

**Agency Problem and CEO Incentive of Chinese Private Real
Estate Company
-The Case of Sichuan Blue Ray Company**

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Thesis submitted as partial requirement for the conferral of the degree of

Doctor of Management

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May 2016

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Abstract

After many years' development, selection channels of professional managers have become diversified in China's real estate sector. However, comparing with the market economies, market of Chinese professional managers is still immature. Supply and demand is not balanced in selection and recruitment market, reflected as demand exceeds supply. Information transmitting and identifying by social and market systems are incomplete. Market evaluation of professional managers' qualification and reputation is under-developed. Therefore, CEO selection cannot be completely solved through market approaches. A company should establish a valid CEO selection and incentive system according to its specific demand. Based on the practical background, the thesis takes agency problem and CEO incentive in Chinese private real estate companies as the research problem. It is aimed to provide exploratory solutions to the agency issue and expected to give implications to CEO selection and incentive practice in Chinese private real estate companies.

The thesis applies research findings in incentive theories, in both economics and management, following the research paradigm of principal-agent theory. Theoretical foundation is built on principal-agent theory, contract theory and information economics. Single case study is the research method. The top one real estate company in Sichuan province - Blue Ray Company is selected as the study case. In 2006, the company owner and founder decided to introduce professionalization and handed over the management to a professional manager. Since then, the company has been experienced difficulties in CEO selection and alignment of interests of owner and CEO. The thesis focuses on four research questions in Blue Ray: occurrence of the principal-agent problem, competency-based CEO selection, CEO's superstar effect in value creation, and input-based CEO incentive.

Data collection includes primary data and secondary data. Primary data is collected through questionnaire survey and in-depth interviews; secondary data is from macro-economic data, real estate sector data, and company internal data. Data processing is conducted both qualitatively and quantitatively. The thesis develops conceptual models and theoretical models to solve the CEO selection and CEO incentive – the two crucial issues in agency problem, respectively solve the CEO's participation constraint and CEO's incentive compatibility constraint. Although the research findings should be cautiously generalized due to the limitation of single case study, outcomes like the "Two-stage model of CEO selection"

and the “Three-stage model of CEO incentive combination” provide valuable theoretical and practical contributions to solve the agency problem, CEO selection and incentive in particular in Chinese private real estate sector.

Key words: Chinese private real estate company; Blue Ray; Agency problem; CEO selection; CEO incentive

JEL: M51; M52

Resumo

Com o desenvolvimento económico da China, ao longo de muitos anos, assistimos a uma diversificação dos canais de seleção dos gestores profissionais do setor imobiliário chinês. Contudo, se compararmos com outras economias de mercado, o mercado chinês de gestores profissionais é ainda imaturo. A oferta e a procura no mercado de seleção e recrutamento não estão balanceadas e a procura excede a oferta. A informação transmitida pelo mercado é incompleta. A avaliação das qualificações e reputação dos gestores profissionais está subdesenvolvida. Desse modo, a seleção dos CEOs não pode ser somente resolvida através do mercado. As empresas devem criar o seu próprio sistema de incentivos e seleção tendo em consideração as suas necessidades. Tendo por base a realidade empresarial, esta tese tem como problema de pesquisa, as questões de agência e os incentivos aos CEOs nas empresas de imobiliário chinês. Um dos objetivos da tese é providenciar soluções exploratórias para as questões de agência e contribuir para melhorar as práticas referentes aos incentivos e seleção dos CEOs das empresas de imobiliário Chinês.

Esta tese utiliza contribuições teóricas referentes às teorias do incentivo e segue o paradigma de pesquisa da teoria do principal-agente. As fundações teóricas baseiam-se na teoria do principal agente, teoria do contracto e assimetria de informação. O método de pesquisa é o do caso único. A maior empresa do setor do imobiliário na província de Sichuan – Blue Ray Company - foi escolhida como caso de estudo. Em 2006 o dono e fundador da empresa decidiu iniciar o processo de profissionalização dos gestores e escolher um gestor profissional como CEO. Desde então a empresa tem sentido dificuldades na seleção e alinhamento de interesses do CEO com os interesses do proprietário. Esta tese foca-se em quatro questões de pesquisa: ocorrência dos problemas do principal-agente; seleção do CEO baseada na competência; o efeito do CEO superestrela na criação de valor; e o incentivo baseado no input do CEO.

A recolha de dados inclui dados secundários e primários. Os dados primários foram recolhidos através de questionários e entrevistas em profundidade; os dados secundários das estatísticas oficiais (dados macroeconómicos; dados do sector) e dos relatórios da empresa. Para analisar os dados foram utilizados métodos quantitativos e qualitativos. Esta tese desenvolve modelos conceptuais que permitam resolver os problemas de seleção e incentivos

do CEO – dois problemas importantes do problema de agência. Embora, tenhamos de ser muito cautelosos na generalização dos resultados, devido ao facto de termos estudado um caso único; resultados obtidos, como o “ o modelo de seleção em duas etapas” e “ o modelo de combinação de incentivos do CEO em três etapas” providenciam contribuições teóricas e práticas para a solução de problemas de agência, seleção e incentivos aos CEOs em particular para o setor imobiliário Chinês.

Palavras-Chave: Empresa privada do setor imobiliário; China, Blue Ray; Problema de agência; Seleção de CEO; Incentivos ao CEO.

JEL: M51; M52

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List of Acronyms

CEO	Chief Executive Officer
CFO	Chief Finance Officer
CRM	Customer Relationship Management
EMBA	Executive Master of Business Administration
GDP	Gross Domestic Product
HR	Human Resources
KPI	Key Performance Indicator
RMB	Renminbi Yuan
ROA	Return on Assets
SOE	State-Owned Enterprise

Chapter 1: Introduction

This chapter gives a general introduction of the thesis. It introduces research background of the thesis, including both theoretical background and practical background; proposes and defines the research problem - the principal-agent problem and CEO incentive of Chinese private real estate companies. The chapter demonstrates research purpose and expected contribution. Finally, the chapter presents the research framework of the thesis.

1.1 Research background

1.1.1 Theoretical background

1.1.1.1 The occurrence of agency problems

1) Separation of control and management

As early as 1932, Berle and Means mention in their book *Modern Corporation and Private Property* (Berle and Means, 1932), the development of industrial technology brings about the large-scale production and the expansion of company scale, and the wealth of companies' ownership becomes fragmented because of being diluted, which results in the phenomenon that the owner of ownership has no corresponding control, and the owner of control has no corresponding ownership. The two rights separation leads to the principal-agent relationship. It is assumed that both the principal and the agent are rational seekers of self-utility maximization, therefore, the principal's utility preference is different from the agent's utility preference, thus the conflicts of objectives occurred. The objective preference of business managers is to seek maximization of his/her own interests, while the preference of business owner is to aim at maximizing shareholders' interests. The deviation between the two preferences leads to conflicts between the two parties' maximized decisions and behaviors. When the manager pursues his/her own interests and damage the interests of shareholders, the contract of the principal and agent is incomplete or cannot be conducted at a low cost, principal-agent problems arise (Jensen and Meckling, 1976; Fama and Jensen, 1983).

2) Asymmetric information

According to economics of information (Stiglitz, 1977; Chu, 2002; Zhang, 2004; Chen, 2010), no matter in what social economic system environment, there exists asymmetric information between company owners and managers; the information asymmetry varies in form and degree. Asymmetric information indicates that information has an unbalanced distribution between the involved parties. The information known or informed party has information advantage, while the information unknown or uninformed party has information disadvantage. For example, manager has complete information of his/her own ability and effort input, while the owner (s) or shareholder (s) has very limited or distorted information about the manager's ability and input. This makes information observation very difficult, thus choosing "good" managers and motivating managers a issue of complexity for company. Asymmetric information can be divided into "ex-ante" asymmetric information and "ex-post" asymmetric information. The former is also known as the "hidden information"; the latter is also known as the "hidden action". For example, a manager's private information about his own quality and capability is the "hidden information" for a company. Before signing contract with the agent, the principal company can only incompletely observe and reveal the manager's "hidden information" through, for example, schooling or education, head-hunting and recruitment. Asymmetric information occurred during the contract complementation, like the manager's individual productive input is "hidden action". According to principal-agent theory, the principal does not take part in specific production activities, thus the principal cannot observe the agent's action, however the results of the agent's "hidden action", like the agent's outcome and performance can be observed. The two types of asymmetric information result in two types of problems respectively. The "ex ante" asymmetric information results in "adverse selection" problems, which is closely linked with selection of CEO. The "ex-post" asymmetric information may lead to managers' "moral hazard" problem, whose solution focus is the CEO incentive.

1.1.1.2 Solution to agency problem

After the occurrence of principal-agent relationship, how to reduce agency cost and interest conflict between principal and agent becomes the focal issue for scholars. Designing an effective incentive scheme aimed at alliance of interest preferences of principal and agent is the key to solve principal-agent problem.

1) Design of incentive scheme

The essential purpose of an incentive scheme is to harmonize the interest deviation of

control and ownership. The key is to constantly improve the incentive contract and at last make the principals' objective function maximized under the participation constraint and the incentive compatible constraint. Ye (2004) points out that a complete principal-agent contract must satisfy three conditions simultaneously. The first condition is the "individual rationality", also called as the "participation constraint". It means that when the principal requires the agent to input a certain effort, the loss of the agent under this input should be equal to at least the agent's total utility that he can get from other principals. This means that the contract the principal offers is somewhat attractive to the agent, and make the agent have a "I'm in" decision. The second condition is the "incentive compatibility constraint". In market economy, every rational economic man has self-interest nature, which means the individual behavior is conducted according to the "self-interest" rule. If there exists a kind of institutional arrangement that can make an alignment between the individual's "interest-pursuing" behavior and the company's value maximization objective, this institutional arrangement is "incentive compatibility". The "incentive compatibility constraint" means the principal's expected outcome must satisfy the agent's interest, because the agent's input for the principal is made based on the agent's own self-interest maximization. If the principal's requirement goes against the agent's will, no optimized outcome will be gained. The third condition is that the principal can get maximized profit after the agent implements the contract.

2) CEO incentive

The nature of company team work makes every member's importance in the production business activities be different. The contribution of each team member determines the relative position and the range of right of each member, thus affects the distribution pattern of rights, responsibilities and interests in the company. Taking the nature of company team production into consideration, when the top executives are motivated, a very important task for the top executives is to motivate their subordinates. When motivation is passed down along the organizational hierarchy, a company's incentive chain is constructed (Xiao, 2006). In a hierarchical organization, an incentive chain has three levels. The three levels of incentive, from the top, the middle to the basic respectively represent the institutional, the managerial and operative level of a company's incentive. Incentive chain is the fundamental structural of a company's incentive scheme. Positioning at the top of the company hierarchy, a CEO has the most significant contribution among all company members, no matter the contribution is positive or negative. In an organization, CEO is considered as the most important and strongest role. A company's performance to some extent reflects a CEO's input, involved with

the CEO's individual capability and effort. According to Finkelstein and Hambrick (1996), it is the CEO who takes the full responsibility of an organization's behavior and performance. Activities of top management are magnified geometrically because they affect recursively the productivity of all who work below them in the organization. This “scale of operations” effect, multiplying little bits over each of many units, accrues to the more talented managers as economic rent in a competitive equilibrium, much like a “superstar” effect (Rosen, 1992). The importance of a resource factor in a company depends on two parts. The first is the role of this factor in company's production and business activities; the second is the degree of scarcity of this factor. Considering the scarcity of the human capital, CEO is the scarcest factor among all human capital. Followed by this logic and rationale, the focal issue of a company incentive mechanism is how to incentive the top management, CEO in particular.

1.1.2 Practical background

1.1.2.1 Background of Chinese real estate industry

1) Contribution of real estate industry to Chinese economy

Since the reform of China's housing system in 1998, the real estate sector started the overall market-oriented reform. Huge housing demand accumulated in the planned economy and housing-allocated period were released dramatically. China's high-speed economic growth and progress of urbanization together promoted the vigorous development of the real estate industry in China. The investment scale of real estate sector keep increasing year by year. The real estate market has gradually formed, improved and become mature. The present real estate sector has developed into a crucial sector that involves land, construction, transaction and financial services into a multi-chain and multi-sector industry. China's real estate sector plays a leading role in pushing the development of financial insurance, wholesale and retail, construction industry, chemical industry, leasing and commercial services, metal smelting and calendaring processing industry, and mechanical industry (Li and Wang, 2011). According to Li and Wang (2011), taking the year 2007 as an example, each unit output in real estate sector drove the increase of 1.17 unit output in all other sectors. The dual attributes of investment and speculativeness of real estate fully appeared. Since 1998, real estate investment averagely took 8.6 percent of China's GDP (Gross Domestic Product) and contributed significantly to China's economic growth. In 2012, every 1 percent increase in real estate investment affected 0.13 percent increase in China's national economy. Among consumption, investment and export trade, the three driving forces for growth of an economy,

investment and export trade constructed the core in China's growth. In investment, the real estate investment is the leading force. The improvement of real economy development, infrastructure construction and rise of people's income level formed the demand for urbanization, thus a rapid development of real estate was driven. As a result, the economic growth was pushed high. It is generally accepted that among the driving forces of "China's growth", export, government investment and real estate are the three most important forces. According to composition of 2012 GDP growth in China Statistical Yearbook 2013 issued by China's National Statistics Bureau (NSB), investment takes 50.5 percent, and real estate investment contributes 13.83 percent to GDP. Land granting increased government income and resident income. Government income was inputted for investment, and resident income transferred to savings and demand. See Table 1-1 for contribution of real estate investment to China's GDP (1998-2012).

Table 1-1 Contribution of real estate investment to China's GDP, 1998-2012

Year	Real estate investment		China's GDP		Percentage
	Billion RMB	Billion Euros	Billion RMB	Billion Euros	(%)
1998	3,614	539	84,402	12,597	4.28
1999	4,103	612	89,677	13,385	4.58
2000	4,984	744	99,214	14,808	5.02
2001	6,334	945	109,655	16,366	5.78
2002	7,790	1,163	120,332	17,960	6.47
2003	10,153	1,515	135,822	20,272	7.48
2004	13,158	1,964	159,878	23,862	8.23
2005	15,909	2,374	184,937	27,603	8.60
2006	19,422	2,899	216,314	32,286	8.98
2007	25,288	3,774	265,810	39,673	9.51
2008	31,203	4,657	314,045	46,872	9.94
2009	36,242	5,409	340,506	50,821	10.64
2010	48,267	7,204	397,983	59,400	12.13
2011	61,740	9,215	471,564	70,383	13.09
2012	71,804	10,717	519,322	77,511	13.83

Note: 6.7 is the fixed exchange rate of Euro and RMB yuan used in this thesis. It is the exchange rate at the end of 2014, when the research data of the thesis was collected.

Source: Chinese Statistical Yearbook (2012)

Since China's reform and opening-up in 1978, after 34 years' averagely annual growth at

9.86 percent, China's economy slowed down to 7.7 percent in 2013 (China's National State Statistics Bureau, January 20, 2014). This growth hit the lowest in 14 years. China's economy stands at a critical period of development transformation. The change of economic growth model, consumers and other personal participants will play a more important role. By means of correlation calculation (Wang, 2012), from 1986 to 2009, relevancy between volume of investment in China's real estate and GDP reached up to 0.974; relevancy between volume of investment in China's real estate and fixed assets investment reached to 0.997 (shown in Figure 1-1). Because of the high relevancy between real estate investment and GDP growth, it is expected that a steady long-term development of China's real estate investment will keep parallel development with China's steady GDP growth in the future.

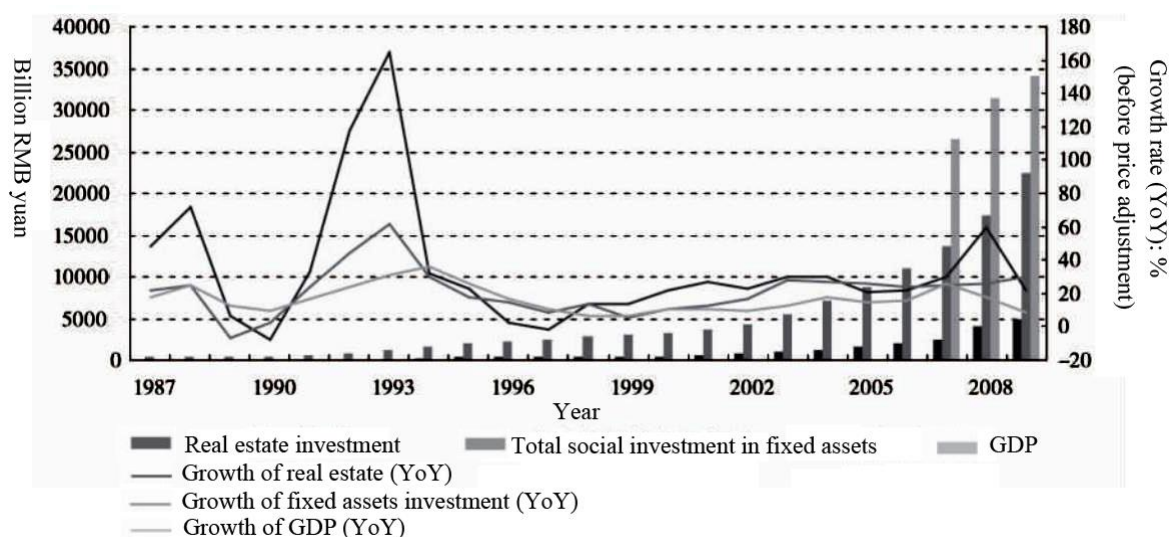


Figure 1-1 Correlation of real estate development and macroeconomic development in China, 1986-2009

Source: Wang (2012)

Since 1998, China's housing reform has conducted market operation of commercial housing and allowed real estate developers to enter the housing transaction. Long-time accumulated demand for housing and rapid development of China's urbanization process produced a "golden decade" of rapid development and barbaric growth for real estate investment. Meanwhile, the rapid development share people opportunities of obtaining value from investing real estate. In recent 10 years, China's real estate presents a "sellers' market". When demand exceeds supply, the attribute of investment for getting added value appears. This attribute is beyond the "living" attribute of rigid demand for housing. Therefore, in recent 10 years, housing price has kept increasing rapidly. Although relative policies were issued to control the excessive growth on housing price, little effect obtained and the housing

price still increased continuously. The reasons on the one hand, is the high growth of China's economy and the process of urbanization that promoted the urban employment and population increase, thus development of services sector and rise of people's income formed the great demand for real estate. On the other hand, real estate in China has developed into an important investment goods under the continuous pushing of high housing price during the "golden decade". It is generally accepted by Chinese people that real estate is the only goods that has both attributes of residence and investment in China. Under the strong push of the two big demands, demand for rigid residence and demand for investment for added value, housing price in China keeps rising. Overtaking the rigid demand, the strong demand for investment and speculation become the dominant driver to push up the housing price.

In conclusion, real estate's contribution to China's economic development makes it become the "barometer" of China's economy, local economy in particular. Therefore, this thesis chooses the hottest sector, real estate sector in China as the research object. This research field has both realistic and theoretical significance.

1.1.2.2 Background of Chinese private real estate companies

From "Top 50 Real Estate Companies in China, 2011-2013" issued by the Chinese Kerr Real Estate Research Center, proportion of private companies in the Top 50 keeps increasing, from 66 percent in 2011, 68 percent in 2012, to 68 percent in 2013. Private companies' contribution to sales revenue in the Top 50 increased from 68 percent in 2011 to 70 percent in 2013 (see Table 1-2). Therefore, no matter from size or sales revenue, private companies are the main force in China's real estate industry.

From Table 1-2, comparing with SOEs (State-Owned Enterprises) in the Top 50, private companies are the most important participators and competitors in the real estate sector. The growth of private real estate companies has close relationship to the sustainability of the real estate industry and even China's economic prosperity. That is the reason why this thesis lock private real estate company as the specific research object.

Table 1-2 Distribution of Chinese real estate top 50 companies, 2011-2013

Year			2011	2012	2013
Private companies	Quantity		33	34	34
	Percentage (%)		66	68	68
	The income	Billion RMB yuan	837.7	1,080.20	1,501.50
		Billion Euros	125	161.2	224.1
	Percentage (%)		68	69	70
SOEs	Quantity		17	16	16
	Percentage (%)		33	32	32
	The income	Billion RMB yuan	386.6	492.8	634
		Billion Euros	57.7	73.6	94.6
	Percentage (%)		32	31	30

Source: Chinese Kerr Real Estate Research Center

In “Top 50 Real Estate Companies in China, 2011-2013”, compared to the non-private companies, ranking of private companies changed significantly. The change represents “in or out” list and order of ranking. See Table 1-3 for details. Comparing the 101 private companies to the non-private companies in the Top 50 companies in 2011-2013, we can find: 16 companies/times were out of the list, taking 16 percent of the Top 50 companies; 9 companies/times kept ranking unchanged, taking 9 percent of the Top 50 companies; 26 companies/times ranked lower down, taking 26 percent of the Top 50 companies. However, the data of the 49 non-private companies indicates: 4 companies/times were out of the list, taking only 8 percent of the Top 50 companies; 12 companies/times kept ranking unchanged, taking 24 percent of the Top 50 companies; 6 companies/times ranked lower down, taking 12 percent of the Top 50 companies.

Table 1-3 Ranking of Chinese real estate top 50 companies, 2011-2013

Serial number	Change category	Private companies		Non-private companies	
		Frequency (company/time)	Percentage (%)	Frequency (company/time)	Percentage (%)
1	New-in	16	16	4	8
2	Higher	17	17	10	20
3	Unchanged	9	9	12	24
4	Lower	26	26	6	12

Source: Author tidied according to data issued by the Chinese Kerr Real Estate Research Center, 2014

Studying the changes of ranking and sales revenue of private real estate companies in 2011-2013, we can find the threshold value for China's Top 50 Real Estate Companies keeps increasing. The threshold value is 7.8 billion RMB yuan (equals to 1.16 billion Euros) in 2011, 10.2 billion RMB yuan (equals to 1.52 billion Euros) in 2012, and 15.1 billion RMB yuan (equals to 2.25 billion Euros) in 2013, with an average increase at 40 percent in the three years. Taking Evergrande Real Estate Company¹ (hereinafter Evergrande) as an example. Evergrande's sales revenue of 80.8 billion RMB yuan (equals to 12.06 billion Euros) in 2011 made it ranked the second in the 2011 Top 50. In 2013, Evergrande's sales revenue amounted to 108.2 billion RMB yuan (equals to 16.15 billion Euros) with an increase at 34 percent, however, it ranked down from the second in 2011 to only the seventh in 2013. Compared with non-private companies, private companies face even fiercer competition. Private real estate companies face more challenges in financial environment, investment environment, political environment, and in-company managerial environment.

The above evidence shows competition of China's real estate sector is intensified with the development of China's private real estate companies. The concentration of real estate sector becomes higher and product innovation speeds up, competition in this sector upgrades to a comprehensive and longitudinal one. Phenomena like "fast fish swallows slow fish" and "big fish swallows small fish" happened. After more than three-decade reform, the first generation entrepreneurs and founders in private real estate companies have gradually stepped down and withdrew from the forefront positions. The founders of private real estate companies have three options:

Option 1: Keep working at the current position while fighting against the aging problem.

¹Evergrande Real Estate Company was founded in 1997, and its headquarters locates in Guangzhou, China.

The founder is getting old and his/her age and energy will not allow him/her to continue working under high pressure in the front line. This option lacks sustainability in a long-term. A build-for- last company needs a sustainable leadership.

Option 2: Initiate a family succession plan and choose an offspring successor. This somehow solves the problem of trust which is a very general but severe practical problem in China. However it brings out the problem of shortage of specialized capacity. In a highly competitive and full of uncertainty industry like real estate, professional skills and talented managerial capability are required. Family successors may not meet the qualification because of their young age and lack of practical experience. On the one hand, the heirs' psychological quality, managerial ability and professional background cannot fully support them to run the business, especially in a very competitive industry, like real estate. On the other hand, the heirs may share no common interest of their parents' generation. They may have no interest of sustaining their parents' business. Thus, this choice is not a ready to go choice.

The unrealistic of option 1 and immaturity of option 2 make option 3 a practical choice for private companies that is the founder entrusts a professional manager to run the business. However, this option has two dilemmas. On the one hand, Chinese professional managers market is still far from mature. A good environment for recruitment, evaluation, assessment and incentive of professional managers has not been established completely. Professional managers' professional ethics and moral still have a long way to go and need to be improved. Generally speaking, Chinese professional managers have relatively low credibility and trustworthiness. The incomplete supportive rules and regulations makes the company founders concerns a lot about the risk control after authorized the management to an outside manager. On the other hand, once a professional manager is contracted, how “moral hazard”, like free ride and inside trading under asymmetric information will not occur? These dilemmas are the company founders need to face to and solve away.

For a company that conducts principal-agent relationship, a chain of principal-agent relationships is actually formed along the organizational hierarchy. The company founder is the ultimate principal of the chain. He/She contracts an outside professional manager as an agent. The agent functions as a sub-principal to contract sub-agent(s) down along the organizational hierarchy. Then the sub-agent(s) function(s) as a third level principal to pass down the principal-agent relationships. To highly focus our research, we lock the primary principal-agent relationship formed by the company founder/owner and the professional manager/CEO as our research object. This primary agency relationship plays a leading and

decisive function in a company's chain of principal-agent relationships.

When professionalism is adopted in a private company, the founder or owner of the company face two dilemmas: first, how to choose the best suitable and talented CEO as an agent? Second, when the CEO is selected and recruited into the company, how to design an incentive scheme to motivate the CEO to work harder and produce more value creation, instead of producing "moral hazard" activities like free-ride and inside trading? Therefore, the focal problem in process of development and professionalism of China's private real estate companies is how to choose and how to motivate the CEO, the primary agent of the company.

The rapid expansion of private real estate companies in terms of size and scale brings out challenges to private companies. One of the challenges is that private companies are getting more difficult to recruit talented managers. Current China's real estate labor market is developing and imperfect. On the one hand, private real estate companies send out huge demand for qualified professional managers; on the other hand, private real estate companies resist recruiting outsiders and hold a defensive attitude towards professional managers. Many negative cases exposed damaging activities conducted by the professional managers. These cases deepen the private company owner's worry and concern about the manager's "tunneling". Thus this thesis focuses on the challenging research on agency problem and CEO incentive in private real estate companies in China. It aims to provide a feasible solution to this research problem, both theoretically and practically.

1.1.2.3 Background of Sichuan Blue Ray Company

The thesis chooses Chengdu-headquartered Sichuan Blue Ray Company (hereinafter Blue Ray) as the case company. In 2012, Blue Ray was ranked 36th in China's Real Estate Top 50 Companies, with a sales revenue amounting to 12.5 billion RMB yuan (equals to 1.87 billion Euros). Founded in 1993, Blue Ray identifies its core business as a residential real estate developer and services provider. Commercial real estate business functions as a complementary. The company possesses the highest qualification for a real estate developer. After twenty-two years of prosperous development, Blue Ray has formed a strategic layout covered North China, East China and Central China. It centers in China Southwest economic circle including Chengdu, Chongqing, and Kunming, and expands to first layer cities of Beijing, Shanghai, and Guangzhou. The company owns total assets of 15 billion RMB yuan (equal to 2.2 billion Euros), 15,000 acres of land, and more than one thousand employees. The company's annual capacity of real estate development is more than 5 million square meters. The annual delivery is more than ten thousand sets of housing. The total number of

development projects is one hundred, with total development area of 15 million square meters. The company annually contributes tax at more than one billion RMB yuan (equals to 149 million Euros) to local economy. Blue Ray is the top 1 real estate company in Sichuan province in successive 8 years. According to The Top 50 Chinese Real Estate Companies' Sales in 2013 published by China's Real Estate Assessment Center, Blue Ray was ranked the 35th company in Top 50 for its sales revenue of 20.64 billion RMB yuan (equals to 3.1 billion Euros), the 27th company for its trading area of 2.37 million square meters. Since the strategic turning to residential development in 2006, the company has achieved rapid growth at 60 percent annually. In 2006, the owner of Blue Ray decided to transfer the company's management right to professional managers. Since then, Blue Ray suffered from the dilemma of selection and reconciliation of CEO as well as the profit collisions between CEO and company owners.

