



THE HONG KONG  
POLYTECHNIC UNIVERSITY

香港理工大學

Pao Yue-kong Library

包玉剛圖書館

---

## Copyright Undertaking

This thesis is protected by copyright, with all rights reserved.

**By reading and using the thesis, the reader understands and agrees to the following terms:**

1. The reader will abide by the rules and legal ordinances governing copyright regarding the use of the thesis.
2. The reader will use the thesis for the purpose of research or private study only and not for distribution or further reproduction or any other purpose.
3. The reader agrees to indemnify and hold the University harmless from and against any loss, damage, cost, liability or expenses arising from copyright infringement or unauthorized usage.

If you have reasons to believe that any materials in this thesis are deemed not suitable to be distributed in this form, or a copyright owner having difficulty with the material being included in our database, please contact [lbsys@polyu.edu.hk](mailto:lbsys@polyu.edu.hk) providing details. The Library will look into your claim and consider taking remedial action upon receipt of the written requests.

*Employee Stock Option and Psychological  
Ownership: A Study of a Foreign-invested  
Company in China*

By

**Tan Zhan-Chao Henry**

A thesis submitted in partial fulfillment of the requirements for the  
Degree of Master of Philosophy

*Department of Management and Marketing  
The Hong Kong Polytechnic University*

January 2006

## CERTIFICATE OF ORIGINALITY

I hereby declare that this is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

\_\_\_\_\_ (Signed)

Tan Zhan-Chao Henry (Name of student)

## **ACKNOWLEDGEMENTS**

I would like to take this opportunity to express my heart-felt thanks to my supervisors, Dr. Andy W. Chan and Prof. Edward Snape for their invaluable advice, patient guidance and constant encouragement.

Thanks are also given to all those who have helped me in this project by providing valuable information and distributing questionnaires in the company concerned, as well as to those staff who have responded to the questionnaires.

Finally, I would also like to thank my family members and friends for their continuous support and encouragement.

## **ABSTRACT**

Abstract of thesis entitled 'Employee Stock Option and Psychological Ownership: A Study of a Foreign-invested Company in China' submitted by Tan Zhan-Chao Henry for the degree of Master of Philosophy at The Hong Kong Polytechnic University in 2006.

Employee stock options have been widely adopted in the US, aiming to motivate employees to work hard and be more productive. However, the psychological mechanism leading to employees' attitudinal and behavioral changes is still unclear. Past literature suggests that psychological ownership is the key to the understanding of this psychological process. Thus this study explores the effectiveness of employee stock options through a psychological ownership perspective. Both the antecedents and consequences of psychological ownership are investigated. In addition, this study is conducted in the Chinese context which has significant cultural differences with the West and has rarely been addressed in the previous research on both employee stock options and psychological ownership.

Drawing on psychological ownership theory, this study presents a theoretical model that predicts that employee stock options positively affect both employees' job performance and organizational citizenship toward the organization (OCBO) through the mediation of psychological ownership. The model also predicts that the influence of employee stock options on psychological ownership is much weaker than the influence of employees' perceived job control.

Data was collected by a self-report survey from employees in a foreign-invested company in China, a wholly-owned subsidiary of an international bank offering stock options to all levels of employees. A total of 218 valid returns were received, representing a response rate of 52%. Of these returns, 144 were from employees who were granted stock options.

Model fit indices indicate that the proposed measurement model provides a good fit to the observed data. The results of the regression analysis show that through the complete mediation of psychological ownership, employee stock options are effective in influencing OCBO, but not job performance. Psychological ownership is positively associated with OCBO but not job performance. In addition, job control is found to be much more influential than employee stock options in affecting psychological ownership. These mixed findings of the effectiveness of employee stock options in China are discussed in light of the institutional and organizational factor as well as the cultural factor. Finally, implications for managerial practice and directions for future research are presented.

# TABLE OF CONTENTS

<b>Chapter 1: Introduction .....</b>	<b>- 10 -</b>
<i>Employee stock option .....</i>	<i>- 11 -</i>
<i>Psychological ownership .....</i>	<i>- 14 -</i>
<i>The Chinese context .....</i>	<i>- 16 -</i>
<i>Objectives of the study .....</i>	<i>- 19 -</i>
<i>Significance of the study .....</i>	<i>- 19 -</i>
<i>Structure of the thesis.....</i>	<i>- 20 -</i>
<b>Chapter 2: Literature Review.....</b>	<b>- 22 -</b>
<i>Introduction.....</i>	<i>- 22 -</i>
<i>Research on employee stock option .....</i>	<i>- 22 -</i>
<i>Early research on employee ownership .....</i>	<i>- 25 -</i>
<i>The introduction of psychological ownership.....</i>	<i>- 29 -</i>
<i>Ownership as an objective state .....</i>	<i>- 30 -</i>
<i>Ownership as a psychological state.....</i>	<i>- 33 -</i>
<i>The determinant of psychological ownership .....</i>	<i>- 35 -</i>
<i>The outcomes of psychological ownership .....</i>	<i>- 40 -</i>
<i>Research on psychological ownership.....</i>	<i>- 43 -</i>
<i>HRM in China.....</i>	<i>- 49 -</i>
<i>Research gaps .....</i>	<i>- 55 -</i>
<b>Chapter 3: Theoretical Framework and Hypotheses.....</b>	<b>- 59 -</b>

<i>Introduction</i> .....	- 59 -
<i>Employee stock option and psychological ownership</i> .....	- 60 -
<i>Perceived job control and psychological ownership</i> .....	- 68 -
<i>Summary</i> .....	- 70 -
<b>Chapter 4: Research Methodology</b> .....	<b>- 73 -</b>
<i>Introduction</i> .....	- 73 -
<i>Sample</i> .....	- 73 -
<i>Procedure</i> .....	- 76 -
<i>Measurement</i> .....	- 76 -
<i>Types of data analyses</i> .....	- 80 -
<i>Summary</i> .....	- 84 -
<b>Chapter 5: Results</b> .....	<b>- 86 -</b>
<i>Introduction</i> .....	- 86 -
<i>Response rate</i> .....	- 86 -
<i>Demographics characteristics</i> .....	- 86 -
<i>Descriptive statistics and normality check</i> .....	- 87 -
<i>Correlation analysis</i> .....	- 87 -
<i>Test of internal reliability</i> .....	- 88 -
<i>Confirmatory factor analysis</i> .....	- 88 -
<i>Regression analysis and hypotheses testing</i> .....	- 89 -
<i>Summary</i> .....	- 99 -
<b>Chapter 6: Discussion and Conclusion</b> .....	<b>- 100 -</b>



<i>Introduction</i> .....	- 100 -
<i>Discussion</i> .....	- 100 -
<i>Managerial implications</i> .....	- 106 -
<i>Limitations of the study</i> .....	- 108 -
<i>Suggested further research</i> .....	- 110 -
<i>Conclusion</i> .....	- 111 -
<b>References</b> .....	<b>- 114 -</b>
<b>Appendix I: Questionnaire (English)</b> .....	<b>- 131 -</b>
<b>Appendix II: Questionnaire (Chinese)</b> .....	<b>- 138 -</b>
<b>Appendix III: Item Parceling of Variables in CFA</b> .....	<b>- 143 -</b>

## LIST OF FIGURES

Figure 1: Pierce et al.'s (1991) Model of Employee Ownership .....	- 30 -
Figure 2: Wagner et al.'s (2003) Model of Psychological Ownership .....	- 47 -
Figure 3: The Hypothesized Model of The Present Study.....	- 60 -

## LIST OF TABLES

Table 1: The Hypotheses of The Present Study .....	- 72 -
Table 2: Descriptive Statistics and Normality Check .....	- 92 -
Table 3: Correlation and Reliability .....	- 93 -
Table 4: Model Fit Statistics for the Confirmatory Factor Analysis .....	- 94 -
Table 5: Regression Analysis for the Relationships between ESO Participation, Psychological Ownership and OCBO.....	- 95 -
Table 6: Regression Analysis for the Relationships between ESO Participation, Psychological Ownership and Job Performance.....	- 96 -
Table 7: Regression Analysis for the Relationships between ESO Participation, Job Control and Psychological Ownership.....	- 97 -
Table 8: Results of Hypotheses Testing .....	- 98 -

## **Chapter 1: Introduction**

During the past decades, employee ownership schemes have been widely adopted, aiming to motivate employees to work harder and be more productive. It becomes usual that employees in many countries hold ownership stakes in the companies that employ them. A number of ownership schemes have been developed to facilitate this transition from employees to owners, for example employee stock ownership plan (ESOP), employee stock option plan, etc. As one of the employee ownership schemes, stock options became extremely popular in the 1990s and 2000s. Many companies adopted employee stock options and implemented them at all levels within the organizations, when markets grew rapidly in the 1990s. Consultants, shareholders and managers alike praised their effectiveness in aligning the interests of shareholders and managers and their ability to encourage employees to take appropriate risks in the new economy. As a result, stock option becomes a global phenomenon. Taking China as an example, they were increasingly presented in the compensation package for Chinese employees, either by multinationals or local companies. However, with the onset of the bear market of the 2000s, concerns on the effectiveness of stock options started to emerge and some even described the corporate world as suffering from an “overdose” of stock option compensation (Brandes, Dharwadkar, & Lemesis, 2003). This thesis addresses the effectiveness of employee stock options in the Chinese context through the light of psychological ownership theory which was indicated by past research to be a key to understand the underlying mechanism of employee attitudinal and behavioral changes.

This introductory chapter briefly presents the development of employee stock options and the concept of psychological ownership, and also provides an overview of the Chinese context where this study is conducted.

### *Employee stock option*

Employee stock options (ESOs) have now been widely adopted in the U.S., including 98% of the largest 250 companies by market capitalization (Brandes, Dharwadkar, & Lemesis, 2003). First emerged as part of the management pay package, ESOs now constitute the majority of executive compensation in the U.S., increasing from about 27% of median CEO pay in 1992 to about 60% in 2000 (Wells, 2003). As their popularity grew, stock options were no longer exclusive for CEOs or top managers, they have become broad-based and are being offered to employees at all levels in organizations (Core & Guay, 2001; Lowry, 2000). Recent estimation showed that 8-10 million people in the U.S. participated in broad-based stock option plans (Brandes, Dharwadkar, & Lemesis, 2003). Some researchers even considered the stock option plan the most widespread long term incentive plan in North America (St-Onge, Magnan, Thorne, & Raymond, 2001).

With the growth of their popularity and the development of global economy, stock option plans have been adopted by organizations not only in the U.S., but also those in the rest of the world (Cahill, 2002; Perrin, 2001). It was reported that one third of the world's largest 1250 companies based in North and South America, Europe and Asia Pacific have operated global share plans for all of their employees. 11% of the companies surveyed intended to introduce an all employee global share plan in 1999 (Sutro, 1999). Though stock options are far from widespread in mainland China, there is no doubt that China is

paying more and more attention on stock options, not only because the increasing number of foreign-invested companies introduced stock options as part of the compensation package to their local employees in China, but also because this incentive mechanism has been considered a remedy to the reform of state-owned enterprises by the Chinese government ( Benson, Debroux, Yuasa, & Zhu, 2000; Chang, 1999; China Law & Practice, 2005).

Generally speaking, the award of a stock option grants an employee the right, but not the obligation to buy the company's stocks at a specified stock price usually set according to current share value. This option may be exercised after a period of time called vesting period, normally 3 to 5 years, and often subject to the attainment of certain conditions like corporate performance (Brandes, Dharwadkar, & Lemesis, 2003). In a typical transaction, the company gives an employee a stock option grant of 100 shares at \$10 per share with the requirement that the employee can not exercise the right to buy these shares for three years. After three years, if the stock price goes up to \$20, the employee can buy the shares at the price of \$10 and either hold them or sell them at a \$10 profit per share (ignoring personal income taxes). However, if the stock trade at \$5 in three years, the options are "underwater," and employees will not want to exercise their options. It should be noted that stock options do not represent ownership in the company until recipients actually exercise their right to purchase their shares. Therefore, unlike most stocks, stock options do not include the privileges of ownership like voting and dividends.

As suggested in the past research on stock options or stock related compensations, the major purpose of long-term compensation tools such as stock options is to align agents'

interests with those of principals, serving as one remedy for the agency problem in the agency theory (Eisenhardt, 1989; Fama & Jensen, 1983; Jensen & Meckling, 1976). As a result of this widespread belief, stock options have become an important element of CEOs' compensation packages, aiming to align their interests with those of shareholders (Grossman & Hoskisson, 1998; Tosi & Katz, 1997; Westphal, 1999). One of the major objectives of this mechanism is to motivate CEOs and top management to think and act like owners and work hard to improve the value of the company.

However, most of the past research on stock options in management field focused on executive stock options (Certo, Daily, Jr, & Dalton, 2003; McGuire & Matta, 2003; Sanders, 2001) and very little attention has been paid to the options granted to the rank-and-file members of organizations, who are the majority of recipients in today's broad-based stock option plans. Unlike CEOs and top managers, they might not have direct and tremendous influences on stock price, but they are the foundation and the key factor for the long-term success of the company. Although several studies investigated the effectiveness of this mechanism, the results were so far inconsistent. Some empirical evidences were found in the U.S. that companies with broad-based stock option plans performed better and achieved a higher productivity (Sesil, Kroumova, Kruse, & Blasi, 2000). On the other hand, there is also empirical studies indicating that stock options only have a modest effect on employee motivation and performance (Ledford, Lucy, & LeBlanc, 2004). Even though past research tends to suggest that employee ownership scheme is positively related to employee attitudes and organizational performance, the psychological processes that explain the relationship between employee ownership interventions and organizational effectiveness are not well understood (Kruse & Blasi,

1997). It has been proposed that effective employee ownership initiatives result in employee feeling as if they are owners of the business, an experience that has been termed psychological ownership (Pierce, Kostova, & Dirks, 2001; Pierce, Rubenfeld, & Morgan, 1991). It is suggested that studying psychological ownership is essential to understand how employee ownership initiatives such as employee stock option plans impact employee attitudes and aspects of organizational effectiveness.

### *Psychological ownership*

As noted by Etzioni (1991), “it is most productive to examine property [ownership] as a dual creation, part attitude, part objective, part in the mind, part ‘real’” (Etzioni, 1991). Consistent with this perspective, Pierce et al. (1991), in their review of employee ownership literature, theorized that formal employee ownership plans produce positive social-psychological and behavioral effects when employees come to experience themselves as owners. Yet they did not provide insight into the meaning of the construct. Recently, Pierce, Kostova, and Dirks (2001) defined psychological ownership as “that state where an individual feels as though the target of ownership or a piece of that target is ‘theirs’ (i.e., it is MINE!).” They noted that psychological ownership reflects that state where an object (material or immaterial in nature) is experienced as a part of the extended self—it is based on feelings of possessiveness and being psychologically tied to the target of ownership (Pierce, Kostova, & Dirks, 2001).

Psychological ownership becomes an important construct in organizational research, because it is believed to be closely related to a number of attitudinal and behavioral outcomes leading to performance and organizational effectiveness. Pierce et al. (1991)



argued that a variety of social-psychological and behavioral outcomes of employee ownership is likely to be affected once the employee psychologically experiences ownership and becomes integrated into the organization and the ownership experience. In such condition, the consequences including work motivation, employee attitudes and other behavioral outcomes such as performance and turnover are all in the desired direction. Later, Pierce et al. (2001) proposed that employees' psychological ownership toward organizations is positively associated with expected rights and presumed responsibilities of ownership and leads to a number of particular behaviors related to such rights and responsibilities, such as information seeking, stewardship and organizational citizenship behavior. More recently, Pierce et al. (2003) in their review of psychological ownership commented the positive effects of psychological ownership in a broader sense. They concluded that the positive and constructive behaviors associated with feelings for a target include acts of citizenship behavior, personal sacrifice and assumption of risk, experienced responsibility and stewardship.

Although Pierce et al. (1991) introduced the concept of psychological ownership from reviewing the efficacy of employee ownership systems, it is also important to note that feeling of ownership can exist in the absence of legal ownership (Etzioni, 1991; Pierce, Kostova, & Dirks, 2001; Rousseau & Shperling, 2003). As Pierce et al. (2001) proposed, there are three major routes (controlling the target, coming to know the target intimately, and investing the self into the target) through which psychological ownership develops within the organizational context. Recently, Pierce et al. (2003) further suggested that these three routes are distinct, complementary, and additive in nature. Any single route can result in feelings of ownership independent of the others (Pierce, Kostova, & Dirks,

2003). Although legal ownership may facilitate and speed up the emergence of psychological ownership, because it allows the employees to explore the three routes, other factors in the organization may also influence the development of psychological ownership through the same routes. Consistent with this direction, more and more attention has been paid to the impact of other organizational factors such as job nature in psychological ownership research. For example, Pierce et al. (2004) found that employees' perceived job control played a key role in directly influencing psychological ownership for the organization.

#### *The Chinese context*

Since the communist party took over China's regime in 1949, China has had a long history that almost all the enterprises were under ownership of "the whole people". As the government is the representative of the whole people to manage these organizations, they are more often called state-owned enterprises (SOEs). It was reported that SOEs have employed 57.4 percent of the entire urban labor force and possessed 52.2 percent of total investment in industrial fixed assets for several decades since 1949 (Chiu, Luk, & Tang, 2001). The government managed these enterprises through central planning: some employees were assigned as managers, while the majority of the workforce became workers. Their compensation followed the principle of "distribution to labor". As the communist party believed that large wage differentials would lead to inequality in the society, wages and welfare benefits were distributed to each individual in equal amount without considering any differential contribution or other specific conditions. The main features of the compensation system during this period, as commented by Chow (1992),

were egalitarian, collective, over-centralized, rigid and insensitive to variations of performance. In addition, through participation in the union and the worker congress under the leadership of the communist party committee employees exercised their rights as “social owners” on a variety of matters. These include long-term planning, the election of enterprise-level directors, and etc (Chiu, 2003). However, the productivity in SOEs was low in general. A study undertaken in the mid 1980s indicated that productivity levels of SOEs were 60-70 percent of those in Hong Kong (Locket, 1987). The problems often observed in SOEs were high wastage and low efficiency. It was reported that 45 percent of the SOEs in China lost money in 1996 (Chiu, Luk, & Tang, 2002). As Chiu (2003) suggested, the root problems lies in the fact that while SOEs are nominally owned by “the whole people”, nobody is actually the owner and few have the incentive to take good care of enterprise resources.

Since Deng Xiaoping’s policies of the ‘Open Door’ and the ‘Four Modernizations’ (of Agriculture, Industry, Science and Technology, as well as Defense) in 1978, China has transformed from a centrally-planned socialist economic model to a “socialist market economy”. Economic reform has been carried out in the whole country and the “iron rice bowl” (a lifetime employment regardless of performance) is fading away. One of the significant changes in the economy is that various forms of ownership in organizations emerge and become important components of the economy. In 1980, the government took the initiatives to attract foreign investment by establishing 4 special economic zones (Shenzhen, Zhuhai, Shatou and Xiamen) and 14 other coastal cities with favorable policies for foreign investors. From then on, huge amount of foreign capital flowed in and large numbers of foreign-invested enterprises (FIEs) were established in the forms of

joint ventures or wholly-owned companies. In addition, the adoption of “allowing some people to get rich first” policy permits individuals to engage in commercial activities, such as having their own business. More and more people chose to start their own business and became entrepreneurs. Thus, the number of local private company is also rising dramatically. Meanwhile, in order to improve the performance of SOEs, reforms were also carried out inside these organizations. One of them is the introduction of stockholding systems. Some of the SOEs have been transformed into stockholding companies and some of them even become public listed. Stocks are not only owned by the government but also managers and employees in these companies, and even external shareholders in the case of public listed companies.

All of these changes have resulted in that more and more employees are no longer working in organizations that are owned by the whole people, but those they don't have any ownership legally or literally, such as foreign-invested companies and local private companies. However, productivity in China has rise significantly since the economic reforms. It seems that employees are more responsive to tangible incentives rather than the vague ownership, especially the ownership by the whole people.

It is under this background that the employee stock option plan as a long-term incentive mechanism is introduced into China. It was observed that more and more foreign-invested companies carried out their stock option schemes originated in their home country in their offices in China. Local Chinese employees for the first time received stock options as a part of their total compensation packages. The main purposes of such schemes are to give Chinese employees a chance to share the future success of the

company and motivate them to work harder. Sharing the similar objectives, SOEs and local private companies also paid their attention to stock options. For addressing the long-term motivation issues especially in their senior management, some of them adopted stock option plans. Unlike their foreign counterpart however, in most of the cases, the recipients of stock options in SOEs or local private companies are only their senior managers or directors.

### *Objectives of the study*

The objectives of this research project are to:

- Investigate the effectiveness of employee stock options in the Chinese context.
- Understand the psychological mechanism through which stock options may influence Chinese employees' attitude and behaviors.

