What Can Women Do? – Women's Participation on Top Management and the Moderating Impact on Strategic Change and Firm Performance

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Abstract

Based on gender and strategic management research, this study introduces women's participation in top management team as the main variable to examine its impact on strategic change and firm performance in China. The impact of female top managers in China has been drawing attention increasingly, as the institutional and organizational factors facilitate the positive outcome in one way, but constraint women's access to top positions in another due to gender-role stereotype and traditional Chinese cultural expectations. The research question of this study is "Do women's participation in top management positively affect firm strategic change and performance in China?" Specifically, I first test the relationship between women's participation in top management team and strategic change as well as performance growth, and then I test the moderator effect of female top managers. The scope of the study is to discuss the outcome of firm strategic change in China, as well as the moderating effect of women's participation in top management in the context of China. Research on the impact of females in top management has been a controversial topic in past decades, but it is still worthwhile to contribute in this field by finding connections between gender diversity and firm outcomes.

Key Words: gender diversity; strategic change; firm performance

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Chapter One: Introduction

Business researchers have intensively studied the relationship between top executives and firm performance. Research examining gender has been a hot topic among social science and business researches in past fifty years (e.g.: Lam, Mcguinness, & Paulo, 2013; Francoeur, Labelle & Sinclair-Desgagne, 2008). However, despite the wide range of research agendas that have covered diversity in business world, the concept of gender is still widely under-represented in mainstream management literature. If it is covered, it rarely shows the connection between gender and the broader issues discussed in the strategic management literature. The driving force pushing scholars to explore gender diversity and female power in the work place is, that we know in today's society, women are still experiencing difficulty in breaking through existing corporate structures and sitting in powerful positions. Gender-role stereotypes and the "glass ceiling" effect are the common reasons that constrain women's access to power positions (Cook & Glass, 2014). According to Fortune 500, in 2014 only 11.4% of CFO positions and 5.2% of CEO positions were held by women. World Bank Enterprise Survey (Word Bank, 2015) data shows that today, only 18% of firms worldwide employ a female in a top manager position. This statistic is what motivates me to ask questions such as, what contributions can female leaders make within a firm? And what firm-level outcomes can we expect with the employment of top level female managers?

This research focuses on the connection between women's participation in top management and its influence on strategic change and the firm performance in China's institutional context. Strategic change refers to the difference in resource deployment, a restructuring of an organization's business or marketing plan (Haynes & Hillman, 2010). It is generally considered to be a major source of competitive advantage and firm survival (Carpenter, 2000). One of the important components of strategic change is strategic deviation, which is a firm's departure from industry norms of resource allocation (Haynes & Hillman, 2010). In this study, I use the deviation from the industry level to indicate a firm's strategic change, and understand how the change of women's participation influences the change of strategic deviance. Furthermore, I explore how female top managers' participation moderates the relationship between strategic change and firm performance. Past research has shown that there is a connection between firm performance and corporate strategic change (Boeker, 1997b). This suggests that poor

performance will lead organizations into problem-motivated mode, thereby leading to pressures for change. Accordingly, good performance will lead to complacency, where organizations tend to persist in strategies and routines which has been working in the past. However, in my research I approach this issue from a different angle. I ask the question of, what happens after strategic change? Does strategic change lead to better performance overtime? Under what circumstances will strategic change lead to positive firm growth? And most importantly, how do female leaders contribute to this strategic change which impacts firm growth?

1.1 Institution Context in China

There is no argument that China plays a critical role on international stage, initiating and having significant impact on global business. It is not only a major source of products or components, but also becoming a significant source of capital and a major market (Redding & Witt, 2009). China possess its unique form of capitalism which has evolved during the economic revolution, and Chinese economy has been shown competitive efficiency, innovation and adaptability (Redding & Witt, 2009). As most emerging economies, China has the weakness of limited legal protection and institutional voids, which brought complexity to its economic environment (Khanna & Palepu, 1997). Drawing from the concept of country institutional profile that developed by Kostova (1997), country's domestic business activities are shaped by three institutional profiles: regulatory, cognitive, and normative context, meaning that a country's government policy, shared social knowledge, and value system affect domestic companies' business activities. Because there are cross-national differences in entrepreneurship, and the institutional profile explains the trend and constraint that affecting private companies' behavior in their own country (Busenitz, Gomez, & Spencer, 2000).

Facing the global economic downturns, China experienced the same path as western countries after the reform. An increasing number of women are reaching top management positions, however, only one in four made it with majority of them holding chief operating officer and human resource director. Undoubtedly, China is a traditionally male dominated world, where historically women are not encouraged to pursue higher education or doing business. Therefore, we don't lack of research questions like "what are the cultural, social, and organizational constraints for women to play a part in a traditionally male dominant world?", "how do women make their way to the top?" and "what factors are unique to Chinese female managers' career advancement?" Culturally, China has never lacked the women pioneers who

challenge the gender discrimination and become successful. Mulan, a legendary heroine from the 5th century who disguised herself as a man to take her father's place in the army. She served in the army for 12 years and became a celebrated warrior without her gender being discovered. The story has been recreated by Walt Disney Feature Animation in 1998 and turned out as a world famous animated film. Now, it is the name of honor. China Entrepreneur has been recognizing women entrepreneurs' achievements by presenting 30 "Mulan in Business" awards each year. By offering the Mulan in Business, the organization is inspiring and encouraging women to be self-reliant and to excel in their careers. Included in the list of 30 Mulan in Business award winners are women entrepreneurs from both state-owned enterprises (SOEs) and private companies. Mulan Foundation Network, a UK-registered charity organization just hosted its second Mulan Award to honor the achievement and success of Chinese women in 2015 (China.org.cn, 2015). More and more foundation and charity organizations that name after Mulan are rising, supporting women to achieve in academia, business, and all other fields.

Known as the world's largest transition economy, China has been through massive and complex changes in institutions including government, economic systems, and enterprise ownership structures. These institutional changes have weakened the constraints created by the old economic system which is centralized and occlusive, and now have torn down the barriers to modern business administration. Foreign investment has poured into this emerging market, taking advantage of resource and opportunity to expand their business. With the competition from global firms and joint ventures, firms in China gradually rely more on market and innovations (Zhou, Gao, Yang, & Zhou, 2005). Although, the old system still affects economic activities in China to some extent, for example, industries like energy and resource are influenced by planed economic system and are highly controlled by the government. Business operation in China is increasingly influenced by market-based mechanism and drove by the market orientation. The context provides a sound ground to examining the strategic management in transitional economy.

1.2 Board of directors versus Top Management Team

In existing finance and governance research, gender diversity among directors of boards finds a positive correlation to firm financial performance in north America (Dwyer, Richard, & Chadwick, 2003). Other corporate governance research also shows that women in the firm's board directors and senior management enhances financial performances (Francoeur, Labelle &

Sinclair-Desgagne, 2008). More empirical evidence has been found that the proportion of women on boards has positive relationship with firm value (Carter, Simkins & Simpson, 2003). Further, theories and results are found in studies of board of directors, for example Smith et al., (2005) claims that a heterogeneous board compared to a homogenous board is able to have a better understanding of the market place of the firm, and indicates that diversity increases creativity and innovation. One study finds a positive results in the context of China, for example Liu, Wei, & Xie's (2014) study shows that female executive directors have positive impact on firm performance. Moreover, boards with three or more female directors have stronger financial impact than boards with two or fewer female directors, measured by return on sales (ROS) and return on assets (ROA). They use two measures of women's representation including the percentage and the number of women directors on board.

However, in some situations that board members are appointed for regulatory reasons, known as "window dressing", a strategy that a company would use for improving the appearance before presenting to shareholders or clients. Therefore, it is reasonable to question whether a board member can influence company's decision making. In this study, I use top management team as the subject of gender diversity influence, due to the fact that top management team directly affects operations and decision making inside the organizations (Finkelstein & Hambrick, 1990). In many parts of the world, it is exceedingly difficult for women to advance through existing corporate structures and obtain leadership roles. For those women who already siting on the power positions, they are still facing glass ceiling or being interpreted as the "unicorn". It is fundamentally important to explain why gender diversity in top management team is important to companies, and why female leadership is crucial to the society. Therefore, the research question of this study is "Do women's participation in top management positively affect firm's strategic change in China, and how does strategic change affect firm performance?" In mature Western economies gender issues have been addressed in strategic continuity and organizational well-being. However, emerging economies like China, where institutional, market and technological changes are rapid and frequent, the impact of women's leadership in top management teams is are barely touched in strategy research.

1.3 Female Managers in China

The statistic numbers of female managers in China are confusing due to the inconsistent methodology across different research agencies. A Catalyst (2013) report shows that 51%

women hold senior management position in China, which is the highest percentage among other nations, including US with 20% and Canada with 27%. In addition, seven Chinese women appeared on Fortune's International Power 50 List, four of whom come from mainland China (Fortune, 2013). A case study published by Mckinsey & Company of *Women Matter* in Asia indicate that in China 9% women represent on executive committees, and 8% on boards by 2011 (Süssmuth-Dyckerhoff, Wang, & Chen, 2012). And the World Bank Enterprise Survey (2015) data shows that by 2012, the percentage of firms with female top managers are 18% worldwide and 17.5% in China. Around the world women commonly face a burden of work-family conflict. Individualistic society and collectivistic society are believed to have different concept of work and family, however with the rapid pace of globalization and collaboration, the concept of "work-family interdependence" are accepted by both the west and the east. The business environment in China is slightly different than Europe where a lot political and business leaders are female. In China, female business leaders are still rare and the public still doubts if businesswoman can balance family and work. This country today still has job advertisement states men-only, and hiring managers ask female applicants about their dating life and maternal plans, which is rare in the West. People love to ask a successful businesswoman about their work-life balance, yet the fact that this question only be addressed to female makes them feel unfair. CKGSB Knowledge (2014), a research magazine of Cheung Kong Graduate Business School in China, interviewed three female business leaders about their view on gender equality in workforce. The three interviewees all mentioned the domestic and workforce pressure are major difficulties for women who pursue leadership positions, however they believe today capable women have a better chance of entering corporate senior management role in China.