1.2 Research problem and questions

1.2.1 Research problem

Firstly, comparing with the developed countries in Occident, China does not have a high level of mercerization and its professional manager market is not complete. Moreover, China is short of a mature professional manager market; secondly, it is a relationship-type society. In the non-contract society, connection is principle, which takes a large part of resources. By contrast, Chinese society is lacking in the spirit of contract. However, with expansion of company scale and business scope, the demand for talented person increases, and many companies begin to try professional manager system, as well as changing its relational governance to contract governance; but it is worth mentioning that the selection of Chinese professional manager is not easy, because the proliferation of fake diplomas in society makes the recognition capability of the external signal mechanism not work, which brings some blocks to the professional managers' options. In view of these three points, options of professional managers cannot be solved by external market like the way it is solved under the mature and developed market economic circumstance; instead, it has become a management problem of Chinese company endogenous and needs the company to establish a set of mechanisms to solve CEO's selection and incentive problems by themselves.

In 2006, Blue Ray, a Chinese private real estate company that located in Chengdu, the owner of which decided to transfer the company's management right to professional

managers. Since then, it suffered from the dilemma of selection and reconciliation of CEO as well as the profit collisions between CEO and company owners.

1.2.2 Research questions

Based on the above descriptions, main research problem in this thesis is private real estate companies' principal-agent problem and CEO incentive. Two rights separations and professionalization process in development process of private real estate company inevitably produce agency problems. Key point of dealing with agency problems is how to design an incentive mechanism to correct and reconcile contradiction and bias of maximization goal preference between CEO and principals. Since CEO's amplification effect to products in company management, CEO incentive becomes the key point of solving agent problem as well as core and permanent theme of corporate governance. Based on it, this thesis sets Blue Ray as an example and researches:

Research question 1: How did the principal-agent problem arise in Blue Ray?

In this thesis, we interview with the owner of Blue Ray and its former CEO. Also we will elaborate the motivation of the presence of two rights separations and introduction of professional manager scheme during Blue Ray's development process through empirical and theoretical analysis. Generation of principal-agent problem in Blue Ray and CEO's amplification effect in Blue Ray's value creation contains two specific questions:

1) How to produce two rights separations in Blue Ray's development process? What is the reason why Blue Ray chooses this governance structure?

2) Is there CEO's amplification effect in Blue Ray's value creation activities? How to works?

Research question 2: How to select a capable CEO for Blue Ray?

By establishing a theoretical model, the thesis deals with the CEO selection problem based on competency and the participation constraint which satisfying CEO under the problem of information asymmetry. Besides, this article also adopts the method of questionnaire survey to empirically analyze the competency of Blue Ray's CEO.

Research question 3: How to incentive the selected CEO to realize Blue Ray's maximal value creation?

By the theoretical model and questionnaire survey, it sets out the CEO incentive's star amplification effect in Blue Ray's value creation process and under the problem of

information asymmetry solves the CEO incentive problems based on endeavor and incentive compatibility constraint conditions that meet to realize the maximization of company.

According to the paradigm of principal-agent theory, problem of Blue Ray's principal is to design an incentive contract $s(\pi)$ provided for CEO and reward and punish the CEO according to generation π . So, principal's maximization problem can be expressed as:

$$\begin{aligned} & \max_{a, s(\pi)} \int v(\pi - s(\pi)) f(\pi, a) d\pi & (1-1) \\ \text{s.t. (IR)} & \int u(s(\pi)) f(\pi, a) d\pi - c(a) \geq \bar{u} \\ \text{(IC)} & \int u(s(\pi)) f(\pi, a) d\pi - c(a) \geq \int u(s(\pi)) f(\pi, a') d\pi - c(a'), \forall a' \in A \end{aligned}$$

(IR) formula can be called as individual rationality or participation constraint, which shows that when the CEO accept the contract, its expected utility (or can be called reservation utility) cannot be less than the utility $\bar{u}$ as he does not accept the contract.

(IC) formula is incentive compatibility constraint, which means the utility CEO obtains from the principal's expected action must not be less than the utility that the CEO obtains from other actions $a' \in A$. a' stands for all the other actions except for a .

Thus, Blue Ray's CEO incentive document can be manifested as:

1) CEO's screening and selection when information is hidden (ex-ante information asymmetry): participation constrains Ex ante information asymmetry (hidden information) can be showed as unobservable of CEO's ability and adverse selection caused. There out, how principals can design incentives based on ability, and identify and select optimal job CEO by satisfying agent's participation constraint.

2) CEO's struggling options under hidden action (ex-post information asymmetry): incentive compatibility constrains Ex-post information asymmetry (hidden action) can be showed as unobservable of CEO's producing effort and moral hazard caused. Therefore, how the principals can design incentive based on endeavor, and achieve maximization of the principal by satisfying CEO's incentive compatibility constraint.

1.3 Research purpose

The thesis studies the principal-agent problem and CEO incentive of private companies by analyzing the case of Blue Ray. It seeks theoretical explanations and support for CEO

professional managers system of Blue Ray and simultaneously solves Blue Ray's CEO selection and incentive problems under information asymmetry to temper interest conflict between owner and CEO under separation of two rights and achieve companies' value creation and maximum of CEO's personal value.

Research purpose includes:

Firstly, according to the interview with the founder of Blue Ray and successive CEOs, the reason why the company introduces professional managers and principal-agent problem due to separation of two rights in the process of professionalization are found.

Secondly, the thesis builds theory models to solve CEO selection under asymmetric information and fulfill CEO's participation constraint condition, moreover to guarantee the agent entered into Blue Ray is qualified.

Finally, the thesis explains and proves CEO's amplification of the company in value creation through questionnaire. Building theory models is to solve CEO incentive under asymmetric information and guarantee CEO's effort in the company fulfill CEO's participation constraint condition so as to align CEO's effort and the principal's purpose to realize company's maximal value.

1.4 Expected contribution

The thesis is about the research of private real estate companies' agency problem and CEO incentive, and has certain learning value and contributions for Blue Ray as well as other companies in real estate industry. Firstly, the thesis solved the case company Blue Ray's management dilemma about selection and incentive of CEO and solved CEO selection problem based on competency under problem of information asymmetry and CEO incentive problem based on effort under problem of action asymmetry. Secondly, for real estate companies, agency problem is a universal problem in Chinese real estate industry especially for private companies. The thesis builds "two-stage model of CEO selection", which is provided learning and reference for real estate companies. The thesis also proposes three progressive main incentive resources for three stages, namely materials, control and balance between work and life. Solving method on CEO incentive in Blue Ray is also provided learning and reference for real estate companies. Finally, China's companies are in the process of transforming from family-based management into professionalization and specialization management. Establishment and perfection of professional managers market are always the

most significant part. It is also worth learning that real estate professional managers system's establishment and perfection for China's professional managers market in the thesis.

1.5 Research framework

The thesis researches Chinese private real estate companies' agency problem and CEO incentive by analyzing the case of Blue Ray. The thesis contains six chapters (shown in Figure 1-2), and the research content is as follows:

Chapter One: Introduction. This chapter introduces the topic that the thesis research, which lay a groundwork for whole research's development. The content of this section contains research background, research problems, purposes and meaning of research, value and contributions of research and thesis's research framework.

Chapter Two: Literature review. This chapter mainly looks back the research of principal-agent theory, contract theory and information economics, which will have support and guidance significance for case study of Blue Ray in latter thesis.

Chapter Three: Research method and research design. This chapter introduces research approach of this thesis and then introduces needed data collection methods for the research including primary data collections and secondary data collections. Primary data collections is mainly doing an in-depth interview for the case companies and data collections; Secondary data collections is mainly collections of listed company, association report, economic statistical yearbook and macro data. In the end of the chapter the methods of data processing are introduced.

Chapter Four: The history and evolution of Blue Ray. This chapter introduces the history and evolution of Blue Ray, and it includes the founding and the founder of the company, company's strategic turning points and current situation and professionalization process.

Chapter Five: Field work: case study of Blue Ray. This chapter starts from the founding and the founder of the company, then history and evolution of the company; how agent problems appeared and what main reasons caused appearance of agent problems in development process of Blue Ray; and then it discusses solutions of agent problems by model and demonstration analysis including two parts, CEO selection and CEO incentive.

Chapter Six: Discussion and further research. This chapter includes the main discussion, research limitations and further research.

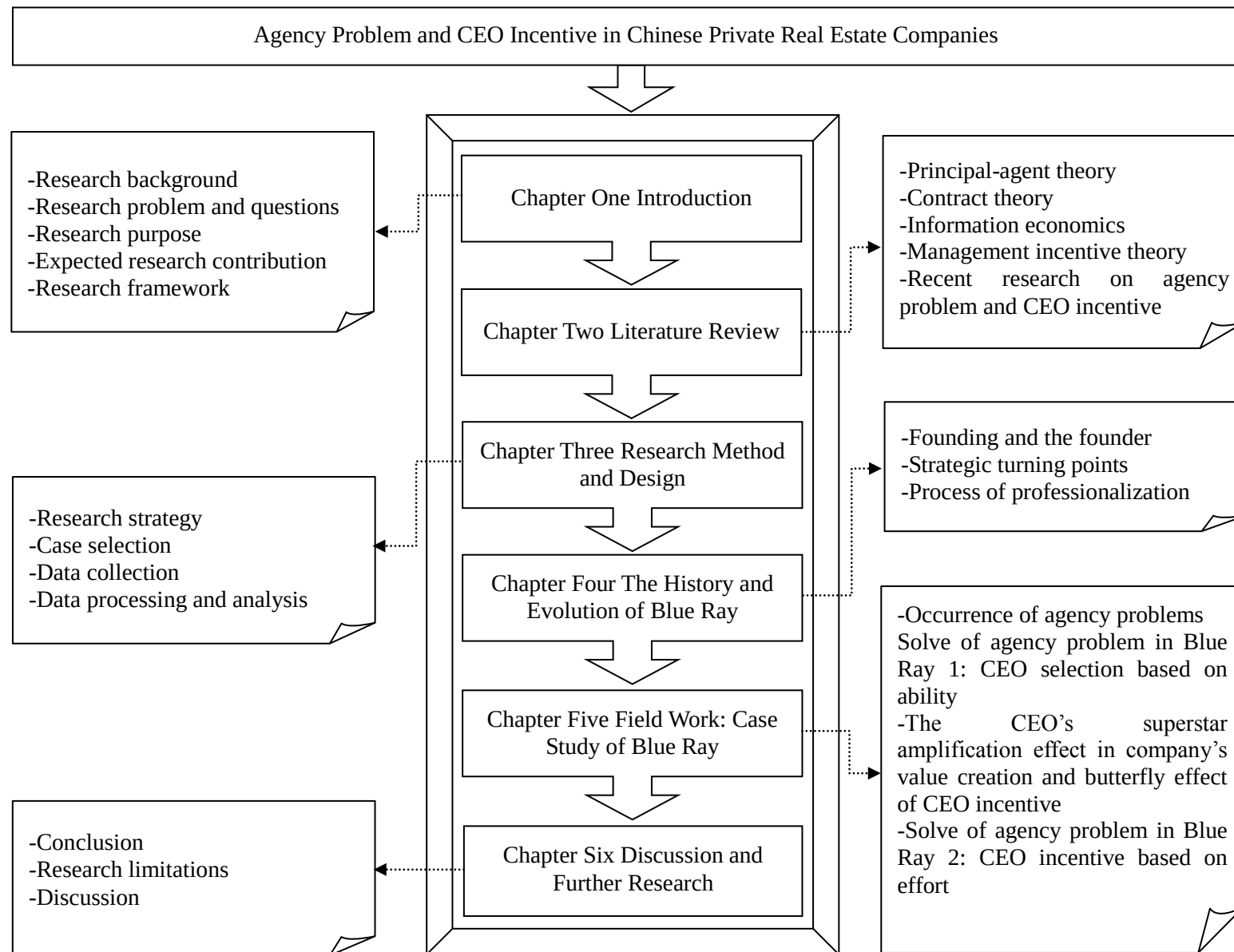


Figure 1-2 Research framework of the thesis

Chapter 2: Literature Review

This chapter mainly reviews the researches of principal-agent theory, contract theory, information economics, and the management incentive theories, which will be used to research and analyze the case of Blue Ray.

2.1 Principal-agent theory

As early as 1932, Berle and Means mention in their book *The Modern Cooperation and Private Property* (Berle and Means, 1932), the development of industrial technology brings large-scale production and the expansion of company scale, and the ownership of company's wealth becomes fragmented because of dilution, which therefore lead to the phenomenon that the owner of property has no corresponding control to the property while the person who has the right to control has no the corresponding right to possess. This is the Two Rights Separation. The ownership and control of a company diverge and the owner is not a 100 percent manager. Two rights separation results in the appearance of principal-agent relationship. It means that there exist two types of participants: the principal and the CEO, however the information between principals and CEO is asymmetric. As Chu (2002) said, "no matter in what kind of social economic system, the information asymmetry between principals and CEO exists, but the degree of information asymmetry and Manifestation is different." Asymmetric information refers to the information that one side knows, while the other side does not know. For example, the managers themselves know their abilities and effort level, but the shareholders of the company know little about it. CEO has private information, whose qualities, abilities and behavior is not easy to observe. This kind of hidden information action is called ex-ante information asymmetry; On the other hand, because the principals do not participate in specific production activities, they are asymmetric with CEO's information and their effort level is not easy to observe, the CEO will hide action. Especially in the execution of the contract, there are lots of uncertainties and the trustworthy degree between principal and CEO is always gone through the test, so the agent's opportunism space is very large. Both principals and CEO are rational maximized pursuers of their own utilities. The target preference of company's managers is to search their own utilities maximum, while the owner takes the shareholders' maximal interest as goal. There exist difference and conflict between

two sides' target preference, and there is a deviation of maximum decision. Thus the principal-agent problem is generated.

The presupposition of principal-agent theory is: there exists interest conflict between the principal and CEO; the information between the principal and CEO is asymmetric. The principal-agent theory is attributed to economics and finance model. They believe that human's behavioral motives result from the consideration of self-interest, self-protection and promoting self-status. Principal-agent theory cannot guarantee that the decision managers make is on behalf of the shareholders. There exist conflicts of interest and goals between them. The interest conflict between managers and shareholders is called as agency cost (Sundaramurth and Lewis, 2003), which can be simply interpreted as the fee resulted from the interest conflict of every related side. Principal-agent theory holds that people's behavior is not driven by intrinsic motivation. They need to be controlled and managed; otherwise, they will be selfish. The basis of principal-agent theory is the separation of ownership and control. Fama and Jensen (1983) think that in order to have an effective decision-making process, the right of decision control of the approval and supervision must be separated from the right of decision management of carryout. Jensen and Meckling (1976) think that once the manager has the chance, they will make a decision that maximized their own interests. They point that the agency cost contains three aspects: the necessary expenses of supervisors and managers; the additional management fee avoiding managers' damage to shareholders' actions; the reduced shareholders' welfare resulted from the divergence between managers' and the maximum of shareholders' interest decision. There generally exist two kinds of principal-agent relationships in modern companies: the principal-agent relationship between controlling and non-controlling shareholders; the principal-agent relationship between controlling shareholders and managements. In order to protect shareholders' interests, the principal-agent theory is aimed at coordinating the interests of owners and managers to reduce agency cost. By separating ownership and control, owners can monitor the manager's behaviors to limit and prevent their wrong activities.

The first person who put forward the word "principal-agent" is Ross (1973). He points out that since owner need take most or all of the risks to get benefits, they are called as the principal, and managers are called as agent because they may not take a risk for their own behaviors. Then Mirrless (1976) establishes a "principal-agent" mathematical model by using Parameterized distribution formulation. Later, when Holmstrom (1979) studies the moral hazard and observe abilities of managers, he uses "The first-order approach" to prove and

deduce that when the behavior of the agent is one dimensional continuous variable, the optimal contract when the information is asymmetric is the same as the situation that the agent's behavior is a discontinuous variable. Actually, Mirrless (1976) and Holmstrom's (1979) models are under the condition of "participation constraint" and "incentive compatible constraint" to design an agent incentive contract to make the agent's behavior accord with the principal's interests.

Mirrless (1976) and Holmstrom's (1979) research set up basic analysis framework for the development of agent theory and lay a foundation for latter scholars' researches. The used-car market model provides theoretical explanations for reverse choose problems under information asymmetry. The thesis also uses other cases to validate the model. In the used-car market, customers only pay corresponding price according to the average qualities of the car. Thus, the used-car sellers whose car qualities are higher than average qualities will gradually quit from transaction market. The paying price of customers will accordingly decrease with the drop of average qualities. If things continue in this way, there will only be low-quality cars in the used-car transaction market. Supposing there are only two types of bargainers, the utility function is respectively:

$$U_1 = M + \sum_{i=1}^n x_i \quad (2-1)$$

$$U_2 = M + \sum_{i=1}^n 3/2 x_i$$

In (2-1) and (2-2), M is the consumption of other consumption goods except cars, n is the quantity of the car and x_i is the quality of i car.

Soon after, Spence (1974) initiates signal transmission theory. The employers of the company wish to select competent employees, but employers cannot know the abilities of employees as their abilities are personal information. In the labor market model of Spence the methods to solve this kind of information asymmetry were put forward. An important discrimination instrument-education background was mentioned in the manpower market model. A nucleus assumption of the model is separation assumption which means the cost that high-competent employees get a degree is lower than the one that low-competent employees get a similar degree. In this way, employers can separate two types of employees according their education background. Rothschild and Stiglitz (1976) study the balance of market. Their "Information discrimination model" is aimed at making the information disadvantage side discriminate the real information of the information advantage side by the design and arrangement of contract so as to reach the balance of market. And then Stiglitz and

Weiss (1981) study credit ration problems. Under the circumstance that the money lender does not know borrower category and specific loan details, they sign the contract in a hurry. In addition, considering the problems of latter supervision cost, the money lender does not know the borrower's information well, which gives rise to the appearance of some actions that destroy the order of financial market such as morality risks and reverse selection. Therewith, they improve the credit ration model that Jaffee and Russell (1976) put forward and demonstrate that the expected average profit of borrowers is the non- monotonic function of interest rate. Shapiro and Stiglitz (1984) take high salary as a kind of incentive means to prevent employees from being lazy. When companies can not entirely supervise employees' behaviors, the salary made up the opportunity cost of employees being found to be lazy and being dismissed. The higher the salary is, the larger the opportunity cost is. Therefore, higher salary contributes to decrease the tendency of employees' laze. On the other hand, discussing the problem of surveillance intensity under incentive salary model, we find out that the higher the marginal productivity of agents is, the higher the marginal income bring by supervision will be, and so is the supervision enthusiasm of principals; The higher the endeavor marginal cost of agent is, the lower the endeavor ration under any given incentive will be, the lower the optimal incentive under the variance of given agents behaviors' observation information will be, the lower the marginal profit of supervision will be, and so is the principals' supervision enthusiasm naturally. Furthermore, the more difficult the supervision is, the higher the marginal cost of supervision will be, and the lower the principals' supervision enthusiasm will be.

The purpose of typical principal-agent theory model design is how to achieve the utility maximization of principals. The principal's maximization problem can be expressed as:

$$\begin{aligned} & \max_{a, s(\pi)} \int v(\pi - s(\pi)) f(\pi, a) d\pi \quad (2-2) \\ \text{s.t. (IR)} & \int u(s(\pi) f(\pi, a) d\pi - c(a) \geq \bar{u} \\ \text{(IC)} & \int u(s(\pi) f(\pi, a) d\pi - c(a) \geq \int u(s(\pi) f(\pi, a') d\pi - c(a'), \forall a' \in A \end{aligned}$$

Among them, where A means the whole actions' combinations that agent may choose, and a means the action on agents achieve utility maximization.

Domestic scholars' researches about principal-agent theory started late. Zhang (2000) tidies principal's value orientation and principal-agent effect, and designs a principal-agent model. The thesis respectively discusses the principal-agent utility under complete

information and incomplete information.

Under complete information, the optimization problem of principals can be expressed as:

$$\begin{aligned} \max_{\alpha, \beta, a} E[V(a)] &= [t - (1-k)]a - \alpha \\ s.t. & \alpha + \beta(1-k)a - \frac{1}{2}ba^2 - \frac{1}{2}\rho\beta^2\sigma^2v \end{aligned} \quad (2-3)$$

Under incomplete information, the optimization problem of principals can be expressed as:

$$\begin{aligned} \max_{\alpha, \beta} [& \beta - k(1-\theta)] \\ s.t. & \alpha + \beta(1-k)a - \frac{1}{2}ba^2 - \frac{1}{2}\rho\beta^2\sigma^2v \\ & \alpha = \beta(1-k)/b \end{aligned} \quad (2-4)$$

Among them, a is a monetized agents effort variable. $(1-k)a$ means the part directly related to output, and the other part ka has no relation to operating performance or output. Incentive contract is made up of basic salary α and sharing output β , which is $S(a) = \alpha + \beta[(1-k)a + \theta]$. Finally, she thought that principals' evaluation chooses for agents depended on the type of principals and agents' actions also depended on the type of agents.

Li and Li (2003) respectively discuss two kinds of risk attitudes, the risk neutral and mitigate risks' affect on incentive effect. Moreover they analyze agents' capabilities' affect on incentive mechanism effect. At last, the conclusions are consistent with the situation under linear contract assumption conditions. Their explanations for this are considering that both of them are based on the foundation of participation constraint and incentive compatible constraint. Wei and Feng (2004) quantitatively calculate the effective efforts degree of agents according to the measurement of management effectiveness and management contribution rate, and establish a sort of operable optimal incentive contract according to the effective efforts degree of agents.

Sun, Xiao and Wang (2008) use the Information screening methods of principal-agent theory to establish managers choose model matched with managers' abilities. They describe two patterns of principals choosing managers: the random arrangement mode and ability matching mode. Among them, the principal utility maximization of random arrangement mode can be expressed as:

$$\max_{\alpha, \beta, a} E[V(a)] = [t - \beta(1-k)]a - \alpha \quad (2-5)$$

$$s.t. \alpha + \beta(1-k)a - \frac{1}{2}ba^2 - \frac{1}{2}\rho\beta^2\sigma^2 \geq \varpi$$

$$(IC)\alpha_B = \frac{\beta_B}{b}$$

The principal utility maximization of ability matching mode can be expressed as:

$$\max_{\alpha_1, \beta_1} -\alpha_1 + (1-\beta_1)(m_1 + \alpha_1) \quad (2-6)$$

$$s.t. (IR)a_1 + \beta_1(m_1 + \alpha_1) - \frac{1}{2}r\beta_1^2\sigma^2 - \frac{b}{2}\alpha_1^2 + \frac{m_1 - m_2}{2(1+b\sigma^2)}$$

$$(IC)\alpha_1 = \frac{\beta_1}{b}$$

m_1, m_2 are company 1 and company 2's requests for managers' abilities. The abilities of agent B and agent C are respectively m_B and m_C . a is the effort level. ϖ is the retained earnings of agents B and C. r is the risk aversion degree of agents. π stands for the output of subsidiary company. At last, according to the comparison of two patterns, they obtained the conclusion that ability matching mode is the Pareto improvement of random arrangement mode.

Gao (2010) studies professional managers' incentive mechanism design under information asymmetry. The contract between the owner of company and professional managers can be expressed as:

$$\max_{\alpha, \pi, m} [(1-n)\pi - m] \quad (2-7)$$

$$s.t. m + n\pi - ke_1^2 / 2 - pn^2\sigma^2 / 2^3 u_1$$

$$e_1 = \frac{n\beta_1}{k}$$

Among them, m is the fixed income that company principals provide for professional managers. n is output share proportion and P means risk aversion metric (The owner risk neutral, $P=0$; The professional managers risk attitude is between 0 and 1).

Jia and Cheng (2010) bring principal-agent theory into the research of business process reengineering. Under the analysis framework of principal-agent theory, they analyze existing principal-agent relations in process reengineering, establish two-stage process reengineering

model based on principal-agent theory, improve and solve the model. Feng and He (2010) discuss the model's application of principal-agent in innovative companies. They think that the owner of innovative companies should design incentive mechanism for operators from matter and spirit. Specifically speaking, it includes remuneration incentive, shareholding incentive, work design incentive, achievement incentive, honor incentive, culture incentive, and morality and emotion incentive and so on.

2.2 Contract theory

In economics, contract theory studies how economic actors can and do construct contractual arrangements, generally in the presence of asymmetric information. Because of its connections with both agency and incentives, contract theory is often categorized within a field known as Law and economics. One prominent application of it is the design of optimal schemes of managerial compensation. In the field of economics, the first formal treatment of this topic is given by Arrow (1962).

A standard practice in the microeconomics of contract theory is to represent the behavior of a decision maker under certain numerical utility structures, and then apply an optimization algorithm to identify optimal decisions. Such a procedure has been used in the contract theory framework to several typical situations, labeled moral hazard, adverse selection and signaling. The spirit of these models lies in finding theoretical ways to motivate agents to take appropriate actions, even under an insurance contract. The main results achieved through this family of models involve: mathematical properties of the utility structure of the principal and the agent, relaxation of assumptions, and variations of the time structure of the contract relationship, among others. It is customary to model people as maximizes of some on Neumann–Morgenstern utility functions, as stated by expected utility theory.

In moral hazard models, the information asymmetry is the principal's inability to observe or verify the agent's action. Performance-based contracts that depend on observable and verifiable output can often be employed to create incentives for the agent to act in the principal's interest. When agents are risk-averse, however, such contracts are generally only second-best because incentive precludes full insurance.

The typical moral hazard model is formulated as follows. The principal solves:

$$\max_{\omega(\cdot)} E[y(\hat{e}) - \omega(y(\hat{e}))] \quad (2-8)$$

Subject to the agent's "individual rationality (IR)" constraint,

$$E[u(\omega(y(e))) - c(e)] \geq 0 \quad (2-9)$$

The agent's "incentive compatibility (IC)" constraint,

$$\hat{e} = \arg \max_e E[u(\omega(y(e))) - c(e)] \geq \bar{u} \quad (2-10)$$

Where $\omega(\cdot)$ is the wage as a function of output y , which in turn is a function of effort: $e \cdot c(e)$ represents the cost of effort, and reservation utility is given by $\bar{u}$. $u(\cdot)$ is the "utility function", which is concave for the risk-averse agent, is convex for the risk-prone agent, and is linear for the risk-neutral agent.

In adverse models, the principal is not informed about a certain characteristic of the agent. For example, health insurance is more likely to be purchased by people who are more likely to get sick.

Contract theory also utilizes the notion of a complete contract, which is thought of as a contract that specifies the legal consequences of every possible state of the world. More recent developments known as the theory of incomplete contracts, pioneered by Hart and John (1988), study the incentive effects of parties' inability to write complete contingent contracts, e.g. concerning relationship-specific investments.

Because it would be impossibly complex and costly for the parties to an agreement to make their contract complete, the law provides default rules which fill in the gaps in the actual agreement of the parties.

The problem of Blue Ray's principal is to design an incentive contract $s(\pi)$ provided for CEO and reward and punish the CEO according to the generation π . So, the principal's maximized problem can be expressed as:

$$\begin{aligned} & \max_{a, s(\pi)} \int v(\pi - s(\pi)) f(\pi, a) d\pi \\ & \text{s.t. (IR)} \quad \int u(s(\pi)) f(\pi, a) d\pi - c(a) \geq \bar{u} \\ & \text{(IC)} \quad \int u(s(\pi)) f(\pi, a) d\pi - c(a) \geq \int u(s(\pi)) f(\pi, a') d\pi - c(a'), \forall a' \in A \end{aligned} \quad (2-11)$$

The (IR) formula can be called as individual rationality or participation constraint, which shows that when the CEO accept the contract, its expected utility $\bar{u}$ (or can be called reservation utility) cannot be less than the utility $\bar{u}$ as he does not accept the contract.

The (IC) formula is incentive compatibility constraint, which means the utility CEO

obtains from the principal's expected action must not be less than the utility that the CEO obtains from other actions. a' stands for all the other actions except for a .

2.3 Information economics

Information economics or the economics of information is a branch of microeconomic theory that studies how information and information systems affect an economy and economic decisions. Information has special characteristics. It is easy to create but hard to trust. It is easy to spread but hard to control. It influences many decisions. These special characteristics (as compared with other types of goods) complicate many standard economic theories.