### *Significance of the study*

The present research contributes to the stock option literature by investigating the effectiveness of this mechanism on the rank-and-file members in the organizations who have been mostly ignored in the previous studies. As more and more ordinary employees receive stock option as part of their compensation, the underlying mechanism of this incentive tool deserves more attention in the research communities, especially the psychological changes that take place in option recipients' mind. Furthermore, as stock option becomes a global phenomenon in today's fast developing global economy, its effectiveness to people in other contexts is an interesting but unanswered question in the

academia as well as the real world. To address these issues, the current study makes an effort in looking inside how stock options work in the Chinese context.

The present research also contributes to the psychological ownership literature. The present research explores the conditions for formal and psychological ownership to produce their influence, which is somewhat missing in the current state of psychological ownership research. This paper also investigates the generalizability of psychological ownership in the Chinese context that is so different from where it originates, as the construct so far has only been tested in the West.

This study will have important implications for managerial practices by shedding light on the underlying mechanism of stock options for ordinary employees and providing guidance and suggestions for organizations to carry out the plan and maximize its effectiveness. As more and more foreign-invested companies in mainland China introduce their stock option plan to Chinese employees, this research is expected to give a clearer viewpoint as well as guidance when they have these kind of initiatives executed in their local offices in China. On the other hand, it might also give good suggestions to the private or state-owned companies in China, as they are planning to implement their own stock option plans too.

### *Structure of the thesis*

This thesis is divided into seven chapters. Chapter 1 is the introduction that lays down the backgrounds and objectives of this study. Chapter 2, literature review, contains reviews of both stock options and psychological ownership literature. Particularly, the Chinese context especially the HRM practices is also reviewed. Chapter 3 develops the theoretical

framework and the hypotheses to be examined in the research, which have been formulated based on the literature discussed in the previous chapter. Chapter 4, research methodology, gives the details of the methods employed in this research, including sample selection, data collection, the selected measurements and the statistical analyses used. Chapter 5, results, presents the results of data collection and the analyses including hypotheses testing. The conclusions and implications that may be drawn from the findings of the research are presented in Chapter 6.

## **Chapter 2: Literature Review**

### *Introduction*

The increasing use of employee ownership schemes induced great interests in the management literature to investigate the effectiveness and the underlying mechanism of these ownership schemes.

In this chapter, I review past research on stock options and employee ownership in a boarder sense. The underlying mechanisms leading to employees' attitudinal and behavioral changes are discussed. Then I go on to review the psychological ownership literature. The antecedents and outcomes of psychological ownership are also discussed. As the current study focuses in the Chinese context, HRM practices in China is also briefly reviewed. Finally, based upon the review of the existing literature, I discuss the research gaps in both the stock options and psychological ownership studies. The research questions of the present study are also discussed.

### *Research on employee stock option*

Most of the past research on stock options focused on executive stock options and agency theory. It is consistent with the underlying assumptions of agency theory that when executives face decisions that place their own interests in conflict with those of shareholders, self-interest will tend to dominate, leading to failure to optimize shareholders' interests. A fundamental premise of agency theory is information



asymmetry. Executives are able to engage in self-serving actions because shareholders are not able to easily or inexpensively monitor their decisions and behaviors (Eisenhardt, 1989; Jensen & Meckling, 1976).

The stock option plan is one remedy for the agency problem (Fama & Jensen, 1983; Jensen & Meckling, 1976). In the most common form of stock options, executives are given the rights to purchase shares of stock at some future time at a preset price. Because executives do not pay out any cash until they exercise options, they experience less downside risk than with equity; that is, they do not lose “real money” on stock options. As a result of the widespread belief that stock options are effective in aligning executive and shareholder interests, stock options have become an important element of CEOs’ compensation packages (Certo, Daily, Jr, & Dalton, 2003; Grossman & Hoskisson, 1998; Tosi & Katz, 1997; Westphal, 1999).

Although the majority of the previous research focused on executive stock options, it is suggested that agency theory also applies to the explanation of the current broad-based stock option plan for rank-and-file employees, who can also be viewed as agents of the shareholders, even though they have far less power than executives. Broad-based stock options also brings the interests of employees and shareholders into closer alignment, aiming to provide the same incentive as that for executives (Sesil, Kroumova, Kruse, & Blasi, 2000; Sesil, Kroumova, Blasi, & Kruse, 2002). Stock options give the rank and file a chance to share in the success of the company they help to generate and create a sense of ownership (Staiman & Tompson, 1998). When employees feel that they become one

of owners, they are more committed to improving the business in every way possible, because business success is transferred directly into personal wealth (Duncan, 2001).

However, very few empirical studies in the literature so far has tested the incentive effect of stock options on the rank and file. Sesil et al.'s (2002) study is an attempt to address the issue at firm level. Using agency theory as a framework, they compared firm performance of the new economy companies with board-based stock options and those without option schemes. Their results of simple comparison reveal that companies offering stock options have higher shareholder returns and more new knowledge generation than those without stock options. Their further multivariate analysis with panel data also indicates that the adoption of a stock option plan leads to higher level of value added per employee (Sesil, Kroumova, Blasi, & Kruse, 2002).

As suggested by past literature on executive stock option, behavioral decision theory is also informative with regard to stock option compensation. This theory suggests that downside risk leads to risk averse behavior (Kahneman & Tversky, 1979; Sanders, 2001; Sitkin & Pablo, 1992; Wiseman & Gomez-Mejia, 1998). On the other hand, upside potential encourages risk taking, and so stock options are associated with a propensity to take risks. Sanders (2001), in his examination of acquisition and divestiture activity, found that CEOs with stock options were more likely to engage in acquisition activity (an activity associated with some risk), while those with high levels of equity ownership were less likely to do so. These findings support the view that stock option pay results in greater risk taking among executives. However, no study so far has been found to use behavioral decision theory to explain stock options for the rank-and-file. It may result

from the simple fact that unlike executives, ordinary employees in most cases do not have opportunities to make decisions and to take risks that have significant implications on company performance.

As yet, there is little empirical research on the effectiveness of stock options, especially on individual level (e.g., how stock options affect employees' attitudes and behaviors in the work place?). There is, however, a well developed body of empirical literature on the attitudinal and behavioral effects of other employee ownership related incentive plans that tie employee compensation to overall firm performance, such as employee stock ownership plans. Consequently, the theoretical frameworks as well as the empirical evidences of employee ownership would be very suggestive to the present study of effectiveness of ESOs.

#### *Early research on employee ownership*

Klein (1987) reviewed the literature on employee ownership and identified three theoretical perspectives which are not mutually exclusive. The assumption of these perspectives is that if employees are satisfied with employee ownership plan, they will feel committed to the company and motivated to work there. Each model indicates how different employee ownership conditions lead to high employee satisfaction with stock ownership, high organizational commitment, and low turnover intention (Klein, 1987).

The first model is called the intrinsic satisfaction model of employee ownership. According to this model, employee commitment to and satisfaction with the company are increased by the fact of ownership alone, suggesting that the benefits of ownership are

resulted directly from the fact of ownership, rather than from factors in the organizational context or in the ownership plan itself. Thus, it is sometimes described as the “direct effects” model of employee ownership (Tannenbaum, 1983). Past research examined this model by investigating of the relationship between employee attitudes and the number of share owned by the employee (French & Rosenstein, 1984; Hammer & Stern, 1980), comparing employee owners with employee non-owners (Long, 1978a), and employee-owned firms to conventionally-owned firms (Rhodes & Steers, 1981; Russell, Hochner, & Perry, 1979). However, this research has yielded inconsistent and thus inconclusive results. In addition, the generalizability of the studies is limited (Klein, 1987).

The second model is termed the instrumental satisfaction model of employee ownership. This model suggests that employee ownership increase employees’ influence in company’s decision-making, which influences organizational commitment. In another word, employee ownership has a positive impact on employee attitudes if the company provides significant opportunities for participation in decision-making (Hammer & Stern, 1980; Long, 1978a, 1978b, 1979; Tannenbaum, 1983). In effect, control and influence are seen as mediators of the ownership-attitude relationship. Research strategies used to test the instrumental model of employee ownership are similar to those used to test the intrinsic satisfaction model: investigating the relationship between ownership shares and employee perceptions of influence or comparing employee-owned and non-employee-owned companies (Klein, 1987). In essence, research in this perspective has tested the relationship between ownership, control and employee attitudes (French & Rosenstein, 1984; Heneman, 1984; Long, 1979). Indeed, many of the same studies tested both the intrinsic and the instrumental models (Heneman, 1984; Kruse, 1984; Long, 1978a;

Rhodes & Steers, 1981; Russell, Hochner, & Perry, 1979). Although some previous studies provided support for the instrumental model and several key empirical studies mentioned the importance of participation in decision-making for leading to attitudinal change (Buchko, 1993; Klein, 1987; Kruse, 1984; Long, 1981), the research results are often inconsistent and of limited generalizability.

The third model is the extrinsic satisfaction model, suggesting that employee ownership affects employees' attitudes if the ownership is financially rewarding to them. In this perspective, employees' perceptions of the benefits of the ownership schemes are investigated and related to organizational commitment and job satisfaction. The model is supported by research on pay systems, which indicates the importance of financial rewards as a determinant of job satisfaction and organizational choice (Heneman, 1984; Lawler, 1971, 1981). An employee share ownership plan was regarded as a 'system reward' by Katz and Kahn (1978), which may increase employee commitment and decrease employee turnover. Surprisingly, past research has not tested this model so frequently, but those studies that have focused on it (Buchko, 1993; Klein, 1987; Klein & Hall, 1988; Rosen, Klein, & Young, 1986) concluded that it is a significant determinant of employee attitudes.

A review of the literature on employee stock ownership led French (1987) to question the intrinsic satisfaction model of employee ownership as well as the instrumental perspective. His review of the research on employee-owned firms led him to conclude that employees frequently view ownership as an investment, which is consistent with the extrinsic satisfaction model. French argued that the economic significance of the holdings

of employee-owners would influence work attitudes and actions. Similarly, he suggested that ownership heightens perceptions of common interests with others in the firm and results in greater organizational identification. This view of ownership as an investment suggests that it is not simply the fact of ownership or perceptions of control but the financial value of the employee's ownership position in the company that eventually influence employee attitudes, actions, organizational identification and commitment are due not to (French, 1987).

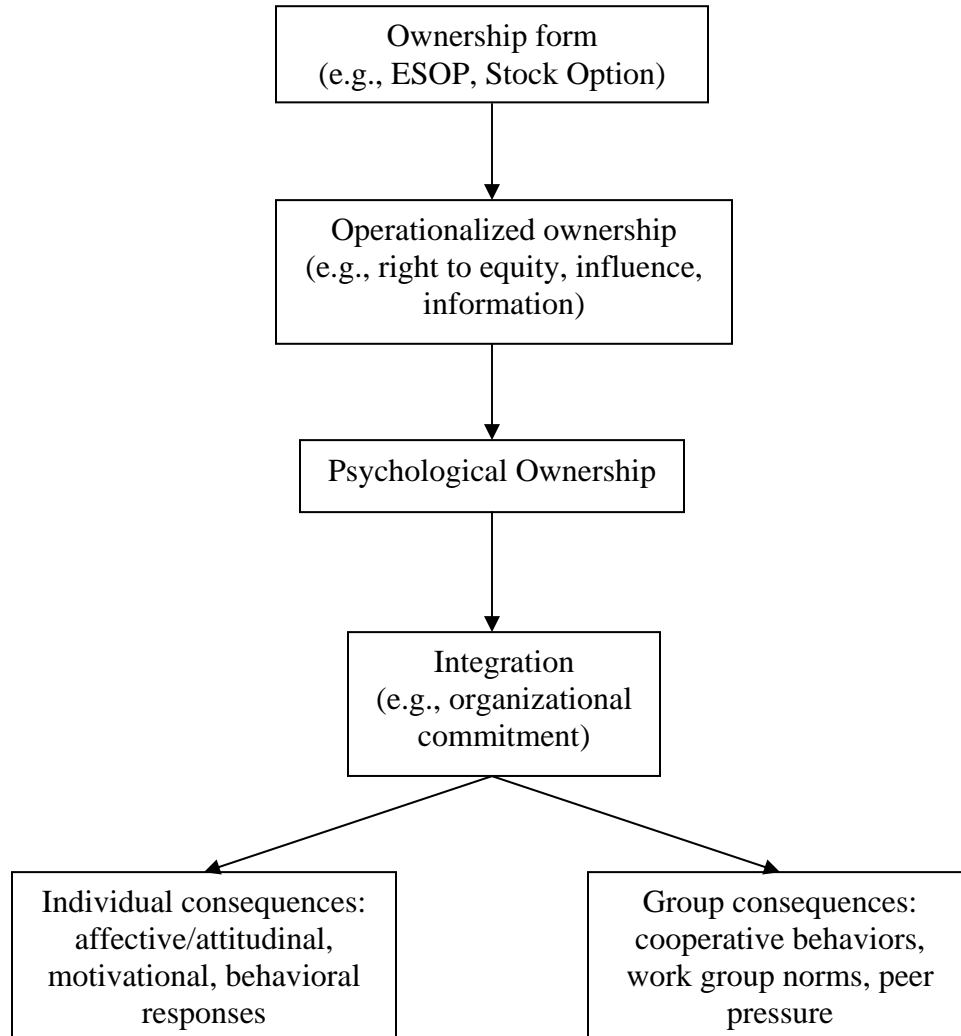
As Buchko (1993) noted, the results of early research on employee ownership are difficult to interpret. There is limited empirical evidence to fully support one of the three models. He suggested that developing an integrated model of employee ownership that considers previous findings would help interpret the results of prior research. However, there has been little effort to combine perspectives into an integrated model of employee ownership. An early effort by Long (1978b) received marginal empirical support. But certain moderating variables contained in his proposed framework were not tested in his study. In addition, the company he chose was purchased by the employees from the present company in order to avoid a potential liquidation, since the company had been suffering several years of financial losses. In this situation, the effects of ownership may have been confounded with the need of employees to preserve their jobs. A more comprehensive model was proposed by Pierce et al. (1991), which has a significant improvement over the initial Long (1978b) model. It incorporates the concepts of exercising control over the organization and maximizing financial interests, and more importantly, it highlights the importance of psychological ownership which is crucial to

understand the process through which employee ownership leads to attitudinal and behavioral changes.

*The introduction of psychological ownership*

Building on previous literature, Pierce et al. (1991) developed an exploratory model of employee ownership (see Figure 1) that illustrates the process through which ownership operates leading to a predictable set of employee attitudes and behaviors. The core of the model suggests that under certain moderating conditions formal ownership leads to psychological ownership and an integration of the employee-owner into the ownership experience, resulting in a number of social-psychological and behavioral outcomes (Pierce, Rubenfeld, & Morgan, 1991).

**Figure 1: Pierce et al.'s (1991) Model of Employee Ownership**



As Pierce et al. (1991) proposed, in order to understand the social-psychological and behavioral effects of an employee ownership system, it is necessary to first develop an understanding of the employee ownership construct. They believed that ownership operates both as an objective and a psychological form, and that each form has its own role in the relationship between ownership and employee's attitude/behavior (Pierce, Rubenfeld, & Morgan, 1991).

*Ownership as an objective state*



Etzioni (1991), in his discussion of the socioeconomics of property, notes that property and therefore ownership is “real,” existing outside of minds, values, and symbols. Consistent with this perspective, most conceptual and operational definitions of employee ownership have treated it as an objective phenomenon. There are two basic approaches to the operationalization of ownership as an objective reality. First, as used in most quasi-experimental designed investigations, there has been the classification of organizations and/or groups of individuals according to the governance structure that they operate under (e.g., employee vs. conventional ownership). Second, past research often operationalized ownership in terms of equity holdings, the percentage or dollar value of an employee’s ownership stake in the employee-owned organization (Pierce & Rodgers, 2004). Both approach are consistent with the common purpose of all employee ownership arrangements, providing a capital ownership stake for employees (Quarrey, Blasi, & Rosen, 1986).

Ownership is not a simple concept and there are different forms of employee ownership (e.g., social ownership, direct ownership, worker/producer cooperatives, and employee stock option plans), each of which vary tremendously. Factors like shares of stock, method of share purchase or acquisition, and provisions for the sale or transfer of stocks make employee ownership become highly complex (Tannenbaum, 1983). To date, very little effort has been directed toward understanding the effects of employee ownership by taking its many differences into consideration.

Pierce et al. (1991) believed that currently used operational definitions of formal, objective employee ownership are inadequate. Some of the inconsistencies in the

previous research may well be addressed by more fully specifying the conditions that constitute an objective state of employee ownership. From a western legal perspective to address the definition and dimensionality of ownership as an objective state, ownership can be seen as a “bundle of rights.” Pierce et al. (1991) identified three fundamental rights that are commonly employed to define formal ownership. These rights include (a) a right to possession of some share of the owned object’s physical being and/or financial value, (b) a right to information about the status of that which is owned, and (c) a right to exercise influence (control) over that which is owned (Pierce, Rubinfeld, & Morgan, 1991).

Both Pierce et al. (1991) and Winther (1999) argued for the importance of designing an ownership arrangement around equity, information, and influence if the full effects of ownership are to be realized. Specifically, Pierce et al. (1991) reasoned that ownership, in most capitalistic systems, automatically breeds expectations around an equity stake, being informed, and having the opportunity to influence the target of their ownership (Pierce, Rubinfeld, & Morgan, 1991). Similarly, Winther (1999) argued that employees develop expectations about what it is to be an owner, and the financial aspect of ownership is rarely listed as the most important aspect of ownership among employee owners. He noted that one expectation that employee owners develop relates to participation in organizational decision making. The extent to which there is a gap between ownership expectations and the opportunities provided by the design of the employee ownership arrangement, the performance effects of the ownership arrangement will not be fully realized (Winther, 1999).

Based on the above argument, Pierce et al. (2004) suggested that for ownership to produce more consistent and positive performance effects, it should be operationalized in systems that provide the employee-owner with accurate and timely information about the affairs and status of the organization, and systems that provide the employee-owner with opportunities to exercise some form of influence/control over certain organizational affairs. They indicated that the failure of prior research to find consistent support for the main effect model, and observations of the importance of participation accompanying an equity stake provide preliminary support for their hypothesis.

#### *Ownership as a psychological state*

Challenging the deficiency of the perspective of ownership exclusively as an objective phenomenon, Etzioni (1991) also states that “it is most productive to examine property [ownership] as a dual creation, part attitude, part object, part in the mind, part ‘real’ ” (p. 466). Consistent with this perspective, Pierce et al., (1991), in their review of the employee ownership literature, discussed the meaning of ownership and suggested that it should be conceptualized and studied as both a formal/objective and psychological phenomenon.

Acknowledging ownership as a psychological phenomenon, both Pierce et al. (2001) and Parker et al. (1997) offered conceptualizations of psychological ownership. Pierce et al. (2001) defined psychological ownership as that state where an individual feels as though the target of ownership or a piece of that target is theirs. They noted that psychological ownership reflects the state where an object is experienced as a part of the extended self – it is based on feelings of possessiveness and being psychologically tied to the target of

ownership. As property becomes grounded psychologically, it becomes for the individual “mine”, as the individual finds himself or herself present in it (Pierce, Kostova, & Dirks, 2001). Parker et al. (1997) provided a second conceptualization of the ownership construct. They defined ownership in terms of feeling responsible for a particular target. From both a conceptual perspective and an operational perspective, Parker et al. (1997) indicated that an individual has a strong ownership orientation when they feel concerned for the target. Thus, a high level of production ownership is said to exist when there is a feeling of concern for high product quality, customer satisfaction and working as a part of a team, as opposed to the feeling that these job-related issues are someone else’s concern or problem (Parker, Wall, & Jackson, 1997).

These two conceptualizations of ownership as a psychological state take somewhat different tasks. Parker et al. (1997) regarded psychological ownership as felt responsibility. While Pierce et al. (2001) theorized that psychological ownership and experienced responsibility are two distinct states: psychological ownership leads to the concern for the welfare of the target and experienced responsibility. Thus, with recognition of these differences, the present study adopts Pierce et al.’s (2001) conceptualization of psychological ownership.

Psychological ownership is conceptually different from several other dimensions that describe the psychological relationship that individuals form with organizations (Pierce, Kostova, & Dirks, 2001). Possession is the key factor that differentiates psychological ownership from organizational commitment, job satisfaction, organizational identification and internalization, psychological empowerment, and job involvement.

