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An Analysis of the Improvement of Teaching Microeconomics

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Abstract: There are three problems about Microeconomics teaching. Firstly, teachers can't grasp the focus easily. Secondly, the students fear complicated mathematical analysis of Microeconomics. Thirdly, examination methods are not scientific. Therefore, teachers need to adopt a variety of teaching methods and increase the explanation of inspiring content. Moreover, teachers need to use comprehensive assessment measures to enhance the teaching effect, too.

Keywords: Microeconomics, teaching focus, teaching methods

I. INRODUCTION

Microeconomics is economic theory which studies the economic behavior of individual economic units in society [1-3]. It is economic theory about how to determine the corresponding individual values of the economic variables. Microeconomics is also the core professional core courses of domestic economic undergraduate students. Microeconomics mainly includes consumer choice, vendor supply and income distribution [4-6]. Its content is numerous. Its figures are numerous. Its models are changeable. The student is easy to have the mood about fearing difficulty and hating study.

II. PROBLEMS

Main problems in teaching as follows:

A. The teaching content is complex. It is difficult for teachers to highlight the curriculum focus

At present, the domestic common textbooks are written by Gao Hongye (Western economics micro part, China Renmin University press), Varian's (Microeconomics: a modern perspective, Shanghai people press) and so on. Teaching content includes supply and demand equilibrium price theory, demand theory, production and cost theory, firm behavior and market structure theory, factor market theory, general equilibrium theory and welfare economics. It relates to Adam Smith, David Ricardo, Hicks, Malthus, Marshall, Cairns and other economist. Although the overall teaching content has a logical sequence, these schools and representative theories belong to different countries and different historical stages. It also associates with higher mathematics knowledge. It is difficult for teachers to grasp the key. It is easy for teachers to roll out in general teaching.

B. There are many graphics and formulas. Students are prone to fear

First, microeconomics has many graphics. There is supply curve and demand curve in the equilibrium price theory. There is indifference curve in the demand theory. There is isoquant curve and isocost curve in the production and cost theory. There is marginal cost curve, marginal revenue curve, short-term average cost curve and long-term average cost curve in the vendor behavior and market structure theory. There is factor supply curve and factor demand curve in the factor market theory. There is production contract curve and exchange contract curve in the general equilibrium theory and welfare economics. The students not only need to remember these curves but also need to analyze them. It is difficult for liberal arts students to adapt quickly.

Second, microeconomics has many formulas. There is supply function and demand function in the equilibrium price theory. There is utility function in the demand theory. There is production function and cost function in the production and cost theory. There is marginal cost function, marginal revenue function, short-term average cost function and long-term average cost function in the vendor behavior and market structure theory. There is factor supply function and factor demand function in the factor market theory. There is social welfare function in the general equilibrium theory and welfare economics. A variety of mathematical functions and complex calculations are also a major challenge for liberal arts students. The liberal arts students focus on more memory and summary of knowledge and less mathematical analysis during their secondary school learning. They will encounter a large number of mathematical models after they enter into the

university. They need time to develop mathematical analysis ability.

C. Course examination methods are not scientific

At present, microeconomics assessment is composed of usual performance and final exam in most school. Usual performance occupies a low proportion of total score. Final exam determines the total score. For example, usual performance occupies 20% of total score. Final exam occupies 80% of total score. Some students think that it is ok for them to pass the final exam because usual performance occupies a low proportion of total score. They think that they will pass the final exam if they attend class and remember relevant knowledge. In addition, microeconomics teaching task is arduous. Class time is not enough if teacher arrange topic discussion in class. However, course teaching will fall into the old circle of economic theory and homework if teacher do not arrange topic discussion. Students will think microeconomics is a purely theoretical curriculum. These can not improve students' interest in learning. Every student that majors in economics should learn microeconomics because microeconomics is a basic course. The students have limited time to speak during topic discussion because of the large number of students. The students can't get a good workout.

III. PROPOSALS

Some proposal of the teaching improvement:

A. Teachers should comprehensively use a variety of teaching methods to enhance teaching effectiveness

At present, the common teaching methods include PBL, CBL, and LBL teaching method and so on. PBL (Problem-Based Learning) teaching method emphasizes the problem-based, student-centered, teacher-oriented and student self-learning teaching. CBL (Case-Based learning) teaching method emphasizes the case-based teaching.

Teachers appropriately guide students to find and solve the question after the teachers explain the case. LBL (Lecture-Based Learning) teaching method bases on the teaching of the teacher. Students learn basic knowledge at first. Then they will think about the problem. These methods are different. Teachers can use them flexibly. For example, teachers can use PBL to teach how to maximize utility under existing budget constraints when teachers explain consumer equilibrium. First, teacher can give a question (how do students arrange spending if they graduate and the monthly income is limited). Students can think, discuss and speak then. Students must have a good income distribution in the basic necessities because of budget constraints. They can not only focus on a particular aspect or they will not achieve maximum

utility. Then, teachers can use LBL to conduct consumer equilibrium analysis. Teachers can both use indifference curves for graphical analysis and use the Lagrange function for extreme values. Students can also expand think the question after teacher complete the theoretical analysis. Teachers can use CBL teaching method to talk about relevant question in modern society after that. "Moonlight clan" discussion can make the students realize the importance of rational consumption. Students can also reflect on their own impulse consumption and distress situation after impulsive consumption. Students can not only understand the theoretical content of consumer choice but also link to the current social reality after teachers adopt a variety of teaching methods. Students' ability to identify problems, analyze problems and solve problem can be improved better.

B. Teachers should lay stress on teaching focus reasonably and increase the explanation of the practical content about present society appropriately

Each chapter of microeconomics has a variety of theoretical knowledge. The students will feel puzzled about them if teachers do not highlight the key teaching difficulties. Teachers must sort out the curriculum focus at first. Then Teachers should highlight key points and special difficulties when they teach each chapter.

Microeconomics is the theory about market functioning mechanism and price decisions. Microeconomics is also the theory how the scarce resources are allocated between different uses to better meet the different needs. Microeconomics is the theory about the people's behavioral patterns, too. Microeconomics argues that various actors such as consumers, producers, investors, workers, capital and landowners follow the rational behavioral model when they make decision in social and economic activities. They strive to achieve the most favorable results under established constraint. Households (consumers and factor owners) seek to achieve maximum utility. Producers seek to achieve maximum profit. Therefore, the supply and demand analysis, consumers' decisions and manufacturer's decisions are course focus.

A basic principle is that manufacturers will maximize their profit when teachers explain how manufacturers make decisions. The principle is the focus of the chapter. Profit is equal to the total revenue minus the total cost. The total revenue is equal to the price multiplied by product sales. The total cost includes labor costs and capital costs. The marginal revenue equals to the marginal cost when profit is maximization. That is, profits can not increase after manufacturers increase production. Profits will decline. This is a difficulty of the chapter. Teachers can guide students to think and take the real world as example.

For example, we will open a restaurant near the school and provide catering services. What problem do we need to consider? First of all, we are to pursue profit maximization. Then we must consider the price, sales and costs. The price can not be too high because we must consider the price of other nearby restaurants. Customers are not familiar with our restaurants at the beginning. The quantity of the food can not be too large, or they may not be sold out. Fix cost includes rent and basic facilities of restaurants. Variable cost is mainly workers wages, raw material, water, electricity and natural gas. We need to think how many workers we should hire. The workers can not be too more and too less. Wage is too high if we hire too more workers. Manpower is not enough if we hire too less workers. Finally, students can also consider special circumstances, such as when a loss occurs when we stop the business, when we go out of the business, and so on. Students can think many questions in the real world.

Teachers can increase the explanation of the instructive content in order to let the students relate theory with practice and enhance their ability of comprehensive analysis.

C. Teachers should use comprehensive assessment methods and increase the proportion of regular grade

For a long time, regular grade of microeconomics accounts for 20% to 40% of the total grade in most schools whether microeconomics is exam course or examination course. Final examination accounts for large proportion of the total grade. The final examination method is close book and close note. Examination questions include selection, filling in the

blank, the terms, judgments, short answer and analysis, etc. Examination mainly tests the memory of students. Students will obtain good grade as long as they review the review outline and lectures note that teachers give. These will lead a problem easily. Students may only listen to teacher and not think actively in class. Students like to copy the teachers' note after class and remember some examination problems before the final exam. School must establish an assessment system that can help students to correct attitude towards learning. The assessment system can enhance the comprehensive ability of students.

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The Defects of Salary Management for Knowledge Staffs in Small and Medium-sized Enterprises and its Reasons

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Abstract: Salary management is a key point for a company to make a good use of staffs as well as a key point to retain and motivate staffs. It is important to achieve a good salary management in the development stage of small and medium-sized enterprises (SMES). SMES have their own advantages and characteristics in salary management because of their own reason. They are widespread and small in scale as well as have a strong regionalism. SMES have a flexible employment mechanism. Knowledge staffs contribute much more to SMES and play an important role in SMES. However, they also have their own disadvantages. In SMES, The pay usually is low, the salary system usually is incomplete, the system of salary motivation usually is weak. There are many reasons why SMES have problems in salary management. SMES usually are restricted by traditional salary management and are short of modern salary management idea. The managers of SMES have not high management quality.

Keywords: Small and medium-sized enterprises (SMES), knowledge staffs, salary

I. THE CHARACTERS OF HUMAN RESOURCE MANAGEMENT IN SMES

Characters of SMES are simple organization structure, less management gradation, fast decision making, etc. There are also different feature of HRM in SMES.

A. Small scale, widespread, strong regionalism

SMES are less than big companies in scale of production, assets, the number and influence. And they distribute in all walks of life. It's decided to SMES have more variety and complexity of talent demand than big companies. SMES usually have a small movement area, a strong regionalism as well as a regional staff structure. Therefore, they are easy to form exclusive custom and impede SMES to bring in new talents.

B. Individual influence and contribute are bigger in SMES

Large enterprises usually need a perfect system to keep normal operation. Comparing with them, SMES are more dependent on individual ability (including manager and each staff). Those companies generally have not a systematic, complete management system and a persistent, complete human resource system. The development of SMES depends on motility of staffs. This kind of passive form results in that SMES are very hard to introduce suitable talents in a planned way.

C. Flexible employment mechanism in SMES

A company can determine the principle of employment according to their needs. SMES have flexible salary system, often give some immaterial welfare to their staffs except for material welfare. Comparing with large enterprises, SMES can usually offer elastic working time and free working environment to their staffs. The staffs can be easy to show their ability and get company's attention and acceptance.

D. Stronger mobility of human resource

According to <A report of Chinese workers job-hopping> published by universal professional social platform LinkedIn in 2014, Average working life of Chinese workers is 34 months in same company. This number is less about 2 years than 56 months of American workers. The median of working life of Chinese workers are 24 months, are less about half year than American workers. This report showed that Chinese workers planned to job-hopping after working 1.5 years. By contrast, most American workers could work more than 2.5 years in same company. The companies should pay more attention to researching result of the report and make effective motivational measures to solve it.

If personal salary and development opportunities of SMES staffs are not as good as staffs' expectation, knowledge staffs may choose to leave. Especially leaving of the key staffs is serious for the loss of SMES. The system of traditional HRM is fundamental

reason to current situation of SMES, and the frame of HRM and reasonable salary system were not built.

E. Staffs generally dissatisfied with current compensation and benefit status

There are many problems in the design of salary system. For example, SMES are failing to deal with the relationship among seniority, ability, knowledge, contribution, etc in salary allocation. "Getting job according to ability, getting reward according to contribution." was not performed well. Salary allocation of staffs depends on subjective impression of boss, so it can't show internal and external fair as well as staffs fair. If Long-term and recent planning was not drawn up about salary management, it is difficult to motivate staffs to work hard for a company. Confidence of employees is lacking to their Income and development in the future.

II. THE ADVANTAGE OF HUMAN RESOURCE MANAGEMENT IN SMES

Comparing with large company, Advantages of SMES are great potential development and rapidly responsive to environment, etc. Because of small scale, SMES can quickly adjust their products according to market. There are more developing opportunities for staffs in SMES than staffs in large company. The staffs can get more opportunities to show their ability and achieve their value in SMES.

A. Strong adaptability to human resource management

Comparing with large company, Advantages of SMES are rapid response for market and strong adaptive capacity. SMES can transform quickly when market environment changes. HRM can transform quickly because SMES only need to bear relatively less burden of staffs. System constraints of SMES are less than large company so that they are easily to new idea, new thought, new measures, etc. Therefore, adaptive capacity of SMES is very strong.

B. High effectiveness to human resource management

Comparing with large company, SMES usually have fewer rules and regulations, fewer management levels, rapid decision-making, so efficiency must be higher than efficiency of large company. In the process of information transfer, Distortion rate of information is low because of fewer management levels in SMES. Therefore, the effectiveness of the management is improved, staff's satisfaction degree is improved, and their working efficiency is improved. So the overall performance of enterprises is improved.

C. Great potential development

Due to stable organization structure and detailed job duties of large enterprises, developing space of staffs is limited. However SMES can offer more opportunities to their staffs to improve their ability in a short time. Because SMES have great potential development, their staffs can get more developing opportunities and bigger developing space. Staffs can show their ability better. Therefore, SMES will attract more excellent talents to join them.

III. THE PROBLEM OF KNOWLEDGE STAFFS SALARY MANAGEMENT IN SMES

In China, most SMES still use traditional salary system. As time goes on, its shortcomings are more and more obvious. Firstly, SMES have incomplete salary system and management rules and regulations. Secondly, SMES do not pay enough attention to salary management, and lack scientific guidance. Thirdly, SMES lack motivation because they pay salary according to working post. In addition, reasonable salary system plays a important role in attracting and retaining knowledge staffs. According to research, there are a lot of problems about salary systems of knowledge staffs in SEMS of China.

A. The overall salary levels on the low side

Salary is the basis of building and maintaining labor relations. With the improvement of personal ability and working performance, monetary expression of personal value --their salary expectations also increase.

Scale and strength of SMES is not as good as state-owned enterprises and large enterprises. If SMES want to grow quickly, it requires that have a good salary policy to attract and keep talents who can contribute to the development of their enterprises. But in China, salary levels of most SMES is low, the salary of SMES is less than others so that SMES can not attract good knowledge staffs to work a long time. So turnover rate of knowledge staffs is high that the life cycle of SMES is very short.

B. Imperfect salary system

First of all, salary systems of most SMES are not perfect, their work analysis and post evaluation for staffs are really simple, there is not a specific uniform standard. Then, their performance assessment is not rigorous and fair enough for knowledge staffs. And then, SMES usually pay attention to the "outside salary" and ignore "inside salary", lack professional skill training for knowledge staffs, and pay less attention to personal career planning of knowledge staffs. Furthermore, salary systems of SMES are established by managers and no staffs to participate in

it, staffs just accept passively. At last, Managers do not fully consider staff's ideas and needs, and staff's salary expectations and so on.

C. Lack of salary motivation in SMES

Effective motivation is reliable guarantee for maximization of human resource cost-benefits. But SMES generally lack effective salary motivation so that knowledge staffs can't give full play to their own initiative. In very bad situation, it leads to high turnover rate of the knowledge staffs.

Because of lack communication between SMES and staffs in salary aspect, inside real needs of knowledge staffs are rarely understood. Individual needs and their own values of knowledge staffs are not found and carried weight in SMES. So SMES can't motivate knowledge staffs effectively. Because most SMES do not have the ideas of knowledge staffs and do not distinguish the knowledge staffs and ordinary staffs and do not consider the differences of regional culture, salary motivation is lack, and which affect activity and innovation of knowledge staffs as well as knowledge staffs on pay satisfaction and loyalty to the enterprises.

Insufficient incentive also show up as lack of incentive pertinence, it leads to that SMES are not clear about different demands from different staffs. Some SMES carry out the same salary policy to every knowledge staff in different departments. The heterogeneity of knowledge staffs lead to the difference of salary demand. Therefore, if the same salary level is executed to all of knowledge staffs in different departments, motivational effect is reduced and execution costs is increased.

D. The creativity of knowledge staffs is ignored

Comparing with ordinary staffs, the innovation is the most prominent features of knowledge staffs. In many cases, the creativity of grass-roots knowledge staffs is very important. The grass-roots knowledge staffs cannot be excluded from the salary system of knowledge staffs because their production practice is the most basic links of SMES innovation. The grass-roots knowledge staffs are very familiar with existing technology, process and equipment, so that they have innovative rationalization proposal to improvement of process, maintenance and replacement of equipment. But a lot of SMES ignore the creativity of grass-roots knowledge staffs.

IV. THE CAUSES OF SALARY MANAGEMENT DEFECTS FOR KNOWLEDGE STAFFS IN SMES

The salary management systems of SMES have lots of problems that there are a variety of reasons. There are social, historical, cultural and environmental

reasons, as well as the reasons of SMES and knowledge staffs themselves.

A. Restricted by traditional salary system

Traditional salary systems are usually designed according to traditional jobs structure, which have less pay grades and lack flexibility. This salary system is not obviously suitable for knowledge staffs. First of all, traditional salary system can't keep the knowledge staffs to have the right work idea, knowledge staffs must be going for their job promotion to get more salary. Next, how much salary depends on their job levels. The diversified demands and the career planning of knowledge staffs are not taken into account. It is unfavorable to the knowledge staff's own development and growth. Finally, the salary difference is not considered to different regions, different industries and different markets. The knowledge staffs under this system feel less competition than external salary levels in order that it is not good for attracting and retaining excellent knowledge staffs.

In addition, traditional salary system can't reasonably show staff's contribution to the enterprise. Those SMES which put traditional salary system into practice don't convey long-term goal and development strategy of the enterprise to their staffs. In those SMES, knowledge staffs training and personal development opportunities are lack. Because of job levels, the good communication is lack among staffs and the interpersonal atmosphere is not enough harmonious within SMES and so on.

B. The lack of modern salary management concept

Domestic and foreign scholars are attaching great importance to the management of knowledge staffs. Researchers and business circles have generally realized the importance of the interaction between the enterprises and staffs. (Fig. 1)

Knowledge staffs have participated in the distribution of the enterprise value in part of the foreign enterprises, so that they have sense of enterprise belonging, and put their best enthusiasm to the work. So the final result is win-win between SMES and knowledge staffs.

However, it is hard to construct efficient salary system because SMES lack modern salary conception and win-win idea in our country. Some SMES may already realize the importance of the interactive relationship between enterprises and knowledge staffs, but they do not know the knowledge of payment for knowledge, staffs shareholding and stock option, so that they lack the methods and the technologies to construct effective system of salary incentive. It is hard to make their ideas coming true.

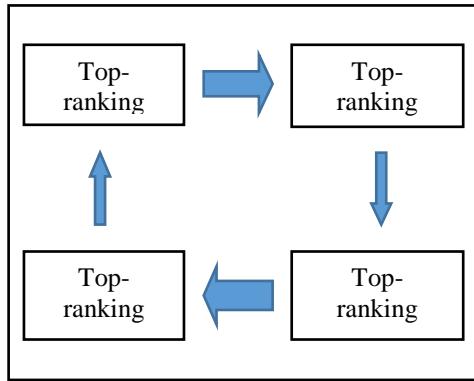


Figure 1. Benign circle graph between knowledge staffs and companies.

C. Management quality of SMES managers is relatively low

First of all, top managers are lacking to recognize it. They do not think about the problems from the staffs' position and do not pay attention to the communication with their staffs as well as do not take into account the vital interests of the knowledge staffs. This concept is the basic reason that leads to the reduction of knowledge staffs' loyalty.

Followed by, some managers do not choose proper talents according to job posts. On the one hand, they always appoint people by favoritism but do not appoint people by abilities, and the phenomenon still exists in the enterprises. On the other hand, the managers make a mistake to choose talents. That is a big fish in a small pond or a man of little ability in high capacity.

Once again, the enterprise managers do not pay attention to development and training of knowledge staffs. SMES usually imitate "official standard thought" of state-owned enterprises and single development channel of professional title promotion. Therefore, personal career development of some professionals & technical with skills is hindered and their working enthusiasm is affected.

Finally, SMES do not attach great importance to the career planning of knowledge staffs. Some SMES are concerned only with their own development, ignore the career planning of knowledge staffs and limit the career development of knowledge staffs within the enterprise. It causes the imbalance and the contradiction between the needs of human resource development and the needs of personal career planning.