The present thesis reflects topics included in that code. There are several subfields of information economics. Information as signal has been described as a kind of negative measure of uncertainty. It includes complete and scientific knowledge as special cases. The first insights in information economics related to the economics of information goods. In recent decades, there have been influential advances in the study of information asymmetries, and their implications for contract theory, including market failure as a possibility.

Information asymmetry means that the parties in the interaction have different information, e.g. one party has more or better information than the other. Expecting the other side to have better information can lead to a change in behavior. The less informed party may try to prevent the other from taking advantage of him. This change in behavior may cause inefficiency. Examples of this problem are adverse selection and moral hazard. A classic thesis on adverse selection is *The Market for Lemons* by Akerlof (1970). There are two primary solutions to this problem, signaling and screening. For moral hazard, contracting between principal and agent may be describable as a second best solution where payoffs alone are observable with information asymmetry.

Spence (1973) originally proposes the idea of signaling. He proposes that in a situation with information asymmetry, it is possible for people to signal their type, thus believably transferring information to the other party and resolving the asymmetry.

This idea is originally studied in the context of looking for a job. An employer is interested in hiring a new employee who is skilled in learning. All prospective employees will claim to be skilled at learning, but only they know if they really are. This is an information asymmetry.

Spence (1973) proposes that going to college can function as a credible signal of an ability to learn. Assuming that people who are skilled in learning can finish college more easily than people who are unskilled, then by attending college the skilled people signal their skill to prospective employers. This is true even if they did not learn anything in school, and school was there solely as a signal. This works because the action they took (going to school) is easier for people who possessed the skill that they are trying to signal (a capacity for learning).

Stiglitz (1975) pioneers the theory of screening. In this way the under informed party can induce the other party to reveal their information. They can provide a menu of choices in such a way that the optimal choice of the other party depends on their private information. By making a particular choice, the other party reveals that he has information that makes that choice optimal. For example, an amusement park wants to sell more expensive tickets to customers who value their time more and money less than other customers. Asking customers their willingness to pay will not work - everyone will claim to have low willingness to pay. But the park can offer a menu of priority and regular tickets, where priority allows skipping the line at rides and is more expensive. This will induce the customers with a higher value of time to buy the priority ticket and thereby reveal their type.

The starting point for economic analysis is the observation that information has economic value because it allows individuals to make choices that yield higher expected payoffs or expected utility than they would obtain from choices made in the absence of information.

2.4 Management incentive theories

Management experts see the incentive as the first function of management, “incentive is the core of the management. Management incentive theory is based on the demand of people, which search for scientific incentive method through studying incentive process and ensuring influence element of incentive. Hierarchy of Needs Theory proposed by Maslow (1943) think that people’s physiology, safety, social intercourse, respect and self-fulfillment demand includes 5 orderly fulfilled level system from low to high, according to this kind of strict ladder order of demand level, different people have different demand in different development stage, so that different incentive scheme shall be designed for them. Penetration point of incentive is revealed by demand level theory: incentive for the person is not valued at

goods type provided by actuator, but the goods value for them, in other words, needed incentive shall be provided. In order to realize incentive effectiveness, the inner mind such as demand, motivation and value of the people shall be studied. Therefore, based on the Hierarchy of Needs Theory, incentive model expressed as “demand → goal → motivation → behavior → performance → reward → fulfillment → initiative”.

In ERG theory developed by Alderfer (1972), human needs include existence (E), relation (R) and growth (G). The need of existence is the lowest level, which can be fulfilled uncertainly before incentive effectiveness of high level need. The material interests need be admitted, also simplified, could be replaced by people’s development demand. The need of relation can be fulfilled by maintaining important human relations. The need of growth is self-development and self-improvement, which can be fulfilled by creatively developing personal potential and talent, and finishing challenging work.

Motivation-hygiene theory proposed by Herzberg (1968) is named double elements one. It thought that, the opposite side of satisfaction is not dissatisfaction, but satisfaction not yet, therefore, it was not that fulfilling all demands can stimulate initiative, care element without work satisfaction does not have to be incentive, thus policy, inspection, human relations, work environment and reward are health care element; Only fulfilling the needs of work, such as achievements, acceptance, work itself, responsibility and promotion, is incentive element. “Three level demand theory” is proposed by McClelland (1961), it think that people’s needs is consist of need for achievement, need of power and need of affiliation, working fight for strong need of achievement; High achieved person is fond of personal responsibility, getting working return and the proper adventurous environment, when all those features they have, higher incentive they will get.

Expectancy Theory proposed by Vroom (1964) studies relationships among working goal, reward and value in incentive process. It thought that deeds trend is decided by the hope intensity of individual for result which brought by this kind of deed, and the attraction of this result for actor. Also “goal is the result of deeds” and “goal is the inducement of deeds” are revealed by the Theory. Possibility for expected goal will be evaluated before act by rational person. The goal will be given up or others similarly if it is hard to reach. Moreover the design of rational requirement of the people should try to reflect “team humanitarianism”, namely the goals both team and individuals’ can realize the maximal mix (Xiao, 2006). The establishment of incentive goal is a variable, and incentive objectives themselves with subjective consciousness are the variable as well, so as to the variable have significant

influence on incentive effect. The revelation of expectancy theory to incentive process is as follows: the first, establishing the link between hard works and realize goal; the second, establishing the link between realize goal and obtain corresponding reward namely fair reward; the third, establishing the link among expected obtain reward, individual needs and realize the value.

2.5 Recent research on agency problem and CEO incentive

Sun and Xiao (2008) and Sun (2009) treat ability of human capital as variable, and company's output is decided by ability and effort. The relation between ability and effort is studied and the effort for improving ability and the effort for working is distinguished. It point out human capital choice is the optimal combination formed by producing effort and ability effort. Moreover, incentive mechanism model is established on the effort and ability of human capital, and the model is analyzed. From multiple principal-agent relationship, Xiao and Sun (2008) think that behavior strategy of human capital in hierarchy is related with principal-agent identity. The principal choose incentive strategy, and the agent choose effort strategy, and the person who has double identity of principal-agent choose incentive and effort strategies simultaneously. Therefore, behavior strategy of human capital in hierarchy is two dimensional strategy vector composed of composed by self-effort and incentive for others. Game in human capital has multi-dimensional characteristics. On basis of it, choice model of hierarchical human capital strategy of double principal-agent relationship is established in this thesis. Xiao, Li and Sun (2006) analyze one optimal incentive problem of three hierarchies composed by the principal, the supervisor and the worker under the paradigm of principal-agent theory, and the principal's maximal utility can realize through two kinds of concentrated contract and separated contract under information structure of observing workers' effort by the supervisor, not the principal. In concentrated contract, the principal sign the contract with the supervisor and the worker simultaneously; while in separated contract, the principal sign the contract only with the supervisor, and the supervisor sign the contract with the worker under the delegation from the principal. When all persons engaged are risk neutral, the principal's problem is to solve optimal problem under participation constraint and incentive compatibility constraint. The model result indicates that separated contract is better than concentrated contract. The separated contract is to transfer the risk of asymmetric information to the supervisor through the contract between the supervisor and the worker under the delegation from the principal, and utilizing the supervisor's information advantage

on the worker's effort, the separated contract increase the principal's revenue, and become the principal's optimal incentive decision. Xiao and Li (2005) indicate that as a key structural factor, hierarchical structure should enter pricing model of human capital, which is one important basis for different pricing on human capital. On the production model of Rosen, company production function based on hierarchical structure is established through introducing ability function of human capital, and the pricing of human capital is studied in hierarchical structure. Two kinds of factors taking impact on pricing of human capital are discussed, including company factor like shared surplus coefficient, scale as well as difference factor of human capital like ability, effort and impact on pricing of human capital from located hierarchy layer.

Chen and Jia (2015) establish intermediary effects model of "equity incentive - agent cost - company's performance" for double principal-agent problem. The model put above equity incentive - agent cost - company's performance into one analysis framework, and through panel statistics of A share listed company in China, it prove and examine the impact on agent cost of company's performance from equity incentive as well as the intermediary effects of agent cost in relation between equity incentive and company's performance. It is found on research that equity incentive can improve clearly company's performance and reduce effectively the first kind agent cost, while the equity incentive have no significant effect on the second kind agency problem. Xie and Hui (2014) introduce principal-agent theory to study cost stickiness, and find out agency problem is important reason for increase degree of cost stickiness after controlling company's economic characteristics and macroeconomic cyclical changes. Specially, CEO's term and replacement, reward's structure and company's free cash flow level take clear impact on degree of cost stickiness, in governance environment of a stronger company, the impact decrease clearly on cost stickiness from agency problem. Sun, Xiao and Wang (2008) establish manager selection model matching with manager's ability in method of information identification of principal-agent theory, and prove the feasibility of identifying unrevealed manager's ability information of external market through internal incentive mechanism design by the principal. On comparison between two kinds of manager selection mode, it indicate that ability matching mode is Pareto improvement of random arrangement mode, and which provide a feasible approach for matching between manager's ability and the required ability of the position. Through case study, Dai (2014) finds out that a higher rule of law level and more trust in the region, where the bigger income gap exist between General Manager and Middle-level manager as well as

Middle-level manager and staffs. General Manager's income is more likely related to company's performance, and gets reward due to over complete task. Rule of law and trust all contribute to use more performance reward in compensation of staff, and rule of law contribute use more piece rate wage while trust contribute use fixed wage due to product's quality. Generally speaking, in adoption on incentive system, regional level of rule of law is more important than trust. Through case study, Jiang, Zhu and Wang (2014) find out that CEO compensation, accounting performance, dismissing and accounting performance's sensitivity in SOEs are higher than these in non-SOEs, and which indicate the incentive contract for manager in SOEs is more performance-oriented. The further study shows that social objectives of SOEs increase in-service consumption and possibility on political promotion, but do not change CEO's compensation performance sensitivity and turnover performance sensitivity. Meanwhile, it is found that CEO step down, CEO's compensation are unrelated to company's market performance, and market performance incentive contract has no clear difference in SOEs and non-SOEs. Xu and Huang (2009) analyze that when the manufacturer face sales ability information of the seller, how to decide price of all kinds of products and make incentive contract. Due to asymmetric information between the manufacturer and the seller, the manufacturer needs to pay some information cost to get sale ability information of the seller. The study find out the manufacturer make different price for different products to get power of the seller's effort on different products. Based on classic principal-agent framework, Shen, Wang and Li (2013) modify the principal's (the operator) target function in value preference function of the win-win (describe the care degree for the principal himself and others from the principal), and introduce potential incentive factor in the agent's (the service provider) utility function, and focus on survey of business innovation contract design problem combined with explicit and potential incentive between the operator and the service provider so as to analyze the impact on contract parameters, performance and agent cost from value preference parameter, marginal output coefficient of potential incentive and external output coefficient of innovation input. The study result show that value preference coefficient can coordinate value relation among all interest subjects and control effectively agent cost, while marginal output coefficient of potential incentive and external output coefficient of innovation input have important influence on explicit incentive structure. Guo, Zhang and Li (2015) analyze the reason produced by cash flow manipulation from incentive for senior executives in listed company, specially separate senior executive incentives as explicit incentive and implicit incentive, meanwhile take three kinds of report motivation controlled by cash flow as moderating variable to probe that whether the relationship between senior

executives' incentive and cash flow manipulation is interfered by report motivation factor or not. Through checking the data from A share listed companies from 1999 to 2012, it is found that executives' compensation stimulate cash flow manipulation, the holding share proportion of executives can restrain cash flow manipulation, implicit revenue of executives reduce cash flow manipulation, and frequent executives changes breed easier cash flow manipulation, three kinds of report motivation all adjust the relationship between executives incentive and cash flow manipulation. Based on manual collected data from international business of listed companies and agent theory, Song and Li (2010) indicate that when shareholders have strategic decision control, the company tends to adopt internationalization strategy, and the State-Owned controlling shareholders are more inclined to adopt the internationalization strategy than the private controlling shareholders. After internationalization strategy launch, the speed of internationalization expansion is decided by CEO's effort, and the shareholder needs to stimulate the initiative by proper incentive system. Compensation and equity contribute to realize CEO incentive compatibility, while equity incentive is more effective. For private company, equity incentive's effect is better than compensation incentive's; while for SOEs, compensation incentive's effort is better, the equity incentive has not yet played its function. Li, Jiang and Li (2010) study and find out immaterial incentive to professional manager and managers' ability playing is positive related with company's performance, materials have no significant relationship with company's performance; immaterial incentive have significant relationship with ability playing, while material incentive have no significant relationship with ability playing, and the approach is proposed on basis of case analysis result, including improve and perfect professional manager labor market system, establish and improve incentive system, and strengthen the training, and establish effective performance evaluation system for professional manager.

2.6 Review and theoretical support

Incentive is studied from different angles in management incentive theory, principal-agent theory and contract theory and information economics typically of economics incentive theory, which provides the cornerstone for the thesis (Xiao, 2006). Incentive is studied in management on basis of the needs of people, however which in modern economics on basis of effectiveness maximization (Li and Shi, 2001). Incentive methods and ways formed under management and economics' theory framework respectively are different. Management incentive theory emphasizes on "sociality" and diversity needs fulfillment of

people, meanwhile against pure aid. While economics incentive theory thinks that individual is the maximal self-interests person, which emphasize self-interested and economy on person, individual pursue for maximization and system of property right of company (Xiao, 2006). Their advantages have been utilized in manage and operate of company. Nevertheless, there are disadvantages in the two theories, study suppose of management incentive theory is need fixed, detail and microcosmic, due to blind to study on inner economic relations and system design of company, the management incentive theory cannot solve basic incentive problem of interest relative and conflict persons.

Principal-agent theory, contract theory and information economics of economics bases on rational and effectiveness maximal operation, and inner economic relations of company is studied on basis of it. But incentive contract of principal-agent theory also exists some limitations (Xiao, 2006): the effective function of principal establishes completely on the deeds choice of agent, external effect is clear; in incentive contract, the capability of agent is constant, which is inconsistent with reality; and short-term incentive is considered for agent, income composition of agent is blinded in incentive contract, it is uncompleted.

In view of the above, management incentive theory and economics incentive theory are applied in the thesis, and theory model is established on study style of principal-agent theory, and decision under asymmetric information of principal-agent and incentive contract are built on information economics, moreover, incentive practices of the case company in the thesis are explained and analyzed by apply management incentive theory.

Chapter 3: Research Method and Design

This chapter firstly introduces the research method of this thesis namely case study. And then it introduces the data collection which is needed for the research including primary and secondary data collection. Among them, the primary data collection is mainly doing an in-depth interview for the case company and data collection; the secondary data collection is mainly the collection on the listed company, the industry and macro data. The end of this chapter introduces the data processing including content analysis.

3.1 Research strategy: case study method

In the opinion of Bryman (2012), research strategy is a general orientation to the conduct of research. Saunders and Lewis (2012) define research strategy as the general plan of how the researcher will go about answering the research questions. They state further that the appropriate research strategy has to be selected based on research questions and objectives, the extent of existing knowledge on the subject area being researched, the amount of time and resources available, and the philosophical underpinnings of the researcher.

A research strategy is a general plan of how a researcher goes about answering the research questions that has been set. It contains clear objectives, derived from research questions, specify the sources from which the researcher intend to collect data and consider the constraints that the researcher have such as access to data, time, location, money and other ethical issues (Saunders and Lewis, 2003). A research method that facilitates a deep survey of a real-life contemporary phenomenon in its natural context is a case study (Yin, 2012).

Case study is one of the ways to do social science research. Other ways include experiments, surveys, histories, and the analysis of archival information. Each strategy has its own advantages and disadvantages. Galliers (1991) defines fourteen research methods, and case study is the most widely-used. The most frequently-encountered definitions of case studies have merely focused on the types of topics to which case studies have been applied. For example, in the words of one observer: the essence of a case study and the central tendency among all types of case study is that it tries to illuminate a decision or a set of decisions: why they are taken, how they are implemented, and what is the result (Schramm,

1971).

Using case studies for research purposes remains one of the most challenging among all social science endeavors. Case study research can be defined as an empirical inquiry into a contemporary real life situation in which multiple sources of evidence are used. In the case study, generally a single object, an event or an organization is investigated in detail. Using case studies for research purposes remains one of the most challenging among all social science endeavors. The goal is to design good case studies and to collect, present, and analyze data fairly. A further goal is to bring the case study to closure by writing a thesis.

There are three ideal conditions for conducting a case study advocated by Yin in comparison to the other research methods in social sciences: experiment, survey, archival analysis and history. First, the form of asking a research question is in the form of why or how. The remaining two conditions are that no control is required over behavioral events being studied and the study focus on contemporary events. Thus, a case study should be of a contemporary event as opposed to a historical one. Ideally case study research should use a multiple case study design involving multisite to be studied and using multiple methods to analyze the collected data. The rationale behind the choice of a multiple case study over a single case study is to enable comparisons between the observed practices by subjects studied in order to obtain a more comprehensive understanding of these practices.

Following Yin (1994), in general, case studies are the preferred strategy when “how” or “why” questions are posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. The phenomena we study are contemporary ones since they are occurring at present, or they occurred in the recent past and their participants are still available to report on them. Such explanatory case studies also can be complemented by two other types – exploratory and descriptive case studies which are great care in designing and doing case studies to overcome the traditional criticisms of the method.

As a research strategy, case study is contributes to the knowledge of individual, organizational, social, and related phenomena, and case study is used in many situations, for example it can be used in psychology, sociology, political science, social work (Gilgun, 1994), business (Ghauri and Gronhanug, 2002), and community planning (Yin, 2002). Case studies can be used even in economics, for example, using the case study method to investigate the structure of a given industry or the economy of a city or region. Through these situations, we can see that it is the desire to understand complex social phenomena that bring the distinctive

need for case studies. In brief, case study allows investigators to maintain the real-life events, for example the life cycle of individuals, the processes of organizations and management and the international relations. The methodological process of case study is shown in Figure 3-1.

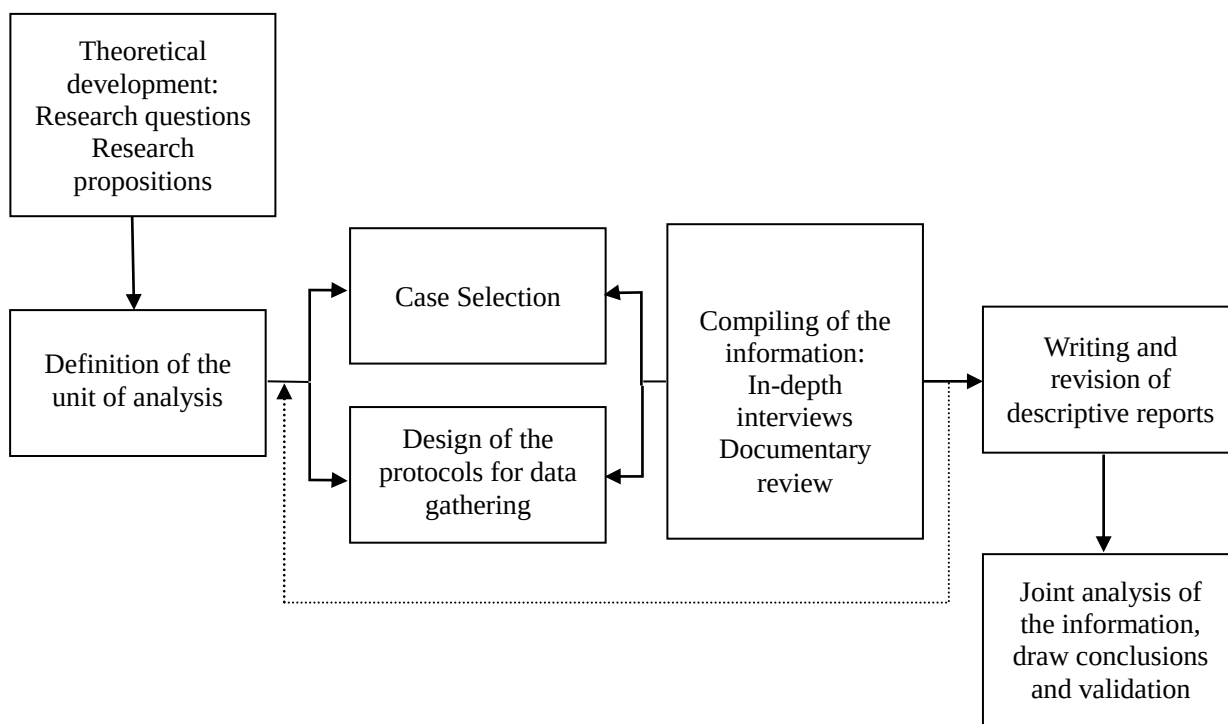


Figure 3-1 Methodological process

Source: Yin (1994)

To do case study design can be mainly classified into two categories namely single case study design and multiple case study design. Single case study design and multiple case study design are two different forms of identical research approach.

There are five classic usages of single case study design: The first one is refuting or checking out a theory that is widely accepted. Single case study could be used to validate, challenge or extend these theories; moreover, single case study could be used to judge whether certain theory is right or not, or whether there exists a more appropriate theory than this. The second one is analyzing certain extreme case or unique case. This sort of situation often appears in clinical psychology. There often appears certain very unusual damage or psychological disorder symptom in clinical psychology. Because it is extremely unusual, it is worth being recording and analyzing. The third one is exactly contrary to the second one, which is used to study representative and typical cases. Hereon, the purpose of research is to know the environment and condition of certain typical case's appearance. For example, the case may be the most representative scheme of numerous schemes, and the conclusion got from the case should contribute to deepen the understanding of similar events and things. The

forth one is researching revelatory case. When researcher has the chance to observe and analyze previous scientific phenomenon that cannot go, single case study design should be adopted appropriately. The fifth applicable scope of single case study is to research longitudinal case that it is doing research for two or multiple point-in-time's similar case. Such research will reveal how the case we study change with time change. Setting ideal time interval will contribute to reflect the changes of studying cases at each stage.

Case study research includes both single and multiple-case studies. This study adopted the single case research strategy, conducted in the following flow chart (Figure 3-2).

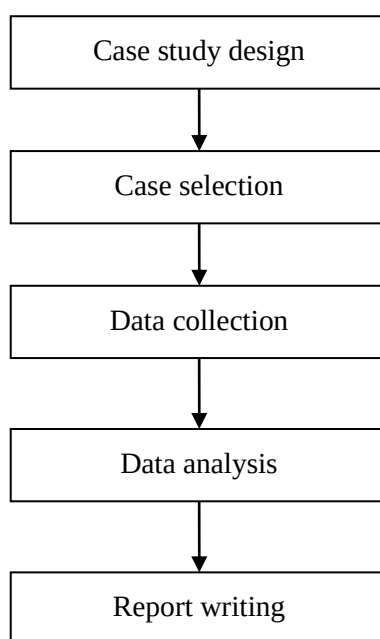


Figure 3-2 Flow of the case study

Source: Author developed

3.2 Case selection

This text's case study belongs to the second and third usage of single case study design. The thesis selects Blue Ray as the target case.

Blue Ray is a private real estate company whose headquarters locate in Chengdu. Blue Ray was founded in 1993 and its main service is residential development and service. Commercial real estate development is a complementary. The company also possessed the qualification of the best professional real estate development. After twenty two years' development, Blue Ray has formed a southwest economic circle, whose cores are Chengdu, Chongqing, Kunming, expands its business to Beijing, Shanghai, Guangzhou and forms a

strategic layout that covers north China, east China and central China. Since the residential development transformation in 2006, the company has achieved a rapid development and keeps more than 60 percent of high rate of growth every year. In 2006, the owner of the company decided to transfer the company's management right to professional manager. Since then, Blue Ray suffered from the dilemma of the selection and reconciliation of CEO as well as the profit collisions between CEO and company owners.

From 2011 to 2013, among the companies that entered the Chinese real estate Top 50 ranking, there are 67 percent private companies, and their turnovers account for 69 percent. We can find that in Chinese real estate industry, private real estate companies have become the main participants and competitors. And Blue Ray is the most typical and representative company among these private real estate companies. According to *The Top 50 Chinese Real Estate Companies Sales in 2013*, that published by Chinese Real Estate Assessment Center, by virtue of its 20.64 billion RMB yuan (equals to 3.08 billion Euros) of sales amount and 2.37 million square meters trading area, Blue Ray was ranking at 35 and 27 in the Chinese real estate companies Top 50 list. At the same time, Blue Ray is the first company that is given the highest commercial credit certification of company AAAA – credit in China's real estate industry, and it is also one of the most valuable companies in the Midwest of China.

In addition, according to statistics, the carbon dioxide produced by construction and use procedure accounts for about 55 percent of global carbon emissions. This proportion outclasses some fields such as industry and transportation. Especially, in the process of rapid urbanization of current China, the real estate development is at peak time. The developmental level of "Green building" directly refers to the success or failure of the whole China's energy conservation and emission reduction and the carryout of the new energy strategy. Blue Ray widely adopts green leading technology and energy conservation and environmental protection material in the products design and development process. In each project of Blue Ray, the residential conception of green living is fully initiated and guided, among which "the Blue Ray mansion 1881" and other projects have got the national green building certificate.

From the aspects of Blue Ray's development history, its rank in real estate industry and its contribution to push green buildings, we can see Blue Ray's status, influence and functions in real estate industry. So, taking Blue Ray as this thesis's study case is typical and representative and has a positive effect on deepening the understanding of China's real estate industry. Meanwhile, as a local real estate company, Blue Ray has its unique quality.

Blue Ray has held the top spot in the real estate development companies of Sichuan

province for eight years. In 2007, the company was initially determined as “seventy-nine large companies and large groups” importantly cultivated by People’s Government of Sichuan Province and one of initial “fifty-eight large companies and large groups” importantly cultivated in Chengdu city, and also was one of initial “twenty-three key private companies” determined by Sichuan Provincial Party Committee and provincial government. Furthermore, Blue Ray is actively involved in Commercial complex development of boosting city’s prosperity and improving city’s value with a brand new way to give a brand new value for business area. The successful development of some commercial projects as “the Airport International City” and “the Blue Ray Golden Lotus” and rebuilding a new commercial center of the area bring about qualitative leap for Chengdu region’s business projects. Meanwhile, Blue Ray responds to the call of national cultural tourism rejuvenating strategy, makes cultural tourism complex and boosts cultural tourism industry to upgrade. Among them, the cultural tourism complex taking the Exiu Lake International Resort and the Minjiang International Tourism Resort as representatives plays an exemplary leading role for gathering the area sentiment rapidly, leading the industry investment, inheriting local culture, improving customers’ experience and dwell time, promoting local employment and the contribution for tax.

3.3 Research design

Research design is similar to an architectural outline. Research purpose and research questions are the suggested starting points to develop a research design because they provide important clues about the substance that a researcher is aiming to assess (Yin, 2012). A research design specifies a framework or blueprint for the research. The research design also specifies the research methods chosen, determines the information needed as well as defines the sampling method, sample size, measurement and data analysis process. Having determined the research approach, the next issue that requires addressing is the identification of an appropriate research design. This is necessary to give focus to the study and to guide the data collection process in line with the objectives of the study. The type of research design is generally determined by the purpose of the study (Neuman, 2006).

The research design can be seen as actualization of logic in a set of procedures that optimizes the validity of data for a given research problem. According to the research design serves to “plan, structure and execute” (Mouton, 1996) the research to maximize the “validity of the findings”. It gives directions from the underlying philosophical assumptions to research

design, and data collection. Yin (2003, P. 19) adds further that “colloquially a research design is an action plan for getting from here to there, where ‘here’ may be defined as the initial set of questions to be answered and ‘there’ is some set of (conclusions) answers”.

3.3.1 Data collection

Data collection, and in general the execution of a good case study, depend crucially upon the competency of the researcher. The researcher undertaking the data collection needs to be able to ask good questions, to listen and to interpret the answers. This involves having a sound grasp of the questions and propositions of the case study, and being able to approach the study in an unbiased, and flexible manner.

Various data collection methods and techniques that can be used include using available information (literature review), observation, interviewing (face-to-face), administering written questionnaires, focus group discussions, and projective techniques (mapping and scaling) (Moser and Kalton, 1985). The instruments used in data collection could be grouped into quantitative and qualitative instruments. In this study, available and related literature was first reviewed together secondary data and questionnaires and interviews were used as the quantitative and qualitative instruments for gathering primary data.