An exploratory study conducted by Liu (2013) explored how Chinese women managers break through organizational, individual, and social barriers to reach the top positions. They interviewed six Chinese female executive-level managers, exploring the reason why it's difficult for women to reach power positions from individual, organizational, and social perspectives. Individual barriers are women's perception of "glass ceiling", subconsciously preserve "harmony" rather than break the glass, and their personal luck of meeting a "Bole" (a Chinese legendary person who is good at judging horses) – a headhunter who recognize their capabilities. Organizational barriers include that opportunities tend to favor their male colleagues, and employees' dual expectation from women managers – being both gentle, kind and confident,

aggressive. From the social perspective, being a supporting wife and loving mother is consistent with the social norms in China since ancient times. It's hard for Chinese women to give up families and pursue power positions in the work place with all the external and internal pressure. However, women managers who break through the glass ceiling are proven to be effective leaders, and are role models for other women who are fighting in business world. They do not have to follow the leadership style associated with men, but lead successfully by drawing their unique skills and attitudes as being women managers (Liu, 2013).

Why does women's representation in senior management matter? Women counts half of the university graduates in China yet only one percent of women holds CEO position and eight percent sits on the board (World Bank, 2015). Along the corporation pipe line, women become increasingly under-represented at senior levels of corporations (Süssmuth-Dyckerhoff, Wang, & Chen, 2012). Economically, companies are losing important sources of competitive advantage, which include having the best talent and the benefits of women leadership. Women's contribution in firm performance not only exist in fashion and cosmetic industries where companies need to sustain a good relationship with female clients, but also in less-female oriented industries. It matters to high-tech companies because women are increasingly users and buyers of high-tech and IT solutions, moreover, the population of female high-tech talents are getting bigger every year. With more women on their senior management team, innovation and creativity can be well established thus lead to better performance.

1.4 Research Problems

This research builds the theory through three arguments. The first argument is: diversity attributes to strategic change. One influential study claims, that "differences can make a difference" (Jehn, Northcraft, & Neale, 1999). When groups are essential to organizations, such as top management team, they present their own intrinsic problem of coordination. With diversity of information, backgrounds and values, the group can maintain the effective work environment and high quality decision making results. The effectiveness and competitiveness of an organization largely depends on how top management team triggers and interprets strategic issues (Wiersema & Bantel, 1992). It is rational to believe that gender diversity in top management team can bring influence on strategic change. Moreover, this study argues that the changes in women's participation in top management team will also bring changes to firm

strategic deviance. To do so, this research will examine the impact of increased female top managers on the degree of firm's strategic change.

The second argument is: does women's participation in top management moderate the relationship between firms' strategic change and firm performance. In this model I focus on the influencer and consequence of strategic change. The research question here is – do female top managers strengthen the relation between strategic change and firm performance growth? Heterogeneous management team brings in the breadth of knowledge, creativity, and experience, as well as more access to valuable resources outside the firm (Haynes & Hillman, 2010). The capability of top management team plays a crucial role in processing information and initiating appropriate strategic changes (Goll, Johnson, & Rasheed, 2007). Furthermore, studies have found strategic change and firm level entrepreneurial activities are key success factors and significantly relate to firm performance (Zahra & Covin, 1995; Zahra, 1993). Therefore, in this part I will test the moderator effect of women's participation in top management team to support a main argument of the study.

The third argument is: do additional female leaders make a difference? According to Carpenter (2000), investments into human capital, technology, and plant and equipment commit firms to established courses of action. However, with additional female managers in the top management team, will human capital investment bring changes to this established tendency? It is necessary to look at companies that used to have no female top managers but later hired female managers, and compare their strategic change and firm performance with those companies always have female managers and never have female managers. It provides us with a more convincing evidence to the assumption that additional female managers can bring a difference in firm's strategic change and firm performance. In this part I will use control groups to represent the status of women's participation in TMT and test their relationship with strategic change and firm performance.

This study makes several contributions to the current literature. First of all, this study fills the gap in the literatures of women top managers' impact on strategy and performance. Secondly, I conduct an empirical test of "gender diversity" in top management team, providing the evidence of how women in management affect strategic change. Thirdly, this paper brings China as the context, drawing attention to emerging economies and Chinese organizational culture. Last but not the least, I apply the theory of upper echelons and strategic change to facilitate a better

understanding of gender diversity, human capital, and leader power that ties gender with practical results.

Chapter two: literature review

2.1 Upper Echelon Theory and Top Management Team

Developed by Hambrick & Mason (1984), upper echelons theory is the idea that top executives view their situations through their own personalized lenses. The theory states that organizational outcome, strategic choice, and performance are partially predicted by managerial background characteristics. Because executive's interpretations of the strategic situation are personalized, and those personalized constructs are reflected by executives' experience, value and personalities. Therefore, company's strategy directions are largely determined by the cooperation of focal individuals and essential groups in the company's top management team (Hambrick & Mason, 1984).

The top management team is the group of executives with overall responsibility for the organization (Finkelstein, Hambrick, & Cannella, 2009). Top managers of companies are responsible for defining the overall strategic orientation, which will affect organizational level outcome (Hambrick, Cho, & Chen, 1996; Wiersema & Bantel, 1992). Wiersema & Bantel's (1992) study examined the relationship between demography of top management team and the corporate strategic change, and they found top managers' cognitive perspective positively affect team's propensity to change corporate strategy. Hambrick, Cho, & Chen (1996) found positive relationship between top management team heterougeneity and firms' market share and profits, by using 32 US airlines as the sample. Adopting contingency theory and configuration theory, Dwyer et al.'s (2003) results showing gender diversity on top management has positive effect on firm performance through gender diversity's interaction with organizational culture and growth. The finding in above research help reconcile the conflicting results of diversity and performance by bringing a supportive organizational environment before explaining the beneficial aspects of gender diversity. This tells us the effect of diversity on firm performance lie in the interaction of diversity with contextual variables. More corporate governance literatures also confirmed the importance of contextual factors. Francoeur, Labelle, & Sinclair-desgagné (2008) found that firms operating in complex environment will generate positive and significant abnormal returns

when they have a high proportion of women top managers. This evidence suggests some support for this study and for bringing China's institutional context that draws attention to the impact of country-level contextual factors.

Finkelstein & Hambrick, (1996) explained how diversity really matters to the top management as well as to the organizations. With diversity in top management teams, in terms of education, background, and experience, firms' competitive actions and responses to strategic opportunities can be substantially enhanced (Hambrick et al., 1996). In their view, the organization becomes a reflection of its top executives, and the characteristics and functioning of the top management team have far greater potential for predicting organizational outcomes than do the characteristics of the chief executive officer. A number of studies over the last ten years have found significant associations between the demographic composition of the top management team and organizational outcome, together with the influence from external environment and institutional context (Hambrick et al., 1996; Kraatz & Zajac, 2001; Zhou, Liu, & Wang, 2012). Some researchers have found that the proportion of women among top managers tends to have a significantly positive effect on firm performance (Smith et al., 2005), despite these positive findings there remains concerns about other types of firm characteristics and with the direction of causality. Additionally, the results show that the positive effects of women on top management depends on the qualification of female top managers. Some countries even have regulations on corporate governance that company must have certain percentage female member in boards of directors, due to the fact that diversity management is one of the aspects of good governance.

2.2 What is corporate strategy and strategic change?

Corporate strategy is defined as the overall plan for a diversified company, it's what makes the corporate whole add up to more than its sum of business units (Porter, 1996). Strategic change refers to the differences in resource deployments, a restructuring of companies' business or marketing plan and is considered as the major source of competitive advantage and firm growth (Carpenter, 2000; Haynes & Hillman, 2010). Finkelstein & Hambrick (1990) developed a strategic resource allocation profile which defines the strategic change as the composition of six dimensions, including three basic resource allocation ratios (advertising expense/sales, R&D expense/sales, and net plant and equipment/gross plant and equipment) and administration expenses, capital management production and financial leverage. Geletkanycz & Hambrick

(1997) also measure strategic change based on six indicators including advertising intensity, R&D intensity, capital intensity, plant and equipment newness, overhead charges, and financial leverage. In this study, I adopt the same definition and measurement to explore the relationship between firm growth and firm strategic change, but only using three out of six ratios in this study.

In strategic management literatures, a good corporate strategy concerns how to create competitive advantage in each of the business that a company operates, and competitive advantage is the key attributes to performance (Barney, 2001; Peng, 2005). Thus, choosing a good corporate strategy become critical to companies, and one of the approaches that Porter (1996) gave is to "creating top management team to facilitate interrelationships among the core business and taking steps for future diversification". The effect of knowledge integration and managerial collaboration can in return help companies exploit their competitive advantage, which sets up the groundwork for future growth such as globalization or market share expansion (Zahra, Ireland, & Hitt, 2000). How do companies develop a sustained competitive advantage that cannot be easily copied by their competitors thus become an essential question. Barney (1991) concludes that in order to obtain sustained competitive advantage, firms need to implement strategies that exploit their internal strength through constantly respond to environmental opportunities, and develop their valuable, imitable resources. Consequently, this work demonstrates the significance of doing research about the strategic change and firm performance relationship, and more interestingly, in a transitional economy context.

2.3 Firm Performance

Firm performance is a construct in strategic management research that is frequently used as a dependent variable. The focus on performance differentiates strategic management from other fields, and strategy contributes to management by bringing together the practical and theoretical (Meyer, 1991). Firm performance is the output and results of an organization that are measured against its goals and objectives. According to Richard, Devinney, Yip, & Johnson, (2009), organizational performance contains three specific areas of firm outcomes, including financial performance (e.g., profits, return on assets, return on investment), market performance (e.g., market share, sales), and shareholder return (e.g., total shareholder return).

Strategy researchers have also brought the concept of "industry" into the analysis of organizational outcome domain. Characteristics of the industry in which the firm competes, and

the influence of market structure are examples of major determinants of firm level profitability (Porter, 1981). Besides industrial organization economics, other theories like resource-based view also contributes to this domain, by bridging the quality or quantity of the firms' resources and firm competitive advantages (Barney, 2001). Hansen & Wernerfelt (1989) concludes three streams of studies of finding the determinants of organizational outcome, including organizational factors (such as structure, system and history), environmental factors (such as sociological, political, economic reasons), and people factors (such as executive skills, tenure, and personalities).