In short, SMES attach great importance to the creation of value themselves. However, the realization of self-worth and comprehensive development are the pursuit of knowledge staffs. Thus producing different target between enterprises and knowledge staffs, both are not coordinated so that knowledge staffs are dissatisfied with current situation and even jump ship.

D. Own reasons of knowledge staffs

The characters of knowledge staffs are as follows: Unique values and demand patterns, sustainable learning ability and creativity, stronger liquidity and flow will. Those characters determine their particularities. If managers do not realize especial psychological needs and behavior rules of knowledge staffs and still use traditional controlling management mode, some knowledge staffs cannot get real motivation. Because knowledge staffs have independent work and decision-making ability and more employment opportunities, they will leave to find new jobs if they are not satisfied with the enterprises.

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Research on Financing Management of Hengda Company

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Abstract: This article attempts through the case study of Hengda company real estate financing management, found that small and medium-sized enterprise financing management, mining management at the root of the problem of financing, financing for the enterprise management rationalization proposals and measures are put forward, hope can effectively strengthen the enterprise financing management, thereby reducing the difficulty of financing.

Keywords: Financing management, financing problems, financing strategy

I. INTRODUCTION

Due to the output is small, the rate of technical equipment is low and a lot of resources are not controlled, making the small and medium-sized enterprise have a serious shortage of funds, financing difficulties, it has become the biggest obstacle to a steady progress of small and medium-sized enterprise, domestic and foreign scholars and financial practitioners have made broad discussion and research.

Linyifu think that, due to the different elements in different countries have different characteristics, structure of factor endowments of different countries should choose different combinations, Small and medium-sized enterprises may play a different role in different countries [1]. Zhangjie pointed out that endogenous financing is only applicable to start-up stage of private enterprises, when development demanding for higher technology and more intensive capital, enterprise requires exogenous financing mechanism, how to establish the exogenous financing system at the same time not to damage the private economy of endogenous financing mechanism is the crux of the problem [2]. Huxiaoping thinks that the enterprise financing changes with its own development and the choice of the financing channels by rely mainly on internal finance to external financing and internal financing is a process of alternating [3].

Sanchez-Medina argue that the government should provide financing guarantee for small and medium-sized enterprises in a number of ways, the government's credit guarantee measures can alleviate the pressure of the funds to help small and medium enterprises more than direct to provide loans, under the government's credit guarantee, more access to bank loans for small and medium-sized enterprises [4]. Austin, N, Nosike argued that in accord with their

level of risk of interest rates on loans, Enterprises are facing difficulties, their financing sources are mainly endogenous, including family, suppliers, and those with repeat business and enterprises manufacturers [5].

II. HENGDA FINANCING MANAGEMENT STATUS

Hengda Real State Decoration Agency Co. Ltd., founded in 1995 as a private enterprise, has strong economic strength and good social reputation. It is a general service company and specializes in real estate agent business, which includes house selling and leasing, real estate agent and mortgage loan, etc.

Table 1.Hengda in recent years to retain the total profit and financing situation

Time	Retained profit (ten thousand yuan)	Total financing (ten thousand yuan)
2013	5,468,789	7,338,691.58
2014	4,625,720	6,869,191.88
2015	8,425,810	16,437,302.51
2016	10,024,603	19,698,568.79

Note: The data comes from Hengda 2013-2016 Statement of Changes in Owners' Equity

A. Endogenous financing

According to the Hengda enterprise profit distribution analysis, the enterprise to the vast majority of retained profits remain in the enterprise as a development fund.

It can be seen that the overall trend of profit retention as a proportion of total financing is declining in 2013-2016, indicating that there is a decrease in the dependence of Hengda on retained profits, but the share of retained profits in the past few years is still close to 40 %, Can be seen, most of the source of funds or rely on their own business.

B. Foreign financing

Hengda in the course of daily business can be used directly financing only commercial credit. Companies often use commercial credit to provide support for the company's cash flow, mainly in the company to use accounts payable to ease the company's short-term cash flow difficulties.

Table 2 Hengda in recent years, a list of commercial credit financing

Note: The data comes from Hengda Company's 2013-2016 balance sheet and the financial statements

It can be seen that the proportion of commercial credit raising funds in the total annual financing is

Time	Accounts payable (yuan)	Total financing (yuan)
2013	189,349	7,338,701.32
2014	296,751	6,869,192.73
2015	950,072	16,437,214.55
2016	1,568,016	19,698,577.79

increasing year by year, but the increase is very small and has little effect on the company. Hengda is mainly dependent on private lending and bank loans two indirect financing channels for financing, this financing channels, although easy to operate, but the number of financing is very small.

Table 3 Hengda indirect financing situation table

Time	Private lending	Bank loan	Other informal financing	Indirect financing
2013	1,046,497	299,418	334,645	1,680,560
2014	1,115,556	567,395	263,778	1,946,728
2015	5,608,373	1,203,203	249,846	7,061,422
2016	3,567,410	3,271,931	1,266,619	8,105,960

Note: The data comes from Hengda Company 2013-2016 Balance Sheet Note

Table 4 List of major financing methods for Hengda in 2016

The nature of financing		Amount of financing	ratio (%)
Endogenous financing	Accumulation within the company	10,024,602	50.89
Foreign financing	Direct financing	Commercial credit	7.96
	Indirect financing	Bank savings	16.61
		Private lending	18.11
		Other informal financing	6.43

This shows that the vast majority of Hengda company funds from the accumulation of internal enterprises, only a small part of the funds rely on bank loans and private lending, and other financing less.

Hengda in recent years rely on private lending, bank loans and other informal financing also raised a certain amount of funds. However, these three financing methods which are accounted for a significant proportion of private financing, bank loans followed by other non-formal financing at least.

Indicating that the company's main indirect financing channels are private lending and bank loans.

Based on the above analysis, we can get the proportion of Hengda's various financing methods in the total amount of corporate financing in 2016.

III. THE MAIN PROBLEMS AND CAUSES OF THE FINANCING MANAGEMENT IN HENGDA COMPANY

A. Narrow financing channels

Hengda company's main financing is still self-financing and private lending, this narrow financing channels not only exacerbated the contradiction between supply and demand of funds, paying higher financing costs, but the company's capital chain gap problems and contradictions are increasingly highlighted. According to the 2016 survey of financing data, in Hangda company the 50.89% of the funds are from the enterprise self, the remaining 16.61% and 18.11% are from the bank and private lending.

Table5 Bank of hengda loan application processing

Enterprise scale (people)	Less than 300	300 -500	500 -800	More than 800
Refused to number (%)	72.17	66.69	47.47	35.69
Bank loan ratio (%)	5.7	20.8	25.2	26.9
Enterprise age (years)	Less than 3	3 to 5	6 to 7	More than 7
Refused to number (%)	83.55	78.16	56.34	45.02
Bank loan ratio (%)	1.3	5.4	19.6	26.5

Note: data from hengda financing status TAB

It can be seen that at the beginning of the establishment of Hengda because of the small scale, the bank refused many times its loan application. Until the scale of the company has gradually expanded, and the operating conditions has improved, the bank's assessment of SME loans application standards is slightly reduced, but Hengda believe that the basic situation of financing has not changed. The fundamental reason for this phenomenon is the bank don't focus too much on SME loans in a long time, and loans often require collateral. Hengda because of its own stage of development, it is difficult to come up with the appropriate loans collateral, and bank loans in the collateral discount is higher, expensive, the company is unbearable [6].

B. Imbalance of capital supply and demand

Hengda company on a large demand for funds, the funding gap is serious, because the company is now moving towards a diversified development path, need a lot of money to turn around, but only relying on the company's current financing channels and financing amount is not enough. We can see Hengda funds

demand is quite strong, but the company's financial needs to meet the satisfaction is not very high.

C. High cost of financing

The cost of Hengda company rely on bank loans and the private financing is quite high. Because the company as a general SMEs to obtain loans from the bank than the large enterprises to pay more than 30%-40% of the cost, which undoubtedly makes Hengda from the bank to obtain loans added a difficult. [6] The high cost of private financing exceeds the sustainability of Hangda, although private lending is much easier than bank lending, it is at the expense of higher financing costs, and some of the private financing is 2-3 times higher than the interest on bank loans [7].

D. High risk of financing

Hengda's financing process is biased towards informal financing, but the rate of informal financing is very high and the volatility is very large compared to formal financing, and mostly for private lending to obtain, almost no any guarantee procedures.

IV. MEASURES FOR THE FINANCING MANAGEMENT OF HENGDA COMPANY

A. Efforts to broaden the financing channels

To improve the current financing channels of the current situation, Hangda should respond to the needs of enterprises in advance, and make a reasonable plan for the introduction of the government for small and medium enterprises of the preferential policies and tax relief more attention [8]. At the same time, Hengda should establish a good bank-enterprise relationship with banks, enterprises should pay close attention to the bank on the financing of the new policy [9].

B. Improving the company's internal control system

Hengda should through the financing management standard financial accounting, improve the internal control system. Through the system construction to regulate the business behavior, thus eliminating the false statements, false contracts and other events to ensure that the integrity of financial information, authenticity and accuracy.

C. Improving the company's own credit

Hengda and banks should establish a good relationship between banks and enterprises, regularly to the bank to provide the company's operating results and financial situation, making the company's information transparency, and enhancing the bank's confidence in lending to enterprises. In addition, enterprises must strictly abide by the bank and other financial institutions financing requirements,

repayment of each loan principal and interest timely for the smooth financing of enterprises to fully prepare [10].

D. Focusing on government policies and seize financing opportunities

Hengda in the development process should be actively concerned about the government's preferential policies for SMEs, and strive to seize the opportunity of development. Although the government's laws and regulations on SME financing are not sound, the government is gradually perfecting policies that can help SMEs to reduce their costs and reduce their lending risk.

V. CONCLUSIONS

Hengda financing management case shows that there are many reasons for SME financing difficulties, mainly because of the enterprise's own reasons, which led to the SME's difficult to meet the bank's financing conditions, hoping to be able to the SMEs themselves in the future growth of great help.

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Gender Wage Gap for Fresh College Graduates: Does It Exist Discrimination in Chinese Labor Market?

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Abstract: This study uses survey data of graduates from all Beijing universities in 2007 to examine male-female job-search difference and starting wage discrimination of graduates six months after graduation. It uses Weibull regression in parametric survival model due to a standard distribution of data, and Heckman selection model to examine Mincer and Polacheck's theory of gender wage gap in employment because there exists a selection bias in the sample. The results show that gender gap exists both in the job searches and starting wages when female graduates enter the labor market for the first time. The findings indicate that female graduates have encountered gender discrimination in employment in the low-end labor market of China. Meanwhile there are differences in search behavior between males and females at their early job careers.

Keywords: Graduates, job search, starting wage, wage gap, gender discrimination

I INTRODUCTION

Gender wage gap is a common global phenomenon in the developed and undeveloped labor market. Several classic viewpoints are summarized in the following explanations. First, different wages between men and women reflect differences in productivity because of different human investment and career training (Olsen & Sexton 1996; Veum 1996; Crépon, Deniau & Perez-Duarte 2001; Weichselbaumer & Ebmer, 2005; Addabbo, Favaro & Magrini 2012). Second, the theory of compensating differentials predicts that dangerous and dirty job will offer a wage premium, for example, some males engage in the profession of truck driver with higher wages, and some females often own the secretary positions with lower wages (Polacheck 1990; Schirle 2015). Third, the comparative advantages of women lies in home production or in the field of arts and social science, so their less market working hours or occupation congestion lead to less income compared with the males (Polacheck 1978; Smith & Ward 1989; Kidd & Shannon 1996; Killewald & Gough 2013). Moreover, career discontinuity such as rearing children in woman's working period causes a gender wage gap (Mincer & Polacheck 1974; Korenman & Neumark 1992; Wood, Corcoran & Courant 1993; Hansen 2000; Napari 2009; Bertrand, Goldin & Katz 2010; Cukrowska & Lovász 2014). Finally, discrimination causes gender wage difference (Neumark, Bank & Van Nort 1996;

Goldin & Rouse 2000; Hinks 2002; Bertrand, Goldin & Katz 2010; Heyman 2013).

However, the situation is complicated and ambiguous in the current transformed period of Chinese labor market. Before 1978 the whole society of China was dominated by command economy. Gender discrimination was regarded as the defects of capitalism. Even slight gender wage gap was removed and absolute equalitarianism was popular. However, after that time market economy was gradually dominated in daily life with Chinese economic reform and opening to the world. The problem of gender wage gap was emerging when the product market and labor market were established. Several studies present the gender wage gap in China and find that there existed different reasons such as productivity, social customs, paternalism, and discrimination (Meng 1998; Liu, Meng & Zhang 2000; Dong & Zhang 2009; Chen et al. 2013).

Jun KongThe main motivation for this study come from Mincer and Polacheck's theory of gender wage differences in labor markets. They believe that discontinuity in woman's labor market attachments may explain a substantial part of the gender wage gap. This study uses data of college graduates half a year after graduation. The particularity of the data set lies in male and female graduates having the same human capital (four years of study) and no job experience, specifically there is no discontinuity in female labor supply. If

Mincer and Polachek's theory is correct, the gender wage gap should be very small at the beginning of employment when controlling other variables that affect wages. If the gender wage gap exists significantly, then other factors may affect the gender wage gap.

Therefore, the logical purpose is to test the correctness of Mincer and Polachek's theory by the specific data set of college graduates. Min et al. (2006), Qing & Zeng (2009), Li & Peng (2011), and Zhang & Ying (2012) believe that the college graduate's starting wage gap is stemmed from discrimination when controlling the variables of productivity, profession, and industry in China. These previous studies used only graduate samples from several universities in dispersed regions, and thus their findings cannot at some extent represent the gender discrimination status of graduates in one entire area. For this reason, this study analyzes the employment status of graduates in Beijing through complete college data samples in 2007, and investigate further whether gender discrimination exists in employment.

The remainder of the paper is organized as follows. In Section 2, we review the literature on gender wage differentials, particularly in respect of college graduates, and outline the issues explored in this study. In Section 3, the survey data is introduced. In Section 4, we lay out the conceptual framework and econometrics model of the sample, and explain empirical specifications. In Section 5, we describe the data present descriptive statistics and report the empirical results. We conclude and discuss the analysis in Section 6.

II LITERATURE REVIEW

Mincer and Polachek's theory shows that discontinuity in woman's labor market attachments may explain most gender wage gaps. Their theory and findings suggest discontinuity in female labor supply over the life cycle for two reasons. First, a wage differential is created because men tend to acquire more human capital. Second, the wage gap tends to increase in child-raising years because woman's skills tend to depreciate during that period.

In support of the theory, Korenman & Neumark (1992) explore several problems in drawing causal inferences from cross-sectional relationships between marriage, motherhood, and wages. They find both ordinary least squares cross-sectional and first-difference estimates understate the negative effect of children rearing on wages. Wood, Corcoran & Courant (1993) analyze the impact of labor market

experience on the gender wage gap by studying the post-graduation experiences of the University of Michigan law school classes from 1973 to 1975. They find about two thirds of the gender wage gap can be explained by differences in the work histories of male and female attorneys. Hansen (2000) also shows that woman's wages are significantly reduced by work absence and the distribution of the gender wage gap depends to a large extent on work absence. Napari (2009) points out that about 27% of the wage difference among the university graduates in Finland is caused by gender difference. Although the gender wage difference is only 10% during the early working periods, women suffer reduced wages and enjoy fewer promotion opportunities because of marriage and child rearing. Bertrand, Goldin & Katz (2010) point out that the lesser job experience, greater career interruptions and shorter work hours for the female MBA graduates are the main reasons of gender wage gap. Cukrowska & Lovász (2014) study the cases in Poland and Hungary, and find that most of the gender wage inequality is due to parenthood, both among women and men, constitute a significant part of the gender wage gap.

Although the evidence supports the theory, there is a heated discussion that the gender wage gap is explained by discrimination affecting employees even newly employed graduates. Neumark, Bank & Van Nort (1996) find that job applications from women had an estimated probability of receiving both an interview and a job offer that was significantly lower than man in an audit study of sex discrimination in hiring. Goldin & Rouse (2000) draw a similar conclusion in an analysis of the blind audition of symphony orchestras. Moreover, Hinks (2002) shows that white and Asian females suffer greater gender discrimination than their black and colored counterparts. In addition, some studies argue that there is gender discrimination in employment for graduates (Bertrand, Goldin & Katz 2010). The gender wage discrimination is changed with the change of competitive product market (Heyman 2013).

Furthermore, Meng & Miller (1995), Meng (1998), Liu, Meng & Zhang (2000), Demurger, Fournier & Chen (2006), Dong & Zhang (2009), Chen et al. (2013), and Dammert, Marchand & Wan (2013) analyze the gender wage difference in some industrial sectors in China and find that gender discrimination has different distributions among sectors. Regarding gender differences in job opportunities and initial wages for college graduates, Min et al. (2006) study the employment status of graduates in China in 2005 and find that male graduates find it easier to become employed (the contract rate of male graduates half a

year later is about 77.1% compared to 71.2% for female graduates) and their average monthly wage is RMB124 higher than that of the female.

Qing & Zeng (2009) report a lower employment rate and starting wage of female graduates, which is related to employability and internship experiences. Li & Peng (2011) demonstrate that gender discrimination, narrow social network, and insufficient educational quality, have a negative impact on the employment of female graduates. Chai & Deng (2011) confirm the existence of starting wage differences by Oaxaca decomposition among graduates, which is caused by the intensive employment of female graduates in low-paid industries and gender discrimination. Zhang & Ying (2012) reveal that female graduates have to search more job opportunities to find employment, which indicates that female graduates suffered gender discrimination during job searches.

Compared to previous studies in China, this study introduces the following specific aspects. First, we believe that Mincer and Polacheck's theory cannot be applied to graduates' starting wages because female graduates have no discontinuity of work experience and other factors, such as discrimination, may affect the wage gap.

Second, most existing studies on university graduates' employment are based on only some Chinese universities, which show weakly for determining whether other universities also have gender discrimination in employment. Based on the complete employment data samples of all university graduates in Beijing in 2007, this study tests whether female graduates suffer discrimination in job opportunities and starting wages, thus allowing us to verify whether gender discrimination in graduate employment is relatively common in Beijing area owning a mature labor market.

Third, most previous research adopts Logit/Probit models and neglects descriptions of the job-search process. As a result, a parametric survival model (PSM) is applied in this study for a dynamic analysis of gender difference encountered by graduates during job searches and employment. Furthermore, to overcome the sampling deviation that may exist in the studies of Ji & Qin (2004), Min *et al.* (2006), as well as Qing & Zeng (2009), a Heckman selection model is applied to test and eliminate deviations. In addition, a Mincer wage equation is used to carry out quantitative analysis on gender differences and discrimination in the starting wages of college graduates. This study does not use the method that the wage and employment gap

decomposition need to take place in order to isolate the unexplained part of these gaps. Rather, a gender discrimination is verified by a significant comparison of wage and employment tested between the male and the female under controlling other variables representing production (Cain 1986). Meanwhile, the problem of selection bias is analyzed in the wage equation.

III DATA INTRODUCTION

The data set is supplied by MyCos, an education consulting company. MyCos started a survey of college graduates over China in 2007. Known as the "Chinese College Graduates Employment and Skills Yearly Survey," it is designed to provide information about college graduates' job searches, initial wages, employment status, and builds on the national college graduates follow-up database posted on the China Survey Center website.

MyCos sends 25,000 survey invitation letters and online questionnaires to the target person's email box at response rate of 42.56%. MyCos sent the questionnaires used for our study in December 2007 and received feedback in February – April 2008. The Beijing data samples cover 82 colleges including research universities, universities, and colleges. This study uses the data set from Beijing colleges with valid samples of 6,103 graduates (female/male=3170/2933) in 2007.

IV MODEL OF JOB SEARCH AND WAGE DETERMINATION

A. Job search model

PSM is applied to analyze the influencing factors of job search, such as university factors, individual characteristics of graduates, and labor market factors. Key attention is paid to the gender impact on job search.

