at duf131@psu.edu.

We appreciate your participation!

Sincerely

Dong Fang

Basic Information

1. What is your function?
   A, Admin Service  D, General Executive  F, Legal
   B, Communications  Management  G, Sale
   C, Consultant  E, Marketing

2. How long have you been working at this organization? —________

3. How long have you been working with your current supervisor? _______

4. Is your supervisor telecommuting? _______

5. How many employees are there in your company?

6. Are you allowed to telecommute? ____ (1=not at all, 2=informally allowed, 3=formally allowed, 4=strongly encouraged)

7. Telecommuting in my company is used: ____ (1=very little...4= somewhat...7=great extend)

8. On average how many days do you spend in each of these work locations? (e.g. 1.5 days per week in home office). Indicate all that apply.
   A. Home office _______  B. Customer site _______
C. Assigned personal space in your organization ______
D. Other _____________

9. If given a choice, which of the following would you choose to be your primary work location? Please choose only one

A. Work from a home office ______
B. Work from a customer site_______
C. Assigned personal space in your organization _____
D. Other __

Please indicate whether you agree or disagree with the following statements using the following scale.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neither agree nor disagree</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1. Working from home reduces my promotion chances. 1 2 3 4 5 6 7
2. Working from home reduces my influence with my supervisor. 1 2 3 4 5 6 7
3. Working from home gives the impression that I am not working hard enough. 1 2 3 4 5 6 7
4. There is a risk that I would be viewed negatively by management if I am not around. 1 2 3 4 5 6 7
5. The quality of my work is high. 1 2 3 4 5 6 7
6. Customers report satisfaction with my work. 1 2 3 4 5 6 7
7. My supervisor is satisfied with my work. 1 2 3 4 5 6 7
8. I would be likely to continue working from home. 1 2 3 4 5 6 7
9. All in all I am satisfied with my current work arrangement. 1 2 3 4 5 6 7

**Please indicate the extent to which your supervisor:** (1 Not at all-----4=to some extent ------7=to a great extent)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Would do things to increase my chance of getting a pay raise or bonus. 1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Controls resources I need to do my work effectively (e.g., funds, supplies, equipment, facilities, personnel). 1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Would do things to help me get ahead in this organization. 1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>May use the authority to give me tasks or assignments. 1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>14</strong></td>
<td>May use the authority to specify how I should do a task for him/her.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>15</strong></td>
<td>May use the right to determine whether a task I do for him/her is acceptable or not.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other Information**

Gender: Male_____Female_____  
Do you have pre-school children at home? Yes______No______

What are the benefits you think of telecommuting?  
_________________________________________________________________

What are problems you think telecommuting will create for you?  
_________________________________________________________________

Other comments?  
_________________________________________________________________