Due to the nature of practical research and strategic management, finding a unified measurement for developed theory is a key challenge. Based on a review of understanding the organizational performance, the measurement usually consists of operational performance (e.g., innovation and marketing) and financial performance (e.g., assets growth or accounting returns) (Combs, Crook, & Shook, 2005). Financial performance can be measured by using accounting measure or market-based measure such as Tobin' Q. Tobin's Q is defined as the sum of the market value of stock and the book value of debt divided by the book value of total assets. It reflects market's expectations of future earnings thus to indicate firm's competitive advantage (Campbell & Minguez-Vera, 2008; Montgomery & Wernerfelt, 1988). Another widely used measures for performance are return on assets (ROA) and return on equity (ROE). Return on assets is an indicator of how profitable a company is relatively to its total assets, which can indicate how efficient management is at turning its assets to generate earnings, and return on equity indicates how much profits a company generates with the money that shareholders have invested. (Erhardt, Werbel, & Shrader, 2003; Lam et al., 2013). Many empirical studies have used those measure of firm performance (e.g., (Erhardt et al., 2003; Shaw, Marlow, Lam, & Carter, 2009; Smith et al., 2005; Zahra & Garvis, 2000). However, it is known that no single measure of performance could fully accounts for all aspects of firm performance.

The purpose of understanding firm performance is to navigate the source of inputs, in order to improve performance. Strategic change is critical to companies who operate in a turbulent environment, where market evolves rapidly and competition changes fast. In this case, the way firms respond to changes in their external and internal environment should be taken strategically.

2.4 Gender Issues

Despite a wide range of scientific studies have investigated the relationship between female representation in company and firm financial growth, the conclusions are mixed. Because financial success is the main goal to every company, finding the financial effect of female representation can determine if we should promote female to higher positions (Pletzer et al., 2015). Primary studies have presented various results and the question of whether female representation in company benefit or disadvantage firm performance remains no consensus. Therefore, in order to argue that female's representation on top management team lead to strategic change and financial performance, this study will draw arguments and evidence from other overview studies.

Post and Byron's (2015) meta-analysis investigate the relationship between women on boards and firm financial performance, but they also use Upper Echelons theory as the theoretical foundation. They firstly claim that female directors contribute to expanding the available pool of knowledge in evaluating situations and making decisions. Secondly, women may also bring skills outside work role, such as household purchasing, thus bring to company new understanding of the market (Campbell & Minguez-Vera, 2008). In addition to upper echelon theory, other theories of strategic management also provide support to gender issues. According to resource based view (Barney, 2001), firm performance is driven by the bundle of assets and capabilities that the firm possess. Human capital is considered as firm's intangible resource that embodied in the skills and knowledge individuals acquire. Top managers are the decision makers and strategy initiators, who possess absolute influence on strategic directions and build supportive environment for company's entrepreneur activities (Zahra, 1993). Coleman (1988) defines "human capital" as individuals' expertise, experience, knowledge, reputations, and skills, whereas an individual's social capital is the sum of the actual and potential resources and the network of relationships possessed by an individual. Female top managers contribute to company's diversity management that facilitate executives make decisions based on the evaluation of more alternatives compared to a more homogenous top management. A business case study made the similar arguments that diverse team members contributes to organizational performance by introducing broader knowledge bases and experiences (Robinson & Dechant, 1997). Heterogeneous theories often suggests that diversity in a group contributes to innovation and creativity, such as board of directors (Carter, Simkins, & Simpson, 2003) and top

management teams (Hambrick et al., 1996). Not only diversity management contributes to better decision making, it may also improve the image of the firm and in this way have positive effects on firm performance and shareholder value if the positive image has positive effects on customers' behavior.

However, research on the impact of diversity in top management teams has been a controversial topic for decades, and arguments against gender diversity management also exist. A heterogeneous decision making team produces more critical opinions and questions, this may cause ineffectiveness compared to homogeneous management, especially when a firm is operating in a highly uncertain and rapidly changing environment (Smith et al., 2005). Diversity contributes to high quality decision making, but a culturally, ethically or gender diverse management may have more conflicts and disagreements which slow down the process and even cause bigger issues at the end (Finkelstein & Hambrick, 1996). Therefore, the answer to financial and strategic effects of diversity management and women's participation in top management is the primary concern of this trend of studies. Furthermore, most of the empirical studies are based on US data which include mostly the largest firms. A few studies from outside of US context have also provide evidence. The study by Smith et al. (2005) found the positive financial effect of the proportion of women on top management in 2500 Danish firms, measured by gross value added and profit on ordinary operations and that the positive performance effects of gender diversity depends on the qualifications of female top managers.

Social science and feminist theory argue that men and women are equally effective in business (Watson, 2002), but women may tend to take different approaches in pursuing strategic activities and firm growth (Brush & Welter, 2009). Studies in entrepreneurship often employ societal factors and institutional theories to indicate that women can bring significant impact in business development. In fact, women-owned businesses are one of the fastest growing entrepreneurial populations in the world, making contributions to innovation, employment and wealth creation in all economies. Brush & Welter's (2009) study contributes to this field by raising the awareness of gender gap in academic research, explaining the social framework of women entrepreneurship which include both micro (family/household) and macro (social/institutional norms) environment. The study of Parboteeah, Hoegl, & Cullen (2008) emphasis on the gender role attitude in countries institutional context, investigating how selected cognitive, normative, and regulative aspects of various countries relate to traditional gender role

attitudes of managers from these countries. The traditional gender role attitude are believed as "men must be more concerned with economic and other achievements, while women must be concerned with taking care of people in general and children in particular" (Hofstede, 2001:280). Gender-role stereotypes put women at a disadvantage in the job market or in opportunities for promotion. The truth is, because we are living in society and we are social human beings, men and women tend to adopt stereotypical roles to be socially accepted (Liu, 2013). For example, men are more likely to engage in behaviors that emphasize the masculine aspect of taking in charge, such as dominance, aggression, and achievement. In contrast, women are more likely to display feminine behaviors that emphasize affiliation, nurturing, and compliance, traits traditionally associated with supporter or follower roles. It is associated with the workplace environment for women, and also largely associated with countries institutional context. Yang & Aldrich (2014) asks a more serious question in this topic – who's the boss? – explaining the gender inequality in entrepreneurial teams. Even though women entrepreneurs are growing increasingly, not all of them gets the chance to be the boss due to many reasons, including organizational and social barriers. According to expectation states theory, social beliefs about gender entail hegemonic assumptions which lead individuals to discriminate against women by discounting their competencies (Correll, Benard, & In Paik, 2007). Seen from the ascribed attributes perspective, "who gets to be the boss" results primarily from social processes in which entrepreneurial groups configure task roles based on social beliefs and practices based on gender (Yang & Aldrich, 2014). Besides, normative expectations presume men as breadwinner and women as domestic supporter with responsibility for childcare and housework. Thus, the extent that men and women devote themselves to business activity depend less on their merit or competencies but more on their social roles (Budig, 2006).

Drawing from an overview study of female representation on corporate boards and firm financial performance (Pletzer et al., 2015), I make the following arguments to develop and support my hypothesis of this study. Firstly, the diverse perspective that female top managers brought in can contributes to a more thorough search for alternative solutions of complex problems, and facilitate critical analysis of strategic opportunities. Secondly, women can introduce useful female leadership skills to top management team, which contributes to better interpersonal communication quality and harmonious work environment. In addition, female leaders are more transformational compare to their male counterparts, which is associated to

strategic decision making and better organizational outcome (Eagly et al., 2003). More importantly, in order to understand *how* women can contribute to better decision making, I argue that women tend to value interdependence, benevolence and tolerance in management (Adams & Funk, 2012). In addition, women are reported to be more likely to use cooperative decision-making approach (Bart & McQueen, 2013) which lead to better and fair decisions. Following this reasoning, we can understand not only the gender diversity can bring positive effect, but why women's participation in top management can affect firm financial performance.

2.5 Theories and Hypothesis

Women's Participation in TMT and Strategic Change

Advancing gender equality and female representation in company has increasingly become a societal debate in both developing and developed countries. A study analyzes differences between male and female entrepreneurs on eight previously identified entrepreneurial behaviors suggests that women can make better managers than men (Envick, & Langford, 1998). They found that female entrepreneurs engage in controlling, internal communication, human resource management, and work-related task behaviors significantly more often than male entrepreneurs. Not to mention that, to occupy power positions, women leaders have to invest more time and energy in human capital accumulation compared to their male peers (Ward et al., 1992). Furthermore, building on capital theory (Bourdieu, 1986), entrepreneurial capital is a significant non-financial capital for companies. It can highly depend on top management team's capability and creativity, which is positively affected by women's participation. Resource dependence perspective argues that organizations depend on external environments which control important resources (Pfeffer & Salancik, 1981). Top management team is one of the critical mechanism to link companies and external resources, thus a gender-diverse TMT provide more valuable recourses for companies. Because women may have better interpersonal skills that consists the recognition of the needs of clients and opportunities for companies in meeting those needs (Liu, Wang and Zhou, 2012). The participation of female on top can overcome narrow perspective problems caused by homogeneity at the top of a company and help leaders make a better understanding of the complexity of the environment and better decisions (Cater, Simkins, and Simpson, 2003). Additionally, they argue that senior female managers promote corporate performance via unique human capital which is different from male counterparts. Drawing from all the theoretical support, we can assume that higher percentage of women's participation in top

management brings distinct human capital, critical leadership, fluid internal communication, and better decision making, thus affect firms' strategic change.