PSM requires the job-hunting period to be subject to standard distribution. The employment rate can be expressed as

$$H(T_u) = \sigma\alpha(\sigma T_u)^{\alpha-1} \quad (1)$$

where $H(T_u)$ represents the employment rate in T_u . T_u is job search time. This study defines the base time point of job search at 6 months before the graduation because some students had already become employed (or received internship opportunities). σ ($\sigma > 0$) refers to the fixed employment rate. If $\alpha > 1$, the employment rate increases with time, known as the "snowball" effect. If $\alpha < 1$, the employment rate decreases with time. If $\alpha = 1$, the employment rate is

equal to σ during all periods. Generally, $\alpha > 0$ in the model. The success rate of university graduates' employment is influenced by, for example, university factors, individual characteristics, and labor market factors. They affect the employment rate and job-hunting period through α .

Relatively, the number of the undergraduate certificate owner is small which is approximately 8.9% of the population in China in 2007, far below the number of the developed countries. Hence, the employment rate for college graduates is high in every year. The sample covers 6103 graduates with 5534 (2830/2704) employed and 569 unemployed at the time of survey. Jobs requiring more than 4 hours' work per day are regarded as full-time jobs. According to the samples involved, several university graduates are employed from 5 months before graduation to 10 months after graduation.

Table 1. Employment distribution of male and female graduates in the job-search time.

Time (month)	Female graduates			Male graduates		
	E. number	E. rate (%)	Acc. Rate (%)	E. number	E. rate (%)	Acc. Rate (%)
1	62	1.96	1.96	58	1.97	1.97
2	119	3.75	5.71	85	2.90	4.87
3	130	4.10	9.81	91	3.10	7.97
4	145	4.57	14.38	77	2.63	10.60
5	151	4.76	19.14	105	3.58	14.18
6 graduation	490	15.46	34.60	439	14.97	29.15
7	638	20.13	54.73	760	25.91	55.06
8	443	13.97	68.70	525	17.90	72.96
9	211	6.66	75.36	189	6.44	79.40
10	104	3.28	78.64	108	3.68	83.08
11	111	3.50	82.14	82	2.80	85.88
12	79	2.49	84.63	79	2.69	88.57
13	59	1.86	86.49	44	1.50	90.07
14	63	1.99	88.48	44	1.50	91.57
15	24	0.76	89.24	15	0.51	92.08
16	1	0.03	89.27	3	0.10	92.18
Total	2830	89.27		2704	92.18	

Table 1 shows that the employment peak is usually concentrated in a few months before and after graduation. The employment rate after 16 months (10 months after graduation) are 89.27% and 92.18% for the female and the male respectively. The time of employment survey which is set in 6 months after graduation fits in the labor market of China. This situation is completely different from some previous studies. For example, Chevalier (2007) conducts a similar study in the UK used data from graduates who had graduated 42 months before the survey. The data includes many employed people who ever experience discontinuity of career.

Table 1 presents that the employed graduates are summarized monthly until the 16th month when the latest employment questionnaire is getting feedback. The employed graduates/total sample numbers is the employment rate. According to Table 1, no graduates are employed at 0 months (6 months before the graduation). However, graduates are employed gradually from the 1st month as the remaining graduates continue to hunt for jobs. Female graduates achieve a higher employment rate than male graduates during the first six months (before graduation). However, male university graduates achieve a higher employment rate after the 6th month (after graduation), especially during the 7th - 8th months. Subsequently, the overall employment rate of male graduates exceeds that of female graduates.

B. Wage determination equation

Mincer (1974) believes wages are determined by education background and working experiences etc. Because most university students have no working experiences before graduation, the starting wage equation can be determined as:

$$\ln(W_i) = \beta_0 + \beta_1 \text{gender} + \gamma X_i + u_i \quad (2)$$

where $\ln(W_i)$ is the logarithmic monthly wage, β_0 is a constant term, and gender is the gender variable, which female is 1, and male is 0. As an independent variable, β_1 describes the gender wage difference. X_i represents other explanatory variables that influence wages. As a control variable, γ is the coefficient vector of these variables. u_i ($u_i \sim (0, \sigma^2)$) is a random error. When controlling for other explanatory variables, if the estimated value of β_1 is significantly smaller than 0, female graduates suffer wage discrimination (Cain 1986).

In this study, samples are divided into two groups: employed graduates and unemployed graduates

(including graduates looking for jobs, those planning to take part in the postgraduate entrance exams or those going abroad). An OLS regression model deliberately chooses only employed graduates. The expected value of u_i is not 0. Therefore, the regression may produce selection bias. To solve this selection bias, this paper uses a selection model proposed by Heckman (1979).

V. GENDER DIFFERENCE AND GENDER DISCRIMINATION

A. Variables and statistical description

The explanatory variables of university graduates' employment are shown as following parts.

(1) universities. As a categorical variable, universities include research universities, universities and colleges. Majors, a categorical variable, include science, engineering, agriculture, medicine, law, business, social science, and others. (2) individual characteristics. This includes gender (categorical variable, female and male), age (numerical variable), and expected wage (numerical variable). (3) labor market factors. These include employers (categorical variable, including non-governmental non-profit organizations, state-owned enterprises (SOE), private/individual enterprises, government/public/research units, and joint venture/foreign-funded enterprises), employment region (categorical variable, including prefecture-level cities, provincial capitals, and municipalities), and scale of employer (categorical variable, including units with less than 500 employees and those with more than 500 employees).

This study emphasizes on the impact of gender on the employment rate. Age, universities, majors, employers, employment region, scale of employment unit and expected wage are used as control variables.

Table 2 represents the gender difference in the employment between male and female graduates. Viewed from the dependent variables, the average job-hunting period of male and female graduates is 7.21 months, which indicates that they obtain employment 1.21 months after graduating (the base time is 6 months before graduation). The average job-hunting period of male graduates is 0.12 months longer but their monthly wage is RMB327 higher than that of female graduates, and increases significantly compared with the starting wage difference of Min *et al.* (2006).

According to the independent variables, female graduates own a bigger number in employment (2830/2704), but lower employment rate than males significantly at 5% with a gap of 2.91%.

Table 2. Gender difference in employment between male and female graduates.

Variable types	Variable	Mean value	Employment rate difference between males and females
Dependent variables	Job hunting period (month)	7.21	0.12**
	Monthly wage half a year later (RMB)	3035	327***
Independent variables	Gender percentage (female graduates)	51.14%	2.91%**
	Research university	56.88%	12.65%***
	University	36.65%	-14.82%***
	Colleges	6.47%	2.16%**
	Science	6.86%	2.13%**
	Engineering	30.47%	26.06%***
	Agriculture	1.28%	-0.12%
	Medicine	0.89%	0.14%
	Law	7.49%	-2.16%**
	Business	26.32%	-8.09%***
	Social science	25.50%	-17.08%***
	Others	1.18%	-0.88%
	Age	21.88	0.23***
Control variables	Non-governmental non-profit organization	1.46%	-0.796
	State-owned enterprises	31.34%	8.10%***
	Private/individual enterprises	27.60%	-0.63%
	Government/public/research units	15.38%	-1.4*
	Joint venture/foreign-funded enterprises	24.22%	-5.20***
	Prefecture-level cities	11.91%	6.40%***
	Provincial capitals	9.84%	4.70%***
	Municipalities	78.24%	-11.10%***
	Units with less than 500 employees	37.35%	-7.40%***
	Units with more than 500 employees	62.65%	7.40%***
	Expected wage	1971.65	226.56***

Note: ***, ** and * represent significance within 1%, 5% and 10% confidence.

In addition, gender difference also can be observed in most control variables. Male graduates from research

universities and colleges achieve a higher employment rate than female graduates. However, in universities, female graduates achieve a higher employment rate. Male graduates of science and engineering have a higher employment rate, whereas female graduates of law, business, and social sciences have a higher employment rate. No significant gender difference is observed in agriculture, medicine, and other majors.

Employed male graduates are 0.23 years older than female graduates. State-owned enterprises prefer male graduates, while government/public/research units, and joint ventures/foreign-funded enterprises prefer female graduates. No significant gender difference is observed in non-governmental non-profit organizations, and private/individual enterprises. Male graduates are employed more in prefecture-level cities and provincial capitals. Municipalities prefer female graduates. Male graduates have a higher employment rate in organizations with more than 500 employees but achieve a lower employment rate in organizations with less than 500 employees. The expected wage of male graduates is RMB226.56 higher than that of female graduates.

B. Empirical results for job hunting

According to data, $\text{Log } H(T_u)$ is the linear function of $\text{Log } T_u$ which is in line with Weibull distribution. Therefore, the influencing factors of employment rate are analyzed by Weibull robust regression in PSM. In Table 3, Regression show that the success rate of female graduates' employment is only 92.48% that of male graduates, and their job searching time remains 19.76% longer than male graduates. This indicates the slow marginal job-hunting of female graduates, which corresponds with Table 1, in which female graduates have a low average employment rate. There is no contradiction with a short average job searching time for females in Table 1. In regression, the employment success rate of graduates from universities is 90.46% that of research universities and their job-hunting period is prolonged by 25.51%. The employment success rate of graduate from colleges is 75.77% that of research universities and their job-hunting period is prolonged by 73.44%. Research universities enjoy good reputations in the labor market, as they are believed to possess high-quality capabilities, which results in high employment rates. Other explanatory variables have the different features that affecting job hunting of graduates.

Under controlling the explanatory variables, the gender variable influences both employment rate and the job-hunting period significantly. Although male and

female graduates have the same education background and no working experiences, female graduates have less job opportunities. This reveals the existence of gender difference in the employment of Beijing university graduates in the labor market. In addition, α of the employment rate in Table 3 has a value larger than 1, which indicates that the employment rate of both male and female graduates increases with time, which is known as the "snowball" effect.

Table 3. Employment rate and marginal job hunting period of male and female graduates.

Variables	Weibull robust regression of employment rate	
	Coefficient of employment rate	Coefficient of marginal job hunting period
Gender (female)	0.9248*** (0.0267)	0.1976*** (0.0733)
University	0.9046*** (0.0284)	0.2551*** (0.0804)
Colleges	0.7577*** (0.0545)	0.7344*** (0.1992)
Other control variables	Yes	Yes
Sample size		5534
α of employment rate		2.7912(0.0351)

Note: ***, ** and * represent significance within 1%, 5% and 10% confidence.

C. Estimated results for gender starting wage

The key of the Heckman selection model is to find an instrumental variable. It only affects the job search but exerts no impact on wages. In this study, "help" from the career service center of universities is taken as the instrumental variable [removed for blinding]. Career service center assist graduates to find jobs. Tips for resumes, job search methods, and interviews, as well as sponsored job fairs are supplied by the career centers to improve graduates' chances of finding jobs. While such assistance may increase the probability of graduates finding jobs, it does not affect graduates' first job wages.

This study uses two categories of instrumental variables to test selection bias. The first category comprises the instrumental variable: *Help* and *No Help*. *Help* means that graduates receive resume tips, job search method tips, interview tips, or a sponsored job fair from a career center, regardless of how many types

of help are received. For example, one graduate receives only resume tips from the career center. Another graduate may receive resume tips, job search method tips, and all other types of help from the career center. Both these cases are considered as *Help*. The second category comprises five instrumental variables: *Resume help*, *Method help*, *Interview help*, *Job fair help*, and *No help*.

The significance of the instrumental variables in regression is that they can be used to judge whether there is bias. If there is bias, then there is an inverse Mills ratio, which can be used to correct the bias of the selection equation. Therefore, the wage equation can estimate the starting wage difference accurately and assess whether there is gender discrimination in wages.

According to Table 4, the two OLS models in Table 4 apply the two instrumental variables to test their impacts on starting wages, but find no significant impact. However, in the Heckman selection model, these two instrumental variables influence the job search significantly. This indicates that these two instrumental variables only influence job search but have no impact on the starting wage, and thus, qualify as instrumental variables.

Table 4. Regression starting wage of OLS model and Heckman selection model.

Variables	OLS model		Heckman selection model	
	(1)	(2)	(3)	(4)
Gender (female)	-0.1048** * ^(0.0115)	-0.1049** * ^(0.0114)	-0.0922*** (0.0121)	-0.0922*** (0.0121)
Research university	0.2080** * ^(0.0260)	0.2090** * ^(0.0260)	0.2528*** (0.030)	0.2528*** (0.030)
University	0.0692** * ^(0.0077)	0.0724** * ^(0.0078)	0.1062*** (0.0232)	0.1062*** (0.0232)
College	---	---	---	---
Other control variables	Yes	Yes	Yes	Yes
Instrumental variable	Insignificant ---	---	Significant under 1% ^{confidence}	---
Instrumental variable	---	Insignificant ---	---	Significant under 1% ^{confidence}
λ (inverse Mills	---	---	0.2869 (0.0248)	0.2657 (0.0281)
LR test ($P = 0$)	---	---	Chi2(1)=10. 26 Prob > 0.001	Chi2(1)=12. 55 Prob > 0.000
Sample size	5534	5534	6103	6103

Note: ***, ** and * represent significance within 1%, 5% and 10% confidence. Sample size: 6103 (Heckman selection model); Deleted samples: 569 (unemployed number).

The Heckman selection model (3) demonstrates that the first instrumental variable influences job search with 1% confidence but has no significant impact on the starting wage in OLS Model (1). The possibility for $\rho = 0$ is 0.12%, indicating the existence of data selection bias. *Help* and *No Help* in the first instrumental variable can be used as effective instrumental variables and the selection equation can be used as the job equation. The Heckman selection Model (4) demonstrates that *Resume writing*, *Job search*, *Interviewing skills*, and *Job fair* in the third instrumental variable influence the selection model significantly with 1% confidence but have no significant impact on the starting wage in OLS Model (2). The possibility for $\rho = 0$ is 0.06%, indicating the existence of data selection bias.

The Heckman selection model demonstrates that the starting wage of female graduates is 9.22% less than that of male graduates when taking selection bias into account. When neglecting selection bias, the OLS Model (2) concludes that the starting wage of female graduates is 10.49% less than that of male graduates. This indicates that the starting wage difference widens by neglecting selection bias. $\lambda = 0.2657$, namely, the inverse Mills ratio, indicates that the starting wage difference in considering selection bias is larger than that when neglecting selection bias, changing by $e^{\sum \beta_i + \lambda - \sum \beta_j}$. The wage in OLS and the Heckman selection equation is the logarithmic monthly wage and the real monthly wage is e^n (n is total effect of variables including gender variable). In OLS, the monthly wage is affected by various factors together ($n = \sum \beta_j$), while in the Heckman selection equation, the monthly wage is influenced by $\sum \beta_i + \lambda$.

Under controlling the same variables, female graduates are always paid less during initial employment. This reveals the existence of gender discrimination in starting wages (9.22%). After controlling other variables, Qing & Zeng (2009) report that the starting wage of male university graduates is 12.1% higher than that of female graduates. Although they apply different samples and methods, they reach a similar conclusion, which indicates that female graduates suffer discrimination in starting wages. In addition, the starting wage of research university graduates is 25.28% higher than that of colleges and wage of university graduates is 10.62% higher than that of colleges, indicating the existence of a human capital effect.

VI. CONCLUSION

This study finding contributes to further

understanding gender discrimination in employment of university graduates in China. Female graduates prefer to choose social sciences, and business that the initial job position is usually low-paid in business industry, which brings fiercer competition in these industries. This further decreases their starting wages and widens the gender wage gap. According to this study, female graduates prefer working for municipalities. Many of female graduates become employed before graduation, which implies unfairness in the job search and verifies that females have lower expected wages. Moreover, the current labor law cannot protect the female's interests because there is no detailed rules and regulations in China that punish discrimination in job searches and wages.

Controlling for influencing factors of job search and wage differences of university graduates except for gender, this study analyzes and confirms gender discrimination in employment of university graduates using PSM. Discrimination strength is measured by marginal effect. In addition, gender discrimination in the starting wages of university graduates and the strength thereof is studied by the Mincer wage equation and the Heckman selection model.

The study finds that both PSM and wage equation represent a lower employment rate and wages for female graduates compared with those of male graduates. Such a gap in the employment rate and wages has important statistical significance. It indicates that female university graduates in Beijing suffer discrimination in job opportunities and initial wages. Although female graduates have lower reservation wages, they nonetheless suffer from job-search difficulties. This result differs totally from conclusions in other countries (Bradley & Nguyen 2004) and confirms universal gender discrimination in employment of university graduates in China's labor market.

When evaluating gender discrimination in employment, if other variables are controlled, the job-hunting period of female graduates is prolonged by 19.76% compared with that of male graduates. When selection bias is taken into consideration, the starting wage of female graduates is about 9% lower than that of male graduates. This demonstrates that female graduates suffer discrimination in starting wages, shows an increasing wage gap trend, and reflects the existence of gender discrimination in China's low-end labor market. In addition, Female and male graduates have different preferences regarding job locations, employment organizations, and scale of organizations.

Although female and male graduates have the same education background and human capital without any discontinuity of work experience, female graduates nonetheless suffer discrimination in job opportunities and wages, which is the same as females at other stages of the work cycle. Thus, discontinuity of work experience cannot explain the gender wage gap for graduates as per Mincer and Polachek. Gender discrimination in employment develops from the gender gap in initial employment and starting wages. The subsequent lower wage of female workers is caused mainly by such a gender gap. During the later promotion of job opportunities and wages, although some female workers receive quick salary raises and their salaries exceed those of male workers, there is no statistical significance of these results. Most female workers continue to be paid less than male workers, even though they enjoy the same job opportunities and average wage increases. Thus, to narrow the gender wage gap, it is of primary importance to narrow the gender gap in initial employment and starting wages. Much research in the past decades has demonstrated that the gender employment gap exists continuously and is caused by discrimination. Discrimination is caused by various factors, such as society, culture, and market segmentation etc.

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Coordination of Supply Chain in the Choice of Strategic Consumer Behavior

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Abstract: The paper introduces the consumer choice behavior requirements model based on the analysis of consumer behavior and manufacturers marketing strategy for distinguishing the types of consumers. At the same time, it gives the analysis strategy of the consumer behavior for manufacturers' pricing, quality, and the influence of the inventory decision, and it is further to expand consumer behavior selection decisions to supply chain management. The research uses consumer behavior selection to verify the result of the supply chain on the wholesale price of a commodity, repurchase, profit sharing, quantity discounts, sales is harmonious, which is also reflect the entire supply chain performance better information sharing and coordination effectiveness of contract.

Keywords: Consumer behavior, supply chain, management achievement

I. INTRODUCTION

In the face of the choice strategies of consumers, suppliers must think about how to formulate better pricing and inventory strategy than ever. But which strategy is more appropriate, the dynamic pricing or the static pricing? The markets have the different consumer behaviors under the condition of price exogenous and endogenous. It needs to compare with the three strategies of the less limited two-stage dynamic pricing, limited two-stage dynamic pricing and everyday parity. At the same time, the proportion of consumer behavior is influenced by the choice of suppliers, and provides reference for the best marketing decisions of suppliers. The contract of supply chain is also a way to coordinate the decision behavior of the dispersed supply chain members and keep them consistent with the optimal goals of the system. It is the provision of appropriate information and incentives through ensuring that buyers and sellers to coordinate and optimize. The performance of sales channels relative clauses, these clauses including price, lead time, quantity, quality, rebates, return money, marketing costs, production capacity, and investment, credit and payment terms, as well as after-sales service and other aspects related to the interests of the parties [1].

Consumer behavior choice to the effective contracts of supply chain can not only reduce the total cost of supply chain, reduce inventory levels, enhance the level of information sharing, improve mutual communication between the node enterprises, have a greater competitive advantage to realize the optimal performance for supply chain, but also share

the risks posed by various uncertainties by both parties. These results of consumer behaviors can verify whether the links of commodities in the supply chain can be coordinated by the wholesale price, repurchase, profit sharing, quantity discount, sales repurchase contract and others [2-3].

II. RESEARCH ON CONSUMER BEHAVIOR CHOICE

A. *The Decision-Making Process of the Traditional Consumer Behavior*

The traditional consumer behavior studies only considered the influence of marketing variables on demand, and overlooked some consumers could positively compared the more marketing strategies to choose the right products on the right time to make their own utility maximization, which did not reflect consumer choice decision-making process, as shown in Figure 1.

For the characteristics of different consumer behavior, consumers can be divided into two types consumers of myopic type and strategic type by many researchers. The myopic type consumers don't think about the future price, and they will buy when the current price is below their reservation price. This kind of behavior can allow retailers to make marketing decisions, who don't have to think about the current consumer purchase intention for the future price. While the strategic consumers make current decisions, they consider the changes in future prices. Those will result in a more complex decision for the retailer's current price decisions [4].