3.3.1.1 Primary data collection

Questionnaires and in-depth interview were used as the quantitative and qualitative instruments for gathering primary data.

1) Questionnaires

A questionnaire (also referred to as written or self-administered questionnaire) is a data collection tool in which a set of written questions are presented that are to be answered by the respondents in written form. Usages of questionnaires bring many advantages to the researcher. For instance, it is less expensive compared to interviewing, permits anonymity and may result in more honest responses, and has the possibility of eliminating bias due to phrasing questions differently with different respondents (Panton, 2001).

A written questionnaire which can be either open-ended (without pre-categorized answer options) or close-ended (with pre-categorized answers), can be administered in different ways of sending questionnaires by mail with clear instructions on how to answer the questions and asking for mailed responses; gathering all or part of the respondents in one place at one time, giving oral or written instructions, and letting the respondents fill out the questionnaires; or

hand-delivering questionnaires to respondents and collecting them later.

In this study, quantitative data were collected by means of a survey questionnaire with both open-ended and close-ended questions. The survey questionnaires were taken to the respondents at their various work places and/or offices by the researcher. Oral instructions were then given to the survey respondents before asking them to complete the questionnaires. Most of the questions were structured and designed to collect quantitative data. The survey questionnaire was employed in the study to collect data because it was well-suited to the descriptive and correlative nature of the study. A survey questionnaire was also employed to collect data because it enables a systematic collection of predominantly quantitative data. The data collected were useful in testify the role of CEO namely the agent of Blue Ray company, and his influence to the company's performance. Furthermore, the face-to-face survey procedure allowed the efficient, in-time and one-off collection of data from respondents. The face-to-face survey facilitated the data collection process by the researcher, who had a limited time to stay in each research site visited in order to complete the writing of the thesis. Moreover, Sekaran and Bougie (2010) argue that questionnaires are preferred by respondents because questions are likely to be easily understood and answerable at their own pace and in their own time. Also, the questionnaire used on the study allows space for open-ended responses and additional comments in order to collect qualitative observations as well. The questions in the questionnaire are related to our research questions. The majority of these questions are Likert 6-scale items based on a scale ranging from 1 (strongly disagree) to 6 (strongly agree). Based on the theoretical framework of the study, the respondents and the three major research questions, one questionnaire is prepared by the researchers and structured into three sections – general information of the respondent, one hundred and two items and open-ended questions. The questionnaire is attached as Appendix 1. The questionnaire, which is written in Chinese, consists of statement-style scaled items and open-ended questions, is issued to first-line managers, middle-level managers and executives. See Table 3-1. The questionnaires are developed and issued by a professional consultant company – Hewitt, successively in 2011-2013. The questionnaire is mature and adopted widely among companies.

Table 3-1 Issue and return of questionnaire

Year	2011	2012	2013
Number of issue	962	830	1,381
Number of valid return	914	811	1,334
Valid ratio	95%	98%	97%

Source: The author tidied from the questionnaires.

Table 3-2 Position distribution of questionnaire respondents

	2011		2012		2013	
	No. of valid	Ratio (%)	No. of valid	Ratio (%)	No. of valid	Ratio (%)
Employees	551	60.34	480	59.26%	805	60.55
First-line managers	229	25	203	25%	347	26
Middle-level managers	128	14	122	15%	176	13
Executive managers	6	0.66	6	0.74%	6	0.45
Sum	914	100	811	100	1,334	100

Source: The author tidied from the questionnaire

2) In-depth interviews

An interview is a data-collection technique that involves oral questioning of respondents, either individually or as a group (Patton, 2001). It allows the researchers to leave the laboratory and to get closer to the data. In this research, this data-collection technique was employed to better discover and understand some of the responses that were unclear to us. The ultimate aim is to study situations from the participants' point of view.

The author asked an external group to conduct the interviews in order to avoid bias. As in-depth interviews are typically unstructured conversations between highly skilled interviewer and a member of a target population, this external group of interviewers consists two university associate professors whose research field is corporate governance in private businesses, one graduate student whose research field is strategic management, and one doctoral candidate whose research focus is corporate governance. Thirteen in-depth interviews were conducted by this external group. The data collected from the interviews was treated by the author. Every interview was conducted individually; face-to-face between the

interviewers and interviewee.

The interviewee is the President, also the founder of Blue Ray. He is actually the Principal in our research; former and present CEOs and other top executive officers of Blue Ray in a total number of twelve. Each interview lasted minimal 1.5 hours to maximal 4.5 hours. See Table 3-3 for the details of the in-depth interviews.

The in-depth interviews were both semi-structured and unstructured, varied upon the position of the interviewees. Interview outline, attached as Appendix 2, which were designed to allow flexibility in the sequencing of questions and to support in-depth probing. The higher the interviewees' position in the company, the more uninstructed and open the interview was. The in-depth interview with the President, also the Principle in our research, hit the longest duration lasting for 4.5 hours and was quite open-structured.

Most of the interviews commenced with introduction by the researcher, which were followed by the reason for the interview, and then the actual questions asked for clarifications. Following the advice of Gillham (2000), we use verbal probes like "Please tell me more about" and "What do you mean by" to ask interviewees to expand upon their responses to the questions. If a question is misunderstood, our interviewers either repeat it or put it in a form that is understood by the respondent. People are very willing to talk during the interviews. All interviews are conducted in Chinese. The interview technique employed in our study has unique advantages in that it is most effective in revealing the reasons for decisions, actions feelings and attitudes.

The in-depth interviews work as a superior data gathering device for this research. The interviews allow us access to the respondents' gestures, tone of voice and the emotional impact of the responses. Answers to the questions posed during the in-depth interviews are recorded by writing them down (both during the interview itself or immediately after the interview) or by tape-recording the responses, or by a combination of both. As such, the interviews produce valuable descriptive data, the actual words of the people we studied in Blue Ray for us.

Table 3-3 Details of in-depth interviews of Blue Ray

Interviewee	Date (Duration)	Position in the company	Questions	Location
YANG Keng	Dec. 12, 2013 14:00-18:30	The founder, President and Principle since the founding of the company	Founding and history of the company; company's professional evolution; CEO selection and incentive; expectation of the selected CEO	Company office, Chengdu
REN Xia	Dec. 21, 2013 9:00-11:30	The first CEO (Jan. 2006 - Dec. 2007)	Comments on CEO incentive system; reasons for leaving	Starbucks Coffee, Chengdu
LI Gengqiang	Jun. 28, 2014 13:00-15:00	The second CEO (Jan. 2008 - Dec. 2008)	Comments on CEO incentive system; reasons for leaving	Starbucks Coffee, Chengdu
JI Bin	Jul. 6, 2014 9:00-11:30	The third CEO (Jan. 2009 - Sep. 2010)	Comments on CEO incentive system; reasons for leaving	Starbucks Coffee, Chengdu
GUO Yong	Oct. 6, 2013 11:00-13:00	The fourth CEO (Oct. 2010 – Sep. 2011)	Comments on CEO incentive system; reasons for leaving	Starbucks Coffee, Chengdu
CHENG Yaogui	Oct. 13, 2013 11:00-13:30	CEO since 2011	Career development and work experience as a professional manager; Motivation and expectation of working in the company;	Starbucks Coffee, Chengdu
	Jul. 12, 2014 20:00-22:45	CEO since 2011	Comments on the effectiveness and rationality of the company's CEO capability model and CEO performance evaluation system;	Campus of UESTC, Chengdu
	Dec. 22, 2014 9:00-11:30	CEO since 2011	Alignment of personal interest and career development and company's maximized objectives	Company office, Chengdu

Interviewee	Date (Duration)	Position in the company	Questions	Location
LV Zhenggang	Nov. 20, 2014 18:30-21:15	CFO (Chief Executive Officer) since 2008	Company's performance and sustainability during the terms of CEOs (the second - the fifth); comments on CEOs' (the second - the fifth) capability and performance	Company office, Chengdu
PU Hong	Nov. 2, 2014 9:00-12:15	Vice CEO since 2006	Comments on the five CEOs and company's incentive system	Company office, Chengdu
WU Nian	Nov. 30, 2013 9:00-11:45	Vice CEO since 2011	Comments on the fifth CEO; and company's incentive system	Starbucks Coffee, Chengdu
LI Changchun	Nov. 28, 2013 13:00-16:00	Vice CEO since 2011	Comments on the fifth CEO; and company's incentive system	Company office, Wuhan
LUO Gen	Oct. 27, 2013 14:00-16:30	Assistant CEO since 2012	Comments on the fifth CEO; and company's incentive system	Company office, Chengdu
YANG Lian	Jun. 12, 2013 9:00-12:15	HR (Human Resources) General Manager since 2008	Selection and criteria of CEO based on capability; performance evaluation of CEO;	Company office, Chengdu
	May. 4, 2014 19:00-22:15		Upgrading of the incentive system; CEO's role and contribution within the company; the effect of CEO's leadership.	Company office, Hangzhou

Source: Notes on the interviews

3.2.1.2 Secondary data collection

In this study, available and related literature was first reviewed to gather secondary data. In management research, the method of secondary data is widely applied. They mainly contain macro economy data, development data of the industry and company competition data. There are often plenty of examples and information of secondary data suiting long-time data

analysis. Moreover, according to its sources, secondary data has relatively objective and powerful persuasion (Chen, Xu and Fan, 2008). Different from primary data, secondary data has its special characteristic: Original data is collected by others (or organizations); the collection of original data is for other purposes; When researchers use secondary data, they often do not contact with research objects directly. Such as common listed company's data, patent data, the census data of industrial company, research institutions' data got from survey and the data collected by government organization and so on. Generally, there are several forms of the use of secondary data: It can be used as auxiliary data source to increase the understanding and holding of demonstration background or to affirm sample selection and data reliability; as the data collection methods of case study; as supplementary information of the questionnaire information; as basic data sources and forms. The thesis also uses plenty of secondary data that main comes from statistical department, industry association, listed company data and network resource. What is worth mentioning is that when observing CEO's amplification effect, it mainly refers to the report formed by the third Party advisory body Hewitt Company's survey for Blue Ray Real Estate's employee engagement. Hewitt will exhaust factors that may affect engagement by widely surveying employees, companies and their way of act as well as accumulated experience. Then it will do factor analysis, get rid of influence factors that is non-significant or highly correlated with other factors and finally concentrate 22 chief driving factors (Senior leaders, management teams, direct superiors, colleagues, salary, welfare, approval, career development opportunities, study and development, the balance between work and life, work task, resources, sense of achievement, work procedure, work environment, the management policy of human resources, performance evaluation, diversification, company's reputation, company's culture, customer orientation). And it generalizes the manifestation of engagement as three kinds of way of act from the angle of companies (being willing to advertise, hold over, and strive).

3.3.2 Data processing and analysis

The collected data is going to be tidied and analyzed after gathering; and in further study, related data will be filtered, coded and categorized. This process is mixed into the writing of case study. Moreover, related argument and amended correspondingly research design is improved in order to get corresponding results.

Content analysis is very applicable at least for following three types of research problems: the first, data acquisition rather difficult and researchers only can obtain document. Or on the

condition that it is difficult to locate the theme, analysis is much helpful. Of course, it also can be used as the supplementary source or subsidiary measurement of data; the second, when the term and means of expression of the theme is very crucial for the research, some listed content analysis will be extremely necessary; At last, analysis effect is particularly prominent (Holsti, 1969; Dou and Jia, 2008), when the objective and systematic evaluation on material surpass the capability of the researchers. In consider of the effect, content analysis is adopted mainly for the data from in-depth interviews, besides, some statistical and analysis software such as Excel and SPSS were used on analysis for primary data from in-depth interviews. Meanwhile, descriptive statistical analysis is adopted mainly in the thesis.

Data analysis gives meaning to the data that has been collected. This research required two methods of data analysis: the first was for the qualitative data emerging from the in-depth interviews; the second was for the quantifiable data collected through the questionnaire survey. The analysis process for each is outlined below.

3.3.2.1 Analysis of the Qualitative Data

Qualitative data are in the form of text, written words, phrases, or symbols describing or representing people, actions and events in social life (Neuman, 1994). As qualitative data cannot be represented by numerical values, this makes statistical analysis difficult. Furthermore qualitative data tend to be imprecise, diffused and context based. Guided by Miles and Huberman (1984), Sekaran (2000) and Neuman (2006), we take a three step approach for the qualitative data analysis activity namely data reduction, data display and content analysis.

Data is reduced through summarizing and coding procedures. The detailed notes on the interviews with the knowledgeable persons and the focus group meeting are reduced to one page summaries. The data is then coded in order to reduce them into small manageable piles. Open coding, using a coding sheet, make it possible to identify common themes emerging from the summaries of the personal interviews and the focus group meeting.

Qualitative data can be analyzed either manually or using computer software packages designed for the task. There are different approaches to analyzing transcripts from interviews, observations and focus groups. The analysis of textual data is handled differently from that of numeric data. In view of that the qualitative data was analyzed separately from the quantitative data.

The data display involved displaying the already reduced data in a manner that helped

with the analysis process. After the data was coded it was displayed in the form of diagrams and matrix display. The data was therefore presented in tables and figures for easier understanding. Tables and figures are supposed to help readers to follow the reasoning behind the conclusions that were put forward. It will also decrease the amount of text and avoid redundant descriptions of rather evident patterns.

3.3.2.2 Analysis of the Quantitative Data

Quantitative data analysis is helpful in evaluation because it provides quantifiable and easy to understand results. The questionnaire survey conducted in 2011-2014 achieved an average valid ratio at 96.3 percent (Table 3-1 and 3-2). The data from all responses were coded and transcribed which is the process of coding to convert responses into a form that a computer can analyze. The data corresponding to the values in the 6-point Likert Scale were entered for each statement in the questionnaire. It was then checked for accuracy, through three rounds of visual and hardcopy inspections. The SPSS 19.0 used to calculate the frequency.

Chapter 4: The History and Evolution of Blue Ray

Firstly, the founding and the founder of Blue Ray are introduced in this chapter, secondly the strategic turning points and current situation are described, and thirdly professionalization process of the company is introduced.

4.1 Founding of Blue Ray and the founder

The Thirteenth National Congress of the Communist Party of China admitted clearly a lawful existence of private economy on October 1987, and proposed that basic policy for private economy was encouragement, protection, guidance, supervision and management. On April 1988, the Seventh National People's Congress passed constitutional amendments, which added the eleventh item: "The state allows the private economy to exist and develop in the scope of the law, and the private economy is the supplement of the socialist public ownership economy. The state protects the lawful rights and interests of the private economy, and provides guidance, supervision and management to the private economy". From that time on, private economy entered real lawful development phase in China. Actually under the dividend policy of SOEs' reform, admission on lawful identity, reform and open to the outside world with independent innovation; Blue Ray was established by Mr. Yang in 1990.

Mr. Yang, the founder of the company, was born in 1962. According to the interview with Mr. Yang, before founding of the company, he was working in engineering machine plant as a director of workshop; however performance of the plant was bad and which operated difficultly. While due to bonus of the reform, and encouragement, protection and guidance policy on private economy, and encouragement policy on self-employment, many intellectuals and staff and workers of SOEs resigned and started their own businesses; under this background, Mr. Yang left from the plant and established the company.

At the beginning of the founding, main businesses of the company were sale and reparation on installation kit of automobile; however the operation was very difficult. Although the policy admitted lawful position of private economy, the traditional mind and small scale of the company led lots of rejections; the company fought difficultly in all kinds of fields and industries, but gradually collected original funds and relationships. Thanks to

just beginning of urbanization in China and strong demand on commercial residential building, the real estate development was taken as main business of the company. In 1999, the first real estate project – the Century Computer City, the foundation lay of it marked the main business of real estate development confirmed. In 2004, the first residential living project – the YuFu Garden City published, meanwhile the scale of the company on real estate development was becoming large constantly so as to operation scope and management complexity challenged the sustainable development. The founder was the CEO himself before 2006, and still took charge of daily operation and management, while ownership and control was aligned at that time; there was no principal-agent problem.

As the founder with master educational background, Mr. Yang led the company on commercial, official and residential real estate development successively, the scale of it on sales amounted to 20 billion RMB yuan (equals to 2.99 billion Euros) from less than 1 million RMB yuan (equals to 150 million Euros), the number of staff increased to more than 4,000 from less than 100, the operation scope expanded to several industries such as real estate, banking and pharmaceuticals from original only one industry, and a diversified and comprehensive company was formed. At the same time, the influence of Mr. Yang in real estate industry was increasing; he was selected successively as the President of Real Estate Association of Chengdu, member of the National People's Congress of Sichuan province and member of the Chinese People's Political Consultative Conference.

4.2 Blue Ray's strategic turning points

The company has experienced many strategic turning points (see Table 4-1) in the process of developing to a huge group.

According to the interview with Mr. Yang, the main businesses of the company at founding in 1990 were sale and reparation on installation kit of automobile. Mr. Yang had two positions, both the company President and CEO he himself. He took charge of not only strategic plan and business expanding, but also the company's daily operation and management. The ownership and control was aligned into Mr. Yang at that time, there was no principal-agent problem. The company fought difficultly in all kinds of fields and industries, and gradually collected original funds and abundant relationships, due to just beginning of urbanization in China and strong demand on commercial residential buildings, the real estate development was taken as main business of the company in 1992. Blue Ray Building was

constructed at end of 1994, meanwhile the headquarters was moved to XiJing Building and the business of real estate development was formed.

In 1999, the first real estate project – the Century Computer City, the foundation lay of it marks the main business of real estate development confirmed. At that time, the President of the company, Mr. Yang was CEO also, and still took charge of daily operation and management. From 2000 to 2004, the company opened and stepped onto the commercial real estate sectors, the YuLin living Square, the Blue Caribbean Piazza, the Golden Lotus International Fashion City, the Golden Hawaii and the Champagne Square were constructed and developed during that period, together the company took up market rapidly through the commercial real estate developing and shops selling. Revenue of the company amounted to 1 billion RMB yuan (equals to 150 million Euros) in 2003 from 500 million RMB yuan (equals to 75 million Euros) in 2000. The number of staff increased to more than 300 from around 100. In this period, the company's scale, market share, rate of return on investment, commercial vigor and push power on city development totally took up Top 1 position. In 2004, the first residential project – the YuFu Garden City published, since then, the company has turned to the residential real estate, and the scale rapidly expanded and increased. Meanwhile, the more competitive, subdivision and profession the market had, the more complex operation and management the company faced. However, daily operation and management was lack of standardization and efficiency so that it had negative influence on performance growth and sustainable development.

In 2006, the owner of the company decided to introduce professional managers, and handed over the company's management control to them, meanwhile the professional management started up. Mrs. Ren Xia was promoted as the first CEO of the company. Since then, the company has experienced the problem on CEO selection and interest alignment between the owner and the CEO. In the same year, CRM (Customer Relationship Management) Center Building was constructed and used. BRC was used as official brand, it means Blue Ray Company, and each letter has corresponding meaning: B means blue, it is the deepest background color of life, which expresses human spirit for respect on life; R means real estate, it expresses the nature of real estate development, which bear the ideal vision of being a nationwide city operator; C includes customer, corporation and creation, which means respectively the company is valued at customers' fulfillment, it is a team with same ideal vision and value, and creation is the original power of development. BRC was used as official brand, which means the value "Customer's fulfillment is the first aim" was established. At the

same time, good impression was born in Customers' heart to lay foundation for brand and culture spreading, meanwhile the development of the company jumped to a new height.

Table 4-1 Strategic turning points of Blue Ray

Milestone year	Strategic turning points	Significance in company development
1990	Founding of the company; The "ownership and control alignment" corporate governance	The company fought difficultly in all kinds of fields and industries, and gradually collected original funds and relationships.
1999	The first project laid foundation, and which confirmed real estate development as the main business and kept ownership and control alignment.	Decided company's development direction and ensured sustainable increase on scale and scope.
2006	1. The owner decided to step down and hand over the management to professional CEO; the company officially initiated the process of professionalization; the first CEO of the company was promoted, and agency problem occurred with the "separation of ownership and control". 2. BRC was used as the official brand; The CRM (Customer Relationship Management) Center Building was constructed and used; the value of "Customer's fulfillment is the first aim" was established.	1. The company has experienced CEO selection and the coordinating between the owner and the CEO's interest since professional management mechanism of the company launch. 2. The use of new brand logo means the new development level, and which lay foundation for the brand and culture perfecting, while customer-oriented value gained excellent public praise.
2008	The company entered into tourism and launched the diversification strategy, due to the macro environment changed dramatically, and negative growth in sales of commercial residential building (see above Table 1-2). The macro policy adjustment and financial crisis intensified the competition in this sector.	1. Diversification with inner advantages to strengthen anti-risk competency. 2. The higher requirement was asked for CEO's ability because of diversification; the CEO selection was more difficult.
2011	The fifth CEO was promoted to the position. The business highly focused on developing series of specific products, such as projects tailored and targeted for the first-housing purchasers. This business strategy got very strong and positive market respond.	In 2012, for the first time, the company jumped onto the China Top 50 real estate companies, with 95 percent growth of sales revenue (2012 - 2014) and 56 percent growth of development ² .
2014	The development of real estate was limited due to the decrease of housing purchasers; the CEO initiated new diversified business in pharmaceutical sector and 3D printing.	Challenge and risk increased with more diversification and complexity of the company; meanwhile the higher qualified CEOs were needed.

Source: Notes on the interviews

² Blue Ray had reached the condition of list, and planned to list on March 2015

In 2008, subprime crisis in the United States happened to worldwide financial crisis tremendously, and gave rise to the overall drop of real estate industry in China, meanwhile real estate companies fell into difficulty due to buyers' await and see and descending sales. Thanks to downturn and volume decrease of market deal, negative growth appeared with more competencies. In order to enhance anti-risk competency and utilize fully inner sources, Culture and Tourism Investment Company of Blue Ray was established to diversified development. The higher and more complex professional operation challenge the selection of a higher qualified CEO. On January 2008, Mr. Li Gengqiang was promoted as the second CEO during the period of diversification development. Due to greater challenges and more complex of management, the second CEO's management is lack of ability and professional level, finally left from the company in 1 year. And then the third and fourth CEOs were promoted from 2009 to 2011 successively. All these CEOs left from the company in a short time. How to select CEO and incentive them was the biggest challenge in front of the company's sustainable development.

In 2011, the fifth CEO was promoted after the four former CEOs' short terms on position. Under immature labor market of professional managers, the difficulty on CEO selection not only increased the cost, but also brought the big risk for the company's sustainability and expanding. For solving this problem, the company proposed the employment principle of "faith on morality, win on ability" and improved index system of CEO competency evaluation combining with the demand of sustainable development. Under the index system, Mr. Cheng Yaogui was promoted as the fifth CEO on October 2011. The fifth CEO is a graduate of civil engineering of the Southwest Jiaotong University, EMBA (Executive Master of Business Administration) of Sichuan University. He is a senior engineer and an accredited national first-level project manager. He is an external tutor at the International Business School of Southwestern University of Finance and Economics, and Vice Chairman of EMBA club Alumni Association of Sichuan University. He worked as General Manager of Shenzhen Branch of Road and Bridge Company of China Railway No.2 Engineering Group, Deputy General Manager of Road and Bridge Company of China Railway No.2 Engineering Group, General Manager of Longgang Branch of Shenzhen Chuanggang Building Materials Company, General Manager of Blue Ray successively. Meanwhile Mr. Cheng Yaogui is excellent trainer of training institute of Blue Ray, and is popular with comprehensive management ideas in several important trainings, and is a good teacher in all trainees' heart. Under his leadership, the company's annual growth rate of sales has been reaching at 30

percent since 2010.

According to the interview with him, series specific products³ for first-housing purchasers were launched under the strong market respond, and then specific products' standardized replication gave rise to expansion on scale and the higher industrial ranking. In 2012, the growth rate on sales revenue amounted to 95 percent, and the company jumped to be Top 50 firstly ranking at 36 among the Top 50 real estate companies in China. From 2012 to 2014, average annual growth rate on sales revenue was 56 percent; sales revenue, profit, total assets and ROA (Return on Assets) were comprehensive increasing largely, moreover the company was rated as Top 1 company of real estate industry in the southwest region of china. Together, the company ranked into Top 50 in 3 successive years and the company's ranking is steadily rising (see Table 4-2).

Table 4-2 Blue Ray's ranking of performance in China's real estate companies, 2009-2014

Financial performance		2009	2010	2011	2012	2013	2014
Sales revenue	Billion RMB yuan	3.6	6.6	6.4	12.5	20.6	21
	Million Euros	537	985	955	1,866	3,075	3,134
Operating profit	Million RMB yuan	440	520	690	760	875	970
	Million Euros	66	78	103	113	131	145
Total assets	Billion RMB yuan	15.7	17.3	19.2	24.3	42.3	49.9
	Billion Euros	2.34	2.58	2.87	3.63	6.31	7.45
ROA		2.8%	3.15%	3.78%	3.49%	2.63%	2.1%
Ranking	In China	65	43 ⁴	57	36	35	34
	In region (Sichuan province)	1	1	1	1	1	1

Source: The financial statement of Blue Ray; industrial association report

The market situation is always changing; the number of housing purchaser is decreased clearly in 2014 so as to the market demand is decreased. Because of saturated market, the growth in real estate industry is in limited space. Under this background, the fifth CEO explored emerging business out of real estate industry, including pharmaceuticals and 3D

³Specific products mean the house for youth, who must purchase to settle down, marry and school of children.

⁴There was no industrial ranking in 2013; the ranking is adopted from evaluated data of professional company.

printing in 2014, and establishes respectively DiKang Technological Medicine Co., Ltd and NingNuo Biotechnology Co., Ltd of Blue Ray. The increased complexity and diversification of the company's business, together with the greater risk taking, requires the higher comprehensive capability of the CEO.

After years of development, the company has become a big group, the core businesses of it include development and operation of the people's livelihood real estate, commercial projects, cultural and tour projects, and these businesses cover 5 big regions and 30 big and medium cities including Southwest region revolves around Chengdu, Chongqing and Kunming, covers Bohai sea surrounding areas revolves around Beijing and Tianjing, covers Yangtze River Delta revolves around Shanghai and Hangzhou, covers middle reaches of the Yangtze River revolves around Wuhan and Changsha, covers middle reaches of the Yellow River revolves around Xian and Taiyuan (see Figure 4-1).

Blue Ray has become Top 1 Company in real estate industry in Sichuan province, and ranked among China's Top 100 real estate companies in successive years. Meanwhile it has been accredited as the first "AAA - credit" company in real estate industry, and China's national famous brand. As the launching of series specific products for the first-housing purchasers, the market share in Chengdu jumped to 4.2 percent from 1.8 percent, along well with customers' acceptance and preference in a short time, and market share increased more than doubled so that open a new chapter for the company's regional strategic layout. The company determined to become China's most respectable city operator.