Pierce et al. (2001) noted that these constructs can be differentiated from psychological ownership by their conceptual core, motivational bases, development, type of state represented, associated rights and responsibilities, and consequences. Thus, the focus or question answered by each relationship is different, as illustrated in Pierce et al. (2001)'s paper: psychological ownership answers the question "How much do I feel this is mine?", whereas organizational commitment (Meyer & Allen, 1991) answers the question "Should I maintain my membership in this organization and why?"; organizational identification speaks to the question "Who am I?" (Pratt, 1998) and internalization concerns itself with the question "What do I believe?" (O'Reilly & Chatman, 1986); job satisfaction responds to the question "How do I feel about my job?" (Locke, 1976), and job involvement answers the question "How important is the job and job performance to my self-image?" (Lawler & Hall, 1970); finally, psychological empowerment (Conger & Kanungo, 1988; Spreitzer, 1995) appears to answer the question "Do I feel able to effectively shape my work role and context?". It is now understood that the individual-organization relationship can also be based on feelings of possession (Pierce, Kostova, & Dirks, 2001). Pierce, Van Dyne, and Cummings (1992) and Van Dyne and Pierce (2004) have empirically demonstrated psychological ownership as distinct from each of these other dimensions of the psychological relationship that individuals form with organizations.

#### *The determinant of psychological ownership*

Psychological ownership emerges because it satisfies certain human motives, some of them genetic and others social in nature (Pierce, Kostova, & Dirks, 2001). Pierce et al.

(2001) suggested that the roots of psychological ownership can be found in three human motives: (a) efficacy and effectance, (b) self-identity, and (c) having a place. Pierce et al. (2003) believed that this taxonomy departs from and advances existing research on motives in several ways: first, it focuses only on motives that psychological ownership fulfills; second, it integrates previous research by providing a complete yet parsimonious taxonomy of motives that psychological ownership fulfills (Pierce, Kostova, & Dirks, 2003).

Feeling efficacious is a general human need to feel capable in specific areas and effectance motivation is the need to feel capable of interacting effectively in a setting (Bandura, 1977; White, 1959). By having ownership and the rights that come with it, individuals are able to explore and alter their environment, thus satisfying their innate need to be efficacious. Furthermore, feelings of efficacy and pleasure also create extrinsic satisfaction as certain desirable outcomes are acquired. Thus, in order to experience causal efficacy in altering the environment, individuals desire to take possession and develop ownership feelings (Pierce, Kostova, & Dirks, 2001).

Self-identity is the need to have a clear sense of self (Burke & Reitzes, 1991), while possessions and a sense of 'mine' help people know the self as possessions are also symbolic expressions of the self that show core values or individuality. Pierce et al. (2001) suggested that people use ownership for the purpose of defining themselves, expressing their self-identity to others, and ensuring the continuity of the self across time.

The final motive, having a place, is the basic need to have a sense of belonging. As indicated by Pierce et al. (2001), possessions such as those captured symbolically by

'home' provide individuals with a sense of place. Thus, people devote significant energy and resources to targets that can potentially become their home (Pierce, Kostova, & Dirks, 2001).

It is suggested that each motive facilitates the development of psychological ownership, rather than directly causes this state to occur (Pierce, Kostova, & Dirks, 2001). Since these motives can be satisfied in organizations, as suggested by organizational behavior research, they also proposed that psychological ownership manifest itself in organizations much as it does in other contexts.

Building on the discussion of the roots of psychological ownership above which addresses why the state of psychological ownership exists, Pierce et al. (2001) identified three major routes or key experiences through which psychological ownership emerges: (a) controlling the target, (b) coming to know the target intimately, and (c) investing the self into the target.

In the review of previous research, it is found that control of an object appears to be a key characteristic of the phenomenon of ownership. Rudmin and Berry's (1987) work found ownership to be the ability to use and to control the use of objects. Research has also shown that control exercised over an object eventually gives rise to feelings of ownership toward that object (Csikszentmihalyi & Rochberg-Halton, 1991). Pierce et al. (2001) suggested that organizations can be a potential target of psychological ownership, as organizations provide employees with numerous opportunities to exercise varying degrees of control over a number of factors. For example, jobs that provide greater autonomy are more likely to increase the feelings of ownership toward the job, while

centralization tends to decrease such feelings as it minimize the amount of control average employee can hold (Pierce, Kostova, & Dirks, 2001).

Following Beggan and Brown (1994)'s perspective that association with an object is so central to ownership, Pierce et al. (2001) suggested that the more information and the better the knowledge an individual has about an object, the deeper the relationship between the self and the object, and hence the stronger feeling of ownership toward it. They also concluded that organization can be a potential target of psychological ownership, as organizations provide a number of opportunities for employees to know their organizations such as work, job, team and project, by various processes of association.

Based on the insight from the previous studies, it is suggested that the investment of an individual's energy, time, effort and attention into objects causes the self to become one with the object and to develop feelings of ownership towards that object (Pierce, Kostova, & Dirks, 2001). Organizations provide numerous opportunities for their members to invest themselves into different facets, such as job, products, customers, work team, or assignments, therefore give rise to the feelings of ownership toward those objects. Pierce et al. (2001) noted that different activities in organizations imply different level of self-investment. For example, they believed that more complex job and non-routine technologies make it more likely that employees will invest more of their own ideas, unique knowledge and personal style.

As Pierce et al. (2003) suggested, the above three routes to psychological ownership are distinct, complementary and additive in nature (Pierce, Kostova, & Dirks, 2003). Any



single route can result in feelings of ownership independent of others. Another question raised by Pierce et al. (2003) is whether some routes are more effective at generating psychological ownership than others. As there is no such comparison in previous studies, they speculated that the route of control and investing the self in the target have the potential to be most effective, since they tend to be particularly effective at bringing the target within the self region as suggested by previous research as well as they have the potential to also result in coming to know intimately.

It is hypothesized that the psychological state of ownership is more likely to be created when the formal ownership arrangement is designed and operated such that it reinforces the full complement of ownership rights and meets ownership expectation (Pierce, Rubinfeld, & Morgan, 1991). Connecting with Pierce et al.'s (2001) discussion of the major routes to psychological ownership, it can be found that an employee ownership arrangement constructed around equity, information, and influence more or less parallels these three routes. For example, the individual's financial stake in the organization, in part, results from investing the self (e.g., tenure, hours worked, and performance) into the organization. The influence and information dimensions of employee ownership are closely related to experiences of control over the target and intimate knowing the target. Thus, formal and psychological ownership are potentially connected with each other. Although psychological ownership can emerge in the absence of formal ownership, objective ownership may facilitate and speed up the emergence of psychological ownership, because it allows the individual to explore the three routes leading to this state (Pierce, Kostova, & Dirks, 2003).

### *The outcomes of psychological ownership*

Based on review of employee ownership literature, Pierce et al. (1997) suggested that there is a variety of social-psychological and behavioral consequences of employee ownership that are likely to unfold once employee-owners experience employee ownership and become integrated into the organization and the ownership experience. They summarized from employee ownership literature three kinds of consequences: motivational, attitudinal and behavioral consequences (Pierce, Rubenfeld, & Morgan, 1991).

Building on the notion that motivation may be one of the several key links among ownership and its social-psychological and behavioral consequences, Pierce et al. (1991), consistent with Long (1978b), conceptualized the ownership-employee motivation relationship from the perspective of expectancy theory (Vroom, 1964). It has been proposed that the employee-owner should perceive a positive relationship among constructive organizational behaviors (e.g., timely work attendance, efficient and effective performance) and organizational efficiency and effectiveness. If the employee becomes integrated into the ownership experience, it will further reinforce the value of these behaviors (i.e., the first-level outcomes like work attendance and performance) and their outcomes (i.e., the second-level outcomes like organizational performance). In the language of expectancy theory, the valence and instrumentality will be increased by ownership experience. In addition, the sense of aligned interest accompanying the employee-owner can lead to an increase in cooperative behaviors, which is more likely to let employees believe their effort will result in effective performance. In another word,

the expectancy also tends to be high. According to expectancy theory, employees' motivation is determined by the combined effect of valence, instrumentality and expectancy. Thus, as Pierce et al. (1991) concluded that psychological ownership will result in an increase in employee motivation.

As suggested by previous research, ownership, both formal and psychological, is likely to lead to job satisfaction. Although many previous studies (e.g., Klein, 1987; Long 1978a) reported a positive relationship between ownership and satisfaction, Pierce et al. (1991) found that empirical evidence didn't consistently support this claim. In fact, many empirical observations indicated that the relationship is more complex than a simple main effect, which suggests the existence of some mediating and extraneous variables. Pierce et al. (1991) concluded that ownership operates on satisfaction by operating through the integration of the employee-owner into the organization, which resulting from the emergence of psychological ownership.

Psychological ownership may also have impacts on a number of organizational behaviors. Pierce et al. (1991) projected that ownership tends to improve job performance, work attendance and turnover, which further leads to better organizational performance. Although the studies in their review provided an inconsistent set of results on the effects of ownership on organizational performance, Pierce et al. (1991) concluded the relationship of ownership and employee behaviors (i.e., performance and work attendance) by highlighting the importance of the integration of the employee-owner into the organization, resulting from psychological ownership

Pierce et al.'s (1991) discussion of the consequences of psychological ownership, in large part, parallels that of formal ownership. It is unclear what specific roles psychological ownership plays in leading to those consequences, comparing with formal ownership. In addition, previous discussion of determinants of psychological ownership indicates that psychological ownership can exist in the absence of formal ownership. Mixing the formal and psychological ownership together to discuss consequences is not likely to reveal the full picture. Fortunately, Pierce et al. (2001) developed a more complete theory of psychological ownership and advanced the discussion of organizational effects of psychological ownership.

Consistent with Pierce et al. (1991), Pierce et al. (2001) suggested that ownership is frequently defined and experienced in terms of a "bundle of rights". The right to information about the target of ownership and the right to influence the target are most frequently associated with ownership (Pierce, Rubinfeld, & Morgan, 1991). Employees who feel like owners believed that they have the right to influence the direction taken by the organization and that they have deeper responsibilities than those who do not feel ownership. In addition, a felt responsibility and a sense of burden sharing for the organization also accompany feelings of ownership. When employees psychologically experience ownership toward the organization, their self identity is closely linked with the organization. Under this circumstance, their desire to maintain, protect, or enhance that identity results in an enhanced sense of responsibility for work outputs. Furthermore, such expected rights and presumed responsibilities resulted from psychological ownership will lead to a number of particular behaviors associated with such rights and

responsibilities, such as information seeking, stewardship, citizenship behaviors, personal sacrifice and the assumption of risk (Pierce, Kostova, & Dirks, 2001).

Pierce et al. (2001) also suggested that psychological ownership may lead to positive or negative orientations toward change, contingent upon the type of change involved. When change is self-initiated, evolutionary, and additive, employees with strong psychological ownership toward organizations would support and promote the change. If change is imposed, revolutionary, subtractive, employees with strong psychological ownership may resist the change.

Psychological ownership may lead to organizationally dysfunctional behaviors as well (Pierce, Kostova, & Dirks, 2001). An employee with strong psychological ownership may resist sharing the target of ownership (e.g., tools, computers, and workspace) with coworkers, or may want to keep exclusive control over the target. Similarly, managers may not want to empower their subordinates because they feel a high degree of ownership toward the management of the work unit. However, Pierce et al. (2001) suggested that psychological ownership leads to dysfunctional effects only if certain conditions are in place. They speculated that these conditions will be related to certain personality characteristics (e.g., high need for personal control), as well as the combination of the particular motives and routes that have led to the feelings of ownership.

*Research on psychological ownership*

Although Pierce et al.'s (1991) conceptual model highlighted the important role of psychological ownership in understanding employee ownership and Pierce et al. (2001) later offered a more complete theory of psychological ownership, not many published empirical studies to date have examined the construct of psychological ownership.

Mainly based on Pierce et al.'s (1991) conceptual model of psychological ownership, Vandewalle et al. (1995) examined the consequences of psychological ownership in their empirical study. Their main focus was on the relationship between psychological ownership and extrarole behavior. In their theoretical model, they proposed that psychological ownership leads to extrarole behaviors through organizational commitment. They found theoretical support for the model from two aspects. First, they drew on employee ownership literature such as Florkowski's (1987) study which proposed employee ownership as antecedent of organizational commitment. And more importantly, they built on Pierce et al.'s (1991) proposition that psychological ownership is an antecedent of organizational commitment. Second, they found support in the organizational commitment literature that organizational commitment is an antecedent of extrarole behavior. Empirical studies such as O'Reilly and Chatman (1986) supported a positive relationship between organizational commitment and extrarole behavior.

To support their hypotheses, Vandewalle et al. (1995) collected data from 797 residents of university housing cooperatives by a self-report survey. The 5-item measurement of psychological ownership developed by Pierce et al. (1992) was used. The results of analyses revealed a full mediation model, suggesting organizational commitment fully mediates the relationship between psychological ownership. In addition, their results also

showed that psychological ownership is more likely to influence extrarole behavior rather than in-role behavior and is also superior to job satisfaction in predicting extrarole behavior (VandeWalle, Van Dyne, & Kostova, 1995).

Pendleton et al. (1998) developed a similar theoretical model in their empirical study of the perception and effects of share ownership. They proposed that three stages are involved in how ownership influences organizational outcomes. Based on previous literature on employee ownership and attitudinal changes, especially Pierce et al.'s (1991) conceptual framework, they suggested that for employee ownership to increase commitment and satisfaction, it is necessary for employees to feel like owners. Following the intrinsic and instrumental models identified by Klein (1987), they hypothesized that psychological ownership is mainly determined by objective features of ownership, such as the number of shares passed to employees, and by employees' perception that they have actually secured ownership rights, such as the ability to determine company decisions. This sense of ownership will then, along with other job-related and personal characteristics, determine variations in organizational commitment. Their analysis focused on the first two stages of the overall model illustrated above.

Pendleton et al. (1998) used data from attitude surveys conducted in four UK bus companies which had adopted the ESOP form of employee ownership. Psychological ownership was measured by questions originally developed by Klein (1987). Two-stage ordered probit model was used to explore the relationship between ownership and attitudinal outcomes. Their findings highlighted that psychological ownership is an important intervening variable between formal ownership and change in attitudes such as

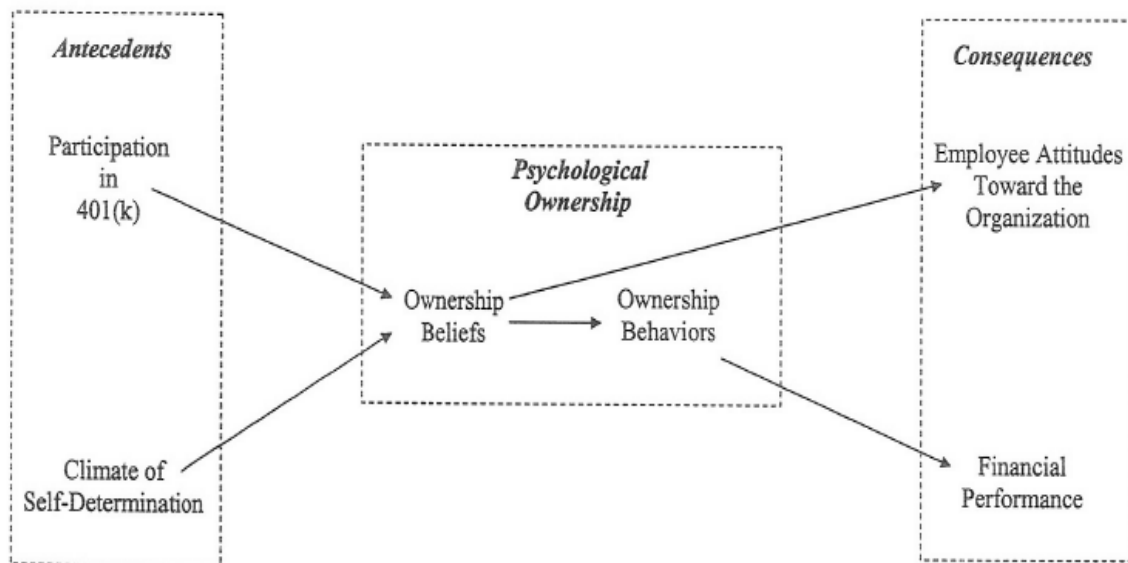
organizational commitment and satisfaction. Participation in decision-making was found more important than levels of shareholding per se in generating psychological ownership, suggesting instrumental model provides a better explanation, although both the intrinsic and instrumental models are supported in the study.

Unlike previous researchers and also a bit different from Pierce et al.'s (2001) conceptualization, Wagner et al. (2003) conceptualized psychological ownership as being comprised of cognitive and behavioral components. Consistent with Druskat and Pescosolido's (2002) perspective that psychological ownership can be thought of as a shared mental model involving the collective belief that all work-group members are part owners with the authority and responsibility to behave in ways to promote favorable outcomes, Wagner et al. (2003) proposed that psychological ownership is manifested in ownership beliefs and ownership behaviors. Ownership beliefs are the beliefs associated with a sense of possession of the organization and ownership behaviors represent actions taken by employees that are motivated by their ownership beliefs. Their theoretical model (see Figure 2) investigated both the antecedents and outcomes of psychological ownership. As they suggested, formal ownership such as participating in a 401(k) plan and organizational climate such as self-determination climate tend to impact employees' ownership beliefs, which then lead to ownership behaviors and employee attitude changes. Ownership behavior was suggested to lead to improvement of the financial performance of the organization (Wagner, Parker, & Christiansen, 2003). In fact, ownership beliefs alone are more equivalent to the construct of psychological ownership in current study as well as the majority of past research and ownership behaviors are actually the consequence of psychological ownership.



Wagner et al. (2003) obtained survey data from non-managerial employees working in 33 stores of a large retail organization. Ownership beliefs and ownership behaviors were measured by two separate scales developed by the researchers. One of the most significant differences of this research in research design between previous studies is that they used work group as the analysis level. As such, those variables such as ownership beliefs and ownership behaviors originally measured at individual level were aggregated to group level. Structural equation modeling was used to test the hypotheses. Their findings provided support for all of their hypotheses. 401(k) participation and a climate of self determination were found to be positively related to ownership beliefs which influence ownership behaviors and employees' attitudes toward the organization. Ownership behaviors was found to be positively related to financial performance (Wagner, Parker, & Christiansen, 2003).

**Figure 2: Wagner et al.'s (2003) Model of Psychological Ownership**



Van Dyne and Pierce (2004) focused their empirical study on the organizational outcomes of psychological ownership. Based on Pierce et al.'s (2001) theory of psychological ownership, they proposed that psychological ownership leads to employee attitudes (organizational commitment, job satisfaction, organization-based self-esteem) and behaviors (performance and organizational citizenship behavior).

Van Dyne and Pierce (2004) conducted three convenience sample field studies including clerical, office, supervisory, professional, and management jobs from different areas of the U.S. to test their hypotheses. As there was no empirical work before on the construct validation of psychological ownership, Van Dyne and Pierce (2004) conducted initial construct validation for the construct of psychological ownership before their examination of the hypotheses. They had five judges from organizational behavior faculty assess the content validity of the 7-item measure of psychological ownership developed by them and also examined the homogeneity and dimensionality of the ownership items with confirmatory factor analysis. All of these results supported their 7-item measure. In addition, in each of their samples, Cronbach's coefficient alpha for the measure showed acceptable internal consistency reliability (0.87, 0.90 and 0.93). After the construct validation, they used multiple regression to test their hypotheses. Their results provided support for the positive links between psychological ownership for the organization and employee attitudes (organizational commitment, job satisfaction, organization-based self-esteem), and work behaviors (performance and organizational citizenship behavior). More importantly, as showed by the regression results, psychological ownership increased explained variance in organization-based self-esteem and organizational citizenship behavior, beyond the effects of organizational commitment

and job satisfaction. It confirmed psychological ownership's unique contribution to these two dependent variables. However, the results failed to show an incremental value of psychological ownership in predicting employee performance (Van Dyne & Pierce, 2004).

Most recently, Pierce et al. (2004) focused on the investigation of the antecedents of psychological ownership, especially the importance of control in the development of feelings of ownership. Following Pierce et al.'s (2001) discussion of the key experiences leading to the emergence of psychological ownership, their theoretical framework suggested that the extent to which employees experience control over their jobs and work environment is positively associated with feelings of ownership for their jobs and organization. Experienced control was operationalized as a mediator between three sources of work environment (technology, autonomy, and participative decision-making) and psychological ownership of the job and the organization.

Pierce et al. (2004) tested their hypotheses from survey data from seven for-profit, non-employee-owned organizations in New Zealand. The three sources of work environment structure were measured by supervisory data from managers of those participating in the study, whereas self-report data reflecting measurement of the mediating and dependent variables derived from employees working in those organizations. Baron and Kenny's (1986) mediated regression technique was used to test the mediating effects. Their results supported the mediating effects of control in the relationship between work environment structure and employees' feelings of ownership for the job and the organization.

*HRM in China*

As the present study focuses on the effectiveness as well as the psychological mechanism of ESOs in China, it is essential to understand the Chinese context. Thus, the developments and trends of the Human Resources Management (HRM) practices especially the compensation in China is reviewed.