The two different characteristics from consumers

of the myopic type and strategic type, the myopic type consumers will leave immediately when the current price is higher than the reservation price, but the strategic type consumers will choose to wait in order to price decline. The myopic type consumers will buy immediately if the current price is lower than consumers' retention price, but the strategic consumers may delay spending in order to buy goods at lower prices. In addition to responding positively to the price changes of the manufacturer, the consumers who respond positively to the underlying economic mechanisms, such as the availability of

commodities, are regarded as strategic consumers. The strategic consumers will anticipate future market conditions (not limited to the price), and choose appropriate buying opportunities after comparing with the current market conditions. The rule of decision of the strategic consumers, they will buy products when the current price of the purchase is greater than the effect of the delay.

By combining these literatures, we can understand the strategic consumers, who can compare the expected utility of the future purchase with the current purchase utility [5-8].

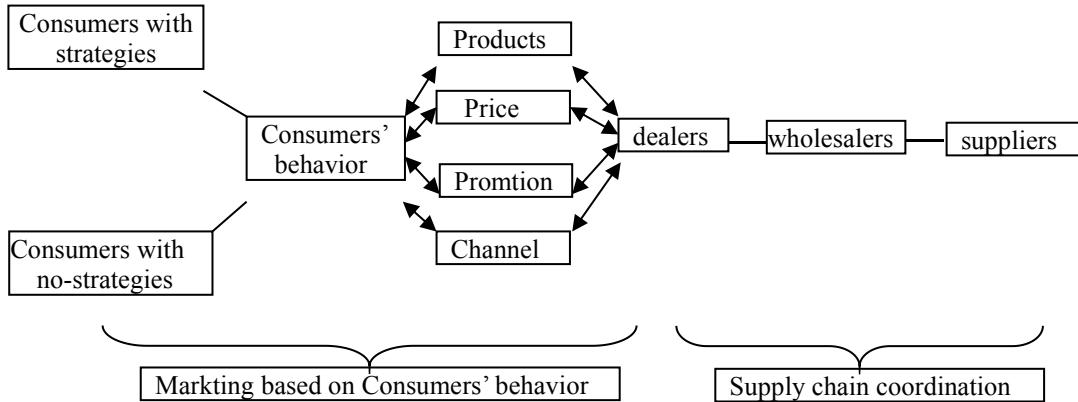


Figure 1. The choice processing of the traditional consumer behavior.

B. Consumers' Behavior Decision Under Supply Chain Contract

Relative to the traditional model of consumer behavior choice, consumers' behavior choice can share the inventory risk under the contract of supply chain decisions in advance three different wholesale prices by comparing the push, pull, order discount. This will influence the efficiency of supply chain (the ratio of the maximum profit of supply chain and its). The push-type contract has only a wholesale price, which means that the retailer only orders before the sales season and assumes all risks in the inventory of supply chain. The pull-type contract has only a wholesale price as the same to the push-type contract, and the difference is that the supplier holds the inventory and only orders when the retailer needs it. As a result, the choice of consumer behavior drives suppliers to take on the inventory risk in the supply chain (such as delegating the inventory to suppliers or shipping the delivery) under the supply chain contract. The discount contracts in early orders have two wholesale prices, the discounts price and replenishment price for the sales season. The purchase discount in advance allows allocation of inventory risk, the retailer inventory risk before ordering to the sales season, the production risk borne for the more than the size of the order in advance. The study found that the efficiency of the single wholesale price contract is higher than previous

research, and the previous research may exaggerate the contract value of the coordination (such as the supply chain contract on sharing 100% coordination of repurchase or revenue), because the coordination is often relative to the push contract. In addition, the consumer behavior decision comes into being the effect of early ordering discount contract under the supply chain contract, which can coordinate and distribute profits freely between members in the supply chain.

Retailer discount promotions can make consumers to become more and more clever in a wide range of designs. Many consumers are choosing their favorite goods ahead of time to buy such as discount moment, and tie in with the retailer's promotional activities. The suppliers also want to make certain incentives, although the sales go up, but it is not necessarily increasing the profits. The choice of consumer behavior is not only focuses on the interaction between retailers and consumers under the supply chain contract, but also that involves the problems of the more benefits distributed in the supply chain. The choice of consumer behavior needs to require a combination of the pricing strategy to the enterprise inventory, and extends backward in the contract design of supply chain, which faces the strategic consumers. So that the decentralized decision makes better than the centralized decision under the wholesale price contract in supply chain.

The contract can act as a commitment mechanism to stimulate coordination in supply chain, for some contracts can distribute profit freely between members of the supply chain as a result of the behavior of the strategic consumers [9].

In this paper, the study the firms should be how to develop the marketing and operational strategy in order to realize the profit maximization when consumers make positive response to the retailer's promotional strategy, rationally choosing the appropriate time to maximize its own utility. When the supply chain becomes the two-level supply chains of retailers and suppliers, the strategic consumers will make the decision to choose the appropriate contract to realize supply chain coordination.

III. THE CHOICE DECISION MODEL OF CONSUMER BEHAVIOR IN THE SUPPLY CHAIN CONTRACT

A. *The Contract of The Retailer's Price and Profits*

The choice decision of the consumer behavior under the supply chain contract also involves the retailer's wholesale price contract, which is the most common supply chain contract. The paper assumes C_0 stands for the cost of producing of the supplier, P_2 stands for the residue product price being sold at the end of the quarter, P_0 stands for the wholesale price. Based on the wholesale price contract, the retailer orders products from the supplier before the start of the season one-time order, which does not allow replenishment, and the redundant products will be handled by retailers at the end of the quarter to highlight the retailer inventory risk, there is also referred to as the retailer managed inventory wholesale price contract.

When the supply chain becomes the two-level supply chains of retailers and suppliers, suppliers in the centralized supply chain can supply the product quantity is Q_0 , and the sale price is P_1 , and the future profit of the retailer's is I_1 .

$$I_1(1, 0) = (1 - P_2)(\wedge 0) - (P_0 - P_2) 0 \quad (1)$$

B. *The Revenue Model of Supplier Managing Inventory*

The choice of consumers' behavior can be unified operation based on the strategic considerations under the contract of supply chain decisions of the project positioning, market strategy, management mode by the operators, such as sharing business sales revenue by renting store to a specific business. If a department store is looked as a retailer, the specific business looked as a supplier, the retailer will be not responsible for the specific marketing strategy, who only enjoys the supplier's profit commission. This kind of sales mode, the supplier will bear all inventory risk, formulate pricing strategies. With the

development of Electronic Commerce, this model is being also from offline to online, E-commerce sites provide a unified sales platform, which must have access to suppliers by using this platform to sell their products. In the mode of supplier managing inventory, the paper studies the impact of revenue sharing on the profit of each subject in the supply chain when the suppliers face the strategic consumers. The suppliers will directly face the consumers, and will be responsible for pricing and supply decisions.

According to the principle of maximizing profit, the profit of suppliers can be measured I_2 .

$$I_2(1, 0) = (1 - k)(1 - P_2)(\wedge 0) - [0 - (1 - k)P_2] 0 \quad (2)$$

K stands for the retailers sharing revenue with suppliers, which determined by the bargaining power between retailers and suppliers. When the retailer shares the lower profit ratio, K reflects the dominant supplier, whereas shows that retailers share the higher profit ratio.

The paper assumes the price of the products remains the same as constant price, the revenue sharing contract under centralized supply chain contracts can be implemented. At the same time, when the retailer faces the strategic consumers, and one side of retailer and supplier in the negotiation holds the absolute advantage, the position will realize that the supply chain profit cannot be optimal. In a word, when the retailer and supplier in the negotiation have the relative balance of bargaining power, the profit distribution in this supply chain will realize the optimal profit with the beginning commitment [10-11].

IV. CONCLUSION

Comparing with the traditional choice model of the consumers' behavior, the choice decision of the consumer behavior under the supply chain contract is combined into supply chain management and contract management. Analysis of angle from the perspective of consumer choice behavior, this paper considers the overall supply chain performance and the main body discusses profit distribution in the decentralized supply chain: consumers keep more patience, and suppliers will give the lower the price, quantity, the more appropriate the less profit. This suggests that the choice behavior of the strategic consumers will greatly influence the manufacturer's profits, and it cannot be ignored the behavior characteristics of the target population in the actual developing marketing and operational strategy. If the suppliers can make consumers believe that the product quantity is limited through the brand, advertising and other marketing strategy, manufacturers will get more profit through high limited strategy. However, the urge of profit

often makes the suppliers go against their promise motive. When facing the different consumers, the profit under the centralized supply chain is looked as benchmarking with the number of commitments, and the two contracts can achieve the profit volume with their commitment by the wholesale price for retailers managing inventory contract and the revenue sharing contract of suppliers managing inventory under the supply chain. This is more helpful to improve the efficiency of the supply chain as a whole.

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Relationship Between Transport and Economic Development in Hubei Province

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Abstract: The essay introduces the present situation of transport investment and economic development of Hubei Province, from macroscopic and microscopic analysis of highway traffic impact on economic development, which points out highway transportation not only promote regional economic output but also to strengthen foreign economic ties, adjust industrial structure and promote urbanization. By constructing econometric model which concluded that: there is a significant relationship between the highway traffic in Hubei Province and economic development. This essay gives a suggestion of rationally programming the highway transportation network in Hubei Province and improving the level of transportation management, harmonizing development of economy under making full use of features of regional resources.

Keywords: Hubei province, transportation, economic, relationship

I INTRODUCTION

Hubei Province as the important economic province and transportation hub which is situated in southern China, the middle and lower reaches of Yangtze River. The total economic output of Hubei Province is at the forefront of the central and western provinces, but it is extremely unbalanced. Wuhan, a large city, occupies half of the province's GDP with a 35% share, and is a still poverty-stricken area in northwest and southwest of Hubei Province. There is a linkage relations between transportation and regional economic, Hubei Province highway network has been basically completed meanwhile regional economic developing, regional transportation construction will toward its goal which convenient for people, expedient to logistics. However, the imbalance of economic development in the region reflects the traffic development imbalance, part of the economically backward regions still faces the situation of strained transportation and poor transportation infrastructure. How to treat and solve this situation correctly is the urgent problem that needs to be solved in the process of economic development in Hubei.

Based on the collection and collation of related literatures on highway traffic and economic development, the research on highway traffic and economic development in Hubei Province, especially the research on quantitative aspects is not very fruitful. As Ye Liang [1], he thinks that the development of road network construction has different characteristics at different times, in the early

stage, it lags behind economic development demand. There is a positive correlation between traffic volume and economic development. LiuShenglong [2] argues that transportation investment has dramatically positive promoting role on China's economic growth, the differentiation of geographic position and the condition of transport investment play an important role in regional economic development gap in China. Han Biao [3] holds the opinion that in a particular transport system, economic development cannot be divorced from the development of transport, and must be developed with transport. The accumulation of further expansion also forces the emergence and development of new transport modes. Qin Chunya considers that strengthening the construction of highway plays a crucial part in optimizing the industrial structure and increasing the income of economy, therefore, only constantly strengthening regional highway construction by government department can promote the regional coordinated development Hu Xiaoling believes it is obvious to see that the development of highway traffic promotes the development of regional economic, but at the same time to speed up the integration of urban and rural development, optimizing the allocation of resources rationally, highway traffic development will inevitably bring some destruction to land, forest resources, thus emphasizes the importance of environmental protection [4, 5].

Adam Smith[6] suggests that economic efficiency comes from the division of labor, but the division of labor is restricted by the market scope and transportation conditions. Benjamin Franklin [7] put

forward the engineering cost –on the basis of economy calculation theory, on the influence of the basic theory and the need of social development at that time, the methods lay particular importance on analysis micro benefits in the form of monetary unit, not the effect of the monetization of project construction Ahmed [8] once said "the lack of transport facilities is one of the main reasons for economic development in many developing countries." The lack of transport facilities hinder the spread of modern technology, the input of agricultural production, links between agriculture and other sectors of the economy through the market. Banister [9]. Whether the traffic development itself can promote economic growth or not and its contribution to the economic growth effect is depends on different areas. Berechmanetal [10] whose empirical results to America show that from different level transportation infrastructure spatial spillover effect is not consistent, in the state, county, and city these three different levels ,their spatial spillover effects are 0.37, 0.34 and -0.01 respectively.

II. THE RELATIONSHIP BETWEEN HIGHWAY TRANSPORTATION AND ECONOMIC DEVELOPMENT IN HUBEI PROVINCE

A The Present Situation of Highway Traffic in Hubei Province

Since 2011-2015, in the country, with the

construction of Hubei province transportation system has obtained the remarkable result, not only expand the transport network, coverage, but also improved a lot in management and service level. By the end of 2015, the total traffic network of the whole province was about 272,000 km (excluding civil aviation routes and urban roads), and the density of integrated transport network reached 146.3 km / 100 square kilometers. Among them, the total mileage of highway traffic is 253,000 km (6204 kilometers of expressway). From 1995 to 2015, the length of traffic routes in Hubei province was basically increasing.

B The Present Situation of Economic Development in Hubei Province

In 2014, the GDP of Hubei province was 2736.704 billion yuan, an increase of 9.7 percent over the previous year. Among them: the first industry increased by 317.689 billion yuan, an increase of 4.8%; The second industry increased by 12,840.22 billion yuan, up 10.1 percent. The tertiary industry increased by 11349.93 billion yuan, up 10.5 percent. The tertiary industry structure is 11.6: 46.9: 41.5. The total fiscal revenue for the whole year was 409.58 billion yuan, an increase of 14.8% over the previous year, with the local public budget revenue of 256.69 billion yuan, up 17.1%. In the local public budget revenue, the tax revenue was 187.311 billion yuan, an increase of 16.7%. Fiscal expenditure for the whole year was 5.885 billion yuan, up 14.6 percent.

Table 1. Length of transport routes in Hubei Province from 1995 to 2015 (Unit: km)

Years	1995	2000	2005	2010	2011	2012	2013	2014	2015
Highway traffic	48728	57850	91131	206212	212746	218151	226912	236932	252980
Grade highway	30910	48062	76075	187812	196452	203145	212893	224184	240936
highway	487	569	1649	3674	4006	4006	4333	5096	6204
A highway	641	611	1092	2210	2395	2515	2789	3344	5231
Secondary highway	4967	7911	15225	16159	16852	17233	17576	18033	21555

Table 2. GDP in Hubei Province from 2006 to 2015.

Years	GDP (Billion Yuan)	Primary industry	Secondary	Tertiary industry	Rer capita GDP
			industry		(Yuan)
2006	7617.47	1140.41	3365.08	3111.98	13360
2007	9333.4	1378	4143.06	3812.34	16386
2008	11328.92	1780	5082.07	4466.85	19858
2009	12961.1	1795.9	6038.08	5127.12	22677
2010	15967.61	2147	7767.24	6053.37	27906
2011	19632.26	2569.3	9815.94	7247.02	34197.27
2012	22250.45	2848.77	11193.1	8208.58	38572.33
2013	24791.83	3030.27	11786.64	9974.92	42825.76
2014	27379.22	3176.89	12852.4	11349.93	47144.6
2015	29550.19	3309.84	13503.56	12736.79	50653.85

III. AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN HIGHWAY TRANSPORTATION AND ECONOMIC DEVELOPMENT IN HUBEI PROVINCE

Through the above study that showed a trend of steady growth in Hubei province highway traffic development, and economy of Hubei province is also in a state of steady development, therefore, the basic condition of the highway traffic and economic development of Hubei province roughly related, but doesn't give a definite correlation, the following will take rigorous empirical.

A Variable Selection and Modeling

In order to analyze the impact of road traffic on the economy of Hubei Province, it is mainly considered from the aspects of regional GDP, and the impact of highway traffic is investigated. The general definition of the model is:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t}$$

Among t is the year; β_i ($i = 0, 1, 2, 3$) is the parameter to be estimated; Y for the regional GDP; X1 for road freight turnover, X2 for the level of highway mileage, X3 for the road passenger turnover. Road freight turnover X1, grade highway mileage X2 and road passenger turnover X3 represents the level of road traffic development. According to the existing study, it is expected that Y is positively correlated with X1, X2 and X3.

B Analysis of Regression Results

The results of the regression analysis are as follows. There are four parts: the first part is the result of regression statistics including the multiple correlation coefficient, the coefficient of succession R $\hat{}$, the correlation coefficient after adjustment, the standard deviation of regression and the number of samples. The second part is the results of the variance analysis including interpretable deviations, residuals, total deviations and their degrees of freedom, and the calculated F statistic and corresponding significant levels. The third part is the estimate of the intercept and slope of the regression equation and their estimated standard error, the t statistic size of the bilateral smear probability value, and the upper and lower bounds of the estimated value. According to the results of these parts, we can see the regression equation:

$$Y_t = -29177.1 - 1.19891X_{1t} + 0.423645X_{2t} - 0.14009X_{3t}$$

The corrected R $\hat{}$ is 0.976911234, indicating that the variables in the model jointly explain the 97.69% change in Y, which is a good result, $F=127.9333212>F0.05(3,6)=19.37$, Indicating that the overall regression equation is significant.

$t1 = 3.201836446 > t0.025,8 = 2.306$, that X1 has a significant effect on Y1;

$t2 = 0.917847836 = 0.9213157 < t0.025,8 = 2.306$, that X2 has no significant effect on Y1;

$t3 = 1.195673401 < T0.025,8 = 2.306$, that X3 has no significant effect on Y1. Thus, when establishing the regression model, X2 and X3 can not enter the model as explanatory variables.

In the relationship between road freight turnover Y and grade highway mileage X, the corrected R $\hat{}$ is 0.933472, indicating that the variables in the model jointly explain the 93.35% change in Y, which is a good result, $F = 127.2823 > F0.05 (3,6) = 19.37$, indicating that the overall regression equation is significant. $t = 11.28195 > t0.025,8 = 2.306$, that X has a significant effect on the Y.

In the relationship between road freight turnover Y and civil traffic X, the corrected R $\hat{}$ is 0.936654204, indicating that the variables in the model jointly explain the 93.67% change in Y, which is a good result, $F = 134.0773048 > F0.05 (3,6) = 19.37$, indicating that the overall regression equation is significant. $t = 11.57917548 > t0.025,8 = 2.306$, that X has a significant effect on the Y.

Regression analysis results obtained by above, Hubei province has rich resources, abundant capital, large population, and continuing to improve transportation system construction ,there has a close contact and influence between the development of highway traffic and economic development of Hubei province, the construction of the highway traffic has a effect of promoting the development of the economy .

IV. CONCLUSION

In Hubei province, the level of economic development determines its transportation investment's standard. The economy being more booming, the development in transportation, manufacture, elites, management, storage and communication will be more flourishing. Hence more sufficient methods will be put in force to develop modern transportation, and more comprehensive the transportation construction will be. The space distribution of the economy shapes that of the modern transportation investment. The difference in economic development determines the difference in traffic investment. In those better-off areas, the population is huge, people richly live, and the resources is ample ,which gather similar enterprises and factories. They co-harness resources and bring down production prices. According to this circumstance, distribution of transportation must be combined with the actual situation. To satisfy market demands, distribution of transportation investment must fit the requirement of economic regions. The galloping development of Internet in the Information

Age brings forth the sudden rise of logistics industry, which alters the forms of payment and purchase. This status quo is based on the foundation of advanced transportation web, and it will progress further with the gradual development of transportation construction. Highway transport is the main method among those reliable means used by the logistics industry, which asks for the highway construction to suffice the soaring demand from the logistics industry. Therefore, the highway construction in a region can facilitate its transfer in economic construction and economic development.

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Study on Evaluation Index System for the Comprehensive Quality of Secondary Financial Management in Chinese Universities

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Abstract: With the deepening of the sub-financial management of colleges and universities, establishing a scientific evaluation system for the sub-financial management is not only a core part of management, but also an important symbol to measure the secondary of budget management and objective management. This paper establishes a two-level index system, which is the performance of budget funding, tuition collection, scientific research funds and financial management. The secondary index is the 21 evaluation index layer which reflects four aspects of the secondary sector performance. This paper classifies and compares the financial management performance of the secondary department of the college by means of quantitative indices, qualitative indices, single indices and multivariate indices.

Keywords: Universities, secondary financial management, performance evaluation

I. INTRODUCTION

The central committee of the political deliberated a policy document (2010), which states: "Establish a performance evaluation system for use of funds and strengthen the use of the evaluation of major projects. Strengthen the management of state-owned assets in schools."