Top management team is an essential group for companies where strategic decisions are made, as well as the necessary managerial mechanism for corporations. Wiersema & Bantel's (1992) research suggest that the demographic diversity in TMT has effects in decision-making process regarding creativity and innovativeness, hence has positive relationship in corporate strategic change. They examined the relationship between the demography of top management teams and corporate strategic change, measured as absolute change in diversification level, within a sample of Fortune 500 companies. They found that top managers' cognitive perspectives, as reflected in a team's demographic characteristics, are linked to the team's propensity to change corporate strategy. They made contribution to support the argument that gender diversity in TMT is associate with high level of creativity and innovation (Wiersema &Bantel, 1992). Therefore, with women's participation in top management, firms possess better "managerial support" and "resource" for initiating entrepreneurial activities, and with female leadership which is more communication and relationship oriented, employees are abler to perceive "supportive organizational structure" and be willing to take risks and support entrepreneurial activities. In this study, the difference between strategic deviance and strategic change exists in my measurement. The term "strategic deviance" is used when I measure strategy at time T1 (2007) or T2 (2010), and "strategic change" is used when I measure the difference between strategy at time T2 minus time T1. When firms become less deviant or more conforming with the industry norm at time T2, strategic change might be negative. However, this is also a form of strategic change and it could lead to improved performance.

Hypothesis 1: The percentage of female top managers positively affect firms' strategic deviance in both 2007 and 2010 in China.

According to Post & Byron's (2015) meta-analysis of women on boards and firm performance, studies in the field have found evidence and results from every direction: increase, decrease, and unrelated to firm performance. They conclude that women's participation can contribute to firm financial growth with certain conditions. For example, country level factors can moderate the relationship between women's participation and firm performance (Terjesen & Singh, 2008; Thébaud, 2015). When firms begin to employ female on the top management team, the status of women's representation and gender diversity will go from 0 to 1 during the time

frame 2007 to 2010. Would the status of women's representation on TMT affect firm performance in China? This is another interesting question to ask. It is suggested by upper echelon theory that top management team characteristics can significantly affect firm performance (Hambrick & Mason, 1984), hence the status of gender diversity in top management team might also have impact on firm performance. Because in general female and male top managers possess different cognitive frame, women's participation will increase team heterogeneity and lead to better decision making. As a first time appointed female top managers, they provide instant influence on performance through adding value to top management team. Therefore, I argue that more female top managers can affect firm financial performance.

Hypothesis 2: The appointment of female managers for the first time positively affect firm performance during from 2007 to 2010 in China.

Strategic Change and Firm Performance

One stream of strategy research focus on the competitive behavior of firm, indicating that competition is fluid and that a firm advances by continually taking action and responding to the actions of its adversaries (D'Aveni, 1994). This means that every breakthrough and achievement that firms approach are approached by taking actions proactively and making changes bravely. That is the reason why strategic change is critical to firms.

A study done by Boeker (1997) examined the dynamics of corporate strategic change, which refers to decisions about the products and markets firms compete in. He argues that managerial characteristics together with firm performance can have positive effect on corporate strategy, meaning that strategic change is the consequence and affected by firm performance. In their study firm performance act as a moderator that affect the relationship between TMT characteristics and strategic change, and poor performance increase the likelihood of the latter. Because when organizations have been recently successful will resist changes in their basic strategies and missions, while when poor performance appear strategic change will be needed. Drawing upon the upper echelon theory (Finkelstein & Hambrick, 1990) of TMT characteristics and empirical researches of strategic change (Boeker, 1997a; Haynes & Hillman, 2010; Wiersema & Bantel, 1992), this study aim at developing a theory of strategic change leads to improved firm performance, and testing the moderating role of women's impact on this relationship.

Environmental Turbulence –The Need for Strategic Adjustment in China

With the increasingly developed economy in past decades, Chinese society has shifted from a highly egalitarian class structure towards a polarized unequal distribution of the rich and poor. Together with the market liberalization, the demands for social and economic justice are growing and may create uncertainty for private entrepreneurs. Moreover, lack of financial intermediaries and the institutional voids create a corporate governance challenge for Chinese firms. It demands the economy to shift from the traditional manufacturing towards more technology and innovation oriented business, creating the environment for intermediaries to grow. More and more Chinese firms are experiencing transition from traditional steel, mining, manufacturing industry to a more diversified organization in order to expand company's life cycle. A calling for strategic change is spreading across China, despite the governance challenges that firms in China are facing. Known as the "rules of the game"(North, 1990), the institution influence of regulatory context provide organizations with a social system of laws, rules and policies that affecting organizational behavior at national level (Luo, Zhou, & Liu, 2005). Ownership structure is one of the significant factors that influence corporate entrepreneurship in China. State-owned enterprises (SOEs) are highly controlled by central government, and the legal person or any focal individual hardly have bigger influence over the government for firm's strategic activities. Despite the lengthy process of transition, the emerging Chinese entrepreneurs and self-made billionaires showed us the changing face of China, which is the sign of economic development and market liberalization (Ghorbani & Carney, 2016).

Today leaders in China are encouraging young generations to be bold and creative. Currently China is developing its indigenous innovation capability (Chinese term *zizhu chuangxin*), the term has been heard constantly from academics, government officials, and business people, that to focus on innovation and technology based economy (Vinig & Bossink, 2015). More funding and loans are available for innovative business, and more regulatory policies are in favor for technologically dynamic firms. Giving the environmental uncertainty, firms who are more willing to adapt and react to opportunities and making changes are more likely to possess competitive advantage and improve their firm value.

According to Williamson (1988), the effective governance of technology and R&D intensive firms requires distinct forms of risk assessment, firm monitoring and incentives. And the most valuable assets of such firms are embedded with intangible assets such as human capital

and management mechanism (Ghorbani & Carney, 2016). Drawing up strategic management literature and corporate governance in China, this research aim at answering the question of how strategic change place the impact on organizational growth for firms in China, breaking the traditional perception of focusing strategy in emerging markets are difficult and ineffective (Khanna & Palepu, 1997). This research makes contribution by providing evidence of strategic change being a predictor of firm performance in China, reinforce the strong relationship between the two and emphasize the consequence after strategic change.

Most strategic and entrepreneur activities are mean-enhancing activities, which predict performance based on mean-increasing. However variance enhancing logic are more suitable for strategic change topics, similar as corporate entrepreneurial activities which involve innovativeness, risk-taking and proactiveness (Covin & Miles, 1999). Due to the fact that strategic activities including multiple restructuring and strategic renewal, and different types of firms could have different pattern in managing the opportunities, so it can be treated as variance enhancing portfolios (Sun, Yang & Li, 2014; Covin & Miles, 1999). The reasoning behind it is known as *real options*: because there are benefits to be gained from the pursuit of high-variance opportunities, even it may cause short-term high cost or failure, the potential upside gain will built a portfolio for long term return (McGrath, 1999). Similar to strategic change, multiple corporate entrepreneurial activities allow firms to learn the flexibility and resilience to coping with environmental uncertainty, and in the long run those activities will increase firm performance (Sun, Yang & Li, 2014). Strategic activities vary among all types and sizes of organizations, and highly affected by environmental and resource constraint. Although short-term results show downside effect, the long term potential gain and greater variance of opportunities should be considered as performance growth (McGrath, 1999; Sun, Yang & Li, 2014). Therefore, I argue that that firms in china, strategic change can drive firm performance growth.

Hypothesis 3: Strategic change positively effects firm performance in China

The moderating Effect of female top managers

Diversity in firms' decision making group certainly brings fresh point of views and avoids information biases, but it does not always lead to positive organizational outcome directly.

Industry and other contextual variables frames the strategies and resource, which will moderate the performance outcome (McGahan & Porter, 1997). Therefore, we need to ask a question that under what circumstances gender diversity help improve firm performance? Based on the theory established earlier that strategic change contributes to better firm performance, here I take the theory one step further and propose that more women help enhance the influence of strategic change on firm performance.

According to the study of the characteristics of top management team (Hambrick et al., 1996), heterogeneity significantly and positively affects firm's competitive decision making and the organizational outcome. Another study uses agency theory also supports the rationale that better financial performance might result from increasing female presence in senior management (Francoeur et al., 2008). In a complex environment, women can attribute to positive financial returns by bringing a fresh perspective on complex issues, and correcting informational biases in strategy developing and problem solving. Further, more empirical evidence found that more female managers or directors can create more positive impact on both strategic and financial performance. Last but not least, diversity in management creates better image of the firm and have positive effect on shareholder value (Liu et al., 2014; Smith et al., 2005). Despite the external drives, what makes women managers special comes from the internal characteristics as well. It has been proven that female leaders are better at internal communication and building ongoing relationship with clients (Romano, 1994). Consequently, female top managers influence the performance through attributing to internal organizational support to implement entrepreneurial activities, moreover, they reassure employees' concern of taking risks and dealing with failure should it comes.

Although we tend to believe that gender diversity can directly lead to better financial performance, the reality says there are still too many variables to be taken into consideration. In China context, where corporate governance is weak and strategy is underpinned, institution-based view is often adopted in China strategy research. Because it helps explain and predict complex dynamics such as China's institutional transitions and firm responses (Peng, 2005). How do firms in China grow therefore became an attractive research topic due to the growing global impact from China economy, and the demand of researches for China strategy. Will gender diversity in top management become a strategy, or will more women makes a difference in corporate strategy choosing? These questions still remain untouched and here I propose that

female top managers help firms in China grow by enhancing the relationship between firm strategic change and firm performance.

Hypothesis 4: The percentage of female top managers moderates the relationship between strategic change and performance in China, such that more female top managers strengthens the positive influence of strategic change on performance growth.

Hypothesis 5: The introduction of females into the top management team will positively moderate the relationship between strategic change and performance in firms such that firms that formally had no female top managers at T1 but which added female managers at T2.

Chapter three: Data and Methods

3.1 Research Methods

Sample

Our sample consists 284 publicly-listed Chinese firms from the period 2007-2010. All financial data and corporate governance information are collected from the China Stock Market and Accounting Research (CSMAR) database. I select the firms based on 1) do they have all the needed information, and 2) do they have all the data in both year 2007 and 2010. Based on CSMAR database, industries are coded to six categories including finance (0001), public utilities (0002), real estate (0003), multi-products (0004), industry or energy (0005), and commerce (0006). In our sample, 219 companies are from industry or energy, 26 companies are from public utilities, 16 companies are from real estate, 11 companies are from multi-products, 11 companies are from commerce, and 1 company is from finance.