In the past decades, together with the economy reform, the way companies especially SOEs manage their human resources has changed significantly. In the past, the government assigned jobs to all graduates when they graduated from the universities. Subsequently, they enjoyed the so called 'iron rice-bowl' policy of job security and cradle-to-grave welfare system (Child, 1994). Today, most of the decision to recruit is made by companies themselves. Even in SOEs, such decision is only partly subordinated to state control. Most university graduates need to seek jobs by themselves. Despite the enterprise reforms in the 1990s, SOEs still mainly recruit fresh graduates rather than experienced employees who had worked in other companies (Goodall & Warner, 1997). Job interviews are the most important tool to screen candidates. There are very few locally validated psychometric and assessment tests in place now. SOEs continue to use more traditional HRM practices, such as use of one's connections and lending weight to political background (Chow, 2004). Nepotism seems to be common in the selection of new employees in SOEs (Warner, 1993). On the other hand, FIEs are more likely to use psychometric and assessment tests in their selection and focus more on technical skills and proven work experience. Education and credentials of job applicants are weighted heavily as selection criteria.

In China, facing a shortage of managerial talents, companies tend to place more emphasis on the training and development of talent. In general, FIEs tend to provide more training hours including both technical training and management skill training, while the trainings in SOEs are still rather limited (Warner, 1993). Although both in-house and external trainings are provided in SOEs, the emphasis of the training is on technological skills rather than on management skills (Child, 1994). In SOEs, training courses also include cultural-political components aiming to enforce Communist ideology, moral values and patriotism (Chow, 2004).

Unlike FIEs which usually has a systematic approach in place to evaluate performance, there is a general lack of rigorous performance appraisal system in place in SOEs. A comprehensive, systematic evaluation system is difficult to implement, as in SOEs it is hard to single out an individual who is accountable for results (Chow, 2004). In SOEs, employees usually do an annual written self-assessment. The opinions of colleagues, subordinates, and the superior are seen as important. Different from FIEs, it uncommon to have one-on-one interviews with the boss in SOEs (Easterby-Smith, Malina, & Yuan, 1995). Technical knowledge and job-related performance becomes more important in performance evaluation since the Chinese enterprise reform. In SOEs, good personal relationships and ‘correct political attitude’ are other factors influencing promotion (Child, 1994); the former reflects the Chinese emphasis on personal relationship (‘guanxi’), the latter reflects the socialist ideology.

As the current study focus on one of the incentive mechanisms emerged recently in China, the development and recent trend of the pay system in China is reviewed. Most of the

past studies focused mainly on pay system in SOEs. General speaking, there are three major reforms in the pay system in SOEs in the past five decades: 1953 to 1956, 1985, and 1993, with several minor adjustments in between (Cooke, 2005). Each of the three reforms is an adjustment to the social and economic development of the era. The main purposes are to match the wage with rising living cost and motivate individual performance.

The first reform took place between 1953 and 1956 in two stages. At the first stage, the pay system made up of material supply and monetary wage was moved to a salary-based system, while at the second stage a nation-wide Soviet-style wage grade system was further introduced (Takahara, 1992; Tien, 2000). The government deliberately kept the wage level low to create more urban employment and to discourage rural workers from migrating into cities. Incentive pay was restricted and salary adjustment took place more as a passive means of political appeasement than a positive means of economic stimulation (Takahara, 1992). As the wages were allocated by the state and SOEs acted only as a distributor, workers had little influence on their wages. The absence of wage rises and the rising prices led to a long-term decline in real wages, which were believed to undermine workers' moral and were considered a contributing factor to the poor productivity in SOEs (Korzec, 1992).

The second major reform took place in 1985. The reform introduced the basic salary, positional wage, longevity pay and bonus which comprise the new structural wage system. Basic salary was the same for everyone irrespective of their position, while position wage took into consideration of one's managerial or technical position.

Employees could also accrue longevity pay which was a relatively moderate amount of subsidy each year to a maximum of forty years. The last component, bonus, was to reward good performers. The new system abolished the previous wage grading system and intended to enhance workforce morale by improving the linkage between workers' responsibility and wages (Zhao & Nichols, 1996). However, the government had great difficulty in establishing a standardized national scheme of positions and position wages. In addition, the position has not always been a reliable indicator of competence and performance, since promotion in SOEs has often been based on seniority rather than competence (Cooke, 2005).

The state separated the pay system for the public sector from that for SOEs in the third pay reform in 1993. Five pay systems and two parts were established in order to reflect the various range of jobs in the sectors. The wage package within each of the five pay systems was divided into fixed-wage and flexi-wage. The purpose of this reform was to motivate employees as their earnings were closely related to their performance both at individual and organizational level (Cooke, 2005). However, the reform was generally considered by scholars as insufficient with little real impact in motivating the workforce. What was most criticized is the lack of success to overturn the culture of egalitarianism (Child, 1995). For example, although material bonuses are widely used, in reality many enterprises tend to pay equal (or almost equal) bonuses to all employees (Warner, 1995).

Because of the traditional values of a high level of collectivism, together with the need to maintain harmonious relations within the organization, compensation tends to be egalitarian for the past several decades. However, recently under increasing pressures

from the competitive market, SOEs have started to adopt new reward system from FIEs which focus more on individual performance and variable pay schemes such as commission schemes and shares of stock (Child, 1995; Goodall & Warner, 1997). Pay rises and individualized pay packages are also used as the main methods for the recruitment and retention of key employees such as managers and professional staff, which has led to much greater pay gaps between key employees and average employees (Child, 1995; Easterby-Smith, Malina, & Yuan, 1995). It is difficult for Chinese employees working in egalitarian and collective environments to accept rewards based on individual performance (Chow, 2004), but as China is modernizing its economy at a very fast pace and is catching up quickly with HR practices, pay systems based on individual performance and individual incentives will become more common.

The adoption of employee share ownership schemes is one of the important pay trends in China. The earliest forms of share ownership scheme emerged in the early 1980s when small and medium-sized enterprises asked their employees to invest their savings in the company to relieve the company's financial difficulties. Since 2000, such schemes have become an important agenda in the reform of SOEs. The major purposes for adoption of these schemes were to increase employee welfare and motivate employees at work. However, the motivational effect on workers has not been evident in enterprises that have implemented the schemes, while the effect has been more apparent on retaining key employees (Cooke, 2005). Three problems have been noticed in the implementation of share ownership schemes: first, the long-term strategy of low wages and high welfare has prevented employees from accumulating saving to invest; second, the shares are currently restricted to transfer in market; third, there is a strong element of egalitarianism in profit



sharing (Chen & Lin, 2002; Guan & Xu, 1999). Under this background and with the rapid growth of stock options in western countries, policy makers in China recently promoted stock option scheme as another financial participation mechanism that can be adopted in China to motivate employees.

In summary, HRM in China is still in the early stages of the diffusion process. HR is still providing administrative work and services and is treated as a supporting function rather than a strategic partner. Furthermore, whereas the main role of HR in Western firms is to provide service to the management, in Chinese firms it tends to be geared towards maintenance of control (Child, 1994). Compared with FIEs, HRM practices in SOEs are less market-oriented and more often influenced by traditional practices. However, as China is moving toward a more market-oriented economy and this trend will accelerate after the accession to the WTO. Chinese companies are under great pressure to compete with their oversea counterparts. China is catching up rapidly in developing HR systems. The introduction of the employee stock option scheme is one of such initiatives.

### *Research gaps*

As discussed earlier, three research gaps exist in the current literature of ESOs in organizational studies. First, despite stock options' widespread usage throughout organizations in the real world, past academic research mainly focused on CEOs or senior management, little effort has been made on the ordinary or rank-and-file members in organizations. Second, few studies have directly investigated the effectiveness of stock options on individuals' attitudes and behaviors, especially in a quantitative manner. The psychological mechanism through which stock options generate their influences on

individual employee remains unclear. Even though psychological ownership literature offers a promising perspective to understand stock options, no empirical study in this direction has been conducted so far. Third, stock options' widespread usage raises the question concerning their effectiveness in other places of the world. However, most of the past studies were conducted in western countries, so that whether the stock option plan is an effective incentive mechanism to people outside western context is still an unanswered question.

There are also research gaps in the current psychological ownership literature. As noted previously, psychological ownership is a relatively new construct in organizational research. Past research mainly focused on investigating the positive consequences of psychological ownership (Van Dyne & Pierce, 2004; Vandewalle, Van Dyne, & Kostova, 1995), but the antecedents have not been well studied empirically. Although Pierce et al. (1991) proposed that formal ownership would lead to psychological ownership, other factors in the organizational context might lead to the same psychological state as well. As Pierce et al. (2004) demonstrated, job control would be an important predictor of psychological ownership. Comparing the effects of different antecedents to the emergence of psychological ownership is an interesting topic and also an important direction for the psychological ownership research. However, no research to date has answered this call. Once again, as all the studies in this area so far were conducted in western countries, the generalizability of this theory in other context has still not been tested.

The present paper also addresses the above research gaps in the context of Chinese mainland, a country that has significant cultural differences between the U.S. and other western countries. China is regarded as one of the fastest developing areas in the world. It has been noticed that an increasing number of major multinationals introduced stock options as a long-term incentive in their compensation packages offered to the staff in their local offices in mainland China. Stock options were also observed to emerge in some private or state-owned companies. Same as their foreign counterparts, local companies that adopt employee stock option plans consider such mechanism effective to motivate and retain their talents. While the number of Chinese employees who own stock options is increasing, the effectiveness of stock options to Chinese employees as well as the psychological mechanism behind seems still unclear. ESOs are not only a brand-new form of compensation to Chinese employees but also an untouched topic to the organizational research in the Chinese context. Although there is no empirical study so far, some recent surveys observed that stock options might not really work with young Chinese people (Melvin, 2001).

China is an interesting context to observe how people develop their sense of ownership in an organization. Since 1949, China has had a long history that nearly all the organizations were SOEs which were under ownership of the whole people. Literally every employee was an owner and “owners’ spirit” was strongly promoted in SOEs, however the productivity of these organizations was low in general. From 1978, China has started moving towards a variety of ownership forms of organizations and a more market-oriented economy. Enormous foreign capital started to flow in and local private investments also increased significantly. Nowadays, non-state-owned companies have

become a significant component of China's economy. Although more and more people work in these companies of which they don't have any ownership legally or literally, China's overall productivity as well as the whole economy has improved dramatically since the economic reform. Therefore, it is interesting to consider what really matters for Chinese employees to develop their sense of ownership which tends to influence their attitudes and behaviors.

In summary, the research questions addressed in the current study are:

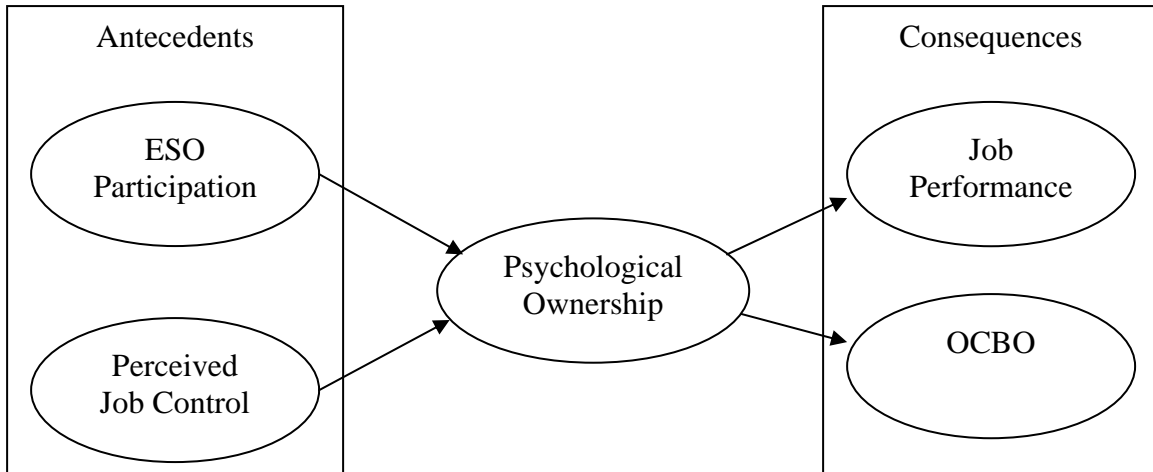
- Are stock options an effective way of influencing Chinese employees' psychological ownership and consequent behaviors?
- In particular, how effective do stock options lead to psychological ownership in the Chinese context, compared with other organizational factors such as employees' perceived job control?

## **Chapter 3: Theoretical Framework and Hypotheses**

### *Introduction*

In chapter 2, I discussed the previous literature on stock options, employee ownership and psychological ownership. In a more detailed manner, chapter 2 discussed the development of psychological ownership theory, the antecedents and outcomes of psychological ownership, as well as past empirical studies on the construct. Research gaps in both stock option studies and psychological ownership literature were also discussed. In this chapter, I will develop a theoretical framework (see figure 3 below) and a set of hypotheses for the present study, based on the prior literature, the psychological ownership theory in particular. Specifically, I will examine the relationship between ESOs and psychological ownership as well as the mediating effect by psychological ownership on job performance and organizational citizenship behavior. I will also discuss the influence of job control on psychological ownership and compare the effects of the two antecedents, ESOs and job control.

**Figure 3: The Hypothesized Model of The Present Study**



*Employee stock option and psychological ownership*

As suggested by Pierce et al.'s (1991) conceptual model, in order to understand the effectiveness of an employee ownership system, it is necessary to first develop an understanding of the employee ownership construct. They argued that ownership is not a simple concept and there are different forms of employee ownership with different facets of employee ownership and employee control, although sharing a common purpose: providing a capital ownership stake for employees. It is suggested that ownership construct is multidimensional in nature. Three basic and fundamental rights commonly define formal ownership. Each of them may be more or less presented in certain employee ownership contexts. These rights are: (1) the right to possession of some share of the owned object's physical being and/or financial value, (2) the right to exercise influence over the owned object, and (3) the right to information about the status of the owned object. In short, the three components can be termed: gainsharing, influence and information (Pierce & Rodgers, 2004; Pierce, Rubenfeld, & Morgan, 1991).

Based on the conceptualization of ownership above, the employee stock option plan as one form of employee ownership schemes is examined. The first and most significant feature of a stock option plan is gainsharing. All stock option plans grant a right to employees to share the future success of the company in term of benefiting from the increased stock price. If the stock price goes up as well as the preset condition is met, option recipients are able to exercise their options at the price set at the moment of granting. They can either make a profit by selling the stocks immediately or become shareholders of the company at a discounted price. Secondly, most stock option plans include certain regular communication mechanism to inform option recipients the status of their options, the current performance of the stock, and the situation of certain performance figures set as requirements of option exercise, or even more detailed information concerning the company's performance and strategies. Finally, stock options in themselves don't entail or guarantee rights to influence the decision-making processes of the company in most of the design of stock option plans for rank-and-file employees. Unlike actual stock, stock options do not include the privileges like voting as a shareholder before the option is exercised and converted to real stocks of the company.

Further understanding of both the ownership dimensions of ESOs and the major routes leading to psychological ownership indicates that ESOs have potential to be an effective antecedent of psychological ownership. First, the right of gainsharing accompanied with stock options ensure that employees have some control on the distribution of the future success of the company, partially satisfying the route of controlling the target which leads to psychological ownership. But at the same time, it should also be noted that the missing power in the influence dimension of stock options might be a major obstacle for

employees to experience the sense of ownership through the controlling route. Second, stock options provide a channel and an incentive for employees to know more about their company, especially the company's financial figures, which facilitates the fulfillment of the route of intimately knowing the target. Employees with options granted may even act proactively to seek more information concerning the company's performance, since it relates to whether the set target is met and whether they can exercise their options, and ultimately their own interest. Finally, participating in a stock option plan guarantees that option recipients invest themselves into the company. All stock option plans require the person to maintain his or her employment in the company at the time of exercising the options (in most cases, retired staff can still exercise their options). In that sense, before they can benefit from the options, they need to work for the company, investing their time, ideas, skills, and physical, psychological, and intellectual energies to the organization. As the option recipients can only benefit from the plan when the stock price increases and corporate performance is improved, they are likely to work harder and invest more of their own efforts.

Therefore, even though stock options might not fully satisfy all the three major routes to psychological ownership, it has the potential to be an effective stimulus in the organization to facilitate and speed up the emergence of psychological ownership. Although there is no direct empirical test of the relationship in previous literature, preliminary evidence supports speculation about its positive relationship. Pendleton et al. (1998), for example, observed a positive relationship between shareholding and perceptions of ownership by using data obtained from four UK bus companies which had adopted ESOP form of employee ownership (Pendleton, Wilson, & Wright, 1998). Thus,



based on the theoretical analysis illustrated before and the findings in the past research, I hypothesize:

- Hypothesis 1: Participation in an employee stock option plan (ESO participation) is positively related to an employee's psychological ownership for the organization.

As discussed earlier in the present paper, psychological ownership is related to a number of important organizational outcomes, such as motivation (Pierce, Rubinfeld, & Morgan, 1991), stewardship and citizenship behaviors (Pierce, Kostova, & Dirks, 2001). Yet since then, only a few studies (Van Dyne & Pierce, 2004; VandeWalle, Van Dyne, & Kostova, 1995) have investigated the relationships between the experience of ownership and its organizational consequences. VandeWalle et al. (1995), for example, built on Pierce et al.'s model (1991) and tested the consequences of psychological ownership by surveying 797 residents of university housing cooperatives. Their results indicated that psychological ownership was positively related to extrarole behavior. Furthermore, psychological ownership was superior to satisfaction in predicting extrarole behavior (VandeWalle, Van Dyne, & Kostova, 1995). Recently, building on the theoretical framework of psychological ownership advanced by Pierce et al. (2001), Van Dyne and Pierce (2004) examined the relationships between psychological ownership for the organization and employee work attitudes (organizational commitment, job satisfaction, and self-concept) and employee work behaviors (performance and organizational citizenship). By testing the hypotheses in three field studies, they demonstrated positive links between psychological ownership and all employee attitudinal variables and

behavioral variables. More importantly, their results showed that psychological ownership increases explained variance in organization-based self-esteem and organizational citizenship behavior over and above the effects of job satisfaction (Van Dyne & Pierce, 2004).

As theorized by Pierce et al. (2001), psychological ownership addresses three basic human needs: having a sense of place, efficacy and effectance, and self-identity. When these basic needs are fulfilled in an organizational context, employees will be proactive in protecting and enhancing the target of their feelings of ownership. Thus, employees should be proactive in making behavioral contributions to the organization. In other words, psychological ownership for the organization causes feelings of responsibility that lead to investing time and effort to benefit the organization (Pierce, Kostova, & Dirks, 2001).

According to the above theoretical and empirical findings of the organizational outcomes resulted from psychological ownership, it is expected that the sense of ownership for the organization is related to job performance and organizational citizenship behavior toward the organization (OCBO), due to the expected rights and presumed responsibilities of ownership experienced by employees who have high level of psychological ownership. As such, I hypothesize as follows:

- Hypothesis 2a: Psychological ownership for the organization is positively related to employees' job performance.
- Hypothesis 2b: Psychological ownership for the organization is positively related to organizational citizenship behavior toward the organization (OCBO).

Agency theory shows that when agents face decisions that place their own interests in conflict with those of principals, self-interest will tend to dominate, leading to failure to optimize principals' interests (Eisenhardt, 1989). In order to solve this agency problem, employee ownership schemes are adopted to help align employees' interest with that of the organization. It is believed that by providing ownership stake to employees, they are likely to think and act like owners. As a result, they are more committed to the success of the organization and improving the business in every way possible (Duncan, 2001; Rosen, Case, & Staubus, 2005). In the case of ESOs, it is reasonable to expect employees to have high motivation in performing their job duties and even engage in the behaviors that are not included in their formal job description but beneficial to the organization.

On the other hand, according to social exchange theory which suggests that one party provides some benefit to another, invoking an obligation of the other party to reciprocate by providing some other benefit in return (Blau, 1964), employee ownership can be regarded as a motivational form of communication that entails reciprocation from employees. Besides the financial benefits that ownership may entail, giving employees an ownership stake in the organization that employs them sends them a clear message to employees about their value and importance to the organization. ESOs, for example, are often communicated as a reward to the individual's past performance and also a sign that the individual is valued by the company. In the language of social exchange theory, as employees internalize the belief that they are a competent, important and valued part of the organization, they will be motivated to work harder in an effort to reciprocate.