The ministry of finance defined the fiscal expenditure performance evaluation (2011) as: "use scientific and reasonable performance evaluation indices, as well as evaluation standard and evaluation method to evaluate the efficiency of fiscal expenditure".

The policy documents indicate that our country is paying more attention to the education funds management and the fiscal expenditure performance evaluation. The expansion and the increase of college enrollment complicate financial activities in colleges, the traditional financial system can't adapt to the colleges' development. At the same time, the amount of the fund is increasing year by year, in order to ensure the standardization of the goods and strengthen the secondary sectors' economic responsibility, a sub-financial management system management is necessary and a complete set of quantitative index system is needed. Using the performance of budget, the tuition collection, the scientific research and the financial management performance as the first-level indicators and structure a 21 indices layer to reflect the performance of the secondary department, so as to

realize the quantitative management and evaluation of the secondary financial in colleges.

II. THE RESEARCH STATUS OF THE PERFORMANCE EVALUATION OF SECONDARY FINANCIAL MANAGEMENT

Zhang Juan (2017) uses the budget target and control standards as the basis and makes the general financial targets with non-financial targets an organic combination so as to measure the budget management dynamically. Fan Ruiyun (2017) elaborates the significance and application strategy of comprehensive budget in university financial management. Wang Fengxu (2014), Li Yacui (2016), Tang Jing (2017) believe that there are many deficiencies in the financial management performance evaluation system of colleges in China. Chu Guizhong (2013), Tong Xiaoling (2016), Lian Qiang (2016), Zhang Juan (2017) set up a performance evaluation system from different dimensions to study secondary financial management of colleges. He Xiaohong (2013), Lu Haiqing (2016), Yao Dandan (2016), Ji Hao, Lu Zhengyan (2016) make Suggestions on the improvement of financial management in colleges and universities.

These studies all stays at a theoretical level, articles that combined with the actual analysis and put forward solution are not very common. Therefore, this paper will establish the evaluation index system of secondary financial quality and combine quantitative analysis with theoretical analysis to

further study the secondary financial management system of colleges and universities.

III. THE NECESSITY OF THE SECONDARY FINANCIAL MANAGEMENT SYSTEM

In recent years, China's higher education business has been developed rapidly, if we continue to implement the unified management model of the past, we need to increase the level of management and personnel, resulting in a bloated and redundant staff. In order to realize structural optimization and benefit, colleges must decentralize their rights, so that the secondary school departments can take the initiative and allocate the teaching resources. At the same time, the implementation of secondary financial management of colleges is the requirement for talents to form the characteristics of schools. Under the unified management system of the school, the high

school officials are often unable to understand the information of their subordinate institutions because of the asymmetry of information. Therefore, they can't establish an advantage discipline. The implementation of secondary financial management, fully exerting the enthusiasm and initiative of secondary colleges, which turns out to be a requirement for universities to form their own characteristics.

IV. THE ESTABLISHMENT OF EVALUATION SYSTEM OF SECONDARY FINANCIAL PERFORMANCE

The specific assessment of university financial management includes budget funds, tuition fee collection, scientific research funds and the financial management performance. The meaning and calculation formula of each index are as follows:

Table 1. The performance indicators of budgetary funds.

Secondary index project	Formula	Meaning	Index attribute
Budget completion rate	Budget expenditure/budget revenue for that year	Refers to the completion of budgetary funds during the budget implementation.	concentration index
Budget adjustment rate	The budgeted additional adjustment/ Revenue from the budget	This indicator reflects the department's planning status	Reverse index
the total amount that per faculty gets	Total income/the number of staff (annual average)	Explain the total cost of each faculty member	Positive index
the total amount of earmarks that the teaching staff gets	Total amount of earmarks/ the number of staff (annual average)	The index reflects the level of preparation and financing of each sub-sector project	Positive index
per capita training fee of Teaching staff	Total amount of training expenses/ the number of staff (annual average)	To reflect the training of staff in various departments	Positive index
The amount of revenue generated is the proportion of total funds	Total revenue total revenue/total income of the year	Reflect the degree of dependence of the secondary sector on the budget of the college and the ability of the secondary sector to raise funds and the level of effort.	Positive index
Annual growth rate of total funds	(income from the current year - income from the previous year)/income from the previous year	Reflect the growth of the secondary sector	Positive index
Annual growth rate of income generation	(income from revenue generated in the year - income from revenue generated from the previous year)/revenue generated from the previous year	Reflect the level of effort and status of the secondary sector in generating revenue	Positive index
Cost of purchase of raw equipment	Total cost of equipment purchase/ the number of student (annual average)	Reflect the equipment input of secondary colleges	Positive index
Book purchase fee for all books	Total amount/the number of students (annual average)	Reflect the equipment input of secondary colleges	Positive index

Table 2. Performance indicators for tuition collection.

Secondary index project	Formula	Meaning	Index attribute
Fee collection rate	The actual amount of tuition and accommodation/ the total amount that should be paid	Reflect the degree and status of the secondary colleges' efforts in tuition payment	Positive index
The cumulative delinquent rate of tuition	Cumulative total amount of overdue tuition and accommodation fee/ tuition fee and accommodation fee that shall be paid	It is suggested that the degree and status of tuition fee of secondary college students in college	Reverse index

the ratio of student loan to tuition income	The amount of student loan that actually went to the account that year /the amount of the tuition and accommodation	Reflect the level of effort and status of the secondary school in the struggle for student funding	Positive index
The grant amount of financial aid that has been obtained	The total amount of grant grant/the total number of students at the end of the year	Reflects the level of secondary schools in financing outstanding poor students	Positive index

Table 3. Performance indicators of scientific research funds.

Secondary index project	Formula	Meaning	Index attribute
Annual growth rate of scientific research	(The total amount of scientific research funding - the total amount of scientific research funded last year)/the total amount of scientific research funded last year	It reflects the growth of annual research funds in the secondary sector	Positive index
per capita scientific research fund of Teaching staff	Total amount of research funding/staff number (annual average)	Reflect the ability and scale of scientific research in the secondary sector	Positive index

Table 4. Financial management performance indicators.

Secondary index project	Formula	Meaning	Index attribute
ratio of Public expenditure structure	Public expenditure/total expenditure/the average ratio of the whole institution last year	Reflect the rationality of unit expenditure structure	Positive index
Annual growth rate of expenditure	(Total expenditure for the year - total expenditure on the previous year) / total expenditure of the previous year	Reflect the level of the secondary sector expansion	Positive index
Ratio of total expenditure to total expenditure	Total income/total expenditure of the year	Reflect the annual balance or deficit of the secondary sector	Positive index
rate of device update	Equipment purchase expenditure/public expenditure	Measure the extent of the secondary sector's long-term construction	Positive index
The expenditure of "three public funds" accounts for the share of public expenditure	"Three public" funds expenditure/public expenditure	Reflect the efforts of the secondary sector in controlling the expenditure of "three public funds"	Reverse index

V. WEIGHT ASSIGNMENT OF EVALUATION INDEX AND COMPREHENSIVE SCORING CALCULATION

A. Weight Assignment of Evaluation Index

In the process of building college financial performance evaluation system, the influence degree of the core factors and indicators are different. Therefore, the weights of each index need to be assigned. This paper uses the analytic hierarchy process and Delphi method of evaluation index weight assignment method to analyze.

The Delphi method is used for consultation and collection and experts in university financial budget research are involved. Based on the evaluation results of the relative importance of the indexes, the evaluation values are analyzed and the matrix A is obtained. Calculate the A matrix, find the maximum characteristic root, and get the corresponding eigenvector: $W = [W_1, W_2, \dots, W_n]^T$. Determine the consistency and complete the consistency index. $CI = \frac{\lambda_{\max} - n}{n-1}$, λ_{\max} is the maximum eigenvalue.

When $CI = 0$, A matrix meets the consistency requirement. When CI is non-zero, the consistency of

A matrix is poor, and the greater the value of CI, the less the consistency of A matrix is realized. In practical application, CI means absolute consistency,

CR means relative consistency, $CR = \frac{CI}{RI} < 0.10$, RI represents random consistency index, when CR meets the requirements, $W = [W_1, W_2, \dots, W_n]^T$ is weight, if the value of CR are not within scope, you need to reset A matrix, do the calculation, until the condition is satisfied.

B. Comprehensive Scoring Calculation

Firstly, calculate the score of the indicators that after the base year, X_{it} represents the score of index i in the year of t. Next, calculate the score of each secondary index according to the weight. In the end, calculate the comprehensive score by using the simple arithmetic mean method, which is to add the scores of each criterion layer to the overall score.

VI. CONCLUSIONS AND SUGGESTIONS

The present research situation and the necessity of implementing sub-financial management of colleges are analyzed theoretically in this paper and the index system of two levels are built, which includes the

performance of budget, tuition collection, scientific research and the level of financial management, the 21 indexes layer reflect the performance of the secondary department from four aspects. The study find that the construction of university financial performance evaluation index system of the secondary is not yet mature and need to be revised. To this end, this paper makes the following comments in combination with the research content:

A. Strengthen Internal Control Awareness

A complete financial management system can guarantee the smooth progress of financial management of secondary colleges. College leaders at all levels should take the lead to strengthen the consciousness of the internal control, follow the principle of feasibility and consider its own specific conditions so as to formulate conforms to the development of the college financial management system.

B. Improve the Organizational Structure of Secondary Financial Management

The relevant principals of the college should implement the post responsibility system. The dean, as the first person in charge of the work of the college, is responsible for the authenticity and effectiveness of the financial management of the college, and the vice-presidents shall be responsible for their financial management. Other managers should also be responsible for their respective tasks; At the same time, disclose financial management information to enhance the effectiveness of supervisory function.

C. Clarify the Relationship of Property Rights

The secondary school departments should register their own assets accumulated in the school activities. According to different accounting subjects, the classification of the fixed assets of the secondary school departments shall be registered and the depreciation rate of various fixed assets shall be calculated according to relevant regulations. At the same time, pay more attention to the control of the assets of the secondary department and supervision in order to promote the stable operation of the system for the sub-financial management of colleges and universities.

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Farm Households' Behavior and The Quality and Safety of Agricultural Products

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Abstract: The root of agricultural product quality safety problem is the problem of source management of agricultural production, the production behavior of farmers has a decisive influence on the level of quality and safety of agricultural products. Only through the internal incentive and external restraint mechanism to optimize the farmers' agricultural production behavior, can solve the problem of agricultural product quality and safety in china.

Keywords: Farmers' behavior, agricultural products, quality safety, agricultural development

From the point of view of international experience, solving the problem of the quality and safety of agricultural products need producers, enterprises, government and social interaction to propel. But from the point of view of the agricultural development of our country, if only there are small and scattered farmers equipped with the consciousness of strengthen quality and behavior of production safety can the quality and safety of agricultural products get effective solution.

I A REVIEW OF THE THEORY OF FARMERS' BEHAVIOR

Generally speaking, farmers have the dual roles of producers and consumers. The behavior of this paper focuses on the analysis of their behavior as a producer. When looking at the farmer's individual as a producer, the farmer's behavior can be defined as: "the farmer" s response to the input and output of the input and output, which corresponds to the change of the price of the agricultural products and the factors of production "[1]. Current theoretical research for the behavior of farmers has formed three more representative of the school, the Russian a Chayanov for representative school of organization of production, to the west of Okin Schulz representative of the school of Rational Peasant and Historical School of yellow Zong Zhiwei representative.

School of production organization that rely on the economic development of the farmers is their labour, and not hired labor; its products mainly to meet the demands of family self-sufficiency rather than the pursuit of profit maximization of the market; because farmers labor input not in the form of wages measurement. Because of this, the optimization behavior depending on the balance between

consumer satisfactions and work hard, rather than the profit and cost comparison.

Schultz, the Economics Prize winner T.W. Nobel, as the representative of the rational school, considered the behavior of farmers is rational, and its behavior tends to act in accordance with the principles of rational investors. In the "transformation of traditional agriculture", Schultz pointed out that farmers is equivalent to enterprises in the capitalist market economy, farmers are entrepreneurs, once the modern technology inputs can guarantee profits at the current price levels, farmers will not hesitate to become the pursuit of the most profits. From such a point of view, the rational thought is essentially the peasant household as the economic man who has the greatest benefit. Historical school representatives of Chinese sociologist Philip Huang in the analysis of the results of the two schools of thought that family farmers in very low marginal returns will continue to put in the work, the reason may be that farmer family did not owns the concept of marginal returns or the size of arable land of the peasant households are restricted so that family labor surplus too much, due to the lack of a good employment opportunity, the opportunity cost of labor is almost zero. He believes that the peasant is the pursuit of profit, but also the producers of maintaining the livelihood, there need to analyze the motivations and behaviors of peasant, it must combine the behavioral theory of the firm and the theory of consumer behavior, the former pursues the profit maximization, and the latter pursues the utility maximization.

The three theories in explaining the behavior of peasant household in China has its rationality, despite the formation of Huang Zongzhi theory of farming is

largely based on investigation of North China, but due to the before and after the reform and opening up to the outside world in different regions of China rural economy development level, farmer behavior also exist large differences. Therefore, the theory in explaining the behavior of farmers need to re-examine, but to be sure, these behavior patterns are product specific environmental factors has the rationality of the existence of views. According to such a view, we can consider the behavior of farmers is farmers in driven by profit maximization, according to its production conditions and objective and around the objective of natural, economic and social environment of production investment and technology adoption activities. That is to say, the farmer behavior is purposeful and rational, is to pursue the maximization of their own interests as the ultimate goal, but subject to their own subjective understanding ability, economic ability and its social and economic environment, the rationality of farmers is limited, from the farmers' perspective of rational behavior, in the eyes of others is likely to be irrational, or said is the rational behavior in the short term, in the long run has may be irrational.

II THE MAIN CHARACTERISTICS OF FARMERS' BEHAVIOR IN OUR COUNTRY AT PRESENT

According to the second national land survey, by the end of 2012, China's arable land area of 2.027 billion mu, [2] is only 1.50 mu of cultivated land per capita, less than the world average of 1/2, and this situation is increased with the increase of population and cultivated land resources dwindling and gradually increased, so that farmers produce curing in ultra small business status. At the same time, the policy and the average distribution of farmland allocation mechanism of cultivated land of finely, enable farmers contracted land is not only the size smaller and smaller, and more and more diversified, finely, which restricts the development of agricultural mechanization, hindering the formation of scale economy, which serious impact to the improvement of agricultural productivity. But in another ways, finely of arable land to farmers that diversity in different plots of land, so that they can basically meet the needs of families on agricultural products consumption. Farmland scale restriction and, therefore, the existence of diversity, enable farmers production is a production of subsistence and commercial production of mutual integration, namely the peasant household production of agricultural and sideline products, first of all, to be used to meet the needs of the family's own consumption, then the rest will be for sale, to meet the needs of the consumer society. In this process, the purchase of production and sales of agricultural products, farmers are ChanGuDuHu geared to the needs of the market, decentralized production, independent, and between production and marketing have randomness and chance, not form a fixed supply and demand relations

of cooperation. This ChanGuDuHu operators to farmers is lack of enough capital, technology, capture market information, are less able to withstand market risks and natural disasters, lack of necessary technical guidance in the process of agricultural production and product quality inspection, production operation management difficult to standardize, so as to make the low level of standardization of production, product quality is not easy to control, poor stability.

It is important to note that since China's reform and opening up, along with the development of market economy, the behavior of the farmers more and show the dual development tendency: on the one hand, as far as possible stable family basic subsistence production of agricultural products consumption, on the other hand, efforts to seek the rapid growth of the domestic currency income. Due to the low agricultural comparative benefits, farmers often no longer keen to increase agricultural investment, labor and capital investment focus to non-agricultural industries. This kind of situation determines the peasant household production behavior to the restriction of the agricultural income important degree. In general, the lower level of the development of farmers and non-agricultural income less important, strong, the greater the dependence of farmers on agricultural income, farmers will put more energy in agricultural production, to seek the optimal methods and techniques to engage in agricultural production. Degree is higher, on the other hand, the farmers development of agricultural income less as an important source of income, so the farmers don't want to spend more time and resources on agricultural activities, relative time save trouble of agricultural technology is a good alternative for labor, and therefore, in the agricultural production, farmers tend to use to save time, energy, money and efficient high toxic pesticide for prevention and control of plant diseases and insect pests, the use of chemical fertilizer to improve soil fertility and increase production. In real life, the farmland pastureland, QiGeng is more typical example.

The improvement of the level farmers development means the transfer of rural surplus labor force to the second and third industry, to improve the efficiency of agricultural labor force and the use of agricultural resources, it is of great significance to increase farmers' income; But must see, transfer of rural labor force to the second and third industry, is a relatively high cultural quality of the rural youths, with their transfer to non-agricultural industries, currently staying in the rural agricultural production mainly by some old people, children and women, because of the rural women and some engaged in agricultural production, the old man in the aspects of physical, cultural quality, make the cultivated land utilization and agricultural productivity can be effectively improved, the serious influence to the development of the agricultural scale and specialization, hindered the promotion of advanced

agricultural production technology and use, to a certain extent restricts the improvement of agricultural productivity, also affects the development of agricultural production safety.

III THE INFLUENCE FACTORS OF FARMERS SUPPLY OF AGRICULTURAL PRODUCTS SAFETY BEHAVIOR

From the point of safe agricultural production situation in China, certified pollution-free agricultural products, green food and organic food are agricultural production base as the carrier, or by a government or a company farmer cooperative economy organization behavior such as main drive, guiding farmers to the results of the scale, standardization and standardization production. Due to the agricultural production is a combination of natural reproduction and economic reproduction process, the production object is living animals and plants and microorganisms, the specific land, temperature, light, water, heat, gas and other environment and conditions for crop growth and development has an important influence, that is to say, are greatly influenced by the natural ecological environment of agricultural production, and compared with the industrial products, agricultural products production cycle is

long, production, processing, packaging, transport link is more, more quality and safety is not controllable factors. Therefore, by related parties to unite the peasant household production of similar products, the use of advanced applicable technology, unified quality standards, realize the scale operation, from the origin of environmental management, the investment of means of agricultural production, the production technology of the specification, the processing and packaging, storage transportation link control, the standardized management, is the main way of safety production in China at present. But is that the current social reality ChanGuDuHu small-scale peasant families to provide agricultural products is still the constitution of daily consumption between urban and rural areas in China. Therefore, small-scale peasant production form farmers to the supply of safe agricultural products for quality and safety of agricultural products in China is very important. But, as stated earlier, peasant household behavior is under certain economic and social environment of a productive investment choice, restricted by various factors, the supply of agricultural products safety behavior and the related influencing factors can be expressed in below [3].

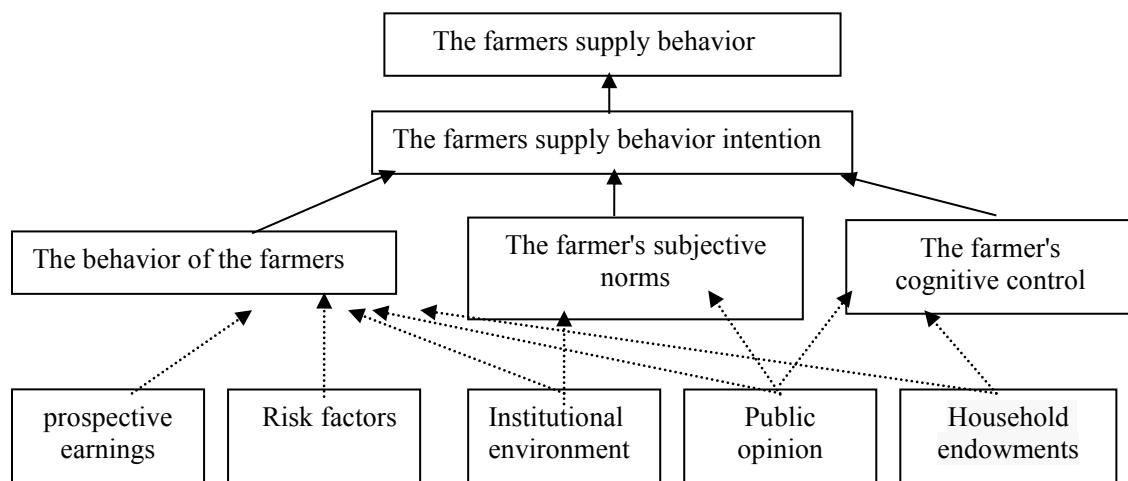


Figure 1. The influence factors of farmers supply of agricultural products safety behavior and mechanism of action.