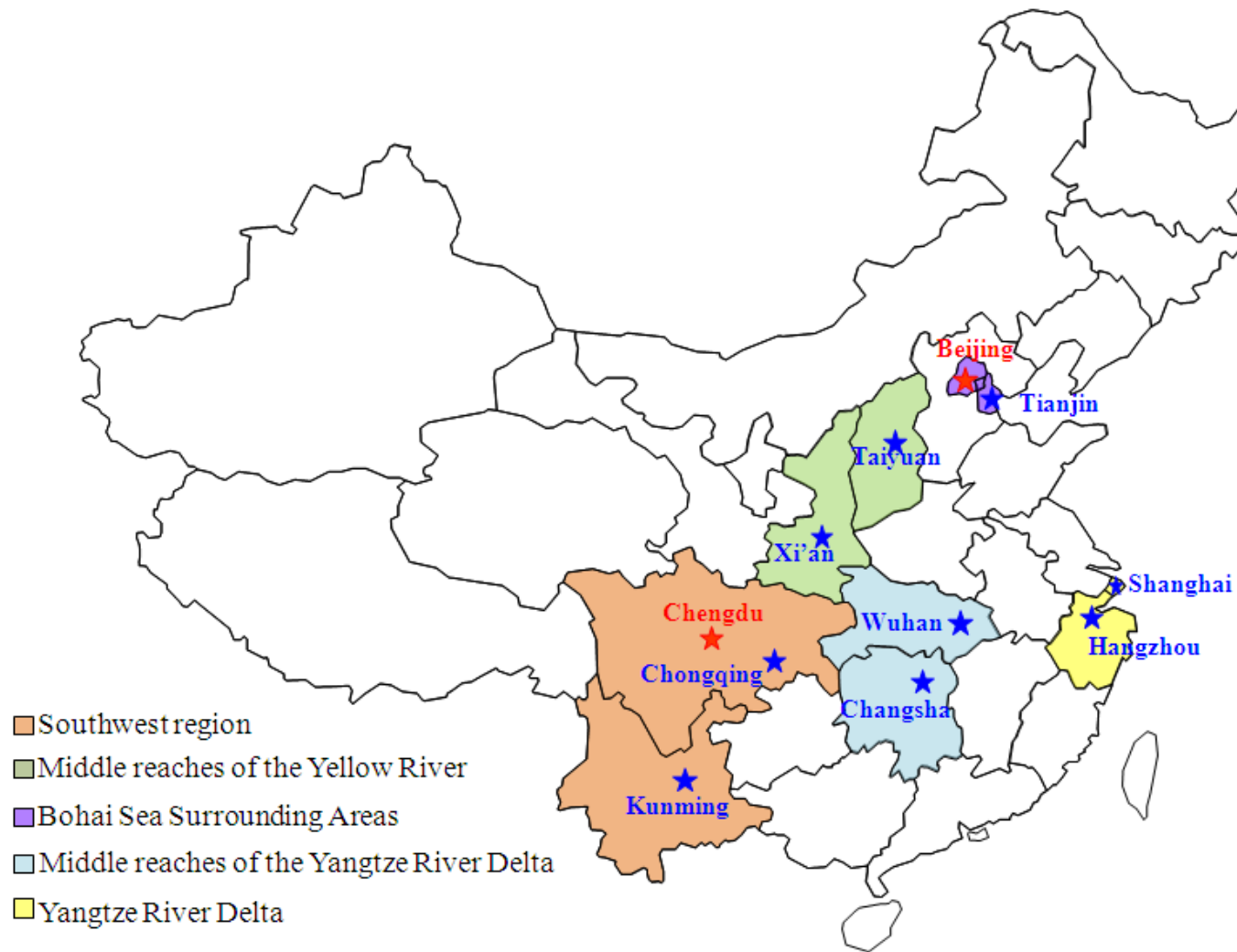


Figure 4-1 China domestic investment of Blue Ray

Source: Author developed

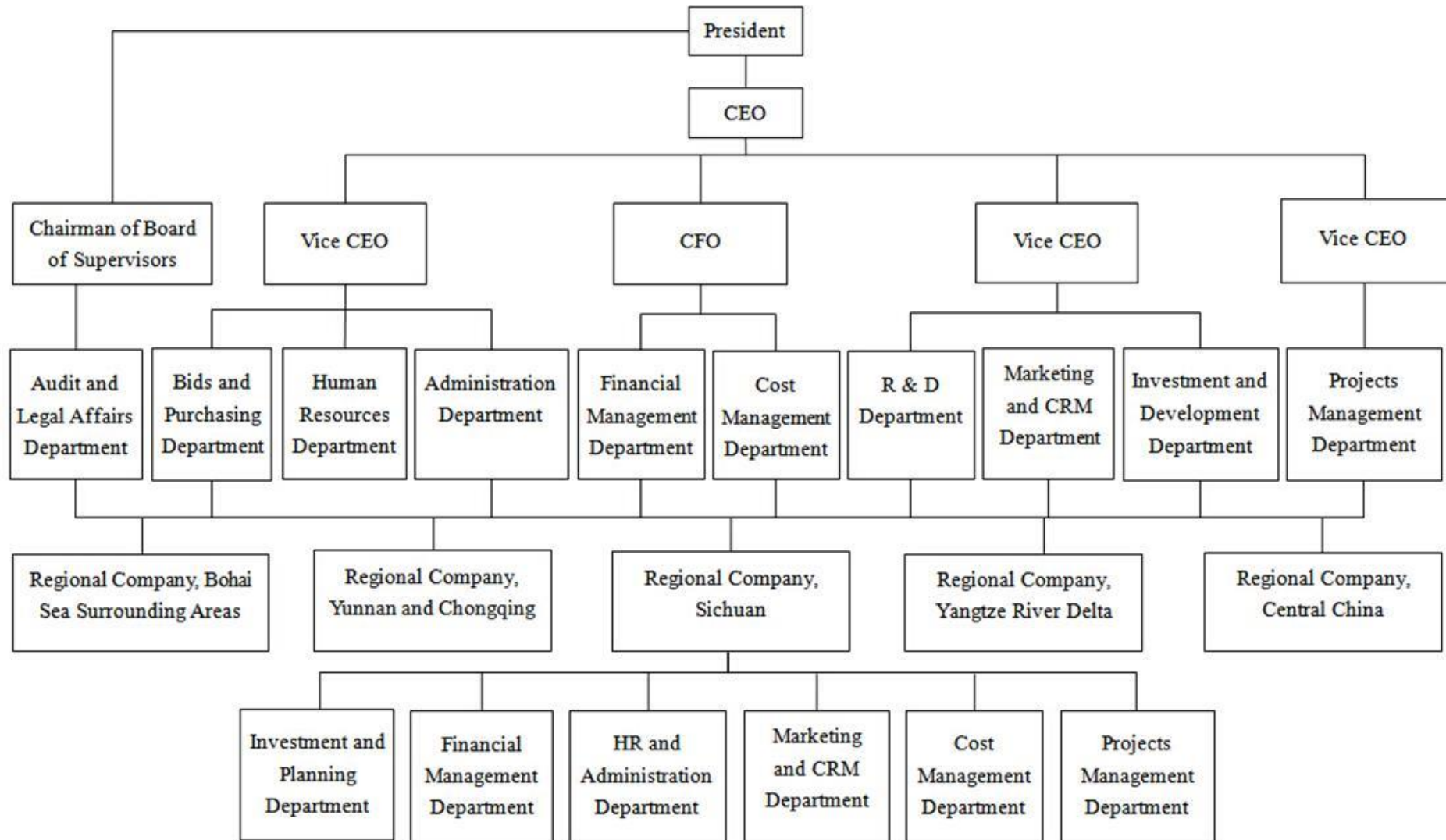


Figure 4-2 Organizational structure of Blue Ray

Source: HR Department of Blue Ray

A three-layer chain of principal-agent relationship is shown below, mapping to the organizational structure of the company (see Figure 4-3).

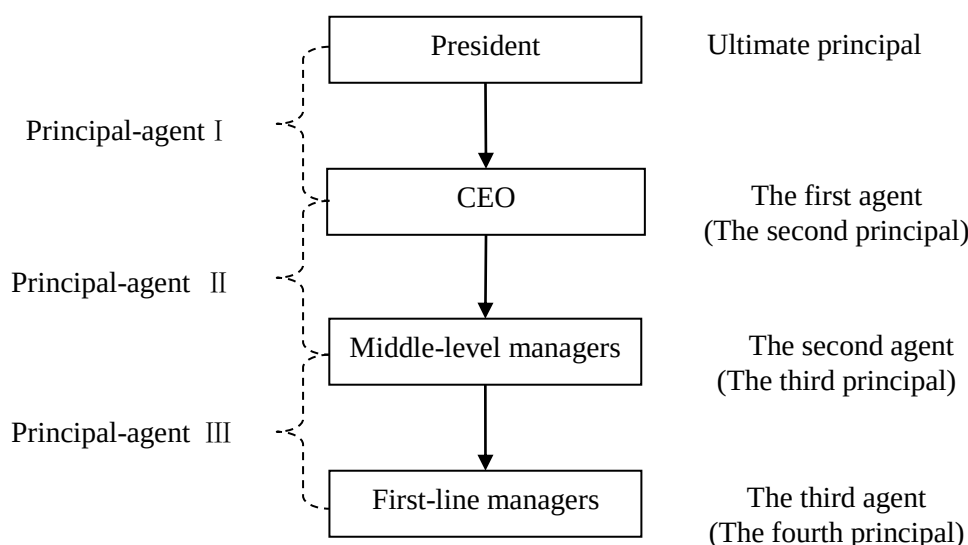


Figure 4-3 Principal-agent chain in Blue Ray

Source: Author developed

After years of professionalization, the company has become a standardized modern group, which has established land investment, products control, planning design, construction, cost control, purchase, sales and service as well as property management, production and service chain assembly and scientific internal management procedure as well as standardized system. The company has established a corporate governance structure, which includes board of shareholders, board of directors, board of supervisors and professional managers (see Figure 4-2).

In recent years, the company has gotten great progress on operation scale and talents' growth, especially since 2006 the professional managers launching, large number of talented executives has been recruited and introduced, whose majors cover market investment, products study, marketing, customers service, finance and human resources management, so as to guarantee sustainable and rapid development of the company. However, during the progress, there was the problem on selection, evaluation and incentive to senior talents, and the turnover rate of it reached to a high degree. According to preliminary statistics, the turnover rate of key staffs amounted to 25 percent in 2011, and 20 percent, 26 percent in 2012 and 2013 respectively, it not only increased the operation cost, but also brought large risk on sustainable and rapid development as well as scale expansion. Thus, it was the biggest problem that selection, evaluation and incentive to senior talents.

4.3 Blue Ray's process of professionalization

Through the interview with the founder, Mr. Yang, the company has become a group after 16 years' development; an increasing business scale is in real estate industry. Land investment, products control, planning design, construction, cost control, purchase, sales and service as well as property management, the production and service chain assembly and scientific internal management procedure as well as standardized system has been established. Under the background, how to guarantee regular and effective operation, sustainable and stable development is the most urgent matter. After overall evaluation from the founder, rapid establishment of professional manager mechanism is the useful method, on the basis of it, the corporate governance structure including board of shareholders, board of directors, board of supervisors, and professional managers are established to realize proper separation on ownership and control as well as keep company's sustainable development.

According to the data collected from Human Resources Department of the company, the qualification for CEO candidates include necessarily as: education is required bachelor or above, at least 5-year experience in real estate industry, no more than three times of job-hopping among different companies. The company builds a competency evaluation system for the CEO candidates, and when there are changes in the market, the indicators from the competency evaluation system will be adjusted accordingly. Based on the HR data, the CEO competency evaluation system had been adjusted and upgraded for three versions. Table 4-3 shows the details.

At the beginning of professionalized management, the selection on the first CEO emphasized more on personnel managerial traits, team management and fighting ability, while there was no requirement on strategic and planning operation, investment and products innovation. The first CEO selection was on the first phase of index system of CEO competency evaluation, in this phase, decision, delegation, external market insight were not considered, obviously the first phase of CEO selection emphasized more on the level of operation and execution.

Table 4-3 Blue Ray's competency evaluation for CEOs

Indicators	Details of indicator	The first CEO	The second – the fourth CEOs	The fifth CEO
Managerial traits	1. Loyalty and devotion	√	√	√
	2. Sense of mission and responsibility	√	√	√
	3. Collaboration and communication	√	√	√
	4. Efficiency	√	√	√
	5. Ability of making improvement		√	√
	6. Learning and innovation			√
	7. Self-control and self-discipline		√	√
Managerial skills	1. Operation ability	√	√	√
	2. Investment ability			√
	3. Products control		√	√
	4. Financial and cost management	√	√	√
	5. Strategic thinking and planning			√
	6. Human resources management	√	√	√
	7. Customer relationship management and brand promotion	√	√	√
Entrepreneurship	1. Risk taking and risk control	√	√	√
	2. Social responsibility consciousness		√	√
	3. Decision and delegation			√
	4. Execution	√	√	√
	5. Customer focus			√
	6. Market insight			√
	7. Social networking	√	√	√

Source: HR Department of Blue Ray

On basis of the first version of indicator of CEO competency evaluation, all indicator details were optimized and improved, newly added managerial traits like “ability of making improvement”, “self-control and self-discipline”; added the managerial skill like “products control”; added the entrepreneurship like “social responsibility consciousness”; all added

details above formed the second version of indicator of CEO competency evaluation. Moreover the second to the fourth CEOs were selected by the second version; it was the second phase of the adjustment. Comparing with the first version, the second one added the requirement on products innovation, personnel management and social responsibility consciousness.

The fifth CEO was promoted through the third version of indicator of CEO competency evaluation. “Learning and innovation” were added into the third version, at the same time, “investment ability”, “strategic thinking and planning operation”, “customer focus” and “market insight” was added into the third version. On basis of the fifth CEO’s promotion, CEO selection was becoming strict with more overall indicator details.

Professional manager mechanism has been launched since 2006 and the first professional manager was promoted within the company. Up to the end of 2014, the company has experienced five CEOs (see Table 4-4), in addition to the first CEO, the others are all males. The average age of the five CEOs is 39 years old. The lowest education is bachelor, and the highest is a doctoral candidate of management. The average term of the five CEOs is 21.2 months, namely 1.77 years. 40 percent of the five CEOs were recruited into the company through the company’s public recruitment channel, and 60 percent came into the company by headhunter. All the five CEOs were promoted to the CEO within the company internally, after an average period of 67.2 months for observation and training.

According to the interview with the General Manager of Human Resources Department, the first CEO was recruited into the company through open recruitment. After in-company training and her self-effort, she was promoted to the first CEO through the company’s internal public promotion initiated at the beginning of 2006; she left the company after 24 months. According to the interview, the limited control power shared by the company and her personal pursuit of better career development were the main reasons of her leaving. The second CEO also was recruited into the company through open recruitment, and then promoted to the second CEO through the company’s internal public promotion. The second CEO stepped down and left the company after 12 months. His performance on position was below the company’s expectation. According to the interview, the third CEO was selected by headhunter and promoted by internal promotion. The third CEO left the company after 21 months. According to the interview, the limited control power shared by the company and his personal pursuit of better career development were the main reasons of his leaving. According to the interview with the fourth CEO, the fourth CEO was promoted by the same internal promotion

on October 2010, and he left the company after 11 months, the limited control power shared by the company and his personal pursuit of better career development were the main reasons of his leaving. An increasing number of selection channels occurred with more mature selection on CEO. The fifth CEO was selected by headhunter and promoted by internal promotion on October 2011. Moreover, the on-position term of the fifth CEO is 38 months up to the end of 2014.

Since the launch of professionalization in 2006, the average on-position term of the company's five CEOs is lower than a contracted tenure, which is three years. The shortest term on position even didn't reach one year. It brought not only the threat to the company's sustainable development, but also had serious influence on growth environment of professional managers.

Table 4-4 Information of Blue Ray's CEOs on position

Name	Gender	Position step-on age	Highest education	Tenure (months)	Entry company			Selection channel	
					Year	Headhunting	External recruitment	Headhunting	Internal promotion
REN Xia The first CEO	F	41	Master	2006.1 - 2007.12 (24 months)	2001		√		√
LI Gengqiang The second CEO	M	36	Bachelor	2008.1 - 2008.12 (12 months)	2003		√		√
JI Bin The third CEO	M	39	Bachelor	2009.1 - 2010.9 (21 months)	2003	√			√
GUO Yong The fourth CEO	M	39	Master	2010.10 - 2011.9 (11 months)	2003	√			√
CHENG Yaogui The fifth CEO ⁵	M	40	Doctor	2011.10 - 2014.12 (38 months)	2006	√			√

Source: HR Department of Blue Ray

⁵All data was collected before 2014. At the completion of this thesis in June 2015, the fifth CEO is still on position.

Chapter 5: Field Work: Case Study of Blue Ray

Firstly occurrence of agency problem in professionalization process of Blue Ray is introduced in the Chapter; secondly solution of agency problem is studied by case combining with theory, namely the agent selection and incentive in the company.

5.1 Occurrence of agency problem in Blue Ray

As Rosen (1992) addresses, the executive labor market must solve three main economic problems: the distribution and assignment of control among executives; providing performance incentives; and identifying talent and reassigning control in the course of career development. Our case study integrates the three problems into two problems: 1) selecting a qualified CEO and, 2) providing incentives to the selected CEO. The two focal problems are sequential in order – the selection goes first, followed by the incentive scheme. From the aspect of asymmetric information, the first problem is about how to solve the ex-ante asymmetric information problem, and the second problem is about how to solve the ex-post asymmetric information problem.

Berle and Means (1932) point out the fundamental contractual issue by pointing out possible conflicts of interest arising from separation of ownership and control. The vital function of business executives in efficiently directing the vast amounts of resources under their control makes the executive labor market an especially interesting one to study. Rosen (1992) presents hierarchical production in his marginal productivity theory. He builds model and asserts that the most talented executives are efficiently assigned to control positions in the largest companies when talent and the marginal product of control are complements.

As shown in Figure 5-1, three layers principal-agent chain is drew from organizational structure of the company, namely the principal-agent relationship between the President (the principal) and the CEO (the agent). The first layer is firstly to solve CEO selection. CEO's amplification effect in company's value creation is taken on in the second and the third layers after CEO entry the company, and CEO's ability is amplified by hierarchical structure and chain-of-command. Therefore, CEO incentive by limited incentive resources could gain the output with half effort, moreover CEO incentive given by the principal is so important, and it

is back to the first layer of the principal-agent chain.

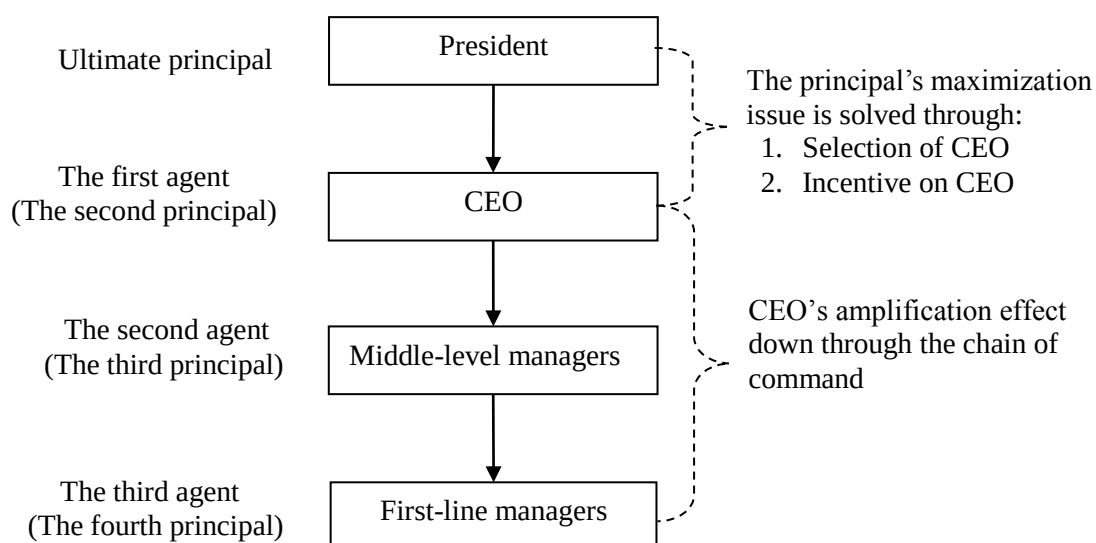


Figure 5-1 The extended principal-agent chain in Blue Ray

Source: Author developed

The company has realized scale expansion nationwide and growth with transition from commercial to residential real estate since 2004. Due to standardized management, an increasing number of talented executives are wanted; therefore professional manager system is applied in the company. In 2006, the owner decided to transfer the control of the private company, headquarter of which locating in Chengdu, to a professional CEO. From then on, the company has experienced CEO selection and incentive.

Berle and Means (1932) address in *The Modern Corporation and Private Property*, during scale expansion, the ownership becomes dispersed because of dilution so that the owner of the wealth has no control, and the controller has no corresponding ownership. In 2006, a professional manager system launched and the principal stepped down from daily management except important business innovation of the company; furthermore the company realized the separation between ownership and control.

As Chu (2002) points out, asymmetric information always exists in any social economic mechanism, the same to a private company in real estate industry. It is asymmetric between recruitment and use. Moreover, individual hidden information, such as quality, ability and morality, is invisible during agent selection. The principle “faith on morality, win on ability” on agent selection in the company not only focus on ability, but also on morality particularly; because the morality is invisible and measureless, and the previous employer’s normalization, individual resume’s correction as well as agent candidates’ loyalty are unknowable. After

agent selection, the effort is made by himself/herself in the company, while the principal could not learn agent's behaviors because of nonparticipation. At the same time the agent faces all kinds of lures from head-hunters, and which has huge opportunism space. Therefore, the contract between the principal and the agent bears the test constantly.

5.1.1 CEO selection

Through the interview with Mr. Yang, the founder of the company, an increasing number of talented executives are needed with company's scale and scope expansion, so regulatory and effective operation as well as stable development becomes a problem necessary to be solved, meanwhile professional manager system and CEO shall be established and introduced finally. In order to guarantee company's development, professional management mechanism has been launched, large number of talented executives have been introduced since 2006, these talented executives' major include market investment, products development, engineering cost, marketing, customer service, finance banking and human resources management. Due to the immaturity of China's professional executive labor market, two stages exist in CEO selection in the company. The first stage is: qualified CEO candidates are introduced from external open recruitment or head-hunter; while the information on quality, morality and ability is not easy to identify and observe, therefore some requirements and qualifications are set for candidates, such as candidates' education is bachelor or above, and turnover frequency is less than three times, and industrial experience is five years at least. The second stage is: identifying and training; generally identifying and training period are more than five years, and candidates' cultural matching is observed in the period, finally a CEO competes out of the internal CEO candidates and is promoted to the CEO position based on a competency evaluation.

5.1.2 CEO incentive

Through the interview with the founder (Mr. Yang) and interviews with the former CEOs and present CEO, large number of talented executives have been introduced by open recruitment and head-hunting channel since professional management mechanism launched, those talented executives totally have outstanding performance, especially those who introduced from headhunting channel, the majority of them come from a bigger famous company in real estate industry, like Vanke Real Estate Company⁶, China Resources and so on,

⁶Vanke Real Estate Company is the Top 1 real estate company in China, which was founded in 1984, and its

their professional qualities and managerial skills are advanced. However, due to cultural mismatching and unfit, resignation appear in a short term in the company. The main problem is the unfit on company's management mechanism and culture, as well as the mismatching on communication and collaboration; the incentive is lack of approach and method to executives and it is the biggest problem and difficulty for employment in the company at present.

Since professionalization has been launched in 2006, Blue Ray has promoted five CEOs. Most of the CEOs resigned from the position in a short term, averagely one year or below. According to Blue Ray HR Department, the turnover of senior managers and executives amounts to 15 percent. This high turnover leads to higher pressure on talent recruitment and retain. The high turnover to some extent reflects the lower efficiency of company's incentive mechanism, and brings challenge and threat to company's sustainable development. Meanwhile, the higher turnover hurts the career development of the professional managers. In China's real estate industry, the market of professional managers is a demand market. In this "demand exceeds supply" market, how to motivate and retain the senior managers and executives effectively is a crucial issue for company's sustainable development.

According to the interviews, the high turnover rate of human resources is related to lack of trust on the agents, and limited delegation to the agents, such as personnel appointment and financial settlement; CEOs have no right to appoint a General Managers of Department (namely the fourth layer of organizational structure of the company, see Figure 5-1). The first CEO had no right to decide on expenditure over 1 million RMB yuan (equals to 150,000 Euros), while the annual sales revenue amounted to around 3 billion RMB yuan (equals to 448 million Euros), and the proportion of expenditure in annual sales revenue is about 0.03 percent; the second, third and fourth CEOs have no right to decide on expenditure over 2 million RMB yuan (equals to 300,000 Euros); and the fifth CEO has no right to decide on expenditure over 5 million RMB yuan (equals to 750,000 Euros), while the annual sales revenue amounted to around 15 billion RMB yuan (equals to 2.24 billion Euros), and the proportion of expenditure in annual sales revenue is also about 0.03 percent. These decisions should be made after reporting to the President (the principal) of the company.

According to the interviews, 1) the high turnover of senior executives is related to the company's incentive mechanism, which is not efficient enough; 2) too much application of negative incentive methods in managerial procedures produces high pressure to the managers and decreases the output; 3) Quantitative and qualitative indicators are used for performance

assessment, in which the quantitative indicators, weight for 70 percent. KPI (Key Performance Indicator) is used as a quantitative measurement. The managers need to meet the quantitative goal assessment in terms of sales revenue, cash return, and profitability. Qualitative indicators, such as quality of management, culture building, and turnover of qualified employees, cost control of human resources weight 30 percent. KPI is scored quarterly, by the higher-level managers directly. Complete annual performance-based reward can only be offered when the average score of four quarters reaches 90 percent or more; 85 percent of the annual performance-based reward is offered when the average score falls between 80 and 90. No annual performance-based reward will be offered when the average score is below 80.

Through the interviews with CFO of the company, and successive CEOs' performance (see Table 5-1), during the term of the third CEO, company's revenue increased to 6.6 billion RMB yuan (equals to 990 million Euros) from 3.6 billion RMB yuan (equals to 540 million Euros), and the profit and total assets increased as well, while during the term of the fourth CEO, the revenue decreased certainly, however during the term of the fifth CEO, the revenue increased to 21 billion RMB yuan (equals to 3.13 billion Euros) in 2014 from 6.4 billion RMB yuan (equals to 955 million Euros) in 2011, and the profit increased to 970 million RMB yuan (equals to 145 million Euros), the total assets amounted to 49.9 billion RMB yuan (equals to 7.45 billion Euros), all of these realized because of the fifth CEO's products strategy, the strategy of the COCO series products focus on first-housing purchasers with the trait of small size, multi-function and low total price, furthermore company's scale expands naturally and rapidly along with the COCO series product come onto market.

Table 5-1 Blue Ray CEO performance, 2009-2014

Year		2009	2010	2011	2012	2013	2014
Sales revenue	Billion RMB yuan	3.6	6.6	6.4	12.5	20.6	21
	Million Euros	537	985	955	1,866	3,075	3,134
Growth rate of sales revenue (%)		-	83	-3	95	65	2
Operating profit	Million RMB yuan	440	520	690	760	875	970
	Million Euros	66	78	103	113	131	145
Total assets	Billion RMB yuan	15.7	17.3	19.2	24.3	42.3	49.9
	Billion Euros	2.34	2.58	2.87	3.63	6.31	7.45
CEO		The third CEO (2009.01 - 2010.09)		The fourth CEO (2010.10-2011.09)	The fifth CEO (2011.10 - 2014.12)		

Note: No publicized performance data of the first and second CEO.

Source: Finance Department of Blue Ray

5.2 Solution of agency problem in Blue Ray-1: competency-based CEO selection

5.2.1 Theoretical analysis of the “two-stage model of CEO selection”

Through the interview with the founder (Mr. Yang), the company has become a group whose mission is mainly on real estate development with scale expanding continuously after 16 years' development. In order to keep regulatory and effective operation as well as sustainable and stable development, the decision was made by comprehensive evaluation of the founder, which was establishing rapidly professional manager system, on basis of it, corporative management structure of board of shareholders, board of directors and board of supervisors as well as professional manager system were established to separate decision-making and management properly as well as to guarantee the sustainable and stable development of the company, so the professional manager system was established and the first CEO was promoted in 2006.

CEO selection problem existed because all of four successive CEOs resigned in a short term, moreover turnover rate of senior executives was high and the senior executive recruitment was very difficult. The high turnover rate and difficult recruitment not only

increased the management cost, but also brought the risk to sustainable development. CEO selection is a critical problem for the company.

The company becomes more mature in the process of professionalization. Through the interviews with the President (the principal) and successive CEOs, based on practice of CEO selection, a “Two-stage model of CEO selection of Blue Ray” is developed. See Figure 5-2.

1) The first stage: External selection

External selection is aimed at select these persons who fulfill the employment requirement from many external applicants.

Three qualification requirements are set for applicants: Firstly, bachelor or above and; secondly, more than 5 years’ industrial experience and 2 years’ working experience on the same position and; thirdly, the turnover frequency is less than three in 5 years.