Based on the above theories, the present research proposes a positive relationship between stock option plans and constructive work behaviors. Some past research at firm level also provides support to the positive relationship. Sesil et al. (2000) analyzed data on 490 companies and found that companies with broad-based stock option plans perform better and have higher productivity. More recently, Sesil et al. (2002) compared performance of 229 U.S. 'new economy' firms offering broad-based stock options to that of their non-stock option counterparts. Their results suggested that the adoption of a stock option plans results in higher levels of value added per employee. Although few research has directly investigated stock options' influence on individual performance and behaviors, it can be expected that firm performance improvement in large part results from improved performance at individual level.

Therefore, I make the hypotheses of stock options and the focal work behaviors in the current study, job performance and OCBO, as follows:

- Hypothesis 3a: ESO participation is positively related to employees' job performance.
- Hypothesis 3b: ESO participation is positively related to employees' citizenship behavior toward the organization.

As noted earlier, the most important contribution in Pierce et al.'s (1991) conceptual model is that it highlighted the important mediating role of psychological ownership in how employee ownership initiatives influence employee's attitudes and behaviors. Consistent with this conceptualization, Pendleton et al. (1998) explored the impact of employee ownership on employee attitudes by using attitudinal data obtained from four

UK bus companies which had adopted the ESOP form of employee share. Their results indicated that a sense of ownership is an important intervening variable between actual ownership and attitudinal change, supporting the model developed by Pierce et al. (1991) (Pendleton, Wilson, & Wright, 1998). Recently, Wagner et al. (2003) developed a model of the psychological experiences of employee ownership in work groups to investigate the antecedents and consequences of psychological ownership. Although psychological ownership was operationalized as comprising cognitive and behavioral parts which are termed as ownership belief and ownership behavior, a little different from Pierce et al.'s conceptualization (1991; 2001), their work also provided support for the mediating role played by psychological ownership between formal ownership and organizational outcomes. Based on data from a large retail organization, their results showed that participating in a 401(k) profit sharing plan, a form of employee ownership, is positively related to the level of ownership beliefs which positively influence ownership behaviors and employees' attitudes toward the organization, whereas ownership behaviors were positively related to financial performance (Wagner, Parker, & Christiansen, 2003).

According to the previous literature, Pierce et al.'s model (1991) in particular, it is suggested that whether ESOs are able to impact employee's attitudes and behaviors depends on the extent to which stock options result in employee's psychological ownership toward the organization that leads to attitudinal and behavioral outcomes.

Thus, I hypothesize:

- Hypothesis 4a: Psychological ownership mediates the relationship between ESO participation and job performance.

- Hypothesis 4b: Psychological ownership mediates the relationship between ESO participation and OCBO.

*Perceived job control and psychological ownership*

Pierce et al. (2001) proposed the three basic motives of psychological ownership and the three major routes leading to that psychological state, suggesting that psychological ownership will emerge in the absence of formal ownership, as long as these motives and routes are satisfied. Control is highlighted as a key characteristic of the phenomenon of ownership and also a key factor in the development of the experienced state of ownership. As suggested by Pierce et al. (2001), the motive underlying possession is, in large part, to be in control. Thus, control exercised over a object eventually gives rise to feelings of ownership for that object (Pierce, Kostova, & Dirks, 2001).

In the organizational context, the most frequent opportunity for employees to exercise their control is to perform their jobs. It is suggested that jobs that provide employees higher level of control are more likely to increase the feeling of ownership toward the job and the organization. In contrast, centralization and formalization which tend to minimize individuals' control are hard for employees to think the organization or any part of it is "theirs" (Pierce, Kostova, & Dirks, 2001). Past empirical studies support a direct positive effect of job control on psychological ownership. Parker et al. (1997), for example, observed that enhanced autonomy stemming from self-managing work teams promoted feelings of ownership. More recently, Pierce et al. (2004) investigated the extent to which employees experience control over their job and work environment influences their feelings of ownership for their job and the organization. By collecting

data from seven organizations in New Zealand, they showed that there is a significant and positive relationship between employees' perceived control and their psychological ownership for the organization and their jobs (Pierce, O'Driscoll, & Coghlan, 2004).

Therefore, I hypothesize:

- Hypothesis 5: Employees' perceived job control is positively related to their psychological ownership for the organization.

Although Pierce et al. (2003) suggested that the three routes to psychological ownership are distinct, complementary, and additive in nature, they had speculation that the route of control has the potential to be most effective. As discussed before, control plays a central role in the development of the psychological state of ownership, because it satisfies the underlying motive of ownership, feelings of efficacy. Another reason for that speculation is that, other routes such as coming to know intimately might also be resulted from controlling. In other words, a by-product of controlling an object might be coming to know the properties of the object. Hence, the overall effect of the controlling route might be greater than other single route (Pierce, Kostova, & Dirks, 2003).

Past studies on employee ownership also highlighted the importance of employee's control or influence over their jobs and also the companies they work for. It was found that ESOP participants who were more satisfied with participation in decision-making, job-related autonomy, and empowerment were more satisfied with their company ESOP and their jobs (Buchko, 1993; Klein, 1987). Recently, Bakan et al. (2004) investigated the direct and indirect effects of financial participation and participation in decision-making on employee job attitudes such as integration, commitment, satisfaction and motivation.

By collecting data from a questionnaire study administered in a large British retail organization that operates two types of ownership schemes: profit-sharing and save-as-you-earn schemes, their research showed that participation in decision-making produces more favorable effects on job attitudes than financial participation. In addition, their test of the combined effects of both financial participation and participation in decision-making does not have more favorable effects on job attitudes, than does participation in decision-making on its own (Bakan, Suseno, Pinnington, & Money, 2004).

According to the above conceptual and empirical evidences, the effects of employees' perceived job control on psychological ownership are expected to be greater than those of ESOs. As discussed before, ESOs are weak in the influence dimension of ownership, which makes it not quite effective in generating the sense of ownership through the controlling route. ESOs are most likely to produce its effects from its gainsharing and information dimensions through the other two routes. Therefore, based on the previous discussion on the critical role of control in psychological ownership, I make the following hypothesis:

- Hypothesis 6: In comparison with employee stock options, employees' perceived job control has a stronger influence on their psychological ownership for the organization.

### *Summary*

Based on previous literature and especially psychological ownership theory, it is suggested that psychological ownership plays a central role in influencing employees' job



performance and OCBO in the organization. Feeling like owners is essential for employees to behave like owners. Consequently, better job performance and higher OCBO is likely to result. On the other hand, psychological ownership is likely to be influenced by participation in an employee stock option scheme and job control perceived by employees. According to literature, both factors are able to facilitate the development of ownership experience through the major routes. However, job control may have a greater influence than ESO participation. Various hypotheses to be tested in this study are summarized in the following table:

Table 1: The Hypotheses of The Present Study

<b>Hypothesis</b>	<b>Description</b>
<i>Hypothesis 1</i>	Participation in an employee stock option plan (ESO participation) is positively related to an employee's psychological ownership for the organization.
<i>Hypothesis 2a</i>	Psychological ownership for the organization is positively related to employees' job performance.
<i>Hypothesis 2b</i>	Psychological ownership for the organization is positively related to organizational citizenship behavior toward the organization (OCBO).
<i>Hypothesis 3a</i>	ESO participation is positively related to employees' job performance.
<i>Hypothesis 3b</i>	ESO participation is positively related to employees' citizenship behavior toward the organization.
<i>Hypothesis 4a</i>	Psychological ownership mediates the relationship between ESO participation and job performance.
<i>Hypothesis 4b</i>	Psychological ownership mediates the relationship between ESO participation and OCBO.
<i>Hypothesis 5</i>	Employees' perceived job control is positively related to their psychological ownership for the organization.
<i>Hypothesis 6</i>	In comparison with employee stock options, employees' perceived job control has a stronger influence on their psychological ownership for the organization.

## **Chapter 4: Research Methodology**

### *Introduction*

In this chapter, I will describe the research methodology used in this study. A cross-sectional approach is adopted to test the theoretical framework and hypotheses developed in the previous chapter. As the sample is obtained from one single company, the background information of this company is provided. The collection procedures and the measurements used in the questionnaire are also explained.

### *Sample*

The data was collected from the employees in one foreign-invested company located in Guangzhou, one of the major cities in southern China. The company is a wholly-owned subsidiary of one of the world's largest banking and financial services organizations. As a group services centre in Guangzhou, the company was established in 1996 and provides operational support to its group entities around the world. Since 1996, it has grown into a company who has the size of more than 2,000 employees, and it is growing with the continuous migrations of new support services and processes to the centre. Currently, it is providing supporting functions such as back-office data processing and call centre. Over 99 percent of the employees are local Chinese, including all front-line staff, the majority of middle management and some senior managers, while most of the top management

including the general manager is seconded from Hong Kong. After nearly 10 years of operation in China, it has started the localization process in its management team.

To maintain the high standard of service commitment in their data processing and call centre services, almost all of the front line positions in the company needs to follow strictly the procedures and manuals developed by the headquarter of the international bank which has high reputation in providing superior service to its customers around the world. The responsibilities and authorities of each position are carefully defined in each department to ensure a smooth and highly secured process. With the support of advanced information technology system, employees' every action with the system in performing their jobs is recorded and their accuracy and efficiency are measured from time to time by automatically generated report from the system.

The company's management systems and most of the HR policies are in line with its parent company. The company's compensation strategy is to maintain its salary level at the market median. To do so, the company reviews its compensation packages offered to its employees every year, based on the market data obtained from one international human resources consulting firm. From 1996 to 2005, annual salary increment was provided every year. Such trend is consistent with the upward movement of the salary level in China. Before the introduction of the stock option scheme, it offers employees a monthly base salary which is based on their job grades and relevant experiences. An annual variable bonus which is based on both the staff and the company's performance is also offered.

In 2002, its senior management decided to introduce the group employee stock option scheme which has first been carried out in the international financial group's home country since 1997. The purpose of the scheme is to provide employees a long-term incentive to work hard and promote a sense of ownership that they are valued members of the international financial group. Consistent with its parent company, the scheme covers all level of employees ranging from non-clerical staff to senior executives. In general, the stock options are granted according to employees' performance in previous year and their job grades. The offer ranges from 200 shares to over 3000 shares per individual. Some key staff, who are in positions that are highly demanded in the job market would also be granted stock options due to retention consideration. The option scheme provides recipients a right to purchase its group company's stocks at a specific price based on the market price at the time of granting. The exercise of stock options requires a vesting period of three years and the obtainment of the company's target in total shareholder return. To promote the scheme, face-to-face employee briefing sections were arranged with every recipient of stock options and official memo and Q&A booklet were also provided. To keep the recipients informed of the performance of the company, the key financial figures including stock price and total shareholder return are periodically updated on the company's intranet and internal magazine. At the end of each fiscal year, an official letter is issued to each recipient on the current value of their stock options in hand. From 2002 to 2004, the stock options have been awarded to staff on a yearly basis. It is approximately estimated that around 40% of the overall population owns stock options as at 2005. The stock price of the company is now around 50% higher than that of 2002.

Though some local companies have also implemented stock option plans, the number of such companies as well as the number of their recipients is rather small. Moreover, they mainly offer stock options to senior executives in the present stage, which makes it very difficult to obtain suitable samples for the current study with a focus on the rank and file. There are two advantages to get data from one single foreign-invested company with a well-developed stock option plan. First, the result will not be influenced by different designs of option programs or other factors at company level. Second, it is easier to administrate and obtain a higher return rate within the company.

### *Procedure*

Participants were randomly selected from the staff list of the company which includes recipients and non-recipients of stock options. 422 questionnaires were directly mailed to individual participants in April 2005. Participants were advised to directly mail back the completed questionnaires to the researcher by using the envelopes enclosed. Coupons were offered as an incentive for them to complete the questionnaires. The anonymity and confidentiality were promised to all the participants with no attempt to identify responding employees.

### *Measurement*

The questionnaire used in the current research consists of measurements developed and validated in previous research (e.g., psychological ownership, OCBO and job control) as well as measurements developed by the researcher (e.g., ESO participation and job performance). As the survey was conducted in the Chinese mainland, the questionnaire

was translated into Chinese before they were sent to the participants (please refer to Appendices I and II for questionnaires of English and Chinese version).

*Employee stock option participation (ESO participation)* was operationalized as a dichotomous dummy variable scored according to whether the respondents reported participating in the employee stock option scheme. '1' was marked for the participants of the scheme and '0' was marked for the non-participants.

*Psychological ownership* was measured by seven items developed and validated by Van Dyne and Pierce (2004). Consistent with Pierce et al.'s (2001) discussion of the core meaning of psychological ownership, Van Dyne and Pierce (2004) emphasized possession as the basis of their attitudinal measure of psychological ownership for the organizations and used possessive vocabulary such as reflected in everyday associations with property and possessions. The scale is operationalized with seven items measuring the feeling of ownership toward the company, such as "this is MY organization", "I sense that this organization is OUR company", "I feel a very high degree of personal ownership for this organization," and so on. Van Dyne and Pierce (2004) had five judges from organizational behavior faculty to assess the content validity of the measure. Judgments for the initial seven items were 90 percent accurate. They also examined the homogeneity and dimensionality of the psychological ownership items with CFA. Their overall results support homogeneity and unidimensionality of the measure. In addition, they tested the internal consistency reliability of the measure in their three samples. The Cronbach's alpha for the measure ranged from .87 to .93, which indicates a satisfactory reliability level. Thus, the present study adopts this 7-item scale to measure employees'

psychological ownership of their organization. Participants were asked to indicate their answers to the seven items in a 7-point scale anchored with “strongly disagree” to “strongly agree”.

*Organizational citizenship behavior toward the organization* (OCBO) was measured by the OCBO Scale developed by Lee and Allen (2002). As suggested by Lee and Allen (2002), previous OCB scales may be problematic to distinguish intended beneficiaries of the citizenship behaviors (e.g., for individuals and for organizations). For example, Farh, Podsakoff, and Organ (1990) used the altruism and compliance subscales developed by Smith, Organ, and Near (1983) to represent OCBI and OCBO. However, the altruism scale of this measure (supposed to measure OCBI) contains items that clearly tap OCBO (e.g., making suggestions to improve the department). Williams and Anderson (1991) also distinguished between OCBI and OCBO. Unfortunately, their measure contains some items that potentially tap workplace deviance behavior (e.g., undeserved breaks, time spent on personal phone calls), a concept that is different from OCB. To address the problems in previous OCB scales, Lee and Allen (2002) selected items tapping behaviors that are clearly beneficial to individuals and to the organization from a pool created by previous OCB scales. Eight items reflecting OCBI and OCBO were selected. They examined the OCBI and OCBO scales with confirmatory factor analysis. Their results clearly showed that the two-factor model is preferred to the one-factor model and hence confirmed an empirical distinction between OCBI and OCBO. Furthermore, the Cronbach’s alphas for the OCBI and OCBO scales in their study were .83 and .88. Thus the present study adopts their OCBO scale which includes items such as “attend functions that are not required but that help the organizational image”, “defend the organization



when other employees criticize it” and so on (Lee & Allen, 2002). The participants were asked to indicate, using 7-point scales (1 “never”, 7 “always”), how often they engaged in these behaviors.

*Job performance* was measured by the participants’ self-reports of their official appraisal ratings in the previous year which were rated by their supervisors. They were asked to transform their ratings to a 7-point scale ranging from 1 “significantly below expectation” to 7 “significantly exceed expectation”.

*Perceived job control* was assessed by 12 items selected from the job control instrument developed and validated by Dwyer and Ganster (1991). The items selected covers a variety of work domains including control over variety of tasks performed, the order of task performance, pacing, scheduling of task breaks, procedures and policies in the workplace. The factor analysis on the original scale conducted by the authors revealed a single factor. Sample items include “how much control do you have over how you do your work?”, “how much can you choose among a variety of tasks or projects to do?” and so on (Dwyer & Ganster, 1991). Participants are asked to indicate their responds in a 7-point scale ranging from 1 “very little” to 7 “very much”. The Cronbach’s alpha of the full scale in Dwyer and Ganster’s (1991) study is .89.

*Control variables.* Several additional variables were controlled for in the analyses to rule out alternative explanations. Since it is suggested that organizational tenure, educational level, and job level may influence the psychological ownership of employees (Pierce, Kostova, & Dirks, 2001), I controlled for the effects of these variables. Participants were asked to report their tenure in the company. Educational level was rated on a 7-point

scale ranging from 1 “primary school” to 7 “ Ph.D”. Participants were also asked to transform their job level to a 7-point scale ranging from 1 “junior assistant” to 7 “department manager”.

The final questionnaire was translated to Chinese using the conventional method of back-translation (Brislin, Lonner, & Thorndike, 1973). The original questionnaire was translated from English into Chinese by a bilingual speaker of Chinese and English. The Chinese questionnaire was then translated back to English by another bilingual speaker. The back-translation version was compared with the original version. The process was repeated, when there was significant variation between the two. The final Chinese questionnaire was also reviewed by one experienced human resources practitioner in mainland China to make sure the consistency in understanding.

### *Types of data analyses*

#### Normality check

As suggested by Hair et al. (1995), the most fundamental assumption in multivariate analysis is the normality of data which refers to the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution, the benchmark for statistical methods. If the variation from the normal distribution is sufficiently large, all resulting statistical test are invalid (Hair, Anderson, Tatham, & Black, 1995). By using statistics software SPSS, the values of two common indicators for normality, kurtosis and skewness are calculated for all variables included in the analysis. Hair et al. (1995) suggested a simple rule of thumb based on the skewness value to assess

normality: calculate a statistic value (z) which takes into account the value of skewness and the sample size. If the calculated z value exceeds  $\pm 2.58$ , then the assumption about the normality of the distribution at the .01 probability level can be rejected.

#### Reliability check

Since the current study mainly employs multiple measurements to assess the concerned variables, whether all the items in the measurement consistently measure the same target is critical to the overall study. As noted by Hair et al. (1995), reliability is the degree to which the observed variable measures the “true” value and is “error free”; thus it is the opposite of measurement error. Reliability should be assessed before proceeding on to other analyses (Nunnally & Bernstein, 1994). To address the reliability issue of the current study, Cronbach’s alpha, a commonly used measure of construct reliability for a set of two or more construct indicators, is calculated for the measures of psychological ownership, OCBO, job control by using SPSS. It provides a summary of the interrelations that exist among all the items in one measure. Nunnally (1978) recommended that a minimum acceptable level for Cronbach’s alpha is .70.

#### Confirmatory factor analysis

To ensure the discriminant validity of the attitudinal constructs and the validity of the measurement model, confirmatory factor analysis was conducted by using statistical software AMOS. Psychological ownership, OCBO and job control were included in the analysis. Although ESO participation and job performance were also self-report measures, they only ask the participants to report the objective facts: whether they have participated

in the option scheme and their official performance rating. As they are unlikely to be exposed to measurement error to the same extent as the attitudinal variables, they were not included in the analysis.

In a confirmatory factor analysis, it is important to check how well the proposed factor structure fits the observed data. The following fit indices have been widely used and recommended by researchers: (1). the Chi-square test is used to measure the overall fit, which tests whether the specified model is better a model with no specified structural relationships. A small Chi-square means a good fit, while a large Chi-square means that the observed matrix and the estimated matrix are not significantly different. (2). The Goodness-of-fit Index (GFI) measures the degree to which the observed input matrix is predicted by the estimated model. It has a value from 0 to 1 and a value of closer to 1 indicates a better fit. A rule of thumb suggests that a model with a GFI greater than .90 indicates a good fit. (3). The Adjusted Goodness-of-fit Index (AGFI) is an extension of the GFI, adjusted by the ratio of degrees of freedom for the proposed model to the degrees of freedom for the null model. The recommended acceptance level is a value greater than or equal to .90. (4). The Comparative Fit Index (CFI) represents a comparison between the estimated model and the null model. Its value lies between 0 and 1 and larger values indicate higher levels of goodness-of-fit. A commonly recommended value is .90 or greater. (5). The Root Mean Square Error of Approximation (RMSEA) attempts to correct for the tendency of the Chi-square statistic to reject any specified model with a sufficiently large sample. Its value ranges from 0 to 1 and a value of closer to 0 means a better fit. Browne and Cudeck (1993) suggested that the value less than .08

implies an acceptable model fit (Hair, Anderson, Tatham, & Black, 1995; Joreskog & Sorbom, 1993; Schumacker & Lomax, 2004).

In this confirmatory factor analysis, I compared the hypothesized three-factor model (separate factors for psychological ownership, job control and OCBO), with three alternative two-factor models (the first one combining OCBO and job control, the second one combining job control and psychological ownership, and last one combining OCBO and psychological ownership), and a single-factor model (combining all three factors). Considering the relatively small sample size and a relatively large number of indicators (a total of 27 items for the three variables), I used the items parceling technique suggested by previous researchers (Marsh, 1990a, 1990b, 1996; Marsh, Hau, Balla, & Grayson, 1998; Marsh & Hocevar, 1988) to reduce the number of parameter relative to the sample size and achieve a more stable solution in CFA (please refer to Appendix III for the details of items upon item parceling technique). As the unidimensionality for the scales of the three constructs has been clearly established in previous research (Dwyer & Ganster, 1991; Lee & Allen, 2002; Van Dyne & Pierce, 2004), the prerequisite for parceling recommended by previous researchers is met (Bandalos & Finney, 2001; Hall, Snell, & Singer Foust, 1999). Following the method proposed by Kishton and Widaman (1994), I formed three parcels for each construct by randomly assigning two to four items (depending on the number of items in the scale: two to three items for psychological ownership and OCBO; three to four items for job control) to one parcel.