Can be seen from the figure, the expected return, risk factors, the institutional environment, social public opinion and farmers endowment for farmers the farmers behavioral attitude, subjective norm, the control of farmers cognition, and then supply to farmers security behavior intention and supply behavior itself has an important influence. Among them, the expected return is farmers based on the price of the previous period of safe agricultural products and choose this period to provide a safe agricultural benefits, you will be able to access the high and low directly decides the willingness to peasants for safe agricultural production; Risk factors include natural risk, market risk and the risk of the

use of advanced production technology or methods, especially the safety of agricultural products market price risk for the choice of peasant household behavior has important influence; Institutional environment including related laws and regulations, the quality and safety of agricultural products quality supervision system and the corresponding ethical, etc., is a code of conduct for the peasant household behavior choice; Public opinion as an effective complement, the institutional environment for the peasant household behavior is also a kind of behavioral norms; Farmers endowment including farmers have all kinds of resources, education level, individual ability and social experience, and many

other aspects.

From the perspective of the influence factors of peasant household safety supply of agricultural products in recent years, as "pollution-free food action plan" to promote, in society have formed consumer food safety in a good atmosphere for public opinion, consumer health consciousness constantly improve, the wave of green consumption is gradually rise, residents of consumer preference is turning to safety and quality of agricultural products; On the other hand, with the development of the market economy and the deepening of rural reform, the majority of farmers thought idea, the consciousness of market, personal ability, etc have improved greatly, also begin to pay more attention to their own health and safety consciousness, and began to consider the self-sufficient agricultural products safety. Therefore, the main factors affecting the safety supply of agricultural products for farmers, one is a farmer expected returns of production safety of agricultural products, the other is the system environment, that is to say, the safety of agricultural products market price and the government regulation of markets for agricultural products for farmers supply behavior has the decisive influence of safe agricultural products. However, due to the lack of system of external constraints, and agricultural product quality internal incentives, the farmer's production behavior to maximize their own interests as the fundamental purpose: under the guidance of growth in the traditional concept, rely on increasing yield significant such as fertilizers and pesticides intensive input of means of agricultural production to improve agricultural production has become the inevitable choice of farmers. And in the interests of the driven, purchase and use highly toxic pesticide, feed in illegal additions such as hormones and growth promoters as well as the sales and production of pesticide residues in agricultural products seriously, for their own consumption and production of no pesticide pollution of agricultural products of the phenomenon is the reasonable explanation. Which further shows that the market information asymmetry and the lack of market of agricultural products effective supervision and management mechanism, is one of the important reasons of produce quality safety problems [4], which also determines, to improve the quality and safety of agricultural products, accelerate the construction of agricultural product market system and to strengthen the supervision and management of the agricultural production process is indispensable two conditions; And the emphasis and difficulty in currently lies in small-scale, decentralized small-scale peasant economy to achieve these two goals from all sorts of difficulties and obstacles. How to break through the difficulties and obstacles, becomes the current the key to improve the

quality and safety of agricultural products in China.

IV CONCLUSION

The level of quality and safety of agricultural products, directly related to the sustainable development of agriculture in our country, more related to the broad masses of the people's quality of life. In the small-scale peasant production pattern is difficult to change in a short time, must further strengthen agricultural production safety training and propaganda work, improve the farmer's production safety consciousness, and through the quality of agricultural products of incentive mechanism, leading producers to adopt advanced technology for production and safety of agricultural inputs; At the same time, by encouraging farmers to join intermediary organizations such as farmer cooperative economy organization to improve organizational degree, is beneficial to use all kinds of organization carrier to agricultural production, processing, circulation of omni-directional, the whole process of standardization management and control, strengthen the supervision and standardize the peasant household production, so as to make up for the government in the agricultural product quality safety management in the process of the low efficiency, reduce the social organizations in the increase of produce quality safety management cost [5]. In establishing a perfect organization of supervision and management mechanism, on the basis of the government will also create a good external environment, especially to push and ensure the smooth operation of the "law of produce quality safety" implement, change the way of promoting agricultural production, optimization of the agricultural production behavior of peasant household, achieve the purpose of the steady rise of the quality and safety of agricultural products.

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Logical Structure of Enterprise Human Resource Ecosystem Based On Self-Organization Theory

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Abstract: Enterprise human resource ecosystem (EHRE) consist of different complex Structures with multifunction and deal with several types of organizational requests. The research about logical structure of EHRE is the basis of understanding EHRE, which can provide theoretical guidelines for enterprise managers. The objective of this study is to identify logical structures in terms of EHRE from the perspective of self-organization. This paper define the concept of enterprise human resources based on summary of researching of human resource instructed by ecosystem method. To enable a scientific proof of the self-organization of EHRE, the system openness, Equilibrium State, nonlinear function and fluctuation mechanism are proved as inherent mechanisms in EHRE. On this basis, the pattern with logical structure of EHRE is put forward and elaborated, which provides theoretical supports understanding enterprise human resource structure deeply to make HR decisions for enterprise managers to adjust the structure of human resources more reasonable.

Keywords: Enterprise Human Resource Ecosystem (EHRE), Self-organization theory characteristics, Logical structure, complexity

I. INTRODUCTION

At the beginning of twentieth Century, for the first time A.G.Tansley, a famous British botanist, explicitly put forward the concept of ecological system. In 1942, Linderman, a scholar at the Yale University, found a quantitative relationship between trophic levels on the basis of previous researches, which is the basis of ecosystem [1,2]. Then the research of this field is flourishing, which has been extended from the macro fields such as society, politics, regional economy and so on to micro fields such as enterprises and non-profit organizations [3-5]. Enterprise human resources system (EHRS)is a part of the social ecosystem, which also has became a hot research in recent years [6].

It is no denying that there are still a lot of problems in the research of EHRE. Some scholars clearly proposed the concept of EHRE [7], but they put too much emphasis on the whole function of the system, ignoring the basis and ultimate objective of EHRE. There is little research on the structure of EHRE and has not yet formed an authoritative system structure model. what's more, mature guidance theories in the process of studying EHRE are not very many, which only analyzes it from a macroscopic view. Lastly, the premise of the study is not explained in detail, it is clear that the use of system theory is required to meet certain conditions. And we know that the concept is the premise of research, structure is the basis for understanding the formation of things, so the

research on the concept and structure of EHRE has theoretical and practical significance.

To sum up, this paper has three major contents. The one part defines the connotation and extension of EHRE, which makes up for the lack of existing concepts; The two part illustrates the scientific rationality of using the self-organization theory; The three part analyzes the logic structure of EHRE, injecting fresh blood into the existing theories.

II. THE CONCEPT OF EHRE

Ruediger G.Klimecki, a professor of the Konstanz University, clearly put forward the concept of human resource ecosystem which enriches the research of human resources and the ecological system [8]. Chen Tianxiang, the Professor of Sun Yat-sen University, considered that the human resource ecosystem (HRE) is a system of dynamic development, which is the unity of human resources and society and nature [9].

The definition of human resource ecosystem is mainly divided into macro level and micro level. In the macroscopic view, the human resource ecosystem is an organic system with special structure and function generated by the collaborative symbiosis of human resources internal and external environment [10-13]. In the microscopic view, some experts think it can form a mutually connected and influenced interdependent system by transferring information, exchanging energy and sharing the results between

internal organization members and the organization departments at a given organization and time [14-17]. Scholars emphasize the whole feature of the EHRS too much in the process of defining the concept of EHRS no matter in macro level or micro level, ignoring micro-and meso-environment of the human resource, which lead to the lack of the subject character and integrity. The main body of EHRE is enterprise human resource system and its ecological environment is divided into micro environment, medium environment and macro environment. Micro environment mainly refers to restrict environment of internal staff, including enterprise system, enterprise culture, organizational structure and so on. The medium environment mainly refers to the ecological environment which is formed by the organization which is closely related to human resources, including external competitive relationship, cooperative relationship, external customer relations and industry status. Macro environment is mainly the social environment, including social culture, social economic system, economic development level, scientific and technological level, the value of the community, the degree of internationalization, etc.

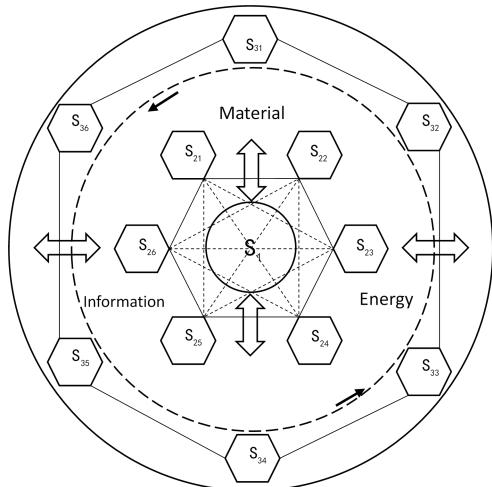


Figure 1. Enterprise human resource ecosystem.

In this paper, the EHRE is defined as: in the specific social ecosystem environment, micro enterprise human resources system is the main body of system which transfers material, information and energy between medium environment and macro environment progressively, finally it forms a dynamic adaptive system with ecological structure and function meeting the business objectives and values in accordance with the three levels of the interaction, which conforming a pattern of self-organization. Figure 1 is the composition of the EHRE, Set S1 is the micro environment of enterprise human resource ecosystem. Set S2={S21,S22,S23,S24,S25,S26}, which refers to meso-environment of EHRE; Set S3={S31,S32,S33,S34,S35, S36}, which refers to macro-environment of EHRE.

III. INTRODUCTION OF SELF-ORGANIZATION THEORY

In the 1960s, Prigogine proposed dissipative structure, which marks the formation of self-organization theory [18]. According to the system theory and the viewpoint of thermodynamics, self-organization refers to a process which is a system transfers material, energy and information through outside so as to reduce its entropy and can spontaneously complete a systematic evolution from disorder to order and from simple structure to complex structure, and constantly improve their own stability and self-adaptation [19]. The studied objects of self-organization theory are complex self-organizing systems and the main contents of the research are how the system turn from disorder to order and from lower order to higher order. This idea has not only been an empirical and successful application in the field of physics and chemistry, but also verified in biology and sociology [20]. And self-organization theory has been widely used in the social system reform and evolution to certify the close relationship between system and self-organization, which provides a theoretical basis and methodology to reveal the constitution mechanism of EHRE.

It is obvious that introducing the self-organization theory to research enterprise human resource ecosystem is of great significance. Self-organization theory is a kind of research methodology, which has been verified by natural science. The extensional application of this theory from natural science to social science is a form of self-organization itself [21]; It is known that self-organized system is widely existed in the social system. The EHRE is a complex and huge system, which is a subsystem of the social system and has the general systematic characteristics and has a close relationship with self-organization. Therefore, the structure and function of the system based on self-organization theory can be achieved through analyzing internal characteristics of the system.

IV. SELF-ORGANIZATION CHARACTERISTICS OF ENTERPRISE HUMAN RESOURCE ECOSYSTEM

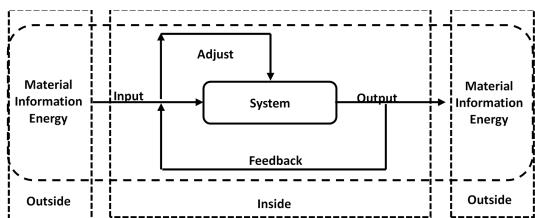
A. Openness of Enterprise Human Resource Ecosystem

Openness is the inherent law of objects, and it is also one of the basic features of the contemporary society [22]. Obviously, the EHRE has open system characteristics. From the point of view of entropy, the entropy value of the EHRE is divided into two parts---the internal positive entropy EHRE producing and external negative entropy inputting to the system. According to the balance principle of entropy, when the absolute value of the negative entropy introduced to the system is greater than the positive entropy, the

system will become more and more orderly, turning from lower order to higher one eventually, for this reason the open system is the basic premise of system upgrading. If the EHRE wants to maintain an orderly development, it must reduce the positive entropy generated by the internal non-reversible process. The openness of the system makes external material, energy and information exchanged. Meanwhile, the feedback loops make internal positive entropy and external negative entropy offset constantly, which also determines the inevitability of EHRE opening.

Figure 2. The basic form of the openness of EHRE.

As shown in Figure 2, the openness of the



enterprise human resources ecosystem is composed of four parts: input, output, feedback and adjustment. Input and output is the basic condition of the openness of the system, the interaction and influence between the systems or subsystems are based on these two aspects. Feedback is part of the system to maintain a dynamics orderly, the system would normally be the output of the feedback to the input, according to the targets of system or subsystem, system can adjust input and output, which achieves the needs of survive and development of the system. Input, output, feedback and regulation just form a feedback loop, through which EHRE can exchange material, energy and information from external system to reduce the entropy.

B. Enterprise Human Resource Ecosystem is Far From Equilibrium State

Far-from equilibrium is the basic condition for the system producing a new order [23]. According to the viewpoint of the theory of dissipative structure, producing new system structures and functions require system be in far from equilibrium state, it means that when EHRE is far away from the equilibrium, the enterprises need to transform rather than return to the original balance state [24]. When the opening enterprise human resource ecosystem is under non-equilibrium state, transformation is a process of phase transition caused by the disturbance classified as external disturbances and internal perturbations. In the EHRE, Perturbations is usually caused by the politics, economy, culture, institution and other; Internal disturbance is an effect caused by the system internal change, usually including enterprise strategy,

enterprise culture, enterprise development stage, human resources system. The system gradually can be away from the equilibrium state under these disturbance factors, when the entropy of the system reaches a certain value, the system will be broken or produce new dissipative structure [25].

From the development point of view analysis, therefore, the EHRE develop based on self-organization for a certain economic purpose, its most basic purpose is to survive in the complicated and changeable environment, so it must be constantly adjusted its structure and function to adapt to external environment, and changes in structures and functions require EHRE to be far from equilibrium, so that the system can survive. In summary, from the perspective of the system or from the perspective of development, far-from equilibrium state is the inherent state of development of EHRE.

C. Nonlinear Function of Human Resource Ecosystem in Enterprises

Open conditions and far from equilibrium conditions are not sufficient to drive the system to self-organization, because self-organizing systems must be nonlinear system, only the nonlinear system can evolve into a dissipative structure [26]. Enterprise human resources ecosystem is an organic system constituted by the enterprise human resources, enterprise culture, enterprise organization structure and enterprise system, there are very different individuals which are composed of material, energy and information interacting each other to form an organic entity, and it was clear that this entity is in line with the conditions of nonlinear. The nonlinear function of enterprise human resources ecosystem includes not only the interaction of internal factors, but also the interaction between external factors and the internal factors. The nonlinear interaction between the various elements of the enterprise human resource ecosystem makes the synergy and coherence effect among the elements, which can promote the gradual evolution of the system.

D. Fluctuation Leads to Order

Fluctuation is the "seed" of dissipative structure, which refers to a phenomenon of the system parameter fluctuates in a numerical value, it is the original driving force forming orderly structure [27]. EHRE have a large number of fluctuations inside system, such as the change of quantity of enterprise human resources, corporate culture will change along with the time changed. Organization structure of enterprises will adjust with strategic changed. Therefore the EHRE is always accompanied by fluctuations.

In short, the EHRE exchange material, energy and information with the outside world under the open

conditions, when the system is far from equilibrium, the fluctuation usually will be enlarged to form huge fluctuation, at the moment, the system will turn from disorder into order by self- organizing, or from single ordered structure into a complex ordered structure. Enterprise human resources ecosystem based on the meso-perspective, which study the rule of the interaction between EHRE and the environment system in a certain period of time, therefore its basic elements and the core of research are the elements of enterprise human resources.

V. AN ANALYSIS OF THE LOGICAL STRUCTURE OF THE ENTERPRISE HUMAN RESOURCE ECOSYSTEM

We view the EHRE as "orderly development" system. Orderly development is the own evolution of self-organization, and the "orderly development" refers to the order of the system's logical structure leading to the order of the system function. So we can simulate and analyze the logical structure of the EHRE in order to understand the whole system model.

System model, also known as the theoretical model, it is a reality of an explanation, can also be said to be a reality of the simulation or projection. This simulation or projection cannot fully show the reality, so it must be simplified, that is to say when the reality has become the model, the content will be more concise. So we should summarize the logical structure of EHRE with the most concise language. I think that the logical structure of self-organization of the EHRE can be summarized as follows:

1) Basic supporting system. In terms of social and biological significance, the enterprise staff is a social organism. If employees want to survive in the system, they must have necessary material, energy and space as the basis. If the basic guarantee is not met, there is no enterprise human resource ecosystem. The core goal of the EHRE is the survival and development of the system, which is the guarantee of human development. Therefore, the "basic supporting system" is logical starting point of the EHRE.

2) Input and output system. Any subsystem of EHRE will input and output material, energy and information, this is the foundation of the system producing connections, and also the basis of system moving to the self-organization. If there is no input and output in system, the entire EHRE will become "dead". At this moment, the system is unable to produce the force, but also cannot produce synergy no matter inside or outside, the result is that the system will eventually die.

3) Control system. When the EHRE in the vicinity of the equilibrium state disturbed by internal and external linear perturbation, control system can ensure the stability of enterprise human resource ecosystem

at a certain stage; When the EHRE is far away from the equilibrium state, the control system will make the system to adapt to the new environment. If there is no "control system", the EHRE will develop immensely until beyond the scope of the environment and the system will collapse.

4) Corporate culture system. This is the essential difference between the enterprise human resource ecosystem and nature. An enterprise is an organism which composed of human beings. Human beings are individuals dominated by subjective consciousness, the people will turn all objective existence into the subjective image in the minds. Human beings will produce individual preferences through thinking, mapping to the enterprise which becomes the enterprise culture system, we call it "the spirit of the system".

5) External environment system. Because of the high openness of the enterprise human resource ecosystem, it is not impossible to be influenced by the outside system, whether it is social system or not. As a result, the social system and natural system outside the system constitute the enterprise human resource ecosystem in the specific area. I divides the external environment system of EHRE into four parts, including social economic system, social institutional systems, social culture system and regional natural system.

To sum up, the logical structure of self-organization of the EHRE is expressed by the physical model as shown in figure 3.

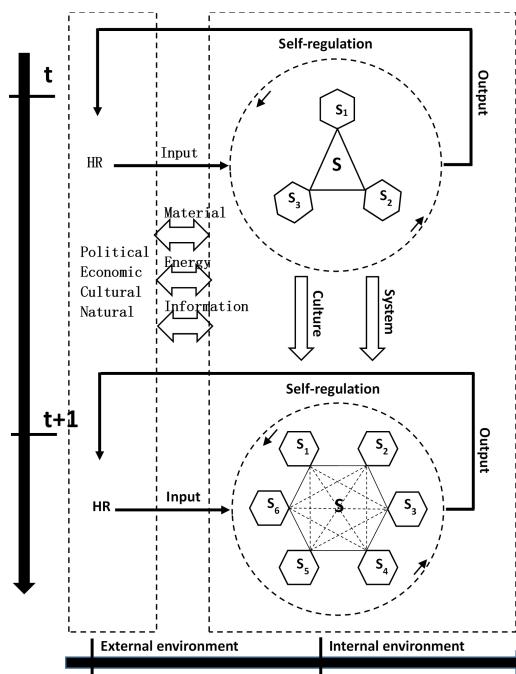


Figure 3. The logical structure of self-organization of the EHRE.

This graph shows that EHRE how to adjust and renew by itself. At t time, EHRE is in the lower state, and human resource carry material, energy and information into the EHRE, the system is in a lower stable structure through its regulation; from time t to t + 1 time, system should not regulate, but change and need new structure to make the EHRE stability, the system move to higher levels of stable structure through non equilibrium fluctuation mechanism.

VI. CONCLUSIONS

Researching the ecological system of enterprise human resources based on self-organization can present the artificial ecosystem constituted by enterprise human resources and related environment, which is an extension of the human society. It is known that the self-organization is inherent nature of the EHRE, Therefore the self-organization structure of EHRE is the basis of studying enterprise human resource ecosystem. On this basis, the pattern with logical structure of EHER is put forward and elaborated, which provides theoretical supports understanding enterprise human resource structure deeply to make HR decisions for enterprise managers to adjust the structure of human resources more reasonable. Eventually, the EHRE can adapt to the external environment dynamically and evolve constantly ensuring its sustainable development.