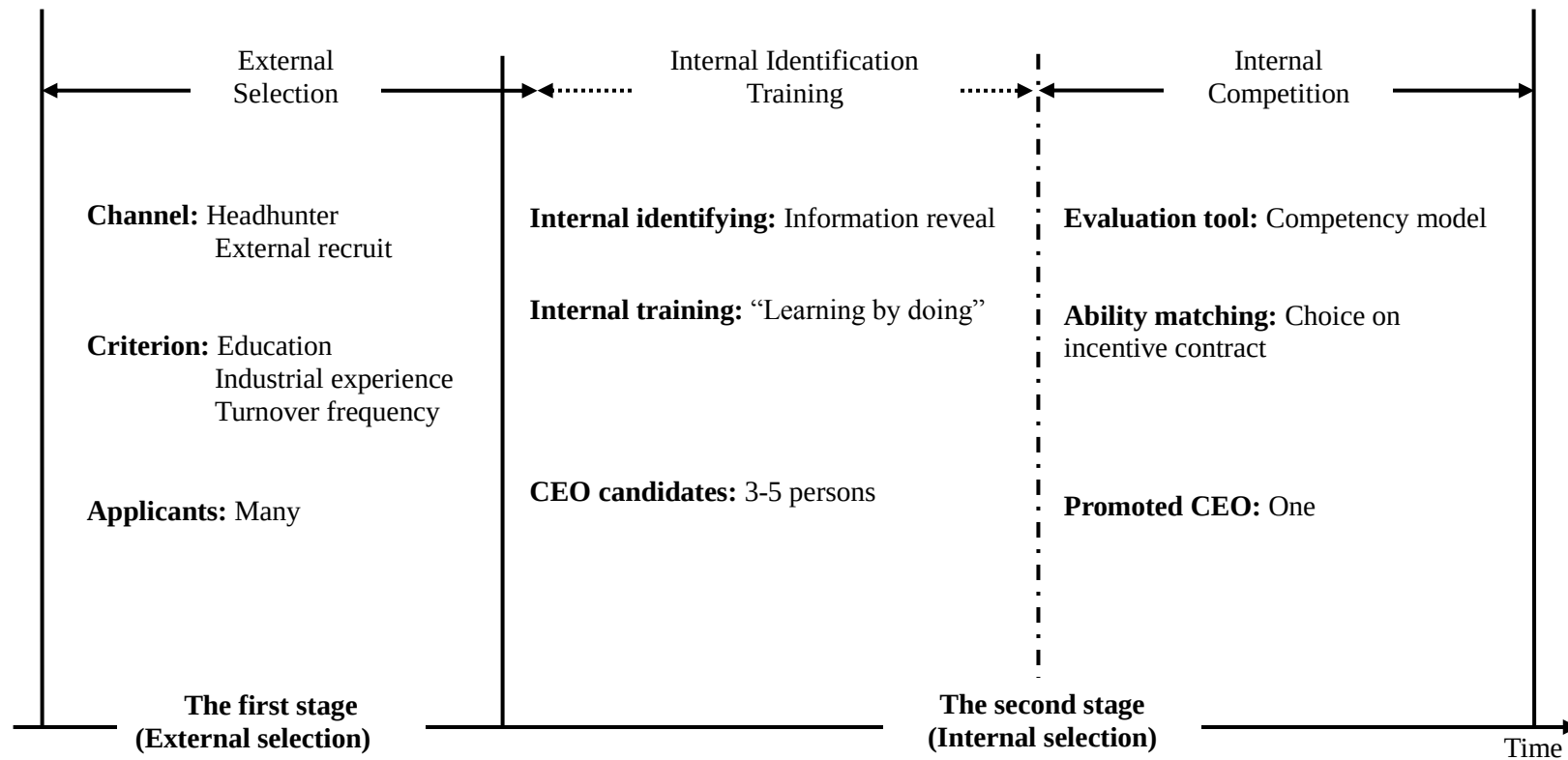


Figure 5-2 Two-stage model of CEO selection of Blue Ray

Source: Author developed

The first qualification condition reflects the requirement of storage ability of human capital, namely “schooling could reflects the storage of human capital, namely ability” (Schultz, 1961). The second condition reflects the requirement of human capital increment formed in “learning by doing” (Arrow, 1962), it is the ability that relating industry and position directly. The third condition reflects the focus from the company on professional and organizational loyalties. Because of high turnover rate of employees in real estate industry, the company is hopeful that these employees are stable for their positions, and the selection condition transmit the loyalty for organization in the company’s culture.

The main selection channel of the first stage (external selection) is headhunter and open recruitment. The above three conditions are fulfilled, and then the applicants are selected to sign contracts and become company’s employees.

2) The second stage: Internal selection

The second stage is internal selection, which is aimed at promote the CEO from many CEO candidates. At present, “diploma spread unchecked” and “false diploma” exists in China, the “diploma is ability” failures to some extent. Meanwhile, the professional manager system is imperfect and far to mature (Li, 2003). Therefore, CEO selection from external selection (the first stage) enters internal selection (the second stage). Firstly the candidates come into company and take office at different managerial or technological position. Hidden information (the ability) and behavior (the effort) are observed and revealed, and qualified CEO candidates are identified and selected through internal identification; while internal training is position change or rotation and working task enrichment, and which cause CEO candidates get human capital increment through “learning by doing”. Many CEO candidates are selected through “internal identification training” and then enter “internal competitive”. According to the “competency model”, the President (the principal) and all senior executives mark for all CEO candidates’ competency; meanwhile, “ability matching model” (Sun and Xiao, 2008) is applied to provide different incentive contracts for CEO candidates. Through CEO candidates’ choice on incentive contracts, the higher talented CEO candidate is promoted as CEO.

5.2.2 Practical analysis: external selection during the first stage

Since January 2006, professional manager system has been launched. Up to now, the system has worked for eight years during five CEOs’ terms. See Table 5-2 for successive CEOs selection and promotion.

Table 5-2 CEO selection and promotion in Blue Ray

Name	The first stage: external selection (Entry of the company)						The second stage: internal selection (Promoted to the CEO position)					In-position term (months)
	Entry year	Education	Age	Experience	Turnover (<3 in previous 5 years)	Channel	Year	Age	Previous positions	Selection		
										Number of candidates	Duration of identification (months)	
The first CEO REN Xia	2001	Master	36	8	2	Recruitment	2006	41	Project Manager Vice General Manager	3	60	24
The second CEO LI Gengqiang	2003	Bachelor	31	3	1	Recruitment	2008	36	Director of Engineering Inspection Vice General Manager	4	60	12
The third CEO JI Bin	2003	Bachelor	33	6	2	Headhunting	2009	39	Director of Sales Inspection Vice General Manager	4	72	21
The fourth CEO GUO Yong	2003	Master	32	5	1	Headhunting	2010	39	Director of Technology Inspection Vice General Manager	5	84	11
The fifth CEO CHENG Yaogui	2006	Doctor	35	8	2	Headhunting	2011	40	Deputy Director of Engineering Inspection General Manager of Divisions Vice General Manager	5	60	38+ (up to December 2014)
Average			33.4	6	1.6			39		4.2	67.2	21.2

Source: HR Department of Blue Ray

Known from the first stage in Table 5-2, the channel entry the company of successive CEOs are different. The first and the second CEOs were selected by external recruitment, while the third, the fourth and the fifth CEOs were selected by headhunter. Among all CEOs, the second, the third and the fourth CEOs were selected in 2003. After 2003, as rapid development of headhunter and professional executive labor market, headhunter became the main employment channel for Blue Ray and other real estate companies. Headhunter's rising provided more selection channels and caused high turnover rate of senior executives in real estate industry. According to an industrial report in 2013, 46 percent of turnover in real estate industry was produced by external reason, such as a higher reward from headhunter.

The average age of five CEOs is 33.4 years old, and the first CEO is 36 years old when entry the company, she is the oldest CEO among all CEOs; and the second CEO is 31 years old, he is the youngest one among all CEOs when entry the company. Among five CEOs, two are bachelors, and another two are masters and the last one is a doctor candidate of management, it reflects that company's CEOs have the higher human capital storage.

5.2.3 Practical analysis: internal selection during the second stage

According to Table 5-2, the five CEOs were promoted after 67.2 months (5.6 years) of internal selection. In practice, the second stage includes internal identification and training, and internal competition.

1) Internal identification training

Through internal selection in the second stage, the company realizes two aims: firstly, after entry the company, CEO candidates work at important positions, and the hidden information on ability is observed sustainably in business practice, and asymmetric information is revealed fully to make up the hidden information incompleteness of external selection in the first stage; secondly, the average 67.2 months (5.6 years) of "learning by doing" through position rotation and work complex increase the incremental accumulation of human capital of CEO candidates. This kind of human capital increment with industrial characteristics and culture from "learning by doing" has human asset specificity in "asset specificity" of Williamson (1971), namely the asset formed by "learning by doing" in business practice in Blue Ray is utilized in special business environment and culture, which is non-substitutable. Before promotion to the CEO position, the five CEOs had experience of Vice General Manager. The first CEO worked as Project Manager, and the second and the fifth CEOs worked as the Director of Engineering Inspection and Vice General Manager, and

the third CEO works as the Director of Sales Inspection, and the fourth CEO work as the Director of Technology Inspection. Among the five CEOs, only the fifth CEO, the current one has the experience of being the General Manager of Division on comprehensive management position. The difference of the five CEOs' previous positions reflects different requirement and concern on CEO's ability in different development stages. For instance, the first CEO's previous position was Project Manager, and the company paid more attention to the project management experience at that time, and the project management experience became an important factor on CEO promotion. As the real estate developer, the company always focus on engineering and technology because engineering and technology take impact on products' quality, therefore, three of the five CEOs are promoted because of working experience on engineering and technology; The third CEO stepped on in 2009 when strict macro-control policy launched in real estate industry in China, and sales was most important and concerned, one CEO with working experience on sales was promoted to confirm company's target. The fifth CEO was promoted in 2011, and working in-position for 4 years up to December 2014, during this period, the business scale (see details of Table 5-1) and scope enlarging and diversification promoting asked for a higher qualified CEO on operation ability, products control as well as strategic thinking and planning. CEO selection must pay more attention to comprehensive management experience not only like the Director of Engineering Inspection, but also General Manager of Business Division and Vice General Manager of the company, and it confirms company's strategy.

Different from the previous four CEOs, the fifth CEO had working experience on three important positions. He worked not only as General Manager of a core department, but also as the Director of a Business Division, which needed comprehensive management and operation ability, and got exercise and training as Vice General Manager. The previous four CEOs also experienced five to seven years' training, but they just had two positions experience. Combining with Table 5-1 and Table 5-2, the fifth CEO, the incumbent, is the one who has the longest term and the highest diploma as well as the richest management experience. Because of successive terms, the fifth CEO experiences the previous three stages of "five stage model of CEO Life Cycle" (Hambrick and Fukutomi, 1991; Eitzen and Yetman, 1972), namely promotion, exploration and reform as well as style formation, he is the CEO who brings the maximal value to the company among all CEOs.

In terms of age when stepped on, the average age of the five CEOs was 39 years old, the first CEO, the oldest one, was 41 years old; the second CEO, the youngest one, was 36 years

old. According to the life cycle theory of human resources, this age was mature period in life cycle.

2) Internal competition

All five CEOs were promoted out of average 4.2 candidates. Moreover, the first CEO is promoted among 3 candidates; as professionalization process promoting, CEO selection become more competitive.

For the difficulty on CEO selection, the company establishes the principle “faith on morality, win on ability” on employment, morality means CEO’s morality, CEO’s private information is difficult to observe and measure, the previous company’s reputation and CEO candidates’ resume and loyalty are observed and considered. On aspect of ability, the company establishes “indicators of CEO competency evaluation in Blue Ray” (see Table 5-3). According to the characterization on competency (Liu and Wang, 2006) and study on company spirit (Li, 2006), this thesis establishes “indicators of CEO competency evaluation of Blue Ray”, which includes three Primary indicators – “managerial traits”, “managerial skills” and “entrepreneurship”. The company used Delphi Method to allocate the weights of indicators, as shown in Table 5-3.

In the Primary indicator of “Managerial traits”, it includes seven Secondary indicators: loyalty and devotion, sense of mission and sense of responsibility, collaboration and communication, efficiency, ability of making improvement, learning and innovation as well as self-control and self-discipline; see Appendix 3-1 for Secondary indicator description. In the Primary indicator of “managerial skills”, it includes seven Secondary indicators: operation ability, investment ability, products control, financial and cost management, strategic thinking and planning, human resources management as well as customer relationship management and brand promotion; see Appendix 3-2 for Secondary indicator description. In the Primary indicator of “entrepreneurship”, it includes seven Secondary indicators: risk taking and risk control, social responsibility consciousness, decision and delegation, execution, customer focus, market insight and social networking; see Appendix 3-3 for Secondary indicator description.

Likert 5-point scale is used in CEO competency evaluation in Blue Ray to measure the CEO competency from 1 (strongly disagree) to 5 (strongly agree) (see Appendix 4). CEO competency is marked by the President (the principal) and all senior executives, and the CEO candidate who get the highest score, is promoted as CEO.

Table 5-3 Indicators of CEO competency evaluation in Blue Ray

Primary indicators	Secondary indicators (See Appendix 3 for detailed explanations)
Managerial traits Weight: 20 percent	1. Loyalty and devotion
	2. Sense of mission and responsibility
	3. Collaboration and communication
	4. Efficiency
	5. Ability of making improvement
	6. Learning and innovation
	7. Self-control and self-discipline
Managerial skills Weight: 50 percent	1. Operation ability
	2. Investment ability
	3. Products control
	4. Financial and cost management
	5. Strategic thinking and planning
	6. Human resources management
	7. Customer relationship management and brand promotion
Entrepreneurship Weight: 30 percent	8. Risk taking and risk control
	9. Social responsibility consciousness
	10. Decision and delegation
	11. Execution
	12. Customer focus
	13. Market insight
	14. Social networking

Source: HR Department of Blue Ray

Taking the fifth CEO as an example, the fifth CEO was selected into the company by headhunter, firstly worked as Assistant General Manager of business division, after three months, he was promoted as General Manager of business division. He gained “excellent manager” and “excellent executive” in successive years by excellent performance, and all kinds of evaluations for him amounted to the requirement on CEO competency in the company. Finally he was promoted as the fifth CEO among the five CEO candidates on October 2011.

All successive CEOs’ competencies were measured by the direct authority and the lower

level employees according to the model of CEO competency evaluation of Blue Ray. Fifteen persons participated the measurement on CEO competency, they were: 1) the direct authority, one person, the President (the principal) and, 2) the two lower levels, fourteen employees including four persons of the first lower level (management span is four), and ten persons of the second lower level. It sees Figure 4-2 for Organizational structure of Blue Ray Personnel distribution. Successive CEOs' scores of competency evaluation was obtained by counting weighted average of all kinds of indicators, see Table 5-4.

According to the scores of successive CEOs competency valuation, the CEO candidate who has the longer term and the higher education, get the higher score of competency evaluation. The data shows that the fifth CEO get 4.54 and it is the highest score among all CEOs, meanwhile the fifth CEO has the longest term and best education.

“Model of CEO competency evaluation” is an exogenous evaluation tool used for CEO candidates. Besides continuous evaluation on candidates' competency in 67.2 months (5.6 years), ability matching incentive model (Sun and Xiao, 2008) is also applied to evaluate CEO on competency – position matching by the company, while the approach was the endogenous, individual choice. In the ability matching incentive model, CEO candidates' abilities are different. The real ability is individual information, so the company just can learn one part of real information about ability through external labor market system. CEO candidates are the pursuit of rational maximal utility, namely the agent individually chooses a suitable contract on basis of his/her own ability; the agent with higher ability chooses the non-CEO contracts, and it cannot achieve his/her maximal utility; similarly, if the agent with lower ability choose CEO contract, also it cannot achieve his/her maximal utility. Therefore, the principal's problem is to design different contracts for CEO candidates. On basis of their own abilities, the rational CEO candidates choose the contract to get their maximal expected utilities, and the result is the agent with higher ability may choose CEO contract, and the agent with lower ability choose non-CEO contract. If the agent with lower ability chooses the contract that needs the higher ability, and the agent with higher ability chooses the contract that just needs the lower ability, they will not achieve their maximal utilities. On basis of it, the company can identify agents' abilities by agents' choice on different incentive contracts.

Table 5-4 CEO competency evaluation in Blue Ray

Primary indicators	Secondary indicators	The first CEO	The second CEO	The third CEO	The fourth CEO	The fifth CEO
Managerial traits Weight: 20 percent	1. Royalty and devotion	5	5	5	5	5
	2. Sense of mission and sense of responsibility	5	5	5	5	5
	3. Collaborate and communication	4	4	4	3	5
	4. Efficiency	5	4	3	3	5
	5. Ability of making improvement	3	3	3	2	4
	6. Learning and innovation	4	4	3	2	5
	7. Self-control and self-discipline	5	5	4	2	5
	Average	4.4	4.3	3.9	3.1	4.9
Managerial skills Weight: 50 percent	8. Operation ability	4	3	5	2	4
	9. Investment ability	3	3	4	2	5
	10. Products control	3	3	3	3	5
	11. Financial and cost management	4	4	4	3	4
	12. Strategic thinking and planning	3	3	2	3	5
	13. Human resources management	5	4	3	3	4
	14. Customer relationship management and brand promotion	3	3	3	3	5
	Average	3.6	3.3	3.4	2.7	4.6
Entrepreneurship Weight: 30 percent	15. Risk taking and risk control	5	4	5	3	4
	16. Social responsibility consciousness	2	5	3	2	4
	17. Decision and delegation	2	2	2	2	4
	18. Execution	5	4	4	3	5
	19. Customer focus	3	3	3	2	4
	20. Market insight	3	4	3	3	5
	21. Social networking	5	4	4	4	4
	Average	3.6	3.7	3.4	2.7	4.3
Final weighted average score		3.74	3.61	3.51	2.80	4.54

Source: HR Department of Blue Ray

Although headhunter is rising in China's real estate industry, the executive labor market is far from mature; information transferring mechanism on executive ability is of distortion and failure when external labor market cannot reveal completely agents' abilities information. Hunting a CEO directly from external executive labor market is not adopted in the company, while it designs different incentive contracts for CEO candidates who trained by the company itself, and CEO candidates choose incentive contract according to their own abilities to get their maximal utilities, on basis of it, the company promotes the agent with the higher ability to be the CEO. The approach improves selection effectiveness and reduces the turnover from asymmetric information.

“Ability matching model” (Sun and Xiao, 2008) is as follow:

1) Incentive contract for CEO

The principal designs a linear contract $t(\pi_1) = \alpha_1 + \beta_1 \pi_1$ for required ability of the agent, where $\pi_1 = a_1 + m_1 + \varepsilon$. π_1 is CEO's performance in business operation; α_1 is CEO's fixed income with no relation with π , β_1 is share of production given to CEO; α_1 is required ability of CEO; m_1 is CEO's effort; ε is a random variable, indicates exogenous uncertainties. Therefore, the principal chooses (α_1, β_1) as maximal expected utility function:

$$\begin{aligned} \max_{\alpha_1, \beta_1} & -\alpha_1 + (1 - \beta_1)(a_1 + m_1) \\ \text{s.t.} & (IR) \alpha_1 + \beta_1(a_1 + m_1) - \frac{1}{2} \rho \beta_1^2 \sigma^2 - \frac{b}{2} m_1^2 \geq \bar{\omega} + \frac{a_1 - a_2}{2(1 + b\rho\sigma^2)} \\ & (IC) m_1 = \frac{\beta_1}{b} \end{aligned} \quad (5-1)$$

In above functions, the cost function of CEO is $c(m_1) = \frac{b}{2} m_1^2$, The principal is risk neutral; CEO is risk averse, where ρ is the CEO's absolute aversion $\rho > 0$; in order to let CEO, the higher ability agent be willing to choose contract, the principal must make the reservation income of incentive contract as $\bar{\omega} + \frac{a_1 - a_2}{2(1 + b\rho\sigma^2)}$, otherwise, CEO may not accept this contract.

2) Incentive contract for non-CEOs

The principal designs a linear contract $t(\pi_2) = \alpha_2 + \beta_2 \pi_2$ for required ability of CEO, where $\pi_2 = a_2 + m_2 + \varepsilon$. π_2 is CEO's performance in business operation; α_2 is CEO's fixed

income with no relation with π , β_2 is share of production given to CEO; a_2 is required ability of CEO, $a_2 < a_1$; m_2 is CEO's effort; ε is a random variable, indicates exogenous uncertainties. Therefore, the principal chooses (α_2, β_2) as maximal expected utility function:

$$\begin{aligned} \max_{\alpha_2, \beta_2} & -\alpha_2 + (1 - \beta_2)(a_2 + m_2) \\ \text{s.t.} & (IR)\alpha_2 + \beta_2(a_2 + m_2) - \frac{1}{2}\rho\beta_2^2\sigma^2 - \frac{b}{2}m_2^2 \leq \bar{\omega} \\ (IC)m_2 & = \frac{\beta_2}{b} \end{aligned} \quad (5-2)$$

It proves the feasibility of a combined incentive contract, namely the existence of a combined incentive contract can let the agent with the higher ability that satisfying the constraints of participation, choose CEO contract for his maximal utility; and the agent with the lower ability choose non-CEO contract. Therefore, solution to ability matching problem is found.

In optimal combined incentive contracts, the difference between CEO contract and non-CEO contract is: under condition of satisfying candidates' maximal utilities, the fixed income proportion in CEO contract given by the principal is lower than the proportion in non-CEO contract; however the risk benefit proportion in CEO contract given by the principal is higher than the proportion in non-CEO contract. Study conclusion shows that the risk benefit is positive correlated to CEO candidates' ability. While CEO candidates' ability is individual information, and the rational candidates choose the contract on their own abilities to achieve their maximal utilities.

For the principal's expected maximal utility, the less validity external identify mechanism has, the more validity ability matching mode designed by internal mechanism has. Theory research supports Blue Ray's practice, and also explains solving problem of agent selection by company's internal incentive system under situation that China's executive labor market is still immature.

Successive CEOs' performances of Blue Ray see Table 5-1. The fifth CEO's performance was excellent among all CEOs', and company's performance was becoming better. In 2011, the fifth CEO's first year achieved the sales task, and the sales amounted to 6.4 billion RMB yuan (equals to 960 million Euros), amounted to 12.5 billion RMB yuan (equals to 1.87 billion Euros) and increased 95 percent in 2012, and amounted to 20.6 billion RMB yuan (equals to 3.07 billion Euros) and increased 65 percent in 2013, and amounted 21

billion RMB yuan (equals to 3.13 billion Euros) in 2014. The company did not enter TOP 50 list of real estate industry in China in 2011, while the company first time jumped to be Top 50 and ranking at 36 in 2012, and then the company entered TOP 50 list of real estate industry in three successive years in China and the company's ranking was steadily raising. After the fifth CEO stepped on, the compound growth rate of the company was the highest in the whole industry. The fifth CEO was promoted by CEO competency evaluation; and ability matching incentive mechanism design brought performance increasing and industrial position rising. From company's business practice, the application of "CEO competency evaluation" and "ability matching incentive mechanism design" in solving the problem of CEO selection was of actual and theoretical value.

5.3 CEO amplification effects in Blue Ray's value creation

5.3.1 Theoretical analysis of CEO superstar effect

The company is a productive team, which is composed of highly heterogeneous human capital; the different human capitals have different contributions to company value creation (Xiao, 2005). Human capital embodies on ability and effort in company value creation. Due to structural characteristics of company's hierarchy, CEO's ability and effort give rise to geometric "amplification effect" (Xiao and Li 2003, 2005) through downward chain-of-command for company value creation.

Rosen (1992) builds hierarchical production model, and which separates the effort made by different levels of human capital on company's production. Rosen's hierarchical production model is as follow:

Assumption 1: A company has a hierarchical structure (no less than three layers) and a top-down vertical chain-of-command. CEO occupies the highest hierarchical layer and the top of the chain-of-command.

Assumption 2: Workers at same hierarchical layer have same talent.

The production model is:

$$\begin{aligned}
 Y_n &= s^n (k^n z_n + k^{n-1} m z_{n-1} + \dots + m z_0) \\
 &= A^n z_n + \sum_{j=1}^{n-1} s^{n-j} A^j m z_j + s^n m z_0
 \end{aligned}
 \tag{5-3}$$

where Y_n indicates the company's total output; n is the level of the company hierarchy,

and $n \geq 3$; s is the span of control at level j ; z_j is a level- j worker's talent input into the production-measured as output in self-employment. Let k be the conducting factor, and m the discounting factor, both k and m are positive constants independent of j , and $m + k < 1$; $A = sk > 1$.

In equation (5-3), we know that the company's total output is composed of three parts: the top layer – one CEO, middle layer and bottom layers' production. $j=n$ is the top layer, namely CEO; $j=0$ means first-line hierarchy. The CEO contributes $A^n z_n$ to the total output, and the CEO effectively is “cloned” $(sk)^n z_n$ times through subordinates in the chain-of-command; one worker of hierarchy j contributes $A^j m z_j$ to the total output, and the worker is “cloned” $(sk)^j m z_j$ times. $(sk)^j m z_j < (sk)^n z_n$ reflects the higher layer, the bigger “amplification effect”, because: firstly $j < n$, their input has a shorter distance to travel down the hierarchy and secondly is further discounted (by $m < 1$) arising from the need to spend time processing supervisors' orders; In another word, a bottom layer production worker has no subordinate workers below him, thus his production has no enlarging effect, his contribution to the total output is only $m z_0$.

Through the measurement of human capital Z in equation (5-3), Xiao and Li (2005) extends Rosen's model and establishes “CEO superstar effect model”. Xiao and Li think that the real talent Z is described as the function of the productive input β and the human capital's nominal talent z^* , describes as:

$$z_j = \beta_j z_j^* \quad (j = 0, \dots, n) \quad (5-4)$$

In equation (5-4), z_j is determined by two factors: the first is the nominal talent z_j^* , understood as the accumulation of human capital that is indicated by years of schooling⁷. The second is the individual's productive input β_j . We assume that the individual's productive input has a linear influence on the releasing of human capital's nominal talent, and $0 \leq \beta_j \leq 1$. That means with no productive input, the nominal talent cannot be released and contribute nothing to the production. A certain and appropriate degree of input can totally release the talent into the production.

⁷ This thesis excludes other human capital increment mode like “learning by doing”, namely the employees' devotion once put into companies' production, and human capital content do not increase any more in production process.

Put equation (5-3) and (5-4) together, we have the extended production model:

$$\begin{aligned} Y_n &= A^n z_n + \sum_{j=0}^{n-1} s^{n-j} A^j m z_j \\ &= A^n \beta_n z_n^* + \sum_{j=0}^{n-1} s^{n-j} A^j m \beta_j z_j^* \end{aligned} \quad (5-5)$$

In equation (5-5), model of “CEO superstar amplification effect” separates ability Z and layer j , and describes clearly the top layer – one CEO give rise to amplification effect for company’s value creation through its devotion and ability, and reveals the importance of CEO for company’s value creation. Furthermore, how to select a qualified CEO and to incentive the CEO becomes the most concerned problem.

5.3.2 Theoretical analysis of the non-linear butterfly effect of CEO incentive

Xiao and Li (2003) find out that company incentive mechanism is multi-level system composed of the top, the middle and the bottom layers subsystems. Later, Xiao and Li (2006) use interdisciplinary research by introducing system theory to management research to study incentive system reliability on change of incentive layer reliability. Xiao and Sun (2008) develop theoretical model to prove that company incentive system is featured by nonlinear characteristics. The incentive system presents an initial sensitivity thus generates Lorenz’s chaos behaviors (Lorenz, 1963). Initial sensitivity presents a slight change of initial system condition may cause greater difference or deviation to the system result as time goes by. This is also understood as the “butterfly effect”, that is “small cause” produces “great result”, or “great cause” produces “small result”, or “similar cause” causes “dissimilar result”.

Xiao and Sun (2008) also build theoretical model to analyze the key influential factors and measurement of “reliability sensitivity of incentive system”. According to their finding, reliability of an incentive system is determined by the reliability of the incentive subsystems and the relationship between the subsystems. Firstly, in company incentive system, different incentive layers have different action and different impact on reliability of company incentive system. Company incentive system has initial sensitivity on the top incentive layer, namely slight change of system initial conditions eventually generates completely different system results. Secondly, higher path dependence among neighboring managerial levels produces greater influence on reliability of the company’s incentive system.