### Regression analysis

By using statistics software SPSS, hierarchical regression was conducted to test the hypotheses in the present research. The procedures proposed by Baron and Kenny (1986) were followed to test the mediation model. As suggested, a three-step process is used: (1) regress the mediator on the independent variable; (2) regress the dependent variable on the independent variable; (3) regress the dependent variable simultaneously on the independent variable and the mediator. If the following conditions is met, the mediating effect is indicated: a. there is a significant relationship between the mediator and the independent variable at step 1; b. there is a significant relationship between the independent variable and dependent variable at step 2; c. the mediator is significantly related to the dependent variable at step 3; d. the effect of the independent variable on the dependent variable is less in step 3 than in step 2. Full mediation occurs when the relationship between the independent variable and the dependent variable becomes nonsignificant when the mediator is controlled. If this relationship is still significant in that situation, partial mediation is present (Baron & Kenny, 1986).

### *Summary*

The present study adopted a cross-sectional approach to test the hypotheses and theoretical framework. Self-report data was obtained from employees in one foreign-invested company with a well-developed stock option plan. The questionnaire was made up of either objective questions (such as ESO participation, job performance) or measurements developed and validated in previous research (such as psychological ownership, OCBO, job control) and was translated into Chinese. To ensure confidentiality and anonymity, the questionnaire was sent directly to participants and the

completed one was return directly to the researcher. The normality of all the variables is checked to ensure the satisfaction of the assumption for carrying out the analysis. In addition, as three of the main variables in the study, psychological ownership, OCBO and job control are measured by scales with multiple items, the internal reliability of these scales is also checked. More importantly, confirmatory factor analysis was conducted to ensure discriminant validity of the overall measurement model. The present study use regression analysis to test the major hypotheses by following the procedures suggested by Baron and Kenny (1986).

## **Chapter 5: Results**

### *Introduction*

In this chapter, the result of data collection is presented and the results of the statistic analyses are discussed. Both normality check and test of internal reliability achieved satisfactory results. The discriminant validity of the measurement model was further confirmed by confirmatory factor analysis with item parceling technique employed. The results of regression analysis supported all hypotheses in the current study except the hypotheses for job performance.

### *Response rate*

Data was obtained from employees of one foreign-invested company which is operating a well developed employee stock option scheme in Guangzhou, a major city in southern China. A total of 218 valid returns were received, representing a response rate of 52%. Of these returns, 123 are from employees who were granted stock options from 2002 to 2004. And the remaining 95 have not received stock options so far.

### *Demographics characteristics*

Among the 218 participants, 52% are front-line employees with positions such as junior assistant, assistant and senior assistant. 45% are in supervisory level positions in the



department. Their job titles range from section head to senior officer. The rest 3% are completed by managers of front-line departments.

As foreign-invested companies in China usually recruit well educated candidates, the education level of the sample in the current study is quite high. 91% of the participants have either a diploma or a bachelor degree. 6% are holding a master degree. The remaining 3% received education up to senior high school level.

19% of the participants have worked in the company for 2 year and below. 64% have the seniority of 3 to 5 years. The tenure of the rest 17% is above 5 years. The average tenure of the current sample is 4 years.

#### *Descriptive statistics and normality check*

Table 2 presents the results of the descriptive statistics and normality check. Except for the dummy variable ESO participation and education, the standard deviations of the main variables ranged from .81 to 2.03, suggesting that none of the variables are excessively restrictive in range. In addition, all the calculated z values are within  $\pm 2.58$ , the criteria suggested by Hair et al. (1995). Thus, the assumption about the normality of the distribution of all the variables in the present study is supported at the .01 probability level.

#### *Correlation analysis*

Table 3 presents the results of the correlation matrix of all the variables included in the present study. As shown by the Pearson Correlation Coefficients, job level is positively

and significantly related to most of the variables except job performance. Tenure is significantly related to job level, education, ESO participation and OCBO. Education is only significantly associated with the other two control variables. Psychological is significantly related to all other variables except tenure, education and job performance. ESO participation is significantly related to job level, tenure, psychological ownership, job control, and OCBO, but not education and job performance. Job control is significantly related to all other variables except tenure and education. OCBO is significant associated with all other variables except education and job performance. Finally, job performance is not significantly related to all other variables except job control.

#### *Test of internal reliability*

Table 3 presents the test of internal reliability for the measurements of psychological ownership, OCBO and job control. The Cronbach's alphas of all the scales range from .84 to .91. Such results are quite satisfactory, benchmarked with Nunnally's (1978) recommendation, .70.

#### *Confirmatory factor analysis*

Table 4 presents the results of the confirmatory factor analysis. The proposed three-factor model provides a much better fit than each of the alternative models and the indices also suggests a good fit for this three-factor model. According to the  $\chi^2$  tests, the three-factor has the smallest  $\chi^2$  value (49.669) among all other models (one-factor: 533.674; two factor I: 349.704; two-factor II: 331.108; two-factor III: 255.234), showing that the three-

factor model provides a much better fit to the observed data than the one-factor model and the two-factor models. In addition, the CFI, AGFI, CFI in the three-factor model exceed .90 (CFI: 0.951; AGFI: 0.908; CFI: 0.984) and the RMSEA reaches .07. All of the indices for the three-factor model are within the recommended acceptance level. However, as for the one-factor model and the two-factor models, none of these indices reaches the acceptable level. Thus, the discriminant validity of the measurement model in the present study is assured.

#### *Regression analysis and hypotheses testing*

Hypothesis 1 predicts that there would be a positive relationship between ESO participation and psychological ownership. To test this hypothesis, hierarchical regression was conducted. After entering all the three control variables in step 1, psychological ownership was regressed on ESO participation in step 2. The results are presented in model 2 of Table 5. ESO participation is found to be positively and significantly related to psychological ownership ( $\beta=.16$ ,  $p<.05$ ). Overall, ESO participation explains unique variance in psychological ownership ( $\Delta F=5.25$ ,  $\Delta R^2=.02$ ,  $p<.05$ ). Thus, hypothesis 1 is supported.

Table 5 present the results of regression analysis for testing hypothesis 2b, 3b and 4b. In model 1 of Table 5, psychological ownership is found to be positively and significantly related to OCBO ( $\beta=.66$ ,  $p<.001$ ), explaining 42% of the variance in OCBO ( $\Delta F=195.83$ ,  $\Delta R^2=.42$ ,  $p<.001$ ). Hypothesis 2b is supported. In model 3 of Table 5, ESO participation is found to be positively related to OCBO ( $\beta=.14$ ), although the relationship is marginally significant at .05 level ( $p=.042$ ). A total of 2% variance in OCBO is explained by ESO

participation ( $\Delta F=4.20$ ,  $\Delta R^2=.02$ ,  $p<.05$ ). Considering  $p<.05$  is already acceptable in the present study, hypothesis 3b is regarded as supported. As a result, the second requirement of mediation is satisfied and all the preordinations for testing hypothesis 4b are met. In model 4 of Table 5, OCBO was regressed on psychological ownership with ESO participation controlled. The beta weight of psychological ownership is significant at step 3 ( $\beta=.66$ ,  $p<0.001$ ), thus satisfying the third requirement of mediation. As the beta weight of ESO participation becomes nonsignificant at step 3 ( $\beta=.04$ ,  $p>0.1$ ), complete mediation is proved. Therefore, psychological ownership fully mediates the positive relationship between ESO participation and OCBO. Hypothesis 4b is supported.

Hypothesis 2a and 3a predicts the relationships between ESO participation and psychological ownership with job performance. However, as shown in Table 6, these two hypotheses are not supported. As shown in model 3 of Table 6, ESO participation is positively associated with job performance ( $\beta=.11$ ), but the relationship is not statistically significant ( $p>.1$ ). The result of psychological ownership is similar in model 1 of Table 6. It is positively related to job performance ( $\beta=.11$ ), but the relationship is also not statistically significant ( $p>.1$ ). According to Baron and Kenny's (1986) procedures to test mediation effects, Hypothesis 2a and 3a are the preconditions that need to be fulfilled for testing Hypothesis 4a, the mediating effect of psychological ownership on the relationship between ESO participation and job performance. Since Hypothesis 2a and 3a are not supported, it fails to satisfy these first two requirements of supporting the mediation hypothesis. Thus, Hypothesis 4a is also not supported. To summarize, no statistical evidence is found to support the positive influence by ESO participation and psychological ownership on job performance as well as the mediating effect by

psychological ownership on the relationship between ESO participation and job performance.

Table 7 presents the results of regression analysis for testing hypothesis 5 and 6. Hypothesis 5 predicts positive relationship between job control and psychological ownership. Similar to the test of hypothesis 1, the three control variables were first controlled for and job control was then entered into the regression model. As shown in model 2 of Table 7, job control is positively and significantly associated with psychological ownership ( $\beta=.37$ ,  $p<0.001$ ), accounting for 12% of the variance in psychological ownership ( $\Delta F=34.96$ ,  $\Delta R^2=.12$ ,  $p<.001$ ). Hypothesis 5 is supported. Hypothesis 6 predicts that job control will have a stronger influence on psychological ownership than ESO participation. To test this hypothesis, both the predictors were entered into the regression model at the same time with the control variables controlled for. As shown in model 3 of Table 7, the beta weight of job control ( $\beta=.36$ ,  $p<0.001$ ) is much greater than that of ESO participation ( $\beta=.12$ ,  $p>0.05$ ), suggesting job control has a bigger influence on psychological ownership. Thus, hypothesis 6 is also supported.

Table 2: Descriptive Statistics and Normality Check

	Minimum	Maximum	Mean	S.D.	Skewness	Kurtosis	Z value
Job Level	1.00	7.00	3.55	1.46	0.30	-0.75	1.79
Tenure	0.50	9.50	4.13	2.03	0.34	0.16	2.07
Education	3.00	6.00	4.54	0.66	0.16	-0.24	0.94
ESO Participation	0.00	1.00	0.56	0.50	-0.26	-1.95	-1.57
Psychological Ownership	1.14	6.86	3.65	1.13	0.16	-0.58	0.95
Job Control	1.33	5.67	3.61	0.80	0.09	-0.21	0.55
OCBO	2.63	7.00	4.80	0.93	-0.17	-0.59	-1.05
Job Performance	2.00	7.00	4.91	1.08	-0.18	-0.42	-1.08

Note: N=218 (2-tailed tests).

Table 3: Correlation and Reliability

	Mean	S.D.	1	2	3	4	5	6	7	8
1.Job Level	3.59	1.46	--							
2.Tenure	4.19	2.03	0.25 **	--						
3.Education	4.53	0.66	0.29 **	-0.35 **	--					
4.ESO Participation	0.59	0.49	0.18 **	0.45 **	-0.03	--				
5.Psychological Ownership	3.65	1.12	0.21 **	0.01	0.01	0.14 *	0.91			
6.Job Control	3.59	0.81	0.31 **	0.05	0.12	0.14 *	0.40 **	0.84		
7.OCBO	4.79	0.90	0.27 **	0.13 *	0.03	0.18 **	0.68 **	0.33 **	0.91	
8.Job Performance	4.91	1.09	0.07	0.07	-0.09	0.10	0.12	0.25 **	0.09	--

Note: N=218 (2-tailed tests). Reliability coefficients are shown on the diagonal. \* p < .05; \*\* p < .01.

Table 4: Model Fit Statistics for the Confirmatory Factor Analysis

Model	$\chi^2$	Df	Change in $\chi^2$	GFI	AGFI	CFI	RMSEA
Independence model	1613.952	36					
1-factor	533.674	27	1080.278 ***	0.625	0.376	0.679	0.294
2-factor I	349.704	26	183.970 ***	0.727	0.527	0.795	0.240
2-factor II	331.108	26	202.566 ***	0.741	0.552	0.807	0.233
2-factor III	255.234	26	278.440 ***	0.762	0.589	0.855	0.202
3-factor	49.669	24	205.565 ***	0.951	0.908	0.984	0.070

Note: N=218; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

GFI = goodness of fit index; AGFI = adjusted goodness of fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation. The models are as explained in the text. Change in  $\chi^2$  is relative to the preceding model in the table, except for the 2-factor II and 2 factor III models, which are relative to the 1-factor model.



Table 5: Regression Analysis for the Relationships between ESO Participation, Psychological Ownership and OCBO

	Model 1		Model 2		Model 3		Model 4	
	OCBO		Psychological Ownership		OCBO		OCBO	
	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$
Step 1. Control variables		0.08 ***		0.05 **		0.08 ***		0.08 ***
Job Level	0.09		0.25 ***		0.26 ***		0.09	
Tenure	0.11 *		-0.16 *		-0.01		0.09	
Education	0.04		-0.11		-0.04		0.03	
Step 2. Independent variable		0.42 ***		0.02 *		0.02 *		0.02 *
Psychological ownership	0.66 ***							
ESO participation			0.16 *		0.14 *		0.04	
Step 3. Mediator variable								0.40 ***
Psychological ownership							0.66 ***	

Note: N=218.

Final betas are the standardized beta weights of the variables at the last step.

\*p<.05, \*\*p<.01, \*\*\*p<.001

Table 6: Regression Analysis for the Relationships between ESO Participation, Psychological Ownership and Job Performance

	Model 1		Model 2		Model 3		Model 4	
	Job Performance		Psychological Ownership		Job Performance		Job Performance	
	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$
Step 1. Control variables		0.02		0.05 **		0.02		0.02
Job Level	0.08		0.25 ***		0.10		0.08	0.08
Tenure	0.01		-0.16 *		-0.05		-0.03	0.01
Education	-0.11		-0.11		-0.13		-0.12	-0.11
Step 2. Independent variable		0.01		0.02 *		0.01		0.01
Psychological ownership	0.11							0.11
ESO participation			0.16 *		0.11		0.09	
Step 3. Mediator variable								0.01
Psychological ownership							0.09	

Note: N=218.

Final betas are the standardized beta weights of the variables at the last step.

\*p<.05, \*\*p<.01, \*\*\*p<.001

Table 7: Regression Analysis for the Relationships between ESO Participation, Job Control and Psychological Ownership

	Model 1		Model 2		Model 3	
	Psychological Ownership		Psychological Ownership		Psychological Ownership	
	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$	Final $\beta$	$\Delta R^2$
Step 1. Control variables		0.05 **		0.05 ***		0.05 ***
Job Level	0.25 ***		0.14 *		0.14 *	
Tenure	-0.16 *		-0.08		-0.14	
Education	-0.11		-0.10		-0.11	
Step 2 (Model 1)		0.02 *				
ESO participation	0.16 *					
Step 2 (Model 2)				0.12 ***		
Job Control			0.37 ***			
Step 2 (Model 3)						0.13 ***
ESO participation					0.12	
Job Control					0.36 ***	

Note: N=218.

Final betas are the standardized beta weights of the variables at the last step.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 8: Results of Hypotheses Testing

<b>Hypothesis</b>	<b>Description</b>	<b>Result</b>
<i>Hypothesis 1</i>	Participation in an employee stock option plan (ESO participation) is positively related to an employee's psychological ownership for the organization.	Support
<i>Hypothesis 2a</i>	Psychological ownership for the organization is positively related to employees' job performance.	Reject
<i>Hypothesis 2b</i>	Psychological ownership for the organization is positively related to organizational citizenship behavior toward the organization (OCBO).	Support
<i>Hypothesis 3a</i>	ESO participation is positively related to employees' job performance.	Reject
<i>Hypothesis 3b</i>	ESO participation is positively related to employees' citizenship behavior toward the organization.	Support
<i>Hypothesis 4a</i>	Psychological ownership mediates the relationship between ESO participation and job performance.	Reject
<i>Hypothesis 4b</i>	Psychological ownership mediates the relationship between ESO participation and OCBO.	Support
<i>Hypothesis 5</i>	Employees' perceived job control is positively related to their psychological ownership for the organization.	Support
<i>Hypothesis 6</i>	In comparison with employee stock options, employees' perceived job control has a stronger influence on their psychological ownership for the organization.	Support

### *Summary*

218 valid returns were obtained in the survey, representing a 52% response rate. Normality check of the variables was conducted and indicated acceptable results, ensuring the fulfillment of the assumption for further analysis. The internal reliability of the measurements used in the current study also achieved satisfactory results with range from .84 to .91. The discriminant validity of the measurement model was further confirmed by confirmatory factor analysis with item parceling technique employed. The proposed three-factor model provides a much better fit than each of the alternative models and the indices also suggests a good fit for this three-factor model. Hypotheses were tested by regression analysis following the procedures proposed by Baron and Kenny (1986). The results supported all hypotheses in the current study except the hypotheses for job performance (see table 8). ESO participation was found to influence OCBO through the full mediation of psychological ownership, but has no significant impact on job performance. Psychological ownership have significant influence on OCBO but not job performance. Although ESO participation is positively associated with psychological ownership, job control is more influential than ESO participation in leading to psychological ownership.

## **Chapter 6: Discussion and Conclusion**

### *Introduction*

This chapter summarizes the key findings and discusses the managerial implications of the study. The limitations are also reviewed. Finally, the directions for future research are proposed.

### *Discussion*

The empirical results of this study indicate that the effectiveness of ESOs in the Chinese context is mixed. It is found that ESO participation does not produce a significant effect on employees' job performance. The results contradict with the hypothesis in the study which is based on research findings in the western culture (Sesil, Kroumova, Kruse, & Blasi, 2000; Sesil, Kroumova, Blasi, & Kruse, 2002). It seems that such option schemes as a motivational mechanism might not really work in the Chinese context to improve performance or productivity. Previous studies on the compensation preference of Chinese employees indicates that cash or cash related rewards are most preferred by employees in China (Chiu, Luk, & Tang, 2001; Chiu, Luk, & Tang, 2002). Although ESOs provide employees a chance to gain financial rewards, a relatively long waiting period and the uncertainties associated with such rewards are likely to reduce the motivational effects of stock options to Chinese employees. In addition, as the rank-and-file members has little

influence to the overall performance of the company, it is quite difficult for them to rationalize and really experience the linkage between their own efforts and the success of the whole company, a crucial factor leading to high work motivation as proposed by the expectancy theory (Vroom, 1964). As far as the current sample is concerned, it is obvious that the rank-and-file employees in the back-office function of the international financial group are very difficult to see the connection between their own performance and the stock price of the group. Especially most of their jobs are to strictly follow the stated guideline and procedure, providing very limited job control to them. It is even possible that some employees would choose to withhold their efforts to enjoy the benefit in the stock option scheme as a 'free rider'. As long as the stock price goes up, every one holding the options would enjoy the benefit, no matter how much he or she has really contributed to that. Accordingly, there would be incentives for some people to engage in free riding behaviors. In the case that individual contribution has little influence on the final results, it is more likely for free riding phenomenon to occur.

ESOs are found to have significant influence on psychological ownership, although such influence is much weaker than that of job control. The results support Pierce et al.'s (2001) argument that legal ownership system can facilitate and speed up the emergence of psychological ownership. However, the study also shows that other factors in the organization can also significantly influence psychological ownership. For example, this study proves job control to be a significant predictor. More importantly, the effect of job control is also found to be much stronger than that of ESOs on the development of psychological ownership in the Chinese context. Having immediate control over their jobs is more likely to foster the sense of ownership in Chinese employees than having

options which is weak in the influence dimension and also full of uncertainties. The results are consistent with Pierce et al.'s (2003) speculation that the route of controlling might be more effective in producing psychological ownership.

The results indicate that ESOs are positively associated with OCBO, although such relationship is fully mediated by psychological ownership. It supports the central argument in Pierce et al.'s (1991) conceptual model that formal ownership system is operationalized through psychological ownership to exercise its influence on organizational outcomes. Providing employees a stake in the company is not necessary to makes the employees act like owners, unless it makes them feel like owners. As the variance explained by stock options is quite small and psychological ownership fully mediates the relationship between stock options and OCBO, the results highlighted the central role of psychological ownership played in fostering OCBO. The results strengthen the belief that OCB, behaviors that are not required by formal job descriptions, are more likely to be driven by psychological factors than economical factors, and are more appropriate to be explained by social exchange theory than economic exchange theory (Konovsky & Pugh, 1994; Moorman, Blakely, & Niehoff, 1998; Settoon, Bennett, & Liden, 1996). ESOs are able to have an impact on OCBO, only because they are able to influence employees' psychological state of ownership toward the company.