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Coupling Mechanism between Financial Innovation Process and Financial Innovation Environment

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Abstract: The financial innovation and its environment are both complicated nonlinear systems. Classic research methods are difficult to give financial innovation a reasonable elaboration on the question about the self-adaptive feature and the relationship with environment, so coupling mechanism will provide a new direction. This paper introduces the principle of coupling situation model and this model is used to study the method of interactive coupling mechanism. According to this method, authors analyze the development trend of interactive coupling between financial innovation and innovation environment and their state pattern rules. At last its trend path and development mode has been analyzed.

Keywords: Financial innovation process, innovation environment, coupling mechanism

I. INTRODUCTION

Making a general observation of economy developing history, we can find that financial innovation appears on a certain stage of development of economy, and evolves in the process of development of economy. The evolution trend of financial innovation is as follows: under the underdeveloped economic background, the financial innovation is simple, while under the developed economic background, the financial innovation is complicated. That is to say, financial innovation evolves with the change of economic environment. The analysis of financial innovation in the new classical economic is usually under the framework of static equilibrium and focused on the motivation and effect of the innovation. But, the traditional method cannot give a reasonable elaboration on the question about the self-adaptive feature and relationship with environment. Also, it cannot help with the effective explanation on the internal mechanism of financial innovation and the interaction between the behavioral agent and environments. The traditional analysis cannot guide the practice of financial innovation. Therefore, we must take it as a complex large system from the perspective of systematic and evolutionary.

II. THEORETICAL ANALYSIS ON THE RELATIONSHIP BETWEEN TWO SUBSYSTEMS

There is the coupling relationship between financial innovation process system and environment system, which is embodied by the complex interactive stress and constraint mechanism between them. The intensified efforts on development of financial

innovation will form a stress effect on innovation environment. For instance, financial institutions will keep producing new products and services, which makes financial disintermediation becomes more and more severe, to benefit from the loopholes of regulations and laws so that the problems of the macroeconomic regulation and control policy failure are appeared. In this circumstance, subject bodies in the environment will take measures to respond these problems caused by innovation. This action will improve the environment situation. In addition, the change of external innovation environment also bring motivation to the patterns shifting of financial innovation, which is embodied in that the innovation process should meet the new regulations and laws, and cater to the new market demands, such as the development of Internet technology and etc.

Coupling situation refers to the objective characterization of interactive stress and interdependence relationship among systems or system elements. From the perspective of synergetics, we can see what determines which kind of order and structure system will trend to in a critical region is the coupling effect and coupling degree. That is to say, the coupling degree determines the trend of the system from disorder to order. Therefore, coupling situation characterized, in a certain extent, the system's the trend of high-level and the sustainable development. Through the evaluation and analysis of the coupling situation it cannot only focus on system's coupling degree, but also make objective analysis and judgment to influence of the sustainable and coordinated development of the system.

III. THE CALCULATING MODEL OF THE COUPLING DEGREE

Under the premise of understanding the interactive coupling relationship between financial innovation process and financial innovation environment, interactive coupling system dynamic equilibrium model has been established through the idea of system evolution in the general system theory to analyze the status of the whole system consisting of financial innovation process and financial innovation environment.

The two subsystems are both nonlinear systems whose evolution equations are as following:

$$dx(t)/dt = f(x_1, x_2, \dots, x_n), i=1, 2, \dots, n \quad (1)$$

(x_1, x_2, \dots, x_n) is the nonlinear function of x_i . $f(x_1, x_2, \dots, x_n)$ is expanded at $x=0$ based on the Taylor series.

$$f(x_1, x_2, \dots, x_n) = f(0) + a_1 x_1 + a_2 x_2 + \dots + a_n x_n + \theta(x_1, x_2, \dots, x_n) \quad (2)$$

Denote: $f(0)=0$ is obtained based on the Taylor series; a_i is the partial derivative values of $f(x_1, x_2, \dots, x_n)$ whose partial derivative with respect to x_i at $x=0$; $\theta(x_1, x_2, \dots, x_n)$ is equal to or more than a quadratic analytical function.

According to Lyapunov Theorem of First Approximation, $\theta(x_1, x_2, \dots, x_n)$ in function (2) is omitted to ensure the stability of system. The function (3) which is the approximate linear system is obtained to discuss the character of function (1).

$$dx(t)/dt = \sum_{i=1}^n a_i x_i, i=1, 2, \dots, n \quad (3)$$

The general functions of the system of financial innovation process and financial innovation environment are established according to above method.

$$f(P) = \sum_{i=1}^n a_i x_i, i=1, 2, \dots, n \quad (4)$$

$$f(E) = \sum_{i=1}^n b_i y_i, i=1, 2, \dots, n \quad (5)$$

Denoted: x_i, y_i are the index of financial innovation process system and financial innovation environment system respectively; a_i, b_i are the weights of each index.

There are only two elements of $f(P)$ and $f(E)$ in the whole system. According to the Bertalanffy Theorem of General System, $f(P)$ and $f(E)$ are the main parts of the whole system, so the form of the system evolving function is:

$$\begin{cases} A = df(P)/dt = \alpha_1 f(P) + \alpha_2 f(E) \\ B = df(E)/dt = \beta_1 f(P) + \beta_2 f(E) \end{cases} \quad (6)$$

The evolvements of financial innovation process system and financial innovation environment system under the affection of themselves and external environment are denoted respectively by A, B . the interactive affection between A and B can be seen from function (6). It means that any subsystem's changes will cause changes of the whole system. Under the effect of themselves and external environment, the evolvement velocities of two subsystems are respectively:

$$\begin{aligned} V_A &= dA/dt \\ V_B &= dB/dt \end{aligned} \quad (7)$$

What can be seen from the above function is that there are only two affected elements of $f(P)$ and $f(E)$ in the whole system. So when they intercoordinate, the whole system also develops coordinately. The evolvement velocity of interaction coupling system between financial innovation process and financial innovation environment can be seen as the function of V_A and V_B , namely $V = f(V_A, V_B)$. In this circumstance, V_A and V_B can be seen as control variates. The coordinative relation between the whole system and $f(P)$ & $f(E)$ will be studied by analyzing the changes of V .

Solid lines: system reality evolution process;
Dotted line: the theory of system evolution

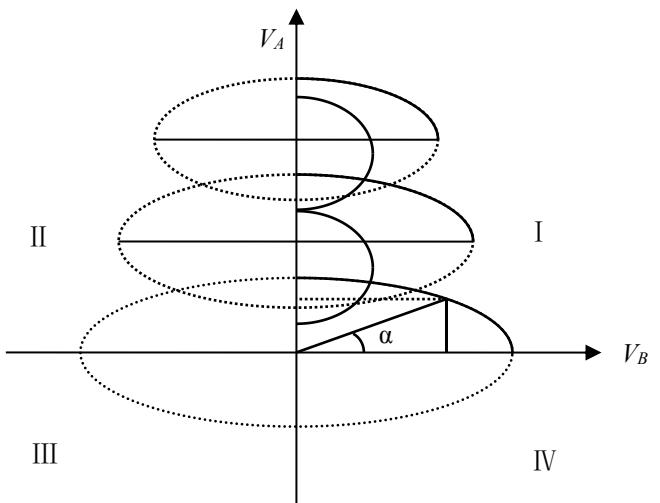


Figure 1. Example of a figure caption.

The evolvement mechanism of interaction coupling system between financial innovation process and financial innovation environment meets the type N development mechanism of combination. Assume that the changes of financial innovation process is periodical, the stress and promotion of financial innovation environment affected by financial innovation process is also periodical. In each cycle, the changes of V depend on V_A and V_B . A simple

model of V can be established by above analysis. In the two dimensional plane (V_A, V_B), the change track of V is an oval shape. As shown in figure 1. The angle α between V_A and V_B meets the condition:

$$\operatorname{tg} \alpha = V_A / V_B \quad (8)$$

So the coupling degree is as following:

$$\alpha = \arctan(V_A / V_B) \quad (9)$$

IV. ANALYSIS ON THE COUPLING DEGREE OF COUPLING SITUATION

The 2D plane is drawn on to illustrate the coupling degree. As shown in figure 2.

$270^\circ < \alpha < 0^\circ$, means α falls into quadrant IV. The development of two subsystems is in a low level coordinative stage. During this period, the development of financial innovation is relatively weak, while the capacity of environment is relatively strong. Financial innovation will not much affect financial innovation environment, and that means the environment is able to carry and digest the influence of financial innovation. At this time, the restraint effect from environment is little and as well as the stress effect from financial innovation.

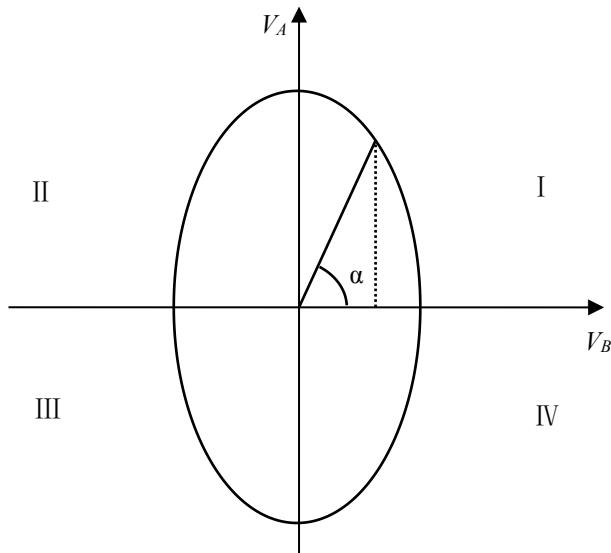


Figure 2. The interactive coupling relationship between two subsystems

$0^\circ < \alpha < 90^\circ$, means α falls into quadrant I. The stress role of the fast development of financial innovation playing in environment gradually appears, while the innovation environment has an opposite effect on the financial innovation. the contradiction between two subsystems become visible but not striking. This quadrant can be subdivided into three situations. $45^\circ < \alpha < 90^\circ$, $\operatorname{tg} \alpha > 1$, $V_A > V_B$, two subsystems begin interacting and develop mutually to

access to the running-in stage; $\alpha=45^\circ$, $\operatorname{tg} \alpha=1$, $V_A=V_B$, it's steady developing stage; $0^\circ < \alpha < 45^\circ$, $\operatorname{tg} \alpha < 1$, $V_A < V_B$, to satisfy the need of financial innovation's development, evolving velocity of environment exceed that of financial innovation. Two subsystems begin coupling healthily, and it is improving stage.

$90^\circ < \alpha < 180^\circ$, means α falls into quadrant II. It is the middle rapid developing stage of financial innovation. The high speed is increasingly challenging exiting environment so that the contradiction between them is more and more intensified. The largest threshold of environment pressure is reached. This period is antagonism stage.

$180^\circ < \alpha < 270^\circ$, means α falls into quadrant III. A spiral type up is shown in this stage. The stress interaction has been broken to rebuild a new relationship which is improving each other so that the whole system reaches a highly coordinative stage.

This paper introduces the principle of coupling situation model and this model is used to study the method of interactive coupling mechanism. According to this method, authors analyze the development trend of interactive coupling between financial innovation and innovation environment and their state pattern rules. At last its trend path and development mode has been analyzed.

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Follower Motivation: Review and Prospect

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Abstract: Followership is becoming the focus and hot issue in contemporary management research. Along with the research came the question of follower motivation: Why do people follow? Discussions on the issue mainly evolved around the four categories of individual need, leader influence, obedience to authority, and adaptation to environment. Different typologies were used to group these motivations, and a measurement scale was developed. Future research should shift from the surface motivation study of following to deep psychological understanding of follower motivation. More efforts should be exerted to develop and improve a measurement tool with good reliability and validity. Antecedents and outcomes should also be incorporated to the research.

Keywords: followership, leadership, following, follower, motivation

I. INTRODUCTION

For a long time, leaders and leaders have been the focus and hotspot of academic research and enterprise management. Relative to the leader, the followers are less concerned. With the tremendous changes in the environment of the enterprise and the advent of the knowledge economy and the information age, the power distance between leaders and followers is gradually being flattened(Brown,2003).People began to rethink the role of leaders and followers in the development of the enterprise, and agreed that the effectiveness of leaders more and more dependent on followers(Lu Zhengbao et al.,2009).Yuan Tao and Ling Wenchi(2010)further proposed to follow the behavior of subordinates as research leadership effectiveness and organizational effectiveness of a new perspective. Specialized studies of followers and follow behavior began.

With the deepening of research, the question of following motives has become a topic that is often discussed in the study(Wang Xu,2011).This phenomenon is often seen in organizations: The same leaders treat subordinates in the same way, some subordinates become followers, while others leave the organization; The same employee is a follower in an organization, but not a follower after another organization. The researchers tried to find out why follow generated, untie the above confusion.

Whether it is for leaders or followers, it is vital to understand the chasing motives. Managers understand these motivations and can design an organizational

environment that can attract, nurture, retain followers(Kelley,2004).Those leaders who understand the motivations of subordinates can respond better to these motivations to meet the needs of followers, thus avoiding the loss of followers, ensuring the proper conduct of leadership and the orderly development of organizational development.

In this paper, the relevant literature are sorted out to find out the discussion of the follower motivations, re-summarize and summarize, try to explain what the follow motive is, and analyze the source of the follow motive, and combine it with the existing motive theory to classify the motive. It is expected to provide a path for future follow-up motivation scale development. Unraveling, layer to promote, hoping to provide a path for the future following the motive scale development. In this paper, four sources can be used as the four dimensions of chasing the motive measure, while the two types are two second-order factors that follow the motive. The development of scale will promote quantitative research of follower motivation, and follow the theoretical system of study will also be enriched and enriched.

II. THE DEFINITION AND SOURCE OF FOLLOWER MOTIVATION

There is no definition of authority in the existing literature. According to the research demand, some scholars define the follower motivation as "A psychological activity that produced by an individual and pointed to the leader, which makes the individual to produce the follow behavior, and maintain and

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adjust the direction and intensity of the follow behavior"(Yuan Tao,2011).The definition points to the nature of the motive(which is a mental activity),but does not distinguish the motive from the general behavioral motive.

This paper argues that follow motives contains two concepts, one that is follows(Xu Sheng, Cao Yuankun,2012)and the other is motive. By combining the two, we can get the definition of follower motivation. Therefore, this article defines the follower motivation as the psychological process of follow behavior that causes and maintains the individual to take the leader as the point, to meet their own needs or by external factors. The nature and intensity of the chase motive determines the style and effect of the follower behavior.

Follow behavior is a special activity in the workplace, both closely related to the general work behavior, but also with the conventional work behavior is different. Based on the domestic and foreign research literatures, the sources of follower motivation can be summed up as individual demand, charisma, obedience to authority and environment adaptation(see Table 1).

The following subjects and objects are followers and leaders. Existing follow-up research and leadership research are involved in varying degrees of follow-up motivation. Two types of research focus on different objects, triggering the individual demand theory and the leadership charismatic theory of follower motivation.

A. Individual Demand Theory

Individual needs include both material and spiritual needs. In the existing literature, there is no discussion of the two. A follower-centered follow-up study argues that chasing motives is generated by the followers themselves. Follow is the spontaneous behavior of individual, and its power comes from the commitment to common goals and self-worth(Chaleff,1995).

Kelley(1988)suggests two sources of follower motivation:(1)from satisfaction, through process reengineering, product improvement, service promotion or help personal growth to obtain;(2)from the cause of mind, hope to win the trust of their superiors and colleagues to be promoted, and on this basis, put forward seven follow the path(Kelley,1992). Maroonsis(2008)gives a further explanation of the disciple path. He argues that disciple followers need leadership like teachers to lead them to perceive the surroundings,teach them the skills to complete their tasks, and work together with leaders to achieve common goals. So,follow is learning.

Careful analysis, seven follow the path of the motive source can do further distinction. From the perspective of individual needs, without considering the influence of charismatic leadership, the motivation of Comrade, Dreamer and Life way followers stems from individual needs. The Apprentice and the Mentee followers regard leadership as an example emphasize the positive influence of leadership on individuals, and their motivation should belong to the charisma of leadership; while the Loyalist and Disciple followers will follow as an obligation, not to question the leadership authority, so that the source of their motives can be classified into obedience to authority.

From argues that freedom of choice and uncertainty is anxious and helpless, and people always want to have authority to give them commands and instructions to reduce this sense of anxiety and helplessness, resulting in leadership and follow (Liu Linhai, 2007).Shamir (2004) proposes the follower motivation types that based on interest exchange and security requirements, and also focuses on individual needs. Padilla et al. (2007) found that vulnerable followers had lower maturity and unsatisfied needs in destructive leadership research, and leaders provided a sense of belonging to these followers, so they were willing to follow leadership. Lipman Blumen (2006) argues that in order to avoid anxiety and fear of the environment, followers will even follow destructive leadership to seek protection and gain a sense of security.

Table 1. The source of follower motivation.

Sources of motivation	Source Description	The author
individual demands	The follower study, which regards the followers as the center, thinks that the follow motive comes from the followers themselves. In order to meet the material needs and spiritual needs, individuals will choose to follow.	Kelley(1998 ,1992);Maro onsis(2008); Chaleff(199 5);Shamir(2 004);Padilla ;Hogan&Ka iser(2007);L ipman-Blumen(200 6);Kellerman(2008)
L leadership charisma	Research on leadership with follower as the center and research on follower with leader as the center generally accepted that followers' follower motivation comes from the leader rather than the follower. Encouraging subordinates is one of the leaders' job responsibilities. In addition,	Vecchio(19 97);Glibert &Albert(19 98);Yukl(19 98);Manners &Zimmer(1 982);Green(

Sources of motivation	Source Description	The author
	the individual will be followed because of the leader's charm, consistent with the leader's values and matching the leadership personality.	2000);Ehrhart&Klein(2001); Padilla et al(2007); Gardner(2005); Bjugstad et al(2006); Kark&Van Dijk(2007)
obedience to authority	Individual recognition of the leadership authority or under pressure of the leadership authority, in order to seek rewards or avoid punishment, so that to follow the leader.	Zimbardo(1971); Milgram(1974); Kelley(1992); Shamir(2004); Kellerman(2008)
Environmental adaptation	The individual who has poor ability and at the bottom of the pecking order is no choice but to follow, only by working with leaders to obtain protection and access to resources.	Van Vugt et al(2006)

B. Leadership Charisma Theory

Research on leadership with follower as the center and research on follower with leader as the center generally accepted that followers' follower motivation comes from the leader rather than the follower.

They argue that it is the responsibility of a leader to raise motivation to motivate subordinates (Vecchio, 1997).It is natural that a leader inspires subordinates, and whether or not subordinates generate follower motivation is an important measure indicator for a leader's ability to lead. Some scholars have found the phenomenon of "similar attraction" in the preference of superior to lower levels (Ehrhart&Klein, 2001).When followers and leaders have a common self-concept and emotional attachment, it is more likely to follow (Padilla et al., 2007).When followers and leaders are in harmony with each other, they will work better, and consistent values will achieve commonality. By replicating their values, identities, emotions, and goals effectively to their followers, leaders can increase the likelihood of subordinates producing true chasing forces (Gardner,2005).This is because when the individual and the leader have the same or similar values, in order to enhance self-

perceived ability, potential and self-esteem, the individual will choose to follow the leadership; Or in another case, individual is afraid of chaos, and when perceived leader can explain the chaos and offer him meaning of existence, he will choose to follow(Shamir,2004).The traditional "path-goal" theory also believes that the generation of follower motivation depends on the relationship between followers and leaders, when the followers are in line with the leader personality, it is easy to follow(Wang,Li,2010).Kelley(1992)proposed apprenticeship and lead followers to take leadership as an example, emphasizing the positive impact of leadership on the individual, the motivation is derived from the leadership charm.