Measurement

Women's participation in top management measured as the percentage of female in top management. The number and the gender of members in top management of Chinese firms are collected from the CSMAR database, then I calculate the ratio of female top managers. This study applies two measure of women's participation in TMT. Firstly, I want to measure the effect of the level of female representation change from T1 to T2 (T1 equals data captured in

2007 and the T2 equals data captured at 2010), which is measured by percentage of female top managers in T2 minus in the percentage of female top managers in T1, noted as "% *ChangeFemaleT1T2"*. Secondly, I want to test the effect of female representation status among four types of groups: never had female top managers (0-0), used to have none in T1 but added some in T2 (0-1), used to have female top managers but removed them later (1-0), and always have female managers from T1 to T2 (1-1). The purpose of this measure is to test does increase female top managers make a difference in performance outcome. It provides evidence of the influence of "additional women". I created 3 control groups based on firm's female representation status accordingly: always (firms that have female top managers at T1 and T2), added (firms that have no female top managers at T1, and add female top managers at T2), removed (firms that have female top managers at T1, and have zero female top managers at T2). The three groups are noted as *female always*, *female entry TMT*, and *female exit TMT* in the model to test hypothesis 2 and hypothesis 5.

Finkelstein & Hambrick (1990) developed a strategic resource allocation profile to capture strategic change, which has been used extensively by other authors (e.g.: Carpenter, 2000; Geletkanycz & Hambrick, 1997; Tang, Crossan, & Rowe, 2011). Carpenter's (2000) development of strategic change includes two aspects: strategic variation, meaning a change in firm's resource commitments overtime, and strategic deviation, a shift away from the 'firm's resource commitments from industry norms of competition'. Similar, Haynes & Hillman (2010) measured strategic change using two measures *strategic variation* and *strategic deviation*. Conceptually, strategic deviation captures the degree to which its strategy differ from industry norms, using a composite measure of six resource allocation ratios. Therefore, following above scholars and researches, I measure strategic change by strategic deviation, a composite measure on six indicators that are recognized as a realized pattern of firm resource allocation differ from industry norms: (1) advertising intensity (measured as selling expenses/sales); (2) R&D intensity (measured as R&D expenses/sales); (3) capital intensity (fixed assets/number of employees); (4) plant and equipment newness (new plant and equipment/ gross plant and equipment); (5) overhead charges (measured as administrative expenses/sales); and (6) financial leverage (measured as total debt/equity). To construct the measure of strategic deviance, I first standardized each strategy indicator by year over all firms and then obtained the absolute value of the standardized score (Finkelstein & Hambrick, 1990; Geletkanycz & Hambrick, 1997; Tang

et al., 2011). Finally, I averaged all the indicators to create an integrated value (noted as *SCT2T1*) of strategic deviance. Due to missing data and lack of data resource, I adjusted the measure of strategic deviance by only using three indicators in both 2007 and 2010 (exclusive of capital intensity because of missing number of employee's data, R&D intensity, and plant and equipment newness). Same measuring problem in other scholars' research, but have been found reduced ratios produced similar results as full six ratio (Haynes & Hillman, 2010; Tang et al., 2011). Therefore, adapt Finkelstein & Hambrick's (1990) measurement and adjust it by following previous scholar's path (Haynes & Hillman, 2010; Tang et al., 2011), I only use the three ratio to measure strategic change.

Firm performance is primarily measured by growth in return on equity (ROE), calculated as ROE T2-ROE T1 (noted as *GrowthROE*). Later on I found a more accurate measurement which is similar to the measure of strategic change. In this study I applied both measure for firm performance. Adopted from Tang et al. (2011), first I calculate the change of return on equity (ROE) and return on assets (ROA) from T1 to T2 as ROET2-ROET1 and ROAT2-ROAT1, then standardize both ROET2-ROET and ROAT2-ROAT1 and obtain the absolute value of the standardized score, finally average the two indicators to create a measure of performance growth (noted as *PerforChange*).

Control variables: I included several control variables to rule out other plausible explanations. Firm size measured as the natural log of total assets (noted as *LnAssets*). Firm age measured as the year from the establishment date. I also control the industry by inserting dummy variables. Drawing from CSMAR database, industry 1 represents the finance industry, industry 2 represents the public utility industry, industry 3 represents the real estate industry, industry 4 represents the multi-product industry, and the industry 5 represents the industrial sector.

Table 3.1 Definition and Measurement of Variables

Variables	Definition and Measurement
Dependent Variable	
Performance Change	Performance change is measured by composed two indicators. First I calculate the return on equity (ROE) and return on assets (ROA) change from T1 to T2 (ROEt2-ROEt1; ROAt2-ROAt1), then I standardize the ROE and ROA change (Z score), and obtain the absolute value of the standardized score, finally average the two indicators to create a measure of performance growth (Tang et al., 2011). It's noted as *Performance Extremeness* in Tang et al.'s study since the absolute value is used.
Independent Variables	
Strategic deviance	Strategic deviance, measured as the mean of 3 strategic indicators that per firm deviate from the industry level: (1) advertising intensity (selling expenses/sales); (2) overhead charges (administrative expenses/sales); (3) financial leverage (total debt/equity). SCT1=strategic change in T1, SCT2=strategic change in T2.
Strategic Change	Strategic change is the difference between strategy at time T2 (2010) minus time T1. Measured as the degree to which company's strategy differ from industry norms from 2007 to 2010, using a composite measure of three resource allocation ratios.
Strategic change T2T1	Changing strategic deviance measure between between 2007 and 2001
%femaleT1	The percentage of female managers in T1.
%femaleT2	The percentage of female managers in T2.
%Female Change T2T1	Change of the percentage of female top managers from T1 to T2, measured as percentage of female top managers in T2 minus the percentage of female top managers in T1 (%femaleT2-%femaleT1).
Dummy Variables	
Female always	Group *female always* used to have female managers at T1 and removed them at
Female entry TMT	Group *female entry TMT* used to have none female managers at 2007 and added female managers at 2010
Female exit TMT	Group *female exit TMT* always have female managers from 2007 to 2010.

Moderator Variables	
(Female change T2T1)*(Strategic changeT2T1)	When ChgeFemaleT2T1 act as moderator, SCT2T1 as independent variable, this variable is added. It's measured as SCT2T1*ChgeFemaleT2T1.
GroupB*(Strategic change T2T1)	This interaction terms are created in order to test the moderation of Group B female managers, which are the added female top managers to companies who used to have zero female managers. This variable is used to test hypothesis 5, where strategic change T2T1 is independent variable, and performance growth is dependent variable, and Female GroupB is moderator.
Control Variables	
Firm age	Firm age measured as the difference between the establishment date and T2 (2010).
Firm size	Firm size measured as Ln assets (natural log of total assets).
Industry 1	In the sample, all companies that are from finance industry (industry code 0001).
Industry 2	In the sample, all companies that are from public utility industry (industry code 0002).
Industry 3	In the sample, all companies that are from real estate industry (industry code 0003).
Industry 4	In the sample, all companies that are from multi-product industry (industry code 0004).
Industry 5	In the sample, all companies that are from industrial sectors (industry code 0005).

Table 3.2 Descriptive Statistics and Correlations of Variables

Variables	Mean	Std. Dev	Max	Min	1	2	3	4
1.GrowthROE	-17.275	261.408	-4402.1	59.700	1.000			
2. PerforChange	.326	.800	0.025	12.210	-.888	1.000		
3. RatiFemanrT1	.140	.095	0.000	0.440	.088*	-0.051	1.000	
4. RatiFemanrT2	.150	.094	0.000	0.450	-.009	0.003	0.402***	1.000
5. StraChgeT1	.546	.553	0.085	6.331	-.001	0.051	-0.025	0.051
6. StraChgeT2	.383	.611	0.022	8.360	-.492***	0.437***	-0.071	-0.006
7. SCT2T1	-.163	.765	-6.134	7.830	-.393***	0.312***	-0.038	-0.042
8. ChgeFeT2T1	.011	.104	-0.303	0.412	-0.090*	0.050	-0.550***	0.543***
9. FeT2T1SCT2T1	-.002	.138	-1.750	1.100	-0.327***	0.316***	0.142**	-0.210***
10. Female always	.049	.217	0.000	1.000	0.009	-0.020	-0.067	-0.363***
11. Female entry tmt	.074	.262	0.000	1.000	-0.210***	0.166***	-0.416***	-0.038
12. Female exit tmt	.856	.352	0.000	1.000	0.145***	-0.112**	0.440***	0.348***
13. Indtry finance	.004	.059	0.000	1.000	-.002	-0.011	-0.043	-0.046
14. Indtry pub_utility	.092	.289	0.000	1.000	-.003	-0.021	-0.056	-0.062
15. Indtry real estate	.056	.231	0.000	1.000	.008	-0.059	0.003	-0.065
16. Indtry multi-prod	.039	.193	0.000	1.000	.015	0.009	0.071	0.121
17. Indtry industrial	.771	.421	0.000	1.000	-.029	0.051	-0.047	-0.018
18. LnAssets	20.991	1.039	18.950	25.330	.050	-0.104*	-0.128**	-0.221***
19. Firmage	10.852	4.317	3.000	26.000	-0.137**	0.175***	-0.005	-0.030

Table 3.2 Continued

Variables	5	6	7	8	9	10	11	12
5. StraChgeT1	1.000							
6. StraChgeT2	0.138**	1.000						
7. SCT2T1	-0.612***	0.698***	1.000					
8. ChgeFeT2T1	0.069	0.060	-0.003	1.000				
9. FeT2T1SCT2T1	-0.155***	0.14**	0.224***	-0.322***	1.000			
10. Female always	-0.033	-0.037	-0.006	-0.270***	0.033	1.000		
11. Female entry tmt	0.0995*	0.068	-0.017	0.347***	-0.181***	-0.064	1.000	
12. Female exit tmt	-0.036	-0.022	0.009	-0.085*	0.114**	-0.554***	-0.687***	1.000
13. Indtry finance	-0.015	-0.019	-0.004	-0.003	0.000	-0.014	-0.017	0.024
14. Indtry pub_utility	0.074	0.012	-0.044	-0.005	-0.048	0.097*	0.004	-0.043
15. Indtry real estate	0.008	0.013	0.005	-0.062	0.016	0.085	-0.011	-0.073