Xiao and Li’s findings give theoretical guidance to business practice as: Firstly, when a company designs incentive system, optimal allocation of resources should be priority

proceeded as it values as the company's "institutional arrangement". Different incentive levels have different influence on reliability of incentive system, thus makes choosing proper incentive objects an important influential factor to incentive system. Under fixed total input of incentive resources, it is feasible for a company to make improvement on the whole incentive system through optimal resource distribution, such as priority resource allocation to the senior executive incentive. Secondly, follow up the first point, under the constant resource allocation; it is feasible for a company to making improvement on incentive system reliability through improving dependency relationship between upper and lower levels. Actually dependency between higher-and-lower levels is one specific performance of corporate culture. Strong dependency represents a strong culture, while weak dependency represents a weak culture. However, path dependence functions as a "double-edged sword": change in same direction, "good" or "bad", may cause "better" and "worse" result to the company incentive system. Strong dependence in positive direction makes "good" to "better"; while strong dependence in negative direction makes "bad" to "worse". Companies can cultivate a kind of strong cohesive force through cultural building, and improve incentive system effect through improving dependency relationship between upper and lower levels.

According to the chaos theory, the emergent state of business system might be caused by a tiny cause of a very small event. Willis (2001) addresses that in a company there are two key attractors - SA and FA. Success attractor and failure attractor are two opposite forces that generate system evolution. Moreover the success attractor is long-term profit generation and another for failure is defined as liquidation or being taken over. The effects of attractors are like center of typhoon: Attractor is a value center for business system, and generates huge vitality to company. All activities are around the center. The change of company exists between SA and FA, see Figure 5-3.

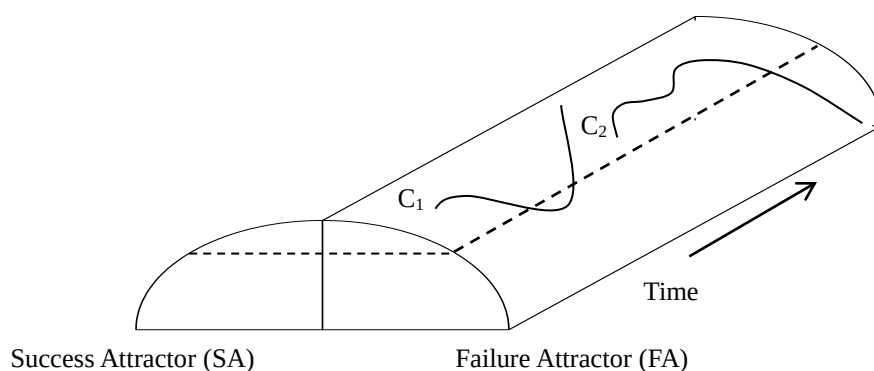


Figure 5-3 Incentive system evolution and chaos attractors

Source: Willis (2001)

In Figure 5-3, above the dotted line is called the Power Zone in which the company exhibits strategic resilience. Curve C1 shows a company moving towards the failure attractor but then reversing its fortunes and heading ups. Curve C2 shows a company that struggled for some time and then failed.

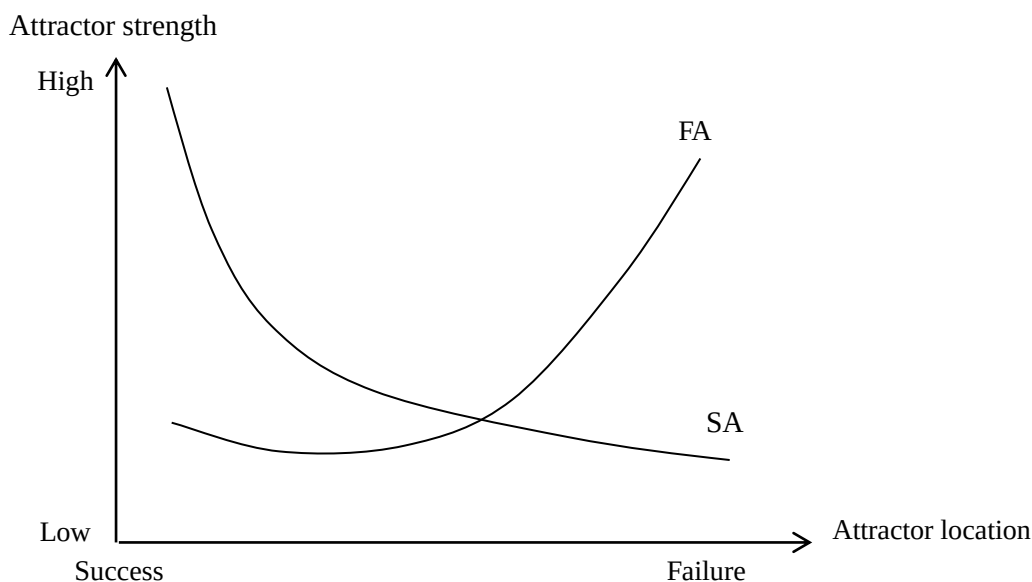


Figure 5-4 Attractor strength curves

Source: Willis (2001)

In Ron Willis's study, because of entropy increase, the strength of success attractor and the failure attractor vary at different directions. See Figure 5-4. The success attractor is difficult to identify where it is, hence how to manage the success attractor effectively and how to lead a company into a path to success is a very difficult managerial problem. The failure attractor is easily to identify, so it's much more important for managers to manage the failure avoidance.

Xiao (2006) introduces chaos system theory to company incentive research. She points out that in incentive system, the success attractor is the attractor leading the system to a state of high efficiency and reaching the organizational objectives, such as the effective executive incentive; the failure attractor causes results opposite to the organizational objectives, such as the ineffective executive incentive. The only way to change the ultimate state of incentive system is to change the space state and nature of the chaos attractor. From this aspect, how to control and manage attractors is vital for a company to have an effective and efficient incentive system. When company know the region of attractors, i.e. the conditions and state of effective system behaviors, company can adjust the initial conditions to attract system

behaviors fall into the region of success attractor. According to Xiao (2006), a company can avoid dangerous system behaviors by effective management over chaos attractor. Managing initial conditions, making small improvement of CEO capability and incentive may control or stimulate the change of the system (company) state, and lead the company onto the track of the expected ultimate state.

5.3.3 Practical analysis

In order to evaluate employees' effort, namely engagement, the company entrusted a third party organization – Aon Hewitt Advisory Consultation to conduct the survey on employees' engagement. Through extensive survey on employees, company and its behaviors as well as collected experience, Aon Hewitt Advisory Consultation exhaustively gave factors which were possible to affect the engagement, and then analyzed the factors. Moreover twenty-two main driving factors were concluded: senior executives, team, direct authority, colleagues, salary, welfare, fulfillment, career development chance, learning and development, balance between work and life, work task, resources, achievement, working procedure, working environment, human resources management policy, performance evaluation, diversification, company reputation, corporate culture and customer orientation. Besides of it, Aon Hewitt Advisory Consultation concluded engagement as three behaviors from company angle: Being willing to promote (employees always are willing to praise their organizations to their colleagues, potential colleagues and customers); being willing to accompany (employees strongly are willing to accompany with company's development); being willing to devote (employees are willing to make extra effort to realize success).

In an organization, CEO is regarded as the most important role. Under conditions that the other variables are constant, a company's performance is somewhat a reflection of CEO's ability and effort input. Activities of top management are magnified geometrically because they affect recursively the productivity of all who work below them in the organization. This "scale of operations" effect, multiplying little bits over each of many units, accrues to the more executive as economic rent in a competitive equilibrium, much like a "superstar" effect. In consideration of team's nature, after senior executives' incentive, one most important task is incentive their subordinates, and let incentive spreading level by level. Therefore, under condition of fixed incentive resources, the incentive to senior executives is more important.

According to the survey (see Table 5-4 above) by Aon Hewitt Advisory Consultation, the proportion of "strongly agree" and "agree" in senior executives' questionnaires is 73

percent in 2011, 75 percent in 2012 and 83 percent in 2013 for “employees see development prospect from senior executives”, in three-years surveys, the score of senior executives is the highest in twenty-two main driving factors, while the average score of senior executives is 60 percent in real estate industry, the score of Blue Ray is higher than the average of real estate industry, which indicates senior executives of Blue Ray have certain positive influence. Meanwhile, the proportion of “strongly agree” and “agree” in employees’ questionnaires is 66 percent in 2011, 69 percent in 2012 and 77 percent in 2013 for “direct authority give necessary support and help to get success”, in three-years surveys, the score of direct authority is the higher and the ranking is four or five, while the average score is 65 percent in real estate industry. the score in Blue Ray is higher than the average score in real estate industry, which indicates that after senior executives’ incentive, senior executives distribute incentive resources to their subordinates, and let incentive spreading level by level so as to form incentive chain.

According to the engagement survey result (see Table 5-5), the average score on engagement of Blue Ray is 62 percent and 66 percent respectively in 2011 and 2012, it is higher than the industrial average score, the score on engagement of Blue Ray is 76 percent in 2013, while the industrial average score is 72 percent, it indicates that Blue Ray enters “the Best Employers in Real Estate Industry”.

Table 5-5 Survey result on driving factors of engagement in Blue Ray, 2011-2013

Factors	2011		2012		2013		Industrial average level	
	Proportion	Ranking	Proportion	Ranking	Proportion	Ranking	Proportion	Ranking
Senior executives	73%	1	75%	1	83%	1	60%	8
Management team	70%	3	74%	2	83%	2	79%	4
Colleagues	72%	2	74%	3	80%	3	67%	5
Company's reputation	65%	5	70%	4	79%	4	80%	2
Culture	63%	7	65%	7	79%	5	79%	3
Direct authority	66%	4	69%	5	77%	5	65%	6
Diversification	64%	6	69%	6	76%	7	59%	10
Training and development	53%	9	59%	10	75%	8	54%	12
Polices	45%	16	45%	17	73%	9	46%	19
Achievement	60%	8	63%	9	72%	10	59%	9

Notes: Engagement drive factors are ranked according to the number of “strongly agree” and “agree”, and just Top 10 factors are listed.

Source: Survey report conducted by Aon Hewitt Advisory Consultation

According to survey conducted on different managerial levels, senior executives' score on engagement is 74 percent, 76 percent and 81 percent respectively from 2011 to 2013, and it is the highest in all managerial levels and ranking at Top 1, while the number of senior executives is the least in all participating employees, which indicates senior executives' abilities give rise to geometric amplification effect. Engagement survey results of 2011 to 2013 shows that the score on senior executives' engagement and engagement driving factors are increasing year by year (see Table 5-6).

Table 5-6 Survey results of engagement at different levels in Blue Ray, 2011-2013

Position	2011			2012			2013		
	%	Rank	Industrial average	%	Rank	Industrial average	%	Rank	Industrial top
Senior executives	74%	1	/	76%	1	/	81%	1	/
Middle-level managers	62%	3	/	64%	3	/	76%	3	/
First-line managers	56%	4	/	59%	4	/	75%	4	/
Staffs	68%	2	/	69%	2	/	77%	2	/

Source: Industrial report conducted by Aon Hewitt Advisory Consultation

The above empirical analysis indicates that senior executives, especially the CEO have huge influence on company's value creation, and the main influence is star amplification effect for subordinates. That is why the company selects and promotes one doctoral candidate of management, a qualified person with high human capital storage, as the fifth CEO. The survey result on engagement drive factors shows that CEO definitely takes the biggest impact to company's performance and subordinates' engagement. It indicates that the micro-variation on CEO's ability and effort may have big influence on company's performance is supported and examined by business practice in Blue Ray. Also it indicates that in incentive system arrangement, fixed incentive resources should be distributed to the object that has the biggest maximal increment effect, namely the CEO, utilizing senior executives' "initial sensitivity" from company's system to exert CEO's maximal increment effect.

Applying research of Xiao and Sun (2008) into Blue Ray's practice, the incentive levels in theoretical model are related to administrators and staffs, and incentive path dependence is related to relationship between superior and subordinate. According to their findings, under the condition that other conditions are constant, incentive levels and path dependence are the

influential factors of Blue Ray's incentive reliability, where incentive levels are the strong variable, and path dependence is weak variable. Therefore, firstly when design incentive system in Blue Ray, incentive resources should be distributed to the object that may produce maximized incremental effect, such as incentive on CEO. Use the leverage Blue Ray CEO's superstar amplification effect can be leveraged to bring big improvement in Blue Ray's value creation. Secondly the company should strengthen human resources relationship management to cultivate and form strong culture aiming to the organizational target.

5.4 Solution of agency problem in Blue Ray-2: effort-based CEO incentive

In 2006, the professionalism was launched in Blue Ray. Since then, numbers of talented executives were introduced into Blue Ray through open recruitment and headhunter. Although executives scale increased largely compared with previous situation, the executives' turnover rate amounted to 15 percent, and the five CEOs were promoted successively, together the previous four CEOs were in-position in a short term. On another hand, the company kept growth at 50 percent or above annually, while current talented executives on quantity and quality could not satisfy the company growth. Therefore, how to effectively incentive executives and establish a stable professional management team became important to company development and innovation.

5.4.1 Theoretical analysis

In principal-agent theory, asymmetric information exists between the principal and the agent. In order to incentive the agent to make more effort on working for the principal, the agent is paid by the principal on basis of agent's performance, because of it, the agent is willing to make more effort actively on working (Alchian and Demsetz, 1972).

Not only company's short-term performance is concerned, but also long-term performance also is concerned by the principal. CEO reward incentive mechanism design includes two aspects: Firstly, profit co-sharing mechanism on basis of short-term performance and. Secondly, stock equity incentive mechanism on basis of long-term performance including circulating share, stock and option incentives. The principal needs to consider that how to design a proper incentive combination to realize the principal's maximal utility in short-term and long-term incentives.

In practice of CEO incentive, an increasing number of diversified incentive resources

and approaches are applied to solve the alignment between CEO's interests and the company's interests under asymmetric information. Several problems on CEO incentive are needed to solve at present, which pushes us make further expanding for previous principal-agent theory and model to explain and reveal collected experience and lesson better in practice of CEO incentive.

Our theoretical model is built under the four following assumptions:

Assumption 1: The agent's effort input has two parts, input for short-term performance m_1 and input for long-term performance m_2 . The cost function of effort input is $c(m_i) = \frac{b_i}{2} m_i^2$ ($b_i > 0$, $i = 1, 2$).

Assumption 2: The CEO's performance is π . $\pi_1 = r_1 m_1 + \varepsilon_1$ is the CEO's short-term performance, where r_1 is marginal effect on short-term performance from CEO's effort input, namely r_1 is greater, the short-term performance brought by the same m_1 , and ε_1 is the exogenous uncertainty factor the CEO's short-term performance face. $\pi_2 = r_2 m_2 + \varepsilon_2$ is the CEO's long-term performance, it is indicated by company's stock market value, where r_2 is marginal effect for long-term performance from CEO's effort, namely r_2 is greater, the long-term performance of the company is better brought by the same a , and the stock market value is higher; ε_2 is the exogenous uncertainty factor the CEO create long-term performance and enhance company's stock market value face; r_1 and r_2 are related to the CEO's control. Specially, the control is bigger, the marginal effect r_1 for short-term performance and the marginal effect r_2 for long-term performance from the CEO's effort is greater.

Assumption 3: The principal cannot directly observe the CEO effort input (m_1 and m_2) and exogenous uncertainty factors (ε_1 and ε_2), but the principal can observe CEO's short-term performance π_1 and CEO's long-term performance, the stock market value π_2 .

Assumption 4: The principal and the agent sign a linear contract $s(\pi) = \alpha + \beta_1 \pi_1 + \beta_2 \pi_2$, where α is fixed income for agent with no relationship with π_1 and π_2 , $\beta = (\beta_1, \beta_2)$ is the CEO's share of production, and β_1 indicates short-term incentive intensity, namely CEO's share of the company's short-term performance, and β_2 indicates long-term incentive intensity, namely CEO's coefficient of equity incentive. The principal decides the combination of short-term incentive and long-term incentive based on CEO's performance.

Based on the above assumptions, under condition of asymmetric information where the principal cannot observe directly CEO's productive effort m_1 and ability effort m_2 , but can observe CEO's short-term performance π_1 and market value π_2 of long-term performance of the company, a principal's maximal utility function is built as follow:

$$\begin{aligned} \max_{\alpha, \beta} Ev(\alpha, \beta) &= -\alpha + (1 - \beta_1)r_1m_1 + \delta(1 - \beta_2)r_2m_2 \\ \text{s.t. (IR)} \quad &\alpha + \beta_1r_1m_1 + \delta\beta_2r_2m_2 - \frac{b_1}{2}m_1^2 - \delta\frac{b_2}{2}m_2^2 - \frac{1}{2}\rho\beta_1^2\sigma_1^2 - \delta\frac{1}{2}\rho\beta_2^2\sigma_2^2 \geq \bar{\omega} \\ \text{(IC)} \quad &(m_1, m_2) \in \arg \max \alpha + \beta_1r_1m_1 + \delta\beta_2r_2m_2 - \frac{b_1}{2}m_1^2 - \delta\frac{b_2}{2}m_2^2 - \frac{1}{2}\rho\beta_1^2\sigma_1^2 - \delta\frac{1}{2}\rho\beta_2^2\sigma_2^2 \end{aligned} \quad (5-6)$$

Where δ is discount factor, $0 \leq \delta \leq 1$; ρ is measure of absolute risk aversion; $\bar{\omega}$ is agent's reservation income.

The optimal share of two performance output is got by calculating above model, namely optimal short-term share and incentive coefficient of optimal equity are:

$$\begin{aligned} \beta_1^* &= \frac{r_1^2}{r_1^2 + b_1\rho\sigma_1^2} \\ \beta_2^* &= \frac{r_2^2}{r_2^2 + b_2\rho\sigma_2^2} \end{aligned} \quad (5-7)$$

The optimal combination of CEO's effort input of m_1 and m_2 is:

$$m^* = (m_1^*, m_2^*) = \left(\frac{\beta_1^* r_1}{b_1}, \frac{\beta_2^* r_2}{b_2} \right) \quad (5-8)$$

Then the CEO's choice of effort input under incentive combination is discussed as follows:

$$1) \frac{\partial m_1^*}{\partial \beta_1^*} > 0, \quad \frac{\partial m_2^*}{\partial \beta_2^*} > 0 \quad \text{explain that CEO's short-term performance effort and long-term}$$

performance effort are increased with the increase of incentive intensity. In condition of asymmetric information, when the principal cannot observe CEO's productive efforts and ability efforts, the principal can motivate or constrain CEO to choose an optimal efforts combination coincident with principal's expectation through choosing the incentive intensity in the compensation contract.

$$2) \frac{\partial m_1^*}{\partial r_1^*} > 0, \quad \frac{\partial m_2^*}{\partial r_2^*} > 0 \quad \text{explain that marginal effect } r_1 \text{ of CEO's efforts on short-term}$$

performance and marginal effect r_2 of CEO's effort on long-term performance as well as CEO's effort on short-term and long-term is increased with the increase of control given to CEO by the principal. It indicates that CEO's effort degree improves through more delegation given to CEO by the principal, and control is one incentive for CEO.

$$3) \frac{\partial m_1^*}{\partial b_1^*} < 0, \frac{\partial m_2^*}{\partial b_2^*} < 0 \text{ explain that CEO's short-term performance effort and long-term}$$

performance effort are decreased with the increase of cost coefficient of short-term performance effort and long-term performance effort. As development and the scale expansion of the company, the increase of external uncertainties and internal management's complexity and difficulty that CEO face leads more inadequacy on incentive effect of in-position CEO incentive (CEO share of company's short-term performance and acquired equity incentive coefficient), new incentive approaches are needed to introduce to solve the decrease problem of CEO's short-term and long-term performance efforts.

The CEO's optimal incentive intensity under incentive combination is discussed as follows:

$$1) \frac{\partial \beta_1^*}{\partial r_1} > 0, \frac{\partial \beta_2^*}{\partial r_2} > 0 \text{ explain that the optimal company's short-term performance}$$

share and acquired optimal equity incentive coefficient are increased with the increase of CEO's control. On one hand, it indicates that control increase of CEO leads control decrease of the principal. The principal, as the final responsible person and the owner, faces more risk cost; therefore the principal should give more company's short-term performance share and more equity incentive coefficient to realize optimal risk distribution between the principal and the CEO. On another hand, it indicates that when the company develops continuously, optimal company's short-term share and acquired optimal equity incentive coefficient should be increased to the CEO, and more delegation should be given to the CEO by the principal. In other words, if the principal increase only the short-term and long-term incentive reward intensity without more delegation for CEO, the result will be opposite. It indicates the reason why senior executives generally think that delegation is not enough comparing with reward.

$$2) \frac{\partial \beta_1^*}{\partial b_1} < 0, \frac{\partial \beta_2^*}{\partial b_2} < 0 \text{ explain that the CEO shared optimal company's short-term}$$

performance share and acquired optimal equity incentive coefficient are decreased respectively with the increase of cost coefficient of short-term and long-term performance

efforts. As development and the scale expansion of the company, external uncertainties and internal management's complexity and difficulty is increased, and acquired reward absolute value is increased, but the relative value is decreased, which indicates the principal cannot incentive CEO's effort through simply materials reward increase but immaterial increase for CEO, for instance the principal focus more on balance between high working pressure and leisure life for CEO. It is proven by the interviews with executives of the company.

$$3) \frac{\partial \beta_1^*}{\partial \rho} < 0, \quad \frac{\partial \beta_2^*}{\partial \rho} < 0 \quad \text{explain that CEO shared optimal short-term performance share}$$

and acquired optimal equity coefficient are decreased with the increase of CEO's absolute risk aversion. Absolute risk aversion measure ρ is risk aversion degree of CEO. The larger risk aversion measure, the higher CEO's risk aversion degree, and it bears more cost on incentive risk, while the lower incentive intensity the principal provide.

$$4) \frac{\partial \beta_1^*}{\partial \sigma_1^2} < 0, \quad \frac{\partial \beta_2^*}{\partial \sigma_2^2} < 0 \quad \text{explain that CEO shared optimal company's short-term}$$

performance share and acquired optimal equity incentive coefficient are decreased with the increase of uncertainty on business environment and stock market.

5.4.2 Practical analysis

Focusing on Blue Ray's problem of CEO incentive, it is concluded from the interviews with Blue Ray's five CEOs and senior executives that material incentive to CEO is rather more than immaterial incentive in Blue Ray. As Figure 5-3 shows, related incentive resources are distributed for CEO in process of CEO's value creation, the key incentive resource keeps variable at different stages. Some incentive resources ($I=I_1+I_2+I_3$) are provided to CEO by companies, at the original T_1 stage, material I_1 has more attraction on CEO, which I_1 refers to materials like salary, stock equity and option. However when the material incentive reaches at one degree, and the effect of material incentive for CEO amount to the bottleneck, more control is needed by CEO to realize self-actualization. At this time the CEO incentive enters into the second stage, namely T_2 stage, the control incentive I_2 . The control is in certain amount, in order to avoid risk, the control distributed by the principal has maximal value, when the control distributed by the principal reaches at maximal value, and more control incentive has no effect on CEO in company's value creation. At this time the CEO incentive enters into the third stage, namely T_3 stage, searching for balance between work and life I_3 .

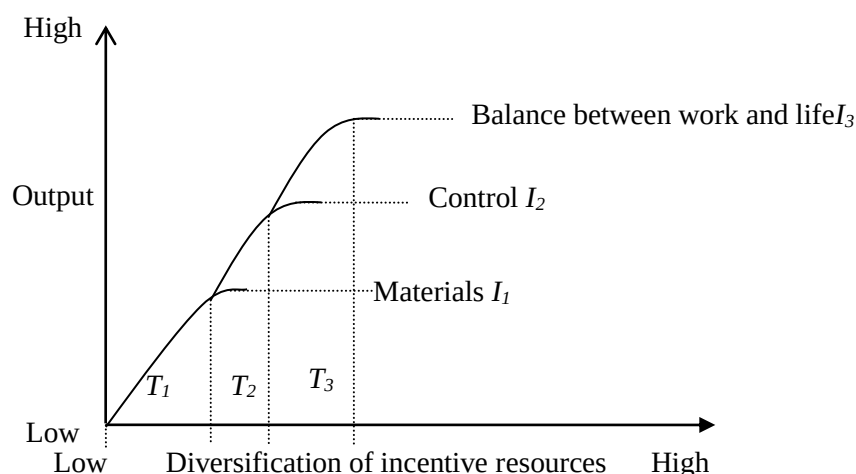


Figure 5-5 Relationship between CEO incentive resources and company output

Source: Author developed

On material incentive, annual salary system is applied for Assistant CEO, General Manager of regional company, Vice CEO or above (see Table 5-7), where 30 percent of all compensation is basic income, 50 percent of it is performance-related compensation and 20 percent of it is welfare.

Comparing with market average level, general positions' compensation of the company is at a moderate level (see Figure 5-4), where the CEO's compensation is at a moderate (50 points location) level of market.

Table 5-7 Annual compensation package offered to company executive in Blue Ray

Basic income	Welfare	Performance-based compensation
30%	20%	50%

Note: This compensation package applies to senior managers and executives like Assistant CEO, General Manager of Regional Company, Vice CEO, and CEO in Blue Ray

Source: HR Department of Blue Ray

According to the company's internal data *Stock Incentive Scheme of Blue Ray*, stock equity is distributed to CEO for the purpose of greater company royalty and effort input. In Blue Ray, the incentive objects are senior executives and core managerial and technical members. According to the interviews with these equity incentive objects, the incentive effect is satisfying.

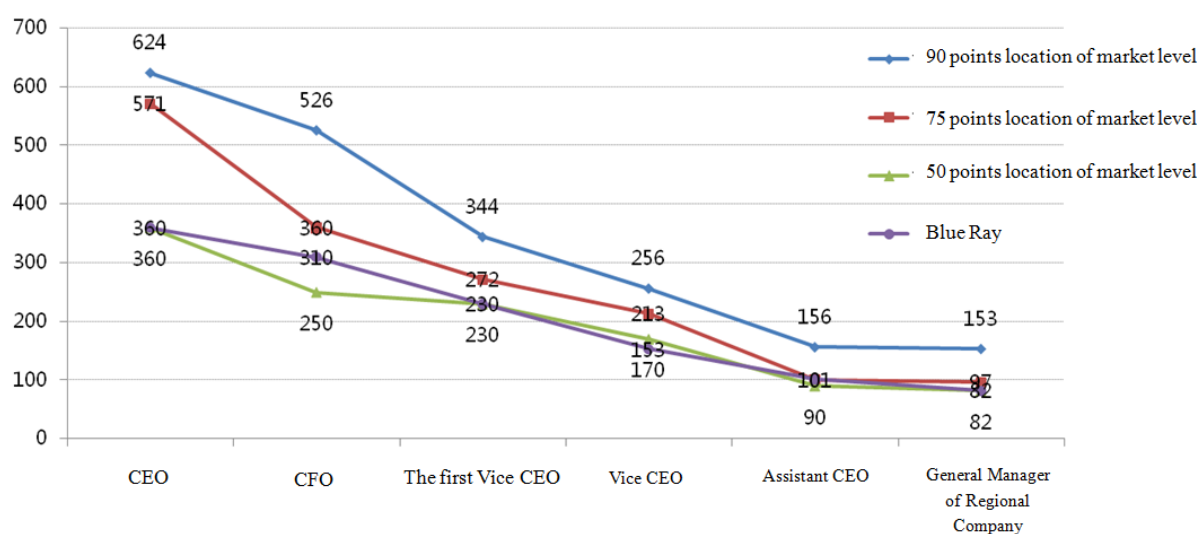


Figure 5-6 Compensation comparison of Blue Ray

Source: HR Department of Blue Ray

Meanwhile, the company conducts stock option incentive to senior executives and core managerial and technical members. According to the internal data *Stock Option Incentive Scheme of Blue Ray*, stock option is applied as a long-term incentive tool. Every stock option given under the Scheme has right to purchase a circulating A-share of Blue Ray by designed price in a designated period. All shares of this Scheme is directionally issued to employed directors, senior executives and core members excluding independent director, supervisor and main shareholders holding more than 5 percent of all shares. The exercise date of stock option given by Blue Ray is four years, and which begins at authorization day, after one year's holding, in later three exercise periods, the first, the second and the third exercise periods have respectively 40 percent, 30 percent and 30 percent of stock option, which is available to sell related shares under the condition of realizing target performance. The condition of the first exercise period is that ROE is not less than 14 percent, and comparing with the year of $T-1$, net profit growth rate is not less than 20 percent in T ; the second exercise period is that ROE of $T+1$ is not less than 14.5 percent, comparing with $T-1$, net profit growth rate is not less than 45 percent in $T+1$; the third exercise period is that ROE is not less than 15 percent, and comparing with $T-1$, net profit growth rate is not less than 75 percent in $T+2$. Besides of stock option, the company establishes especially other reward, like “reward for operation encouragement”, “reward for basic management building” and “reward for project following investment”.