Situational leadership theory argues that the most effective leadership behavior depends on subordinates' abilities and motivations, and that leaders can compensate for subordinates' lack of capacity and motivation. If subordinates have the ability but are not willing to work, managers need to use supportive and participatory leadership style to motivate subordinates. The theoretical model of leadership and chasing motivations constructed by integrating self-regulation theory and self-concept-based leadership theory suggests that leaders can inspire follower motivation of followers by focusing on the situational adjust of the follower(Kark&Van Dijk,2007).And only the intrinsic motivation of followers fully aroused, in order to improve the performance of followers. Transactional leadership enhances followers' compliance with leadership and organizational regulations by exchanging activities with followers (Yukl, 1998).In addition, the way to improve followers' motives includes understanding subordinates and giving him more freedom (Steger et al., 1982).When the followers have no confidence in their work, they can help the followers improve their abilities by relieving their expectations and training to reactivate motives. When the followers have no confidence in their work, we can help the followers improve their abilities by relieving their expectations and training to reactivate motives. When the followers are dissatisfied with the outcome of their work, consider whether the pay is reasonable and whether the position matches the individual's ability (Bjugstad, et al., 2006).

Organizational behavior is inseparable from the situation, so the follower motivation is also affected by the situation factors. The research of follower motivation is mainly focus on two aspects: obedience of authority and adaptation of environment.

C. Obedience to Authority Theory

The Stanford prison experiment (Zimbardo, 1971) and obedience experiments (Milgram, 1974)

simulated the process of obedience through experiments and explained the nature of individual obedience to authority to a certain extent. Later scholars repeated the above two experiments at different times and places for different objects, and all of them obtained surprising consistent results.

The prison experiment was conducted by psychologist Philip Zimbardo at Stanford University in 1971. Professor Zimbardo converted the basement of Psychology Department of the Stanford University into a prison and spent \$15 a day for students to participate in the experiment. Students who participated in the experiment had to pass a test to prove they are "mental health, no disease and normal". In all of the 70 applicants, 24 passed the test, and were divided into two groups, one group as the guards, the other group disguised as a prisoner. Everything in the study is the same as the real prison.

At the beginning of the experiment, there was not much difference between the students assigned to prison guards and the students who were assigned to be prisoners. But it didn't take long for the prisoner to admit the authority of the guards. After the initial rebellion was suppressed, the "prisoners" were under great pressure both mentally and physically. They were on the verge of collapse and gradually showed passivity, dependence, repression, helplessness, and self abasement. The "prison guard" is increasingly showing authority, abusing "prisoners" with insults and threats, such as stripping "prisoners" clothes, cancel the "prisoners" eating, depriving the "prisoners" sleep and so on. The experiment was planned for fourteen days, but the "prisoner" was hurt, and the experiment ended on the seventh day.

The obedience experiment was conducted by Stanley Gram, a social psychologist, in a basement at the old campus of Yale University in 1961. The basement had two walled rooms, and 40 volunteers were enrolled in the experiment. Participants range from 20 to 50 years old, including a variety of occupations and educational background.

The experiment consists of a main test (authority), an experimental conspirator who plays the student, and a teacher who acted as a participant. The main test shows that this is a study of learning and memory, the purpose is to understand the effect of corporal punishment on the learning effect. A group of two is required, with a lottery way to decide who is the teacher and who is the student. As a result of the prior arrangement, the subjects always act as "teachers", and "students" actually by a trained experimental assistant to play. Teachers and students are arranged in the two rooms, cannot see each other, but can be linked by means of voice. The teacher's task is to read the matching word, the student must remember these

words, and then the teacher presents a word, the student in the given four words to choose a correct answer. If the wrong selection, the teacher press the button to the students electric shock, as a punishment. The student's arm with an electric shock was tied to a chair, for teachers to punish students in the student wrong time. The teacher's console has a total of 30 keys, each of which indicates the strength of the voltage, from 15 volts "mild electric shock" has been increased to mark as "XXX" of 450 volts. Teachers do not know that these electric shocks are actually harmless.

In the course of the experiment, "student" intentionally repeatedly mistakes, "teacher" after pointing out "student" error, then give electric shock, "student" issued bursts of groans. With the voltage rise, the "student" shouted curse, and then begged for mercy, kicked the wall, and finally stopped shouting, no response, seems to have fainted. Some "teachers" cannot bear "students" punished, ask the experimenter how to do, the experimenter is always urged "teacher" to continue the experiment, all the consequences borne by the experimenter. The experimental results show that 26 subjects persisted at the end of the experiment, starting a 450-volt electric shock penalty, while the other 14 were doing all kinds of resistance and refused to execute the order.

The prison experiment reveals an important factor influencing the extreme behavior of the subject, namely the role specification. As all the simulated prisons are treated like real prisons, subjects who act as guards and prisoners over time become more and more like real guards and prisoners, both emotionally and physically. This factor is also reflected in the obedience experiments. With the progress of the experiment, the subjects will increasingly use the "teacher" status and identity to regulate their own. Therefore, when the "students" constantly wrong, these "teachers" should fulfill the duties of teachers, continue to increase the "student" punishment.

Obedience is the subject in the specific social context through the object of the provision of social information summary, judgment and reasoning, to seek rewards or impunity arising from the same behavior or attitude(Song Guandong et al.,2008).The reason why people obey is to avoid punishment or seek rewards. In organization, when a leader's action or request is illegal or unethical, in spite of moral pressure, individual will also chooses to follow the leader after weighing. The Loyalist and Disciple followers will follow as an obligation, not to question the leadership authority, so that the source of their motives can be classified into obedience to authority(Kelley,1992).And some individuals agree that the legitimacy and hierarchy of the organization. They believe that following is one of the

responsibilities of a subordinate (Shamir, 2004). It is also reflected in obedience to authority.

D. Environmental Adaptation Theory

Evolutionary psychologists believe that individuals can not choose to lead or follow, then to adapt to the corresponding role and act in conformity with a role (Van Vugt et al, 2006). On the contrary, these actions are determined by the position of the individual in the Pecking Order, that is, the "natural selection" rule determines the individual's domination or obedience. The pecking order level is established by the ability of the group member to acquire the scarce resources. Those who are able to acquire more resource are at the top of the pecking level, and accordingly, individuals who acquire less resource are at the lower end of the pecking order. The person at the top of the rank becomes the leader, and the person at the lower end of the class becomes a follower. Followers can only seek protection and access to resources by working with leaders, so they have no choice but to follow the leader.

Evolutionary psychologists also try to use game theory to explain leadership and follow-up behavior. Van Vugt et al. (2006) think that leadership is generated in order to solve the problem of coordination. Individuals in the group often face the recurring decision-making problem, that is, how to take collective action to improve the benefits of the individual and the entire team, while maintaining group cohesion. If a group of people lead and others follow, then the problem can be solved. The decision is made by the leader in the group. So the leader or follower is the individual's social strategy to achieve the success of collective activities.

The above four summaries of motivations are not absolutely independent, but interrelated. Scholars believe that the fundamental reason for individual to follow leadership is egoism, to follow in order to obtain benefits at the individual level or group level (Kellerman, 2008). Kellerman (2008) argues that chasing motives is derived from individual worship of people or things, but not always. Sometimes even if not worship, the individual will follow, the root cause is egoism. People follow the leaders because they have a number of important benefits at the individual and group levels. Individuals weigh the gains and costs of follow, and the costs of not following. If follow is benefit to oneself, then the individual will choose to follow. Egoism can explain the individual's violate to follow his will and why to follow the poor leader. Individuals follow bad leaders, in some cases because individuals have no choice or think they have no choice; In other cases, it is the initiative of the individual or even eager to follow them, the main reasons there are four: the continuity

of follow, that is, small evil into a big evil; the sociality of follow, that is, herd mentality and behavior; the proxy type of follow, that is, superiors take responsibility; the ideology of following, that is, focus on the results and ignore the process(Kellerman,2008).In view of this, the focus of the four sources of motivation is different, but the purpose of the follow is to obtain the benefits.

III. TYPES OF FOLLOWER MOTIVATION

The researchers divided different categories of motivation to follow behavior (Kelley,1992; Shamir,2004; Maccoby,2008). However, these classifications lack uniform standards, not only did not refer to mature motivation theory, but also did not put forward new theoretical basis. Therefore, researchers need to be cautious about them.

According to the different concerns of motivation theory, it can be divided into content motivation theory and process motivation theory. The theory of content motivation focuses on explaining why people do such and such behavior, the main research was on motivational factors that stimulated people's behavior; Process motivation theory focuses on the psychological mechanism of human beings, study how people react differently, and study how they see motivation processes. The research of Li Yuan and Sun Jianmin can help us better understand the motivation, source and psychological process of individual behavior; unfortunately, the validity of the theory is not evaluated.

According to the evidence support extent of motivation theory, it can be divided into early motivation theory and contemporary motivation theory (Robbins & Judge, 2008).Early theories were widely known, and because they are mostly well understood and easy to operate, they are adopted by many practitioners. Unfortunately, few empirical data support these theories, so it cannot stand scrutiny. But, every contemporary theory has a lot of effective evidence to support the theory. A common feature of early theories is that most motives are classified. But because these theories lack evidence support, the classification reliability is not high. In the contemporary three kinds of needs theory, some support has been obtained. The theory divides individual needs into three categories: achievement, power, and ownership, in order to divide individual motivation into work. The study of the three needs theory is more concerned about the need for achievement, while the research on the need for power and the need for belonging is relatively small. Although the three needs theory has certain persuasive power, it has not analyzed the psychological process of demand.

In recent years, the theory of self-determination in motivation theory (Deci & Ryan, 1985) has been supported by evidence, so it is gaining more and more scholars' approval. Self-determination theory holds that, the motivation for self-regulation begins with social factors that are not functioning as intrinsic motivation. Through the internalization of the value of behavior activities, individuals can improve the degree of self-regulation. Experience from external adjustment, internal adjustment, to identity adjustment, integration adjustment, and finally into internal motivation. According to the degree of individual self-determination, motivation can be divided into autonomic regulation and controlled regulation. The control motivation includes external adjustment type extrinsic motivation and internal adjustment external motivation, independent motivation includes identity adjustment, extrinsic motivation, integrated adjustment, extrinsic motivation and intrinsic motivation. Self-determination theory has pointed out two sources of motivation both internal and external; it also expounds the psychological process from the external motivation to the internal motivation. The classification is more scientific and provides useful theoretical concepts for researchers. And it is a supplement to the traditional work motivation (Sheldon, 2003), it breaks the dichotomy between "internal motivation" and "external motivation" in cognitive evaluation theory. The use of self-determination theory can explain many organizational phenomena very well, at the same time as the theory was founded; Deci and Ryan used empirical research to find support materials from various fields. The results of the empirical research in the last 40 years have been powerful and convincing (Zhang Jian et al., 2011). Therefore, this article adopts this method to classify the types of motives (see Table 2).

A. Controlled motivation

1) Externally regulated extrinsic motivation:

External adjustment style is the most external form of control, whose purpose is to seek advantages and avoid disadvantages and have the lowest autonomy, individual behavior can be regarded as an operational conditional reflex. Kelley (1992) and Shamir type follow comrade (2004) based on the exchange of interests, based on the security needs and the significance of following based on Maccoby (2008) and the external motivation to follow all belong to the type of external regulation.

An individual who follows Comrade Style hopes to establish a close relationship with leaders and gets support from leaders, by working together, caring for each other, and achieving your goals, you gain a sense of belonging in the process. Individual

expectation leaders based on benefit exchange help them achieve their goals and reward them, when leaders meet individual requirements or achieve their goals, individual interests will be elevated. Based on the individual needs, risks or stresses that follow security needs, they follow the leader to relieve anxiety, feel secure or secure. Individuals who follow the meaning of existence are afraid of confusion and seek the meaning of existence. When individuals perceive leaders to explain confusion, they choose to follow. Conscious individuals want to gain material benefits, promote status, gain power, renew skills, and become part of a valuable enterprise, and fear the loss of any of the external incentives mentioned above.

The followers of external regulation type mainly choose to follow the interests, power, sense of security and sense of belonging. The follower motivation is a typical external stimulus.

2) *Projected regulation extrinsic motivation*: The individual behavior of an internal adjustment style comes from internal pressure. Although the motivation in psychology from the individual, but for me, did not have the feeling of autonomy of individual behavior, but to understand the internal control from the negative emotions and the pressure to take action. Kelley's (1992) loyal follower and Shamir (2004) follow the higher position and belong to the internal adjustment extrinsic motivation.

Loyal individuals follow the leader's loyalty and follow the leader. The individual regards loyalty as the duty of being, establish a one to one relationship through the emotional commitment of leaders. The legitimacy and hierarchy of individual identity organizations based on higher ranking positions voluntarily accept the requirements and instructions issued by the leader, and consider obedience as one of the subordinate's duties.

An obedient follower; regards obedience as duty and duty from obedience to authority.

B. Independent motivation

1) *Identified regulation extrinsic motivation*: An individual choice that identifies style and evaluates behavior, although its behavior is regulated, it is carried out in a self-determined manner. The individual thinks that the act is meaningful to the individual, not because of pressure or demand; as a result, more autonomy and less conflict can be experienced. This behavior is still instrumental, spontaneous pleasure and satisfaction, and therefore an extrinsic motivation.

An individual who follows an apprenticeship and wants to be a leader. They win the trust of their peers

and bosses by following their roles and improving their abilities. They work hard, learn leadership and improve skills, and expect to become leaders in the end. The guided individuals tend to get mature by the tutor's one to one coaching. The guided individuals handed themselves to mentors who regarded them as "polished diamonds", they are transformed into luminous "diamonds" polished by instructors. In the process of acquiring satisfaction, a mentor does not always want to be a leader. A person who follows a dream and pursues personal goals, don't make a commitment to a particular leader and don't care about your role. When an organization or leadership goal is consistent with an individual goal, the individual produces following behavior; Individuals cease to follow when goals are inconsistent. Individuals based on value identity follow the leader as a continuation of childhood identity, in order to reduce the sense of helplessness and inferiority by following leaders or groups with similar or similar values, and enhance their sense of self perception, potential, and self-esteem.

Identity based followers follow generation based on ability, identity, and identity, the purpose is to promote self and to acquire satisfaction in the process.

Table 2. Classification of follower motives based on self-determination theory.

Motivation type	Presenter	Motivation description	Regulating style
Controlled motivation	Kelley (1992)	Individuals want to build close relationships with leaders and get support from leaders, by working together, caring for each other, and achieving your goals, you gain a sense of belonging in the process.	External regulation
	Shamir (2004)	Individuals expect leadership to help them achieve their goals and reward them, when the leader satisfies the individual's request or achieves their goal, the individual benefit is promoted. When individuals feel danger or intimidation will follow leaders to relieve anxiety, feel secure or secure. The individual fears confusion and seeks the meaning of existence. When individuals perceive leaders to explain confusion, they choose to follow.	
	MacCoby (2008)	Hoping for material gain, advancement, access to power, and renewal of skills, become a member of a valuable enterprise	
	Kelley (1992)	and fear to lose any of the external incentives mentioned above.	Introjected regulation
	Shamir (2004)	The individual is loyal to the leader. The individual regards loyalty as the duty of being, and establishes a one to one relationship through the emotional commitment of the leader.	
	Kelley (1992)	Individuals are in favor of the legitimacy and hierarchy of organizations, voluntarily accept the requests and instructions issued by the leaders, and consider obedience as one of the subordinate's duties.	
Autonomous motivation	Kelley (1992)	Individuals want to be leaders, by following the leadership, improving your abilities, winning the trust of your peers and superiors, you can finally become a leader.	Identified regulation
	Shamir (2004)	The individual wants to be mature by mentoring one by one, in the process of acquiring satisfaction, a mentor does not always want to be a leader.	
	Kelley (1992)	Individuals strive for personal goals, when an organization or leadership goal is consistent with an individual goal, the individual produces following behavior; Individuals cease to follow when goals are inconsistent.	
Integrated regulation	Shamir (2004)	Individuals reduce their sense of helplessness and inferiority by following leaders or groups that share the same or similar values, to enhance your perceived ability, potential, and self-esteem.	Intrinsic regulation
	Kelley (1992)	The individual wishes to establish a relationship with the leader and imitate the leader, hoping to become part of a larger, better, and more important organization, so that the ego can be promoted.	
	Kelley (1992)	Individuals think this approach is most meaningful. Such people are naturally altruistic, or think they are unfit for leadership roles, and follow roles more in line with their values.	
Intrinsic regulation	MacCoby (2008)	Generated outside of the conscious mind and out of control, this motivation may be more intense than external motivation.	

2) Integrated regulation extrinsic motivation: The adjustment process of integrating regulatory style is the internalization of extrinsic motivation. Individuals recognize the importance of their actions, and absorb external values; moral attitudes and so on to become part of them, the inner ideas are harmonious. The external motivation of integration is similar to intrinsic motivation, but it is still mechanical, not really motivated, because it is still motivated by concerns about the outcome of the task. The follower type of Kelley (1992) belongs to the integrative regulating extrinsic motivation. Followers are usually associated with religion. Individuals want to establish ties with leaders and imitate leaders. Individuals who choose this path wish to become part of a larger, better, more important organization, so that they can be promoted.

3) Internal regulation extrinsic motivation: The adjustment process of intrinsic motivation comes from the experience of creating and transcending the pleasure of the self in an activity, which is interesting, enjoyable and innate. Kelley (1992) lifestyle oriented and Maccoby (2008) unconscious follow the intrinsic motivation.

Lifestyle oriented individuals firmly believe that this lifestyle is most meaningful. Individuals may decide to follow in two situations. In one case, they serve others and help others as individuals, who are naturally altruistic. In another case, they think they are unfit for the leadership role, and follow the role more in line with their values. They prefer to perform tasks rather than direct them. The unconscious follows from the individual's conscious mind and is not controlled, and this motivation may be more intense than external motivation. Individuals with intrinsic motivation are able to experience the pleasure and satisfaction of following behavior.

IV. FOLLOWER MOTIVATION MEASUREMENT AND RELATED VARIABLES

Domestic and foreign researches on motivation are mostly in the speculative stage, and there is no mature scale. The only two scales were developed by scholars for research purposes.

Yuan Tao (2011) developed a three factor structure of follower motivation questionnaire. The three factors were leader charm, team maintenance, and personal goal attainment. The questionnaire was composed of 15 items, using Likert6 point scoring, 1 indicating complete non conformity, and 6 indicating complete compliance. Typical item statements include "leaders care about subordinates' growth", "get more financial rewards", "follow the leader to create a sense of belonging" and so on. The scale has

good reliability ($\alpha=0.928$) and validity, and meets the psychometric requirements. Basford(2012)in the study of influence of leadership level following the motivation and intention to stay, this two items measuring the motives of followers(Follower Motivation)strength, namely, "the company encourages me to go beyond what I need and to give it";"the company motivates me to do my best every day."

In the study of antecedent variables of follower motivation, scholars have investigated the different levels of leadership support (direct supervisor level and executive level) and demographic variables (gender, age, and education), histological variables (type of enterprise, work experience, job nature) effect on follower motivation. Research shows that both the sense of support from the direct supervisor and the support from executives affect the motivation intensity of the followers, but the influence is different, and the executive's sense of support is more likely to boost the motivation of the followers; age, educational background, working years, post nature and communication with direct superiors have certain influence on follower motivation.

The research on the consequence variables of follower motivation mainly discusses the influence of follower motivation on job performance, job satisfaction, job involvement and turnover intention. The results showed that follower motivation had positive influence on job performance, job satisfaction and job involvement, and had negative influence on turnover intention, and these effects occur through leadership, member exchange, and intrinsic work motivation, while personal supervisor fit plays a modern.

V. SUMMARY AND PROSPECT

The theory of follower force is the frontier research of contemporary management, basically, it has three stages: leader centered research, follower centered research, and follower centered research. Following the scholars' research on the theory of follower force, the motivation of following has attracted more and more attention of scholars. Many discussions have been carried out on this subject, and abundant research results have also appeared. However, the research in this field is still in its initial stage, and there are still many blank areas and areas to be improved. Specifically, the study of follower motivation can be explored and improved from the following aspects:

A. The theoretical construction of follower motivation

Motivation research has experienced a history of more than one hundred years in the development of Western psychology. During this time, various motivational theories and factions emerged. These theories, from different angles and different approaches, have expounded the source of behavior and the motive force of action.

As a kind of human behavior, follow can be analyzed from the general motivation theory. Future motivation should be analyzed from a psychological point of view, and follow the motivation into the theoretical system of motivation for research. The study of the mechanism of follower motivation will help to integrate existing research results and form a unified research standard and systematic research results.

B. Development and improvement of follower motivation scale

The researchers should devote themselves to the development and improvement of the follower motivation scale. The study of follower motivation abroad is more