Further interview with some recipients of stock options provides more clues to the above mixed findings. Interviews were conducted by either face-to-face or telephone after the survey concerning the recipients' views on the scheme. Most of them are from front line positions such as data processing assistant and call centre representative. Although most



of them feel happy to have stock options, they all agree that the stock price is too unpredictable especially the vesting period is three years. All of them are not sure how much money they will actually get when they are able to exercise their options after three years. Moreover, none of them see the linkage between their own job performance with the stock price of the company. Some of them think that their function (e.g, back-office processing, customer service) might have impact on the company's overall performance which impacts the stock price, but not the single individual in the function. It makes sense that in such a big organization as the one in the current study, any single front line individual would not have any substantial impact of the company's overall performance. Thus, they would not give extra effort on their jobs to get the unforeseeable and uncontrollable value. Most of them indicate that the driver for their working hard is simply to get a better appraisal rating which they are sure will lead to higher salary increase and higher variable pay or even promotion. Actually, after running the scheme for three years from 2002 to 2004 in China, the foreign-invested company has announced in late 2005 that the stock option scheme will be replaced by a deferred cash incentive scheme which promises the employee a fixed amount of bonus will be granted on the condition that the employee complete three more years of service and achieve a satisfactory appraisal rating. The new program is both predictable and controllable to employees. It seems that the company may also recognize the deficiency of stock option scheme, as indicated in the current study.

According to previous literature, the Chinese traditionally have a high need for certainty (Ralston, Gustafson, Terpstra, & Holt, 1995), and are more likely to avoid creating animosity that could result in uncertainty. In the current political-economic situation in

China, there are so many unexpected changes taking place, which may cause even higher levels of anxiety (Tata, Fu, & Wu, 2003). Employee stock option schemes inherently involve uncertainties. It is unknown whether the financial rewards of stock options can be eventually realized after the vesting period. If the stock price drops, stock options mean nothing to employees but a piece of paper. The rank-and-file employees almost have no control of the factors influencing the stock price, making stock options even more risky to them.

Although none of the interviewed recipients consider the options are quite financially attractive to them, the reviewed recipients in general still consider the scheme is recognition for their contribution to the international financial group. Some of them feel that with the options granted, they feel valued by the company and more close to the big family of the international bank. Although the company is a wholly owned subsidiary of the banking group, it provides back-office service only and has no direct banking business. The jobs in the company (e.g., data processing, call centre) are actually very different from jobs in a bank branch. In addition, for legal compliance in China, the company's name is not registered as the bank, but something like data processing company. Under this situation, employees may lack the sense of belonging to the international bank, although the back-office services they provide are part of the bank's operation. In the interview with the recipients of stock options, most of them indicate that with options granted, they are more likely to consider themselves as members of the company as well as the international bank. They feel proud to being granted the stock options of the bank which has very high reputation in the banking industry. They also feel concerned about the bank's image in the public and may defense when others criticize the

company. Although stock option scheme will be replaced by the deferred cash bonus scheme, some of them indicates that stock options may give them more sense of ownership toward the company as it may make them owners of the company in the future.

It is well-known that China is significant higher than other western countries on collectivism values and practices (Tata, Fu, & Wu, 2003). Under the Chinese context, ESOs send employees a message that they are valued as an important part of the company and such message might be more influential. As far as psychological ownership is concerned, stock options provide employees a symbol that they are one of the owners of the company, fulfilling one of the basic motives for psychological ownership, self-identity. As speculated by Pierce et al. (2003), the expression of self-identity to others would be more important in cultures with a collectivistic orientation in that people care about how others perceive them. The motive of self-identity would be more desirable in the Chinese culture than other western cultures. Thus, it helps explain the existence of significant relationship between stock options and psychological ownership, even though stock options seems full of uncertainties to Chinese employees. Chinese staff may still find stock options meaningful to them as stock options provide a channel to express their self-identity which is important in the collectivism culture, although they might not consider stock options financially rewarding due to the associated uncertainties.

The empirical results of the study also show that psychological ownership does not significantly impact job performance, but has a great influence on citizenship behaviors. These results indicate that job performance is less likely to vary as a function of individual psychological state than citizenship behaviors in the Chinese context. Supports

can be found in previous studies in China. Fisher and Yuan (1998), for example, compared the job attributes preference of employees in mainland China with Russia, Taiwan, and the United States. Their results showed that China is very different from the others. Good wage was found to be the number one motivator for Chinese employees. Interesting work was relatively unimportant and 'being in on things' is not at all important (Fisher & Yuan, 1998). Thus, job performance is most likely to be influenced by economical factors than the psychological ones in China. If employees are low in psychological ownership, they may not make a significant change in their job performance, because the consequences of a drop in the performance of required behaviors will often result in loss of their compensation when it is linked with their performance. On the other hand, as for citizenship behaviors, psychological factors are much more influential, suggested by previous studies. For example, Farh et al. (1997) found that feelings of organizational justice have significant impacts on citizenship behaviors in their two studies in a Chinese context (Farh, Earley, & Lin, 1997). Therefore, as indicated in the present research, when Chinese employees' experienced ownership for the company is low, they are most likely to reduce their OCBO rather than job performance, because OCBO is discretionary and a reduction in the performance of these behaviors is less likely to lead to the negative consequences.

### *Managerial implications*

There are four practical implications for management. First, managers who want to introduce stock options as a long-term incentive in China should reconsider such initiatives or carry out the scheme with caution. This study provides evidences that the

employee stock option plan is not an effective way to improve performance, especially for the rank and file. With a high tendency in uncertainty avoidance, Chinese employees would not consider stock options as very attractive. The situation would become even worse, if they don't have control over the factors influencing the profitability of stock options. In this regard, it is advised that stock options should be awarded to those whose decisions and behaviors would have a substantial impact on the company, if such schemes are to be carried out. Although ESOs have impacts on psychological ownership and OCBO, such effects are relatively small. Management should take this into account and carefully consider the cost and benefit of such scheme to the company before any implementation. Second, managers should strengthen the communication and try to promote an ownership cultures in the organization, when carry out the stock option scheme. The study shows that feeling like owners is key to the effectiveness of ESOs. Promoting an ownership culture through better communication helps Chinese employees better understand this brand-new compensation and really experience that they are valued and regarded as owners of the company. As China is a country with high collectivism tendency, Chinese employees have higher needs to be recognized and valued by the collectivity. Stock options would be a good channel to send the message of recognitions of the company, if the option scheme is well communicated. Third, managers should strive to foster employees' sense of ownership for the company. Psychological ownership was found to be a significant predictor of employees' citizenship behaviors, suggesting that for employees to act like owners, they should feel like owners. Psychological ownership is important to organizational effectiveness in that it promotes the expected rights and presumed responsibilities associated with ownership. Finally, managers should

provide more controls to employees through delegation and empowerment, in order to foster their sense of ownership for the company. The present study provides evidences that job control is more effective than stock options in influencing Chinese employees' psychological ownership. The controlling route to psychological ownership may be even more effective than other routes in Chinese culture. By empowering Chinese employees and involving them into the decision making process, they perceive more control in their hands to influence their jobs and their working environment. Consequently, in a culture high in uncertainty avoidance, they will feel more secured and further develop the sense of ownership for the company that provides such security to them.

#### *Limitations of the study*

As with the majority of studies, this study has its limitations. First, the data was collected in only one company in southern China, which may limit the generalizability of the results. Although collecting data from one single company does have some advantages as discussed earlier in this paper, it might be doubtful that the conclusions in the present study will still hold for people in other organizations or other areas of China. As far as the current sample is concerned, the options scheme is quite new to most of the employees who might not fully understand the plan. The insufficient understanding might be an obstacle for stock options to exert their influences. Second, the measures for psychological ownership, job control, job performance and OCBO are self-reports, raising the issue of common method variance (Podsakoff & Organ, 1986). In order to reduce the risks to such bias, I used a dummy measurement to measure ESO participation, which would not subject to subjective bias. In addition, although job performance was

reported directly by the respondents, it is not their self evaluation but their official performance appraisal rating evaluated by their supervisors. To some extent, it can also be regarded as an objective measure. Furthermore, the result of confirmatory factor analysis indicates that the measurement model of the current study has discriminant validity. Thus, I believe that common method bias would not be a big problem in the present study. Third, the data for psychological ownership, job control and OCBO may be subject to social desirability problem (Podsakoff & Organ, 1986). Participants might give these scales higher scores in order to make them look good. However, I believe that all participants were equally subject to any upward biasing of their responses, so this concern should not have seriously influenced the relationships reported in the present study. More importantly, all questionnaires were sent directly to participants and also returned directly to the researcher. The procedures for maintaining anonymity and confidentiality were stressed to all participants, so they should have had no concern that the management of the organization or any other people would become aware of their individual responses. Finally, the present study is correlational and provides no evidence of the direction of the relationships. However, with the objective variable and psychological variable used as predictors and behavioral outcomes used as dependent variables in the present study, the possibility of the existence of a reverse relationship suggesting that performance and citizenship behaviors lead to attitude changes is very small. It might be concerned that job performance leads to participating in a stock option plan, as stock options are usually granted to good performers. But the design of the present study rules out the possibility of such concern. In the present research, those participating in the scheme obtained their options during 2002 to 2004, which means their

performance in the previous years was good, that is to say between 2001 and 2003. In the questionnaire, however, they were asked to report their performance in 2004, which should not lead to their participation in the option scheme. The nonsignificant relationship between ESO participation and job performance found in the study further eliminates such possibility.

#### *Suggested further research*

Future research should address the limitations in the present study and improve the research design from the following aspects. First, due to the limited generalizability of the results of current study, future research on the effectiveness of ESOs in China should try to obtain samples from different companies (such as SOEs and private companies) and from different areas of China. Different organizational settings also provide a chance to observe how different situational factors influence the effectiveness of stock options. It is also advisable to observe how people in different places of China response to the same stimulus. While China is changing at an accelerating speed, the Chinese culture is also changing with a fusion with imported cultures. Some previous studies have already observed work value changes in the new generation of China (Ralston, Egri, Stewart, Terpstra, & Kaicheng, 1999). Second, future research should also use a longitudinal design to measure the attitudinal and behavioral changes induced by the introduction of stock options. By measuring employees' attitudes and behaviors before and after the implementation of option schemes, it can provide firm conclusions on whether stock options are responsible for the observed attitudinal and behavioral changes. Third, to avoid common method bias, future study should obtain information from more sources.



For example, their job performance should be reported directly by their supervisors and their citizenship behaviors could be evaluated by their supervisors or peers. Finally, future research should include social desirability in the measures and control for this variable in the analyses to further rule out the possibility of social desirability problems.

Future research should also further investigate the antecedents and consequences of psychological ownership. It was demonstrated in the present study that formal ownership schemes as well as the job nature can be influential to the formation of psychological ownership. There are many possibilities for future research to discover other antecedents in the organizational context. As suggested, psychological ownership is likely to occur if the major motives and routes are satisfied. As the literature of psychological ownership is so far limited, it is reasonable to expect that many organizational factors fulfilling such motives and routes still remain unexplored. On the other hand, the present research also confirmed that psychological ownership would lead to positive consequences like citizenship behaviors. Future research could further explore the influence of psychological ownership to other organizational constructs such as organizational commitment, job satisfaction and etc. In addition, Pierce et al. (2003) proposed that there may be a “dark side” to psychological ownership. In particular, some individuals with high level of psychological ownership may resist change and innovation related to the target of their psychological ownership (Pierce, Kostova, & Dirks, 2003). Such dark side effect would be also a quite interesting topic to future research on psychological ownership.

### *Conclusion*

This study attempts to explore the effectiveness of stock options in the Chinese mainland in light of the psychological ownership theory. By analyzing data obtained from one foreign-invested company with a well-developed stock option plan, this study indicates that such effectiveness is mixed in the Chinese context. It is found that stock options do not significantly influence employees' job performance, suggesting that such schemes may not really work in China to improve performance and productivity. On the other hand, stock options are found to impact OCBO through the full mediation of psychological ownership, although such influence from stock options is relatively weak. Furthermore, although stock options have significant influence on psychological ownership, such influence is quite weak compared with that of job control.

This study also demonstrates that psychological ownership plays a central role in influencing OCBO, but has little impact on job performance. Such results indicate that job performance is less likely to be influenced by psychological factors than economical incentives in China, which is consistent with previous studies. On the other hand, as for OCBO, psychological factors are much more influential, which is also suggested by prior research.

Due to the mixed findings on the effectiveness of stock options, this study suggests managerial practitioners to implement stock option schemes with caution in China. Stock options are recommended to be granted to employees who have control over the factors that will influence the profitability of stock options. When carrying out the scheme, managers should strengthen the communication with employees on the scheme and strive to promote an ownership culture in the organization. More importantly, managers should

foster employees' sense of ownership for the company through delegation and empowerment.

## References

- Bakan, I., Suseno, Y., Pinnington, A., & Money, A. (2004). The influence of financial participation and participation in decision-making on employee job attitudes. *International Journal of Human Resource Management*, 15(3), 587-616.
- Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*(84), 191-215.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, 51(6), 1173-1182.
- Benson, J., Debroux, P., Yuasa, M. and Zhu, Y. (2000) 'Flexibility and labour management: Chinese manufacturing enterprises in the 1990s', *International Journal of Human Resource Management*, 11(2): 183-96.
- Beggan, J. K., & Brown, E. M. (1994). Association as a psychological justification for ownership. *The Journal of Psychology*, 128(4), 365-385.

- Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.
- Brandes, P., Dharwadkar, R., & Lemesis, G. V. (2003). Effective employee stock option design: Reconciling stakeholder, strategic, and motivational factors. *The Academy of Management Executive*, 17(1), 77-95.
- Brislin, R., Lonner, W., & Thorndike, R. M. (1973). *Cross-cultural research methods*. New York: Wiley.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *In testing structural equation models* (pp. 136-162). Newbury Park, CA.: Sage.
- Buchko, A. A. (1993). The Effects of employee ownership on employee attitudes: an integrated causal model and path analysis. *Journal of Management Studies*, 30(4), 633-657.
- Burke, P. J., & Reitzes, D. C. (1991). An identity theory approach to commitment. *Social Psychology Quarterly*, 54(3), 239-259.
- Cahill, S. (2002). Global equity plans: are they costing you too much? *Compensation & Benefits Management*, 18(1), 10-15.
- Certo, S. T., Daily, C. M., Jr, A. A. C., & Dalton, D. R. (2003). Giving money to get money: How CEO stock options and CEO equity enhance IPO valuations. *Academy of Management Journal*, 46(5), 643-653.

- Chang, L. (1999, Nov 1). Chinese firms find incentive to use stock-compensation plans. *Wall Street Journal*, A.42.
- Chen, C. Y., & Lin, Y. M. (2002). *China Modern Enterprise Management*. Beijing: China Development Publishing House.
- Child, J. (1994). *Management in China during the age of reform*. Cambridge: Cambridge University Press.
- Child, J. (1995). Changes in the structure and prediction of earnings in Chinese state enterprises during the economic reform. *International Journal of Human Resource Management*, 6(1), 1-30.
- China Law & Practice. (2005). *China advances its tax regime for employee stock options*, p. 1, Jun.
- Chiu, R. K., Luk, V. W.-M., & Tang, T. L.-P. (2001). Hong Kong and China: The cash mentality revisited. *Compensation and Benefits Review*, 33(3), 66-72.
- Chiu, R. K., Luk, V. W.-M., & Tang, T. L.-P. (2002). Retaining and motivating employees. *Personnel Review*, 31(4), 402-431.
- Chiu, W. C. K. (2003). Employee stock ownership plans and organizational integration among workers in the People's Republic of China. *Human Resource Management Review*, 13(3), 407-427.

- Chow, I. H.-S. (1992). Chinese workers' attitudes towards compensation practices in the People's Republic of China. *Employee Relations*, 14(3), 41-61.
- Chow, I. H.-S. (2004). The impact of institutional context on human resource management in three Chinese societies. *Employee Relations*, 26(6), 626-642.
- Conger, J. A., & Kanungo, R. N. (1988). The Empowerment process: integrating theory and practice. *Academy of Management Review*, 13(3), 471-491.
- Cooke, F. L. (2005). *HRM, work and employment in China*. London: Routledge.
- Core, J. E., & Guay, W. R. (2001). Stock option plans for non-executive employees. *Journal of Financial Economics*, 61(2), 253-287.
- Csikszentmihalyi, M., & Rochberg-Halton, E. (1991). *The meaning of things: Domestic symbols and the self*. Cambridge: Cambridge University Press.
- Druskat, V. U., & Pescosolido, A. T. (2002). The context of effective teamwork mental models in self-managing teams: Ownership, learning and heedful interrelating. *Human Relations*, 55(3), 283-303.
- Duncan, W. J. (2001). Stock ownership and work motivation. *Organizational Dynamics*, 30(1), 1-11.
- Dwyer, D. J., & Ganster, D. C. (1991). The effects of job demands and control on employee attendance and satisfaction. *Journal of Organizational Behavior*, 12(7), 595-608.

- Easterby-Smith, M., Malina, D., & Yuan, L. (1995). How culture-sensitive is HRM? A comparative analysis of practice in Chinese and UK companies. *International Journal of Human Resource Management*, 6(1), 31-59.
- Eisenhardt, K. M. (1989). Agency theory: an assessment and review. *Academy of Management Review*, 14(1), 57-74.
- Etzioni, A. (1991). The socio-economics of property. *Journal of Social Behavior and Psychology*, 6(6), 465-468.
- Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *Journal of Law & Economics*, 26(2), 327-350.
- Farh, J.-L., Earley, P. C., & Lin, S.-C. (1997). Impetus for action: a cultural analysis of justice and organizational citizenship behavior in Chinese society. *Administrative Science Quarterly*, 42(3), 421-444.
- Farh, J.-L., Podsakoff, P. M., & Organ, D. W. (1990). Accounting for organizational citizenship behavior: leader fairness and task scope versus satisfaction. *Journal of Management*, 16(4), 705-725.
- Fisher, C. D., & Yuan, X. Y. (1998). What motivates employees? A comparison of US and Chinese responses. *International Journal of Human Resource Management*, 9(3), 516-528.
- Florkowski, G. W. (1987). The organizational impact of profit sharing. *Academy of Management Review*, 12(4), 622-642.



- French, J. L. (1987). Employee perspective on stock ownership: financial investment or mechanism of control. *Academy of Management Review*, 12(3), 427-435.
- French, J. L., & Rosenstein, J. (1984). Employee ownership, work attitudes, and power relationships. *Academy of Management Journal*, 27(4), 861-881.
- Goodall, K., & Warner, M. (1997). Human resources in Sino-foreign joint ventures: selected case studies in Shanghai, compared with Beijing. *International Journal of Human Resource Management*, 8(5), 569-594.
- Grossman, W., & Hoskisson, R. E. (1998). CEO pay at the crossroads of Wall Street and Main: Toward the strategic design of executive compensation. *Academy of Management Executive*, 12(1), 43-57.
- Guan, Y. B., & Xu, Y. Q. (1999). *Employee share ownership system and legal system*. Beijing: Economic Science Publishing House.
- Hair, J. F. J., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis with readings* (4th ed.). Englewood Cliffs, N.J.: Prentice Hall.
- Hall, R. J., Snell, A. F., & Singer Foust, M. (1999). Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organizational Research Methods*, 2(3), 233-256.
- Hammer, T. H., & Stern, R. N. (1980). Employee ownership: Implications for the organizational distribution of power. *Academy of Management Journal*, 23(1), 78-98.

- Heneman, R. L. (1984). *Pay for performance: exploring the merit system*. New York: Pergamon.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Joreskog, K. G., & Sorbom, D. (1993). *LISREL 8 : structural equation modeling with the SIMPLIS command language*. Chicago, IL: Scientific Software International Inc.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica*, 47(2), 263-283.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*. New York: Wiley.
- Kishton, J. M., & Widaman, K. F. (1994). Unidimensional versus domain representative parceling of questionnaire items: An empirical example. *Educational and Psychological Measurement*, 54(3), 757-777.
- Klein, K. J. (1987). Employee stock ownership and employee attitudes: A test of three models. *Journal of Applied Psychology*, 72(2), 319-332.
- Klein, K. J., & Hall, R. J. (1988). Correlates of employee satisfaction with stock ownership: Who likes an ESOP most? *Journal of Applied Psychology*, 73(4), 630-638.

- Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, 37(3), 656-669.
- Korzec, M. (1992). *Labour and the failure of reform in China*. New York: Macmillan Press.
- Kruse, D. L. (1984). *Employee ownership and employee attitudes: two case studies*. Pennsylvania, PA: Norwood.
- Kruse, D. L., & Blasi, J. (1997). Employee ownership, employee attitudes, and firm performance: a review of evidence. In D. Lewin, D. Mitchell & M. Zaidi (Eds.), *The human resource management handbook* (pp. 113-152). Greenwich, CT: JAI Press.
- Lawler, E. E. (1971). *Pay and organizational effectiveness: a psychological view*. New York: McGraw-Hill.
- Lawler, E. E. (1981). *Pay and organization development*. London: Addison-Wesley.
- Lawler, E. E., & Hall, D. T. (1970). Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation. *Journal of Applied Psychology*, 54(4), 305-312.
- Ledford, G., Lucy, M., & LeBlanc, P. (2004). The effects of stock ownership on employee attitudes and behavior: evidence from the rewards of work studies. *Journal of Compensation & Benefits*, 20(2), 24-30.

- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology, 87*(1), 131-142.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1350). Chicago: Rand McNally.
- Lockett, M. (1987). China's special economic zones: the cultural and managerial challenges. *Journal of General Management, 2*(3), 21-31.
- Long, R. J. (1978a). The effects of employee ownership on organizational identification, employee job attitudes, and organizational performance: A tentative framework and empirical findings. *Human Relations, 31*(1), 29-49.
- Long, R. J. (1978b). The relative effects of share ownership vs. control on job attitudes in an employee-owned company. *Human Relations, 31*(9), 753-773.
- Long, R. J. (1979). Desires for and patterns of worker participation in decision making after conversion to employee ownership. *Academy of Management Journal, 22*(3), 611-631.
- Long, R. J. (1981). The Effects of formal employee participation in ownership and decision making on perceived and desired patterns of organizational influence: A longitudinal study. *Human Relations, 34*(10), 847-867.

- Lowry, S. (2000). Granting options below the executive level. *Journal of Compensation & Benefits, 16*(1), 19-31.
- Marsh, H. W. (1990a). Causal ordering of academic self-concept and academic achievement: A multiwave, longitudinal panel analysis. *Journal of Educational Psychology, 82*(4), 646-660.
- Marsh, H. W. (1990b). The structure of academic self-concept: The Marsh/Shavelson Model. *Journal of Educational Psychology, 82*(4), 623-640.
- Marsh, H. W. (1996). Positive and negative global self-esteem: A substantively meaningful distinction or artifacts? *Journal of Personality and Social Psychology, 70*(4), 810-831.
- Marsh, H. W., Hau, K.-T., Balla, J. R., & Grayson, D. (1998). Is more ever too much? The number of indicators per factor in confirmatory factor analysis. *Multivariate Behavioral Research, 33*(2), 181-196.
- Marsh, H. W., & Hocevar, D. (1988). A new, more powerful approach to multitrait-multimethod analyses: Application of second-order confirmatory factor analysis. *Journal of Applied Psychology, 73*(1), 107-117.
- McGuire, J., & Matta, E. (2003). CEO stock options: The silent dimension of ownership. *Academy of Management Journal, 46*(2), 255-265.
- Melvin, S. (2001). Retaining Chinese employees. *The China Business Review, 28*(6), 30-43.

- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61-80.
- Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice... *Academy of Management Journal*, 41(3), 351-357.
- Nunnally, J. C. (1978). *Psychometric theory* (2d ed.). New York: McGraw-Hill.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- O'Reilly, C., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71(3), 492-499.
- Parker, S. K., Wall, T. D., & Jackson, P. R. (1997). "That's not my job": Developing flexible employee work orientations. *Academy of Management Journal*, 40(4), 899-929.
- Pendleton, A., Wilson, N., & Wright, M. (1998). The perception and effects of share ownership: Empirical evidence from employee buy-outs. *British Journal of Industrial Relations*, 36(1), 99-123.
- Perrin, T. (2001). Companies worldwide moving swiftly to adopt stock option programmes. *Journal of Pensions Management*, 7(1), 95-103.

- Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review*, 26(2), 298-310.
- Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The State of Psychological Ownership: Integrating and Extending a Century of Research. *Review of General Psychology*, 7(1), 84-107.
- Pierce, J. L., O'Driscoll, M. P., & Coghlan, A.-M. (2004). Work environment structure and psychological ownership: The mediating effects of control. *Journal of Social Psychology*, 144(5), 507-534.
- Pierce, J. L., & Rodgers, L. (2004). The psychology of ownership and worker-owner productivity. *Group & Organization Management*, 29(5), 588-613.
- Pierce, J. L., Rubenfeld, S. A., & Morgan, S. (1991). Employee ownership: A conceptual model of process and effects. *Academy of Management Review*, 16(1), 121-144.
- Pierce, J. L., Van Dyne, L., & Cummings, L. L. (1992). Psychological ownership: a construct validation study. In M. Schnake (Ed.), *Proceedings of the southern management association* (pp. 203-211). Valdosta, GA: Valdosta State University.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-550.
- Pratt, M. G. (1998). To be or not to be? Central questions in organizational identification. In D. Whetten & P. Godfrey (Eds.), *Identity in organizations: Building theory through conversations* (pp. 171-207). Thousand Oaks: CA: Sage.

Quarrey, M., Blasi, J., & Rosen, C. M. (1986). *Taking stock: employee ownership at work*. Cambridge, MA: Ballinger.

Ralston, D. A., Egri, C. P., Stewart, S., Terpstra, R. H., & Kaicheng, Y. (1999). Doing business in the 21st Century with the new generation of Chinese managers: A study of generational shifts in work values in China. *Journal of International Business Studies*, 30(2), 415-427.

Ralston, D. A., Gustafson, D. J., Terpstra, R. H., & Holt, D. H. (1995). Pre-post Tiananmen Square: Changing values of Chinese manage. *Asia Pacific Journal of Management*, 12(1), 1-20.

Rhodes, S. R., & Steers, R. M. (1981). Conventional vs. worker-owned organizations. *Human Relations*, 34(12), 1013-1030.

Rosen, C. M., Case, J., & Staubus, M. (2005). Every employee an owner. [Really.]. *Harvard Business Review*, 83(6), 122-130.

Rosen, C. M., Klein, K. J., & Young, K. M. (1986). *Employee ownership in America: the equity solution*. Canada: Lexington Books.

Rousseau, D. M., & Shperling, Z. (2003). Pieces of the action: ownership and the changing employment relationship. *Academy of Management Review*, 28(4), 553-570.

Rudmin, F. W., & Berry, J. W. (1987). Semantics of ownership: a free-recall study of property. *The Psychological Record*(37), 257-268.



- Russell, R., Hochner, A., & Perry, S. E. (1979). Participation, influence, and worker-ownership. *Industrial Relations*, 18(3), 330-350.
- Sanders, W. G. (2001). Behavioral responses of CEOs to stock ownership and stock option pay. *Academy of Management Journal*, 44(3), 477-492.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Mahwah, N.J.: Lawrence Erlbaum Associates.
- Sesil, J. C., Kroumova, M. A., Kruse, D. L., & Blasi, J. R. (2000). Broad-based employee stock options in the U.S.: Do they impact company performance? *Academy of Management Proceedings*, 1-6.
- Sesil, J. C., Kroumova, M. K., Blasi, J. R., & Kruse, D. L. (2002). Broad-based employee stock options in US 'New economy' firms. *British Journal of Industrial Relations*, 40(2), 273-294.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader -- member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81(3), 219-227.
- Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, 17(1), 9-30.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68(4), 653-663.

- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1460.
- St-Onge, S., Magnan, M., Thorne, L., & Raymond, S. (2001). The effectiveness of stock option plans: A field investigation of senior executives. *Journal of Management Inquiry*, 10(3), 250-266.
- Staiman, J., & Tompson, K. (1998). Designing and implementing a broad-based stock option plan. *Compensation and Benefits Review*, 30(4), 23-40.
- Sutro, P. J. (1999). Thinking about a global share plan? Think smart. *Compensation and Benefits Review*, 31(4), 54-60.
- Takahara, A. (1992). *The politics of wage policy in post-revolutionary China*. Basingstoke: Macmillan.
- Tannenbaum, A. S. (1983). Employee owned company. In L. L. Cummings & B. Staw (Eds.), *Research in organizational behavior* (Vol. 5, pp. 235-265). Greenwich CT: JAI Press.
- Tata, J., Fu, P. P., & Wu, R. (2003). An examination of procedural justice principles in China and the U.S. *Asia Pacific Journal of Management*, 20(2), 205-216.
- Tien, Y. (2000). Pay reform in China: characteristics and prospects. *Commercial Research*, 1, 93-94.

- Tosi, H. L., & Katz, J. P. (1997). Disaggregating the agency contract: The effects of monitoring, incentive alignment, and term in ... *Academy of Management Journal*, 40(3), 584-602.
- Van Dyne, L., & Pierce, J. L. (2004). Psychological ownership and feelings of possession: three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior*, 25(4), 439-459.
- VandeWalle, D., Van Dyne, L., & Kostova, T. (1995). Psychological ownership: an empirical examination of its consequences. *Group & Organization Studies (1986-1998)*, 20(2), 210-226.
- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Wagner, S. H., Parker, C. P., & Christiansen, N. D. (2003). Employees that think and act like owners: effects of ownership beliefs and behaviors on organizational effectiveness. *Personnel Psychology*, 56(4), 847-871.
- Warner, M. (1993). Human resource management 'with Chinese characteristics'. *International Journal of Human Resource Management*, 4(1), 45-65.
- Warner, M. (1995). *The Management of Human Resources in Chinese Industry*. New York, NY: London and St Martins Press.
- Warner, M. (1996). Chinese enterprise reform, human resources and the 1994 Labour Law. *International Journal of Human Resource Management*, 7(4), 779-796.

- Wells, R. (2003). The employee stock option-an endangered species? *Employee Benefits Journal*, 28(3), 71-90.
- Westphal, J. D. (1999). Collaboration in the boardroom: Behavioral and performance consequences of CEO-board social ties. *Academy of Management Journal*, 42(1), 7-24.
- White, R. (1959). Motivation reconsidered: the concept of competence. *Psychological Review*(66), 297-330.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17(3), 601-617.
- Winther, G. (1999). Theory O - Is the case closed? *Economic and Industrial Democracy*, 20(2), 269-280.
- Wiseman, R. M., & Gomez-Mejia, L. R. (1998). A behavioral agency model of managerial risk taking. *Academy of Management Review*, 23(1), 133-150.
- Zhao, M., & Nichols, T. (1996). Management control of labour in state-owned enterprises: Cases from the textile industry. *China Journal*(36), 1-21.

## **Appendix I: Questionnaire (English)**

### **Survey: Employees' attitudes on stock options, organizations and jobs**

Dear Sir or Madam,

I am conducting a study on the above topic as part of my Master study at The Hong Kong Polytechnic University. This survey is under the supervision of Dr. Andy Chan and approved by the Departmental Research Committee of the Management and Marketing Department.

If your company is currently implementing a stock option (or share option) scheme, I would be very grateful if you could spend a few minutes to complete the enclosed questionnaire. It does not matter whether you have already participated in the scheme or not.

Of course, your response will be treated in the strictest confidence and will be completely anonymous. There is no need to write your name or organization on the questionnaire. The results will be analyzed for academic research only.

Please return the questionnaire directly to The Hong Kong Polytechnic University by the envelope enclosed. Thanks so much for your support and cooperation!

Yours faithfully,

Tan Zhao-Chao Henry

MPhil candidate

The Hong Kong Polytechnic University

Supervisor

Dr. Andy Chan

Department of Management and Marketing

The Hong Kong Polytechnic University

**Survey: Employees' attitudes on stock options, organizations and jobs**

1. Have you participated in your company's stock option scheme? Yes  No

2. Please answer each of the following items by circling the number which most applies to you and your feelings about your organization.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
a. This is MY organization.	1	2	3	4	5	6	7
b. I sense that this organization is OUR company.	1	2	3	4	5	6	7
c. I feel a very high degree of personal ownership for this organization.	1	2	3	4	5	6	7
d. I sense that this is MY company	1	2	3	4	5	6	7
e. This is OUR company.	1	2	3	4	5	6	7
f. Most of the people that work for this organization feel as though they own the company.	1	2	3	4	5	6	7
g. It is hard for me to think about this organization as MINE.	1	2	3	4	5	6	7

3. Please answer each of the following items by circling the number which most applies to you.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
a. Attend functions that are not required but that help the organizational image.	1	2	3	4	5	6	7
b. Keep up with developments in the organization.	1	2	3	4	5	6	7
c. Defend the organization when other employees criticize it.	1	2	3	4	5	6	7
d. Show pride when representing the organization in public.	1	2	3	4	5	6	7
e. Offer ideas to improve the functioning of the organization.	1	2	3	4	5	6	7
f. Express loyalty toward the organization.	1	2	3	4	5	6	7
g. Take action to protect the organization from potential problems.	1	2	3	4	5	6	7
h. Demonstrate concern about the image of the organization.	1	2	3	4	5	6	7



4. Below are listed a number of statements which could be used to describe a job. Please read each statement carefully and indicate the extent to which each is an accurate or an inaccurate description of your job.

	Very little	Little	Slightly little	A moderate amount	Slightly much	Much	Very much
a. How much can you choose among a variety of tasks or projects to do?	1	2	3	4	5	6	7
b. How much control do you have personally over the quality of your work?	1	2	3	4	5	6	7
c. How much control do you have personally over how much work you get done?	1	2	3	4	5	6	7
d. How much control do you have over when you take vacations or days off?	1	2	3	4	5	6	7
e. How much control do you have over how you do your work?	1	2	3	4	5	6	7
f. How much influence do you have over the policies and procedures in your work unit?	1	2	3	4	5	6	7
g. How much control do you have over the sources of information	1	2	3	4	5	6	7

you need to do your job?							
h. How much are things that affect you at work predictable, even if you can't directly control them?	1	2	3	4	5	6	7
i. How much control do you have over the amount of resources (tools, material) you get?	1	2	3	4	5	6	7
j. How much control do you have over the amount you earn at your job?	1	2	3	4	5	6	7
k. How much control do you have over how your work is evaluated?	1	2	3	4	5	6	7
l. In general, how much overall control do you have over work and work-related matters?	1	2	3	4	5	6	7

5. The performance appraisal rating evaluated by your supervisor for the past one year is:

(1. strongly above standard; 2. above standard; 3. slightly above standard; 4. up to standard; 5. slightly below standard; 6. below standard; 7. strongly below standard).

6. Your current job level is equivalent to: \_\_\_\_\_ (1. Junior Assistant; 2. Assistant; 3. Senior Assistant; 4. Section Head; 5. Officer; 6. Senior Officer; 7. Department Manager)

7. You have been working for this company for \_\_\_\_\_months.

8. Your highest education qualification is: \_\_\_\_ (1. Primary School; 2. Middle School; 3. Senior Middle School; 4. Diploma; 5. Bachelor; 6. Master; 7. Ph.D)

~End~

Thanks so much for your support!

## Appendix II: Questionnaire (Chinese)

### 問卷調查：員工對股票期權、企業及工作的態度

您好，

這項調查由香港理工大學管理及市場學系碩士研究生譚展超設計，由陳榮照教授指導，並獲香港理工大學工商管理研究院研究委員會批准進行研究。

如果您任職的公司推行員工股票期權（stock / share option，又稱認股權）計畫，無論您是否已參與該計畫，我們都熱切希望您把您的意見通過以下的問卷提供給我們。

您所填寫的內容是絕對保密，無需填寫姓名，員工編號及任職公司的名稱。調查只作學術研究用途，並不對外公開。

請您填寫後，用所附的回郵信封直接寄回香港理工大學。謝謝您的支持與合作！

譚展超、陳榮照教授

香港理工大学

問卷調查：員工對股票期權、企業及工作的態度

1. 你是否已參與公司的股票期權計畫？ 是  否

2. 下面的句子描述你對你所工作的公司的感覺，你是否同意？

(請圈選每句後面的數字，以表達你的意見。)	非常不同意	不同意	少許不同意	意見中立	少許同意	同意	非常同意
例如： 1 2 3 4 5 <b>6</b> 7							
a. 我覺得公司的事業就是我的事業。	1	2	3	4	5	6	7
b. 我確實覺得這個企業的問題就是我的問題。	1	2	3	4	5	6	7
c. 我覺得這個企業就是我的企業。	1	2	3	4	5	6	7
d. 我對這個企業有著“主人翁”的感覺。	1	2	3	4	5	6	7
e. 公司裏的大多數人對公司有著“主人翁”的感覺。	1	2	3	4	5	6	7
f. 我覺得這個公司就是我們的公司。	1	2	3	4	5	6	7
g. 非常難以聯想得到這個企業是我的。	1	2	3	4	5	6	7

3. 下面句子描述你在公司裏的表現和行爲，你是否同意？

	非常不同意	不同意	少許不同意	意見中立	少許同意	同意	非常同意
a. 參加未被要求但卻有益於公司形象的活動。	1	2	3	4	5	6	7
b. 伴隨公司的發展而自我發展。	1	2	3	4	5	6	7
c. 當其他雇員批評公司時，主動為公司辯護。	1	2	3	4	5	6	7
d. 對公司在公眾中的任何展示都表現出自豪與驕傲。	1	2	3	4	5	6	7
e. 提供建議以提高公司的績效。	1	2	3	4	5	6	7
f. 對公司表示忠誠。	1	2	3	4	5	6	7
g. 採取行動預防公司可能出現的問題。	1	2	3	4	5	6	7
h. 關注公司的形象。	1	2	3	4	5	6	7

4. 下面的問題用來描述一份工作。請你從以下 1-7 中選擇最能描述你目前所從事的工作的選項。

	非常少	少	稍微少	中等	稍微多	多	非常多
a. 你有多少自由度去選擇你要做的任務或項目？	1	2	3	4	5	6	7

b. 你個人對你的工作質量有多少控制權？	1	2	3	4	5	6	7
c. 你個人對你的工作量有多少控制權？	1	2	3	4	5	6	7
d. 你對你什麼時候放假或休息有多少控制權？	1	2	3	4	5	6	7
e. 你對如何完成你的工作有多少控制權？	1	2	3	4	5	6	7
f. 對於你工作團隊的政策和工作流程，你有多少影響力？	1	2	3	4	5	6	7
g. 你對工作所需的資訊有多少控制權？	1	2	3	4	5	6	7
h. 影響你工作的東西有多少是可預知的，即使你無法控制？	1	2	3	4	5	6	7
i. 你對工作所需的資源，如工具、材料，有多少控制權？	1	2	3	4	5	6	7
j. 你對你工作的收入有多少影響力？	1	2	3	4	5	6	7
k. 你對你的工作如何被評估有多少影響力？	1	2	3	4	5	6	7
l. 綜合來說，你對工作及與工作相關的事情上有多少影響力？	1	2	3	4	5	6	7

5. 你的主管對你過去一年的表現評價是：\_\_\_\_\_（1.大大超出標準；2.超出標準；3.少許超出標準；4.達到標準；5.少許不達標準；6.不達標準；7.嚴重不達標準）。

6. 你現時的職級相當於是：\_\_\_\_（1. 初級助理；2. 助理；3. 高級助理；4. 組長；5. 主任；6. 高級主任；7. 部門經理）

7. 你在這個公司工作了約\_\_\_\_年\_\_\_\_月。

8. 你的最高學歷是：\_\_\_\_（1. 小學；2. 初中；3. 高中；4. 大專；5. 大學本科；6. 碩士；7. 博士）

～完～

非常謝謝您的寶貴意見！



## **Appendix III: Item Parceling of Variables in CFA**

### ***Psychological Ownership***

Parcel 1:

- This is MY organization.
- I sense that this is MY company.
- It is hard for me to think about this organization as MINE.

Parcel 2:

- I sense that this organization is OUR company.
- Most of the people that work for this organization feel as though they own the company.

Parcel 3:

- I feel a very high degree of personal ownership for this organization.
- This is OUR company.

### ***OCBO***

Parcel 1:

- Attend functions that are not required but that help the organizational image.
- Show pride when representing the organization in public.
- Take action to protect the organization from potential problems.

Parcel 2:

- Keep up with developments in the organization.
- Offer ideas to improve the functioning of the organization.
- Demonstrate concern about the image of the organization.

Parcel 3:

- Defend the organization when other employees criticize it.
- Express loyalty toward the organization.

### ***Job Control***

Parcel 1:

- How much can you choose among a variety of tasks or projects to do?
- How much control do you have over when you take vacations or days off?
- How much control do you have over the sources of information you need to do your job?
- How much control do you have over the amount you earn at your job?

Parcel 2:

- How much control do you have personally over the quality of your work?
- How much control do you have over how you do your work?
- How much are things that affect you at work predictable, even if you can't directly control them?

- How much control do you have over how your work is evaluated?

Parcel 3:

- How much control do you have personally over how much work you get done?
- How much influence do you have over the policies and procedures in your work unit?
- How much control do you have over the amount of resources (tools, material) you get?
- In general, how much overall control do you have over work and work-related matters?