16. Indtry multi-prod	0.144**	-0.039	-0.135*	0.046	-0.239***	-0.046	0.013	0.031
17. Indtry industrial	-0.139**	0.001	0.1013*	0.027	0.131**	-0.070	0.026	0.015
18. LnAssets	-0.157***	-0.035	0.086	-0.084	0.042	0.025	-0.058	-0.003
19. Firmage	0.057	0.162***	0.088	-0.024	0.035	-0.056	-0.006	0.000

Table 3.2 Continued

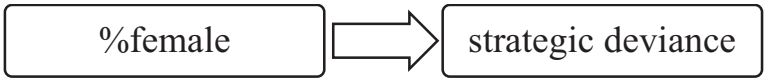
Variables	**13**	**14**	**15**	**16**	**17**	**18**	**19**
13. Indtry finance	1.000						
14. Indtry pub_utility	-0.019	1.000					
15. Indtry real estate	-0.015	-0.078	1.000				
16. Indtry multi-product	-0.012	-0.064	-0.049	1.000			
17. Indtry industrial	-0.109*	-0.583***	-0.449***	-0.369***	1.000		
18. LnAssets	-0.045	-0.048	0.301***	-0.005	-0.145**	1.000	
19. Firmage	-0.067	-0.009	0.1537***	0.130**	-0.176***	0.288***	1.000

n=284
*p<0.1
**p<0.05
***p<0.01

3.2 Research Design

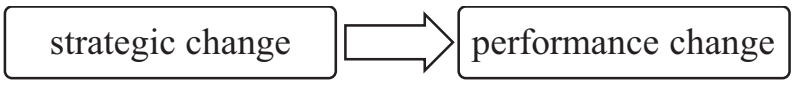
In this empiric research, I use liner regression model to test the direct and indirect relations among variables. The main effect of women top managers on strategic deviance and the moderating effect on firm performance are tested separately in three models. I expect to find positive relationship between the percentage of female managers and strategic deviance in both year, and also positive relationship between strategic change and performance change across given timeframe. First I test the direct effect of the percentage of female top managers on strategic change in both T1 and T2, aiming at finding statistic relationship between the two. Secondly I use multiple linear regression to test the impact of strategic deviance and female participation in TMT on performance. Third, I add interaction variables to test the moderating effect of female participation TMT on strategic change and performance, which is the main effect in this research.

Figure 1 Model One



First I want to test the relationship between the percentage of female top managers and strategic deviance in both 2007 (T1) and 2010 (T2). To test hypothesis one, women's participation in top management (noted as *%female*) is independent variable and strategic deviance (noted as *SD*) is dependent variable. Realistically, strategic deviance is affected by multiple factors and the ratio of female managers could be one of them. After companies make changes of the female manager's representation, the strategic deviance at T2 could be affected by the change of female ratio. Therefore, in addition to use female manager's ratio as independent variable, I also conduct a regression model with *Change of female managers from T1 to T2* as an independent variable.

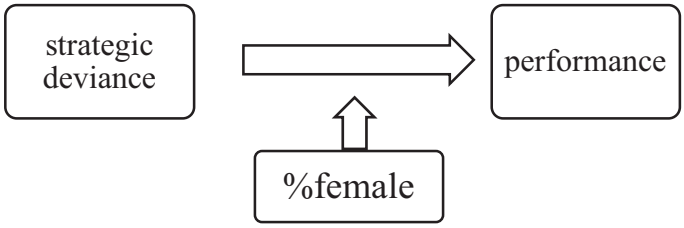
Figure 2 Model Two



In hypothesis two and hypothesis three, firm performance change? Is the dependent variable. To test hypothesis two, three dummy groups which represent female participation status across T1 to T2 are independent variables in order to indicate the effect of the changes in female participation in TMT on firm performance across time. Moreover, since group B represent the companies who used to have none female managers at T1 and then added some at T2, it would support this research if I find significant positive relations between female group B and performance growth. Therefore, another linear regression model is conducted by using dummy group B as independent variable, performance growth as dependent variable, and control industries, firm age and firm size. According to correlation table 3.2, 85% of firms always had female TMT members, 7.4% went from none to at least one, 4.9% removed female TMT members, and 3% never had female TMT members.

To test hypothesis three, I use multiple liner regression model to find the correlation between strategic deviance and performance. Strategic deviance data are collected from both T1 and T2 in order to see the changes across time. Therefore, in this model strategic deviance T2-T1 is independent variable (*SDT2T1*), firm performance growth is dependent variable (*PerforChange*), and control industries, firm age and firm size. Presumably strategic deviance has significant effect on performance, I want to look at the different effect of three female dummy groups on performance.

Figure 3 Model Three



In order to test if women's participation will enhance the relationship between strategic change and firm performance, model three added the change of women's participation as a moderator. The difference of the percentage of female managers on TMT from T1 to T2 (ChgeFemaleT2T1) indicates the change of women's participation, which is presumed to moderates the relationship between strategic deviance and performance growth. I create an interaction variable by multiply female changes from T1 to T1 and strategic deviance from T1 to T2 (ChgeFemaleT2T1*SDT2T1). To test the significance of the moderation, I conduct three linear regression models and compare the R square change and the P value of coefficients.

Table 4.3 positive moderating effect of adding female managers to TMT

In hypothesis 5 I propose that Group B act as moderator and increase the impact of strategic change on firm performance. I created an interaction variable *female entry TMT*SDT2T1*. Strategic change from T1 to T2 is the independent variable that place the influence on performance growth, and Female Group B represents the companies who added female managers, which is the moderator in hypothesis 5.

Chapter Four: Results and Analysis

4.1 The Effect of Female Top Managers

Using *%female T1* as independent variable and *Strategic Deviance T1* as dependent variable, R square is .07, meaning that 7% of the variation in strategic change in T1 is explained by all variables taken together. The overall linear relationship is significant ($F=2.607$, $P<0.001$). However, there is no strong evidence showing that strategic deviance increases as the percentage

of female manager increases. Similar results are shown in T2 where R square equals to 0.038, the overall model does not show a strong liner relationship and %female variable presents no significant influence on strategic deviance. The ratio of female managers presents negative influence on strategic deviance, so does the variable of firm size *(LnAssets).* The possible explanation could be that I didn't include more contextual variables that might have big influence on strategic deviance. Then the third model shows that from T1 to T2, the ratio differences of female managers across time has positive affect on strategic deviance in T2, but not significant. To sum up, due to lack of variables and environmental complexity, hypothesis one is not supported.

Table 3 Effects Explain of Female Representation in TMT on Strategic Change

(1)		
Dependent Variable: StraChgeT1		
Variables	B	t
(Constant)	2.987***	4.064
Indtry1	-0.347	-0.608
Indtry2	-0.038	-0.192
Indtry3	-0.011	-0.049
Indtry4	0.234	1.01
Indtry5	-0.192	-1.127
LnAssets	-0.112***	-3.295
Firmage	0.01	1.271
%FemaleT1	-0.389	-1.121
F	2.597***	
R Square	0.07	

(2)		
Dependent Variable: StraChgeT2		
Variables	B	t
(Constant)	1.265	1.499
Indtry1	-0.09	-0.141
Indtry2	0.036	0.163
Indtry3	0.047	0.193
Indtry4	-0.175	-0.673
Indtry5	0.027	0.14
LnAssets	-0.057	-1.464
Firmage	0.028***	3.119
%FemaleT1	-0.081	-0.201
F	1.361	
R Square	0.038	

*p<0.1
**p<0.05
***p<0.01
Unstandardized coefficients are shown

(3)		
Dependent Variable: SDT2		
Variables	B	t
Indtry1	-0.078	-0.123
Indtry2	0.04	0.181
Indtry3	0.053	0.221
Indtry4	-0.187	-0.72
Indtry5	0.027	0.145
LnAssets	-0.053	-1.388
Firmage	0.028***	3.125
ChgeFeT2T1	0.355	1.012
F	1.489	

R square	0.042

*p<0.1
**p<0.05
***p<0.01
Unstandardized coefficients are shown

4.2 The Effect of Female Top Managers and Strategic Deviance on Performance

According to the correlation of variables (table 3.2), dummy group B is strongly correlated to performance growth. Presumably firms used to have no female top managers, after add female managers the firm performance will increase. To test hypothesis 2, I use dummy group A, group B, group C as independent variables, performance growth as dependent variable, and control industries, firm age and firm size. This model shows that the overall model is significant (F=2.577, P=0.005), and dummy group B presents positive influence on performance growth but not significant (P=0.173). However, the overall R square (=0.086) does not provide us a strong evidence to support the hypothesis. Then I conduct a new regression model with only dummy group B as independent variable and keep the control variables, I found a positive significant relationship between group B and firm performance growth (Table 4.2). It supports hypothesis 2 that after add female managers to TMT, firm performance will be significantly increased.

Table 4 Impact of Added Female Managers on Performance Growth

Dependent Variable: Performance Change		
Variable	B	t
(Constant)	2.078	2.026
Female entry tmt	0.48***	2.719
Indtry1	0.105	0.129
Indtry2	0.034	0.121
Indtry3	-0.061	-0.199
Indtry4	0.006	0.018
Indtry5	0.129	0.532
LnAssets	-0.112**	-2.321
Firmage	0.043***	3.784
F	3.237***	
R square	0.086	

*p<0.1
**p<0.05
***p<0.01

Another strong correlation of variables we can see at correlation table 3.2 are strategic change T1 to T2 *(SDT1T2)* and performance growth. A simple linear regression confirms this assumption that strategic deviance from T1 to T2 positively and significantly affects firm performance growth (t=5.518, P<0.001). After I insert variable *SDT1T2* to the model of hypothesis 2, the impact of group B on performance growth and the overall impact are both enhanced.