According to the interviews with in-position executives and resigned CEOs, unacceptable control distribution was mentioned. Among the four resigned CEOs we interviewed, three (75 percent) were dissatisfied with the distribution of control power, CEO who has higher education and need of self-actualization, the company's material-orientation incentives decrease degree of incentive effect, thus degenerate the material-orientation incentives into a sort of hygiene factor, according to Herzberg's hygiene-motivational factors (Herzberg, 1959). More concern should be put on immaterial incentive, such as decision power, while the company is lack of control allocation. According to the interviews, the company has limited delegation to CEO, such as personnel appointment, selection on partners and financial decision. The five CEOs had no decision right on appointing General Managers of Department (the fourth layer in Blue Ray organizational chart, see Figure 5-1) or above. In the first CEO's term, over 1 million RMB yuan (equals to 150,000 Euros) payment shall report to the principal firstly, while the annual sales revenue amounted to around 3 billion RMB yuan (equals to 448 million Euros), and the proportion of expenditure in annual sales revenue is about 0.03 percent. And over 2 million RMB yuan (equals to 300,000 Euros) payment shall report to the principal from the second CEO's term to the fourth CEO's term, while over 5 million RMB yuan (equals to 750,000 Euros) payment shall report to the principal, namely the President of Blue Ray, while the annual sales revenue amounted to around 15 billion RMB yuan (equals to 2.24 billion Euros), and the proportion of expenditure in annual sales revenue is also about 0.03 percent.

According to the questionnaire on employees' engagement, more than 50 percent of resigned employees said that heavier pressure, pursuit of higher performance and strict evaluation lead to higher working intensity, larger management span and longer working time, compared with same pay employees work in other companies. According to the comments of our interviewees, although Blue Ray raises employees' compensation to a competitive level in the labor market, the company is expected to reduce the degree of negative incentive and high-pressure punishment over under-performance; therefore, which may cause the lower employees' fulfillment. Besides, the balance between work and life should be more concerned. For example, offer for employee health plan and unpaid leave should be considered.

Chapter 6: Conclusion and Discussion

Chinese private real estate companies are taken as research object in the thesis. For CEO selection problem, two-stage model of CEO selection of Blue Ray is proposed combining with conclusion, rethink and reference agency problem and CEO incentive latest research on basis of economic incentive theory and management incentive theory such as principal-agent theory, contract theory, information economics through combination method between practical analysis and theoretical modeling. For CEO incentive problem, three progressive different incentive resources of Blue Ray are proposed in different stages. The thesis tidies and concludes the main research conclusion of agency problem and CEO incentive of Chinese private real estate companies. Meanwhile, the research limitations and further research are proposed.

6.1 Conclusion

Since 1998, demand collected by plan and distribution economic age has been released tremendously with the housing system reform in China. Chinese economy increases in high speed and urbanization is promoted rapidly; which promotes huge development in real estate industry in China. Real estate has developed as important multi-chain and multi-department industry, which includes land, architecture, trade and financial service. The real estate industry has become the barometer of Chinese economy due to its effect and contribution. According to the Chinese real estate Top 50 issued by Chinese Kerr Real Estate Research Center in successive 3 years, it is found that the proportion of private companies in Chinese real estate Top 50 is 66 percent in 2011, 68 percent in 2012, and 68 percent in 2013 respectively. Almost 70 percent companies of Chinese real estate Top 50 are private companies. Therefore, anyway from number of companies or sales revenue, private companies are main force in Chinese real estate industry. Comparing with SOEs in Chinese real estate Top 50, it is found that private companies are the most important participators and competitors, and their growth and development are related to the lifeblood of whole real estate industry and even China's economy prosperity. As enlargement of companies' scale and operation scope, many companies begin to establish professional manager system, and company governance transfers to contracts type from relationship type as enlargement on scale and operation scope.

Meanwhile, principal-agent problem also appears in process of professionalization, and how to select and incentive effectively the agent becomes a problem which must be solved in the process.

The thesis takes a private company in real estate industry in China as research object. On basis of principal-agent theory, contract theory, information economics and management incentive theories, case study is applied and data is collected through questionnaire and in-deep interview. After data processing and combining theoretical model and practical analysis, two-stage model on CEO selection in Blue Ray is proposed for CEO selection by combining case analysis and theory models; and different main incentive resources in Blue Ray are proposed in different stages for CEO incentive. On basis of conclusions of all chapters, more details on research are as follow:

1) In process of professionalization, the ownership and control are asymmetric so that the owner is not controller. Agency problem between the principal and the agent is appeared.

2) After principal-agent problem appearance, how to reduce cost and how to harmonize benefit conflicts between the principal and the agent are the starting point of agency problem solution. Therefore, designing a set of effective incentive system to align the aims between agents' and companies' is the key of principal-agent problem solution. Designing incentive system is to harmonize benefit conflicts between the principal and the agent to align aims between principals' and agents'. While the key of designing incentive system is improving incentive contracts constantly to realize maximal utility of principals' objective function under participation constraint and incentive compatibility constrain.

3) With the development of Chinese private companies in real estate industry, the competition of the industry intensifies increasingly, concentration ratio of the industry improves increasingly, and innovation of products speeds up increasingly, competition of company develops into generalization and longitudinal deepening. Founders of private real estate companies have been gradually drop out from forefront positions. For the founders of private real estate companies, there are two choices. one is directly going on operating or choosing interior family inheritance, which although solves the trust problems, it cannot completely solve the operation capacity problems of successors in a highly competitive and full of uncertainty industry that expects much for managers' professional skills and management ability. The other is because the founders' age and energy do not allow themselves to go on operating in front line and the heirs to the family are often all younger. No matter what their psychological quality, management ability or professional background

all cannot guarantee that company achieve success in fierce market. So entrusting company to specialized professional managers is the choice that present first generation of entrepreneurs has to confront with.

4) Management incentive theory is different from economics incentive theory. Two theories study incentive from different angle. Economics emphasizes maximal object utility, but management incentive theory emphasizes persons' needs. Although two theories' incentive method and way are different, they are utilized widely to generate different effect. Therefore, companies' incentive is a systematic subject, and it is the result in intersections and overlaps of many theories.

5) Three layers principal-agent chain is drew from organizational structure of the company, namely the principal-agent relationship between the President (the principal) and the CEO (the agent). The first layer is firstly to solve CEO selection. CEO's amplification effect in company's value creation is taken on in the second and the third layers after CEO entry the company, and CEO's ability is amplified by hierarchical structure and chain-of-command. Therefore, CEO incentive by limited incentive resources could gain the output with half effort, moreover CEO incentive given by the principal is so important.

6) Blue Ray has become more mature in process of professionalization. On basis of in-deep interview and business practice of Blue Ray, two-stage model of CEO selection of Blue Ray is proposed for CEO selection. The first stage is external selection, namely the persons who fulfill company's requirements are selected into the company from many applicants. The second stage is internal selection, namely only one CEO is promoted from CEO candidates. Internal selection includes internal identification and training, and internal competitive. Through average 67.2 months' sustainable observation and identification at different important management positions, CEO candidates' hidden abilities are revealed completely to realize internal identification and training. And then under indicators of CEO competency evaluation of Blue Ray, one CEO is promoted from average 4.2 CEO candidates through scoring on managerial traits, managerial skills and entrepreneurship. Though above method, Blue Ray solved CEO selection problem based on competency under hidden information. For Chinese real estate industry, it provides learning and conference for private real estate companies.

7) In business activities, different incentive layers have different effect and influence on companies' incentive systems. Companies' incentive for executives generates amplification effect through downward levels transmitting. Through 3-year questionnaire survey on

engagement, it is found that senior executives gain the highest score and which is more than industrial average score. Meanwhile the proportion of involved senior executives in all managerial levels are the least, but the score on senior executives' engagement is the highest, it indicates that Blue Ray's senior executives have geometrical amplification effect on company's output. CEO's importance on company's value creation is revealed, and CEO has big influence on company's value creation. Therefore, under the same input, incentive resources should be distributed optimally to the object that can bring the biggest increment effect, namely the CEO.

8) In practice of professionalization process of Blue Ray, CEO selection problem is solved through successive CEOs' management, while CEOs' frequent turnover brings new challenge to constant and health development. For CEO incentive problem of Blue Ray, the thesis thinks that corresponding incentive resources should be distributed to the CEO in company's value creation on basis of in-deep interview and business practice in Blue Ray. Because main incentive recourses are different in different stages, the thesis proposes three main progressive incentive resources in three stages, namely materials incentive, control incentive and balance between work and life. Moreover, the thesis extends previous principal-agent theory and model, and analyzes CEO effort choice and optimal CEO incentive intensity under incentive combination. At the first stage, material has more attraction on CEO, which refers to materials like salary, stock equity and option. However when the material incentive reaches at one degree, and the effect of material incentive for CEO amount to the bottleneck, more control is needed by CEO to realize self-actualization. At this time the CEO incentive enters into the second stage. The control is in certain amount, in order to avoid risk, the control distributed by the principal has maximal value, when the control distributed by the principal reaches at maximal value, and more control incentive has no effect on CEO in company's value creation. At this time the CEO incentive enters into the third stage, searching for balance between work and life. Similarly, CEO incentive model of Blue Ray in the thesis solves CEO incentive problem based on effort, and it provides solution reference for private real estate companies.

6.2 Research limitations

The thesis takes a private company in real estate industry in China as research object. For CEO selection problem, combining with conclusion, rethink and reference agency problem and CEO incentive latest research on basis of economic incentive theory and management

incentive theory such as principal-agent theory, contract theory, information economics through combination method between practical analysis and theoretical modeling. Two-stage model on CEO selection in Blue Ray is proposed for CEO selection by combining case analysis and theory models. Three different progressive incentive resources in Blue Ray are proposed in different stages for CEO incentive. Although the thesis gets some valuable conclusions, the research is still not enough and some aspects need to discuss and research further, details are as follow:

1) Limitation on research objects. Research method of the thesis is single study; although the selected object – Blue Ray is representative and typical object in private companies in real estate industry, the company is just only one object, different companies are in different development phases. Many real estate companies are state-owned, such as Greenland Group, Poly Real Estate, they also face principal-agent problem, but SOEs' management system are different from private companies', and SOEs business performance and practice in professionalization process are also different private companies'; So the thesis's conclusions are needed to discuss more on promotion in whole real estate industry.

2) Limitation on mismatching. Plenty of time and energy are spent, and employees are investigated by 3-year questionnaires, and in-deep interview is taken for company's CEOs. The collected primary data fulfills basically research requirement, but employees and interviewees' judgment because of knowledge collection are changing, and organizational structure is adjusting, and development strategies are different in different stages; moreover, the company emphasizes differently on CEO because of improving professionalization process. Research and interview in one standard is limited to some extent in the thesis.

3) The thesis only researches the first layer of principal-agent chain, namely the principal-agent relationship between the President and the CEO. Principal-agent is a chain in companies, the President delegates the CEO, the President is the principal. For middle levels and staffs, CEO is the principal. For subsidiaries, the group is the principal. However, the thesis just focuses CEO selection and incentive. Although CEO has amplification effect in company's value creation, solving CEO incentive can solve the company's incentive problem needs to more theoretical discussion and business practice. Company's principal-agent problem in CEO selection and incentive needs more discussion and further research.

6.3 Discussion and further research

Real estate companies are becoming mature, regulatory and competitive in China. Company governance transfers to contract from relationship in private and SOEs in real estate industry. A series of principal-agent problems are coming as modern companies' organization establishment. Therefore, principal-agent problem and CEO incentive become a hot point in real estate industry, more and more related researches will appear continuously in soon future. The research in the thesis only plays a role that throws away a brick in order to get a gem, and more contents are needed to improve and deepen. For example, "indicators of CEO competency evaluation of Blue Ray" can be improved further, and these indicators like CEO ability on dealing market changing and complex environment are unconsidered in the thesis. Moreover, the thesis only studies CEO incentive, but company's incentive is a continuously optimized system work, and all kinds of incentive resources and details are needed to professional research. It is one main direction in later research. Moreover, after CEO's incentive, how to release and transmit incentive to middle-level or first-line managers effectively? How to distribute incentive resources after transmitting? These questions are not studied in the thesis. So, this field still exists enough research space, and further research should improve and deepen more on basis of the thesis, all conclusions of further research will push Chinese professional managers system and management practice forward.

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Appendix 1 Employees engagement survey of Blue Ray, 2013

The survey is carried out independently by Aon Hewitt

Introduction

1. We strongly agree that employees' opinions can create value for the company. As sustainable development and success, employees' participation and opinions become more important for the company. Therefore, we are hopeful that establishing the two-way communication channel and taking your advices.
2. The survey is asking you to give real opinion and constructive feedback on kinds of aspects like the company, working situation and working environment. Answering questions according to your real opinions independently. Your opinions are important to company's development and employees' growing up, which cause directly company's systems and policies.
3. There is no right or wrong answer.
4. The survey is non-registered, and the questionnaire is secret. Your answer is provided directly to Aon Hewitt Company. In Blue Ray, nobody has the right to see employees' answers including Human Resources Department.
5. If you have any problems on survey content, program and security, or complain to any illegal behavior in questionnaire providing or receiving, no hesitant to call 800 – 988 – 0667 or send email to Engagementchina@anohehewitt.com and contact with project coordinators of Aon Hewitt Company.
6. Introduction on answers:
 - “Strongly disagree”: The representation is completely different from the real situation you observe and feel, and you completely disagree the representation.
 - “Disagree”: The representation is different from the real situation you observe and feel, and you disagree the representation.
 - “Slightly disagree”: The representation is slightly different from the real situation you observe and feel, and you weakly disagree the representation.
 - “Slightly agree”: The representation is slightly different from the real situation you observe and feel, but you tend to agree it.

“Agree”: The representation is basically same with the real situation you observe and feel, you basically agree it.

“Strongly agree”: The representation is completely same with the real situation you observe and feel, you completely agree it.

Definition

In the survey, following terms are defined to gain the same survey result. It is useful to finish the questionnaire after reading following terms.

Term	Definition
Company	Blue Ray Real Estate Company
Company Executives	Vice director and above
Direct leader	The person who you make direct report to, also the one who evaluates and take responsibility of your performance If you have position change in recent six months, the direct leader is the one who is your direct authority.
Welfare	All kinds of legal and company-offered cash and non-cash pension and supplementary welfare, including health care insurance, maternity insurance, unemployment insurance, retirement pension, employment injury insurance and housing pension.

About you

Answering following questions to help us make sure different classes' same opinions or different opinions. Your answers are secret, and the information is not used to connect you and your answers.

Note: Survey result, which involves less than 10 class-people, will not be reported by Aon Hewitt.

1. Position level	
First-line (Staffs)	1
Backbone of first-line (Directors, Vice Managers)	2
Middle-level (Managers, Assistant General Managers, Vice General Managers)	3
Middle-high level (General Managers, Assistant CEO)	4
Senior level (Vice CEO or above)	5
2. Age	
25 or below	1
26 – 30	2
31 – 35	3
36 – 40	4
41 – 45	5
46 – 50	6
51 or above	7
3. Working tenure	
0.5 year or below	1
0.5 – 1 (including 1 year)	2
1 – 3 (including 3 years)	3
3 – 5 (including 5 years)	4
5 – 10 years (including 10 years)	5
10 years or above	6
4. Education	
Postgraduate or above	1
Undergraduate	2
Specialty	3
Secondary specialized school/vocational school/high school or below	4
5. Gender	
Male	1
Female	2

Choose the scale ranging from 1 (strongly disagree) to 6 (strongly agree).

Number	Item	1	2	3	4	5	6
1	If there is a chance, I will introduce our working advantages.						
2	I am willing to introduce my friends who are applying for a job to the company.						
3	I will not leave the company easily.						
4	I almost do not think about “turnover”.						
5	The company encourages me work hard every day.						
6	I am willing to make extra effort to finish my work.						
7	I gain sense of achievement from work.						
8	I believe that my work contribute the company to achieve goals and get success.						
9	We have a working atmosphere that is open and respect individual differences (gender, educational background, region, nationality, working background)						
10	Generally speaking, company’s welfare can fulfill my basic needs.						
11	I clearly know the company’s welfare.						
12	Compared with other companies in real estate industry, company’s welfare is competitive.						
13	The welfare plan given by the company can consider different employees’ different needs (age, gender and working place).						
14	I believe that senior executives can guide us to achieve goals and get success.						
15	Senior executives think that employees are the most valuable wealth.						
16	Senior executives provide effective channels to listen employees’ voice.						
17	Senior executives make me full of passion on company’s development.						
18	Senior executives use open and sincere communication with us.						
19	Senior executives make correct commercial decision.						
20	We have a safe working environment.						

Number	Item	1	2	3	4	5	6
21	Company's working procedures make me working effectively (operational guidelines and business procedures)						
22	Company has clear working procedures.						
23	My colleagues obey all working procedures.						
24	Division of works is clear.						
25	I like my daily work.						
26	In working, I can use my knowledge and skill fully.						
27	Under correct working procedures, I can choose proper method to finish my works better.						
28	Company encourages employees to make innovation in working.						
29	I know clearly my working duties.						
30	Company's mission and vision provide me the direction.						
31	I can keep balance between work and life.						
32	Company has systems to help me come true the balance between work and life (vocation, vocation by turns, adjusting vocation and recreational and sports activities).						
33	My upper class stands by my needs on balance between work and life.						
34	I can bear my working pressure.						
35	I am proud of myself as company's employee.						
36	When I choose to enter or stay in the company, one important reason is company's reputation.						
37	I have full confidence on company's future.						
38	I believe that company has well done its social responsibility.						
39	For these employees who have such skills and experiences like me, the company is an most ideal working place.						
40	Company fulfills promise to employees.						

Number	Item	1	2	3	4	5	6
41	I believe that company's management team can guide me achieve goals and gain success.						
42	Company's management team can inspire employees' confidence and passion to achieve goals.						
43	The behaviors of company's management team reflect Integrity and honesty, which is trustworthy.						
44	Senior executives point out clear development direction of company's future.						
45	Company's management team keeps close communication with employees.						
46	Company's performance management (performance evaluation and performance guidance) provides effective guidance to my performance improvement.						
47	I clearly know the relation between individual performance and company's operation goal.						
48	My performance assessment is fair and reasonable.						
49	After measurement, I can get performance result response.						
50	Company's performance management cause me make more effort to get success.						
51	Company has good reputation in customers.						
52	I will give response to customers' changing demands.						
53	We work hard to beyond customers' expectation.						
54	We provide good service that the competitors can not provide to customers.						
55	Company's culture and core value guide me on working.						
56	I learn company's advocated company culture and core value.						
57	I learn code of conduct under company's culture and core value.						
58	I identify company's advocated culture and core value.						
59	Company's employee management policy and daily operation conduct create active working atmosphere.						
60	I can get corresponding human resources polices.						

Number	Item	1	2	3	4	5	6
61	Company's human resources management policies are well done.						
62	I can get enough support from HR Department when I need.						
63	My effort and achievement can get approval beside salary (oral praise, commend and new exercise chance).						
64	I clearly know company's reward systems (commend, excellent assessment and advance assessment)						
65	Company's reward systems (commend, excellent assessment and advance assessment) are fair and transparent						
66	My direct upper class accepts my excellent performance (oral praise, commend).						
67	Company's reward systems inspire us to achieve goals (oral praise, commend).						
68	My colleagues respect my opinion and feeling in daily working.						
69	My colleagues cooperate together for the same goal.						
70	The communication among colleagues is frank.						
71	Colleagues can co-share working experience and professional knowledge.						
72	Compared with my effort, my reward is fair and reasonable.						
73	My working achievement and performance take clearly impact on my reward.						
74	I learn my salary information (salary composition, salary adjustment).						
75	Compared with other companies in real estate industry, the salary given by the company is reasonable.						
76	The salary is increasing with improvement of my professional skills						
77	If company's performance is good, I will get corresponding achievements.						
78	I am satisfied with training content.						
79	I am satisfied with organization mode of the training.						
80	My direct upper class can provide necessary support to me and help me get success.						
81	My direct upper class learns my working content (assessing my working performance).						

Number	Item	1	2	3	4	5	6
82	My direct upper class provides respond opinion to improve my personnel performance.						
83	My direct upper class answers in time my questions and doubts.						
84	My direct upper class creates active and harmonious atmosphere.						
85	My direct upper class provides guidance and assistance for my career development.						
86	My direct upper class makes clear expectation and goal to me.						
87	I have a good development vision in the company.						
88	I learn the working requirements on promotion.						
89	I learn the profession development chance I can get in the company.						
90	I think that I have enough career development chance in the company.						
91	Company provides good profession development chance for excellent employees.						
92	Profession development chance is provided priority to the most qualified employee.						
93	Employees' promotion is fair and impartial.						
94	Company provides conditions to support employees' study and development.						
95	I have chance to come true personnel growth and skill improvement.						
96	I get company's respect and attention.						
97	I believe that company improves according to the survey result.						
98	Company communicates in time with employees on relative affairs (promotion, transfer, salary adjustment and competitive).						
99	Company provides channels to listen employees' questions and voice.						
100	Company pay attention to employees' advices and suggestions in process of systems and procedures making.						
101	All kinds of tools and resources (technology, equipment and systems) given by the company cause me finish my work effectively.						
102	I can make it clear that I stay in the company rather than the other companies.						

Open questions

1. What are company's advantages? Which kind of aspects need to keep?
2. What are company's disadvantages? What is your expectation and suggestion?

Appendix 2 Outline of in-depth interview

Interview with the principal

1. How do you select the agent? Namely what is the CEO selection channel? Open recruitment, headhunter, internal training promotion, hunting from other companies, friends' recommendation, selecting from family members or other channels? Please take some examples to introduce.
2. What is the program of CEO selection? Please introduce the process and link of CEO selection. Which kind of indicators is most valued? Such as personnel resume, interview or comments from previous employer. Please take some examples to introduce. What qualities do you want CEO to have?
3. What do you most want CEO to bring to you and the company? What is the gap between CEO's performance and your expectation? What are your most satisfactory thing and dissatisfactory thing about CEO, please take some examples to introduce?
4. How much control is given to CEO in business operation? Please introduce CEO's decision on human appointment, materials and financial payment. What is the decision or how much financial payment the CEO must report to you firstly? How does CEO report to you on a regular or irregular period? Please take some examples to introduce.
5. Do you think that company's current salary have incentive function on CEO? Please take some examples to introduce.
6. Besides of works, do you have any personnel or family association with the CEO's? Please take some examples to introduce.

Interview with the agents

1. Which kind of channels do you enter the company? How about the selection channels?
2. Please recall your selection process, program, time and involved persons. What is your most valued quality Do you think that what is the most hopeful thing the company want you bring to? Have you done it? What is the gap and what is the reason? Please take some examples to introduce. Please introduce one most satisfactory thing and dissatisfactory thing to us.
3. Do you have enough decision power in business operation? What kind of affairs or how much financial investment is the thing you must report to the President of the company?

What is the communication channel between you and the President? Is the channel regular or irregular? Please take some examples to introduce.

4. Do you think that company's current salary have incentive function on you? What is the reason that cause you stay or leave? Anything else that would you hope to the company provide? Salary increase or others? Please take some examples to introduce.
5. Do you have any association with the President or his family members? Are there any parties or communications?

Appendix 3 Description of Secondary indicators

Appendix 3-1 Description of Secondary indicators to managerial traits

Secondary indicators	Description
1. Loyalty and devotion	1) High identification on company's culture, being willing to make effort for strategic objectives
	2) Diligent working with heart and soul, and plunging into work with full passion
2. Sense of mission and sense of responsibility	3) Ambition, and having ambitious idea and enterprise
	4) Having strong sense of responsibility, unafraid to bear, and realizing the target actively and dutifully
3. Collaboration and communication	5) Promoting unit is power, collaborating with others actively but not offside
	6) Promoting matter-of-fact, frank and honest, effective and full communication
4. Efficiency	7) Having practicable and effective works, paying more attention to ways and methods
	8) Less hollow display, more deeds down to the earth
5. Ability of making improvement	9) Self-awareness, reflection, ability of making improvement actively and continuously
6. Learning and innovation	10) Keeping open mentality psychology, enlarging view and keeping up with the times
	11) Being good at absorbing, studying and introducing, creating value through innovation
7. Self-control and self-discipline	12) Managing and controlling self-emotion properly and effectively
	13) Keeping stable working statement under huge pressure, self-improve and adjust

Source: HR Department of Blue Ray

Appendix 3-2 Description of Secondary indicators to managerial skills

Secondary indicators	Description
1. Operation ability	1) Outstanding ability on target analysis and general control
	2) Plan ability for operation-orientation on investment, produce, customers and suppliers
	3) Foresee ability on matching produce and sales to come true company's strategic target
	4) Strong operation mind for customer
2. Investment ability	1) Correct decision ability on land information and investment
	2) Being proficient at all kinds of investment and decision tools, recognize the investment value, market prospect, product direction and investment risk of target land correctly and systematically
	3) Networking with relative functions to promote land investment successfully
3. Products control	1) Knowing exactly the demand of local market
	2) Modifying exactly the correct products system
	3) Searching exactly product direction combining with products and market
	4) Extremely strong mind and ability on risk control of cash flow
4. Financial and cost management	1) Strong finance control mind, being proficient at all kinds of finance decision tools
	2) Knowing budget, business plan and fund budget management
	3) Maintenance on high level financing channel
	4) Extremely strong mind and ability on risk control of cash flow
5. Strategic thinking and planning	1) Deep understanding and high identifying company's strategy, outstanding strategic execution
	2) Plan ability on middle term development
	3) Comprehensive plan and collaborate ability on internal sources of project
	4) Maintaining and collaborating ability on high level partners
6. Human resources management	1) Establishing and training ability on core team
	2) Effective incentive to subordinates
	3) Positive team building
7. Customer relationship management and brand promotion	1) Strong brand promotion, paying more attention to result and always focusing on customers' need
	2) Highly sharp mind on market trend, fulfillment degree of customer and competitive landscape

Source: HR Department of Blue Ray

Appendix 3-3 Description of Secondary indicators to entrepreneurship

Secondary indicators	Description
1. Risk taking and risk control	1) Killing or reducing the risk
	2) Reducing the risk loss effectively by remedial measure
2. Social responsibility consciousness	1) Having care and obligation to others in heart
	2) Being willing to devote and sacrifice
3. Decision and delegation	1) Ability on problem found and solve
	2) Decision on program through analysis and judge
	3) Delegating subordinates the necessary power to complete works
4. Execution	1) Planning and executing strongly ability on yearly run program
	2) Personally being a General Manager for outside company, a Project Manager for inside company
5. Customer focus	1) “Returning customer” and “customers’ praise” is the base of long-term operation and development
	2) Having desire and mind to provide enthusiasm, satisfactory and active service to customers
6. Market insight	1) Knowing customers, searching needed information in rapidly changing market
	2) Keeping sensitive on the most popular products
7. Networking	1) Making friends with relative public relationship and resources
	2) Expanding social relationship, developing social funds

Source: HR Department of Blue Ray

Appendix 4 CEO competency evaluation in Blue Ray

Choose the scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Primary indicators	Secondary indicators	1	2	3	4	5
Managerial traits Weight: 20 percent	1. Royalty and devotion					
	2. Sense of mission and sense of responsibility					
	3. Collaborate and communication					
	4. Efficiency					
	5. Ability of making improvement					
	6. Learning and innovation					
	7. Self-control and self-discipline					
Managerial skills Weight: 50 percent	8. Operation ability					
	9. Investment ability					
	10. Products control					
	11. Financial and cost management					
	12. Strategic thinking and planning					
	13. Human resources management					
	14. Customer relationship management and brand promotion					
Entrepreneurship Weight: 30 percent	15. Risk taking and risk control					
	16. Social responsibility consciousness					
	17. Decision and delegation					
	18. Execution					
	19. Customer focus					
	20. Market insight					
	21. Social networking					

Source: HR Department of Blue Ray