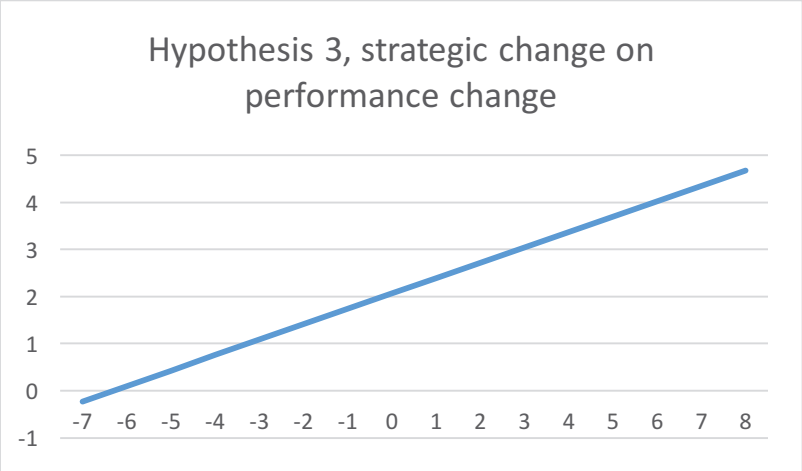
Overall, strategic deviance has positive and significant effect on firm performance growth, plus the correlation between added female managers (group *female entry TMT*) and firm performance show a positive and significant relation Therefore, hypothesis 2 and 3 are both supported, but not supported when both are in the model together, which means they share some variance.

Table 5 Impact of Strategic Deviance and Female Participation in TMT on Performance

Dependent Variable: performance change				
	H2		H3	
Variables	B	t	B	t
(Constant)	2.063*	1.885	2.579**	2.474
Indtry1	.106	.130	.037	.047
Indtry2	.029	.102	.012	.043
Indtry3	-.066	-.213	-.083	-.280
Indtry4	.006	.017	.142	.448
Indtry5	.127	.524	.062	.266
LnAssets	-.112**	-2.314	-.129***	-2.795
Firmage	.043***	3.768	.037***	3.421
Female always	.062	.160	.063	.173
Female entry tmt	.497	1.367	.508	1.474
Female exit tmt	.015	.045	.013	.041
SCT2T1				.327***
R Square	.086			.181
Ajusted R Square	0.053			0.147
R Square Change				.094
F	2.577***		0.005	5.447***
F Change				31.292***

n=284
*p<0.1
**p<0.05
***p<0.01
Unstandardized coefficients are shown

Figure 4 Effect of strategic change on performance change



4.3 The Moderating Effect of Female Top Managers on Performance Growth

The moderator effect is the main focus of this study, and it is measured by inserting interaction term. Table 4.4 reports the results of the analyses predicting change of female top managers' representation, strategic deviance and performance growth. The effect is strengthened by inserting interaction term *FeT2T1SDT2T1*, which represents the interacting effect of female manager's ratio change and strategic deviance change from T1 to T2. The coefficient for the interaction term in column 3 (table 4.4) is significant and positive. The significance level of the overall model is also increased after adding the interaction term (F change=31.003, P<0.001).

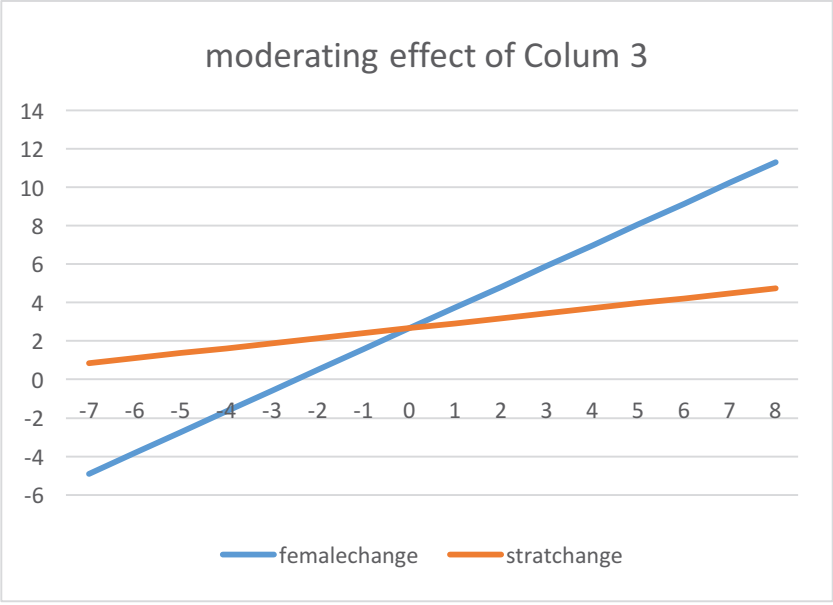
This table shows evidence that the percentage of female top managers is the moderator of strategic change and performance growth rather than being an independent variable of firm growth. In column 1, change of female manager's ratio doesn't show a strong effect on firm growth. In column 2, after add strategic deviance change from T1 to T2, the overall model significance is improved and variable SCT2T1 is positive and significant. In column 3, the interaction term itself presents a strong evidence of the moderation effect, which strongly supports hypothesis 4. The implied coefficient of female representation change from T1 to T2 is equal to 1.896 multiplied by the level of strategic deviation. Therefore, if strategic deviance is equal to zero, female representation on TMT does not have economically significant effect on firm performance. Thus, the more female top managers a firm increase, the more strategic deviance improves firm performance.

Table 6 Moderator Effect of Women's Participation on TMT

Variable	Dependent Variable: performance change					
	Column 1		Column 2		Column 3	
	B	t	B	t	B	t
(Constant)	2.184*	2.10	2.701**	2.72	2.662**	2.82
Indtry1	0.101	0.12	0.032	0.04	0.02	0.03
Indtry2	0.067	0.24	0.051	0.19	0.087	0.34
Indtry3	-0.021	-0.07	-0.036	-0.12	-0.026	-0.09
Indtry4	0.037	0.11	0.174	0.54	0.441	1.43
Indtry5	0.162	0.66	0.098	0.42	0.08	0.36
LnAssets	-0.117*	-2.40	-0.134**	-2.88	-0.132**	-2.98
Firmage	0.044***	3.78	0.038***	3.43	0.035***	3.35
ChgeFemaleT2T1	0.305	0.67	0.284	0.66	1.080*	2.49
SCT2T1			0.325***	5.48	0.260***	4.53
FeT2T1SDT2T1					1.896***	5.57
R Square	0.063		0.156		0.242	
Ajusted R Square	0.036		0.128		0.214	
R Square Change			0.093		0.086	
F	2.313**		5.616***		8.708***	
F Change			30.077***		31.003***	

n=284
*P<0.05
**P<0.01
***P<0.001
Unstandardized coefficients are shown

Figure 5 Moderating Effect of Women's Participation on TMT graph



4.4 The Moderating Effect of Added Female Managers on Performance Growth

Another important moderating effect in this research is variable *dummy group B.* As mentioned in hypothesis 2 that firms who previously had no female managers, but whom added female managers between 2007 and 2010 present significant influence on performance growth. To test hypothesis 5, I created the interaction term by multiply dummy group B and strategic deviance from T1 to T2 *(B_SDT2T1).* In table 4.5, the three columns show the process that how added female top managers improve the overall model and strengthen the relationship between *Strategic Deviance T2T1* and performance growth. Column I shows a result which is supportive to hypothesis 2. After add strategic deviance to this model, the coefficient of added women variable on firm performance is increased from beta=2.078 to beta=2.591, significance level is increased from 0.007 to 0.004. In column 3, the interaction term presents positive and significant effect on performance growth, and dummy group B variable's significance level is enhanced to 0.000. Furthermore, the adjusted R square for the overall model is increased to 0.45 after I add the interaction term. It suggests that dummy group B moderates and strengthen the effect of strategic deviance on performance growth. Therefore, there is enough evidence to show that hypothesis 5 is supported. Another interesting finding here is, after the interaction term is added, variable *Strategic Deviance T2T1* becomes negative and not significant anymore.

Table 7 Moderator Effect of Added Women on TMT

Dependent Variable: performance change

Variables	Column 1		Column 2		Column 3	
	B	t	B	t	B	t
(Constant)	2.078*	2.026	2.591**	2.651	2.558***	3.25
DumGrpB	0.48**	2.719	0.493**	2.944	0.733***	5.373
Indtry1	0.105	0.129	0.035	0.046	0.004	0.007
Indtry2	0.034	0.121	0.017	0.065	0.065	0.304
Indtry3	-0.061	-0.199	-0.077	-0.263	-0.026	-0.111
Indtry4	0.006	0.018	0.142	0.451	0.537*	2.097
Indtry5	0.129	0.532	0.063	0.274	0.061	0.329
LnAssets	-0.112*	-2.321	-0.129**	-2.804	-0.128***	-3.452
Firmage	0.043***	3.784	0.037***	3.433	0.031***	3.535
SDT2T1			0.327***	5.613	-0.032	-0.582
B_SDT2T1					1.244***	12.226
R Square	0.086		0.18		0.47	

Adjusted R Square	0.059	0.153	0.451
R Square Change		0.094	0.29
F	3.237**	6.698***	24.242***
F Change		31.597***	149.479***

n=284
*P<0.05
**P<0.01
***P<0.001
Unstandardized coefficients are shown

Chapter Five: Discussion and Limitation

While a number of researches in this topic examine the effect of gender diversity in corporate boards on strategy and performance, I focus on the proportion of women in front line top management team. In addition to test the proportion of women, I also examine the effect of increasing female top managers as well as the representation status from none to any. Compare to the researches of female representation in TMT, this study brings in China context, highlighting the influence of environmental complexity and transitioning economy to strategic management study. The intention of studying women's participation in top management often involves social and ethical reason and at the same time we are all hoping for the existence of economical implication. Because it is normative in most academic circles to want to see gender equity. Researches that are conducted in the US context and Europe context provide us with the evidence of women on top management may have important implication for firm's competitiveness. As far as this research goes, the purpose of doing gender diversity and strategic management study is limited in the domain of promoting meritocratic recruitment and promotion process, as well as exploring the benefits of gender diversity itself. The question of "does female representation in top management have a positive effect on firm performance?" is not anything new, even after add the contextual factors. So what makes this research special? First of all, we still need more "women effect" in strategic management researches to fill the gap in the current literatures due to the fact that the gender-diversity issues are still under-represented in the mainstream management journals. Secondly, with the rapid growth of China's economy, we need more researches of strategic management in this specific context, exploring how firms

advance through the process of transitioning economy. Finally, women's impact on strategic deviance is the main breakthrough of this research, making contribution to the research of strategic change by bringing gender diversity effect.

Theoretically, this research mainly applies upper echelon theory developed by Hambrick (1984), together with their researches in top management team characteristics, leading women's participation in TMT to firm performance. Additionally, I include resource-based view of firms (Barney, 2001) and institutional theories (Kostova & Roth, 2012; Zahra & Covin, 1995) to link competitive human capital resource to firm's competitive advantage achievement, thus lead to performance growth. In China, the normative preference of leadership in business world is male dominated and a few women on top are either treated as "unicorn" who must have all the best qualifications, or as the "female version of men" who are expected to have the male leadership style and fully incline to business in their work-life balance. A big part of Chinese traditional views came from Confucius, including the view towards women who are supposed to focus on domestic work and have the life goal of finding a good husband. Today we still hear many parents tell their daughters that high level education (for example, getting a PhD) will discourage potential pursuers. However, on the other hand, Chinese parents want their children to "be the best" and send them to better schools abroad. Chinese market is growing rapidly which seems like everything is changing fast, but at the same time people's value towards social behavior and gender-role attitude is still falling behind. Therefore, as for businesswomen in China, they struggle from both internal individual pressure and external societal pressure. Due to the environmental complexity, strategic decisions can be either weak or forceful to firms. Therefore, this still remains an open question whether companies would defy or not conform to normative expectations in order to gain the untested potential benefits of greater gender diversity.

In China, state-owned enterprises (SOEs) are highly controlled by central government, that legal person or top managers hardly have bigger influence over the government for firm's strategic activities. Some studies even provide evidence of SOEs in China have lower level of being innovative, proactive and risk-taking compare to firms with other types of ownership (Luo et al., 2005). According to our theory, strategic behavior and firm performance will be affected by managers and executives, however in SOEs it will not be the case. The underlying assumption of upper echelon theory may not apply in the context of Chinese SOEs, because SOEs top management teams do not necessarily have the same degree of autonomy as assumed in

Western-based upper echelons research. Therefore, any effects of increased female representation in TMTs may be diluted by the likely commensurate reduced autonomy of top management teams in Chinese SOEs. China has a long history of hierarchical management and governance, that individual leaders usually possess a strong role in organizations (Fukuyama, 2004). Employees often perceive high level of power distance and are more receptive to top-down decision making direction from their leader (Hofstede, 1984).Thus China context become a double edged sword, that on one side provides us a strong cognitive context for top management leadership lead to performance growth, together with the other side of complex environment and uncontrollable factors. Upper echelons theory also assumes that managers are seeking to improve or maximize shareholder value but this assumption may not hold in the specific context of China, where SOEs may have non-profit goals in addition to profit goals. It also suggests that the limitation of the study includes not controlling SOE ownership, and future research can produce more reliable results when take into account the ownership types such as foreign, private owned and state owned firms.

Contribution and Limitation

The main purpose of this study is to provide evidence of women's participation on TMT brings positive effect on strategic activities and performance growth. The research design therefore focusses on the direction of female top managers to strategic change and to performance growth. The reason of using women's participation in TMT as a moderator is to highlight women's contribution to performance growth. It tells company that put more women on top management can be a strategic move, because it can strengthen the effect of strategic change on performance growth. During the data analysis I also found that, when the percentage change of female top managers is high, the companies' strategic is changing more. It doesn't directly lead to positive performance outcome, but it tells company that women can bring changes in decision making thus help generate strategies with better understanding of the situation. As the heterogeneity of skills and knowledge can provide top management teams with diverse inputs and help them be more responsive to environmental change (Carpenter & Fredrickson, 2001).

In our dataset, the 284 companies share big variance in terms of firm size, firm age and including all types of ownership structures. In my sample, firm age varies from 3 to 26, and the number of employees on the date of listed varies from 20 to over 50,000. It indicates the

randomness and the statistic meaningfulness, but at the same time we need to understand those big, old, state-owned enterprises can affect the results we are trying to find. In terms of the measurement, instead of using year dummies, I calculate the variables by year differences. Unlike a lot strategic management researches that use Tobin's Q as the measure of firm performance, I use a composed measure of performance growth by including both ROE growth and ROA growth. This dependent variable measurement is adopted from Tang et al. (2011), where the variable is named "Performance Extremeness". Because we obtained the absolute value of ROE change and ROA change, it won't show if the change is positive or negative but only the extremeness of the performance change. This measure indicates the effect on firm performance, and the results support the argument that female's representation in TMT affect firm performance. However, it might need more alternative measures to focus on testing positive financial gain by adding female to TMT.

This sample set indicates the context uniqueness by itself. It is drawn from public listed firms in China A-shares from CSMAR, which are the mainland China-based companies that trade on Chinese stock exchange. Therefore, the data indicates the actual contextual factors of firms in China. Instead of using dummy variables to indicate female top managers' representation, I use continuous variable and calculate the differences between the two years. In addition, I examine the different status of companies' female top managers' representation by adding control groups.

Overall, this study addressed five hypotheses, one is not supported and the rest are all supported. However, I didn't find any strong and positive correlation between female top managers and strategic change. Possible explanations can involve the industry influence, and Chinese state-owned enterprises influence on organizational performance. I include six industries in China provided by CSMAR as control variables, and only industry 4 have consistent positive correlation with the percentage of female managers as well as with the performance growth. I didn't include ownership types in control variables due to limited resource. In China, ownership structure plays an important role in companies' strategy making, as central government have more power over the focal individuals of companies. In the contrast, China's private sector appears crucial drive in nurturing the trend that encourage more women on top (Lam et al., 2013). As we all known China context involves environmental uncertainty, and it is necessary to consider external drives to firm positioning and strategic activities. For example, board size can

be one of the external influencers, as the board has certain power that might affect strategic deviance and performance (Haynes & Hillman, 2010).

Comparing to other scholars' research in this topic, my study adapts their theory and logic but contributes to the literature with new findings and future research guidelines. One study that focuses on moderator explored how resource endowments moderates strategic change and firm performance suggests that, organizations often differ substantially in their resource positioning and distribution (Kraatz & Zajac, 2001). Especially for companies operating in turbulent environment, where external constraints can largely affect resource distribution thus moderates the effect of strategic change on firm performance. A study in US context uses 15 years longitudinal data on a large sample of public US corporations (Dezso & Ross, 2012) also found positive connection between female top managers and performance. They found that female representation in top management leads to better firm performance but only to the extent that a firm is focused on innovation as part of its strategy. The limitation of this study is that my window for examining the relationship between female participation in strategic change is only three years, and this timeframe may not be sufficient to capture the probable gradual impact on women in the top management team as suggested by Dezso & Ross's 15 year window. Gender diversity as an important demographic heterogeneity in top management, attributing to "innovation" and "openness to change" which is critical to companies' strategy making and performance (Hambrick & Mason, 1984; Shaw et al., 2009). Compare to Dezso & Ross's (2012) research, this study shares the same initiation that focuses on the composition of top management, providing evidence of gender diversity influence on performance. More importantly, I include the variable strategic change in order to see what strategic impact can female top managers bring. Many gender studies in management focus on women entrepreneurs and compare them with their male counterparts, examining if women are better than men in terms of pursuing entrepreneurship (Brush et al., 2009; Bullough, Renko, & AbdelZaher, 2013; Yang & Aldrich, 2014). Brush et al., (2009) mentioned that social, cultural, and institutional arrangements constrain women making strategic choices and frame how other people view their businesses. Therefore they believe that we need more female players in male-dominated industries in order to get women entrepreneurs supported and to change existing norms and values. In Yang & Aldrich's (2014) study, they found that when women co-found business with their husbands, women have fewer change to be in charge. Therefore the leadership impact and

performance outcome will be less influenced by gender, when entrepreneurs are connected by friendship or kinship ties. To help designing better business training programs for women and properly advising policy makers, Bullough, Renko, & AbdelZaher's (2013) study brings in culture effect that predicts women's entrepreneurship. They found that collectivism at the family level can significantly predict women's entrepreneurship, by using both quantatitive and qualitative methods in the analysis.

Researchers in this field have also mentioned that the results can always be different, because in real world we can't control all the outside influencers. One study evaluates the influence of women in top management on performance (Smith et al., 2005) suggests that due to the various measures of performance and the measures of women in top management, the results can be ambiguous. It certainly helps people understand why gender, strategy, and performance are related, but to say there is direct causal effect among them needs a consistent measurement, which we still don't have in today's research world.

To sum up, we can see most gender studies mention the "stereotype gender-role attitude", the "traditional gender role", or the "glass-ceiling" to indicate that women are facing barriers, so ethically we want to see more women to fight through those constraints and show the good outcome. It can be done from research topic of leadership, entrepreneurship, strategic management, organizational behavior, and so many more. I believe this topic will still continue as it contributes to our way of thinking as it brings social arguments.

This study can draw a few guidelines to future research in this field. To conduct a more thorough researches in strategic management in China, we need to draw the importance on ownership structures. First of all, ownership structures are an important variable in corporate governance. Secondly, in China context ownership types can largely affect the balance of leadership effect and regulative effect on organizational performance. In terms on doing research on top management team, this study can be developed by adding more demography data of female top managers such us education background and spouse/family background. Sometimes those traits can determine if the female top manager can actually make substantial contribution to strategy making, so that we can ask the question of "why" and "how" female top managers contributes to strategic change and performance growth. As for improving the research on strategic change, we can involve the various types of strategy such as innovativeness, risk-taking,

and proactiveness. Hence, we can look for which strategy female top managers can influence most and which they influence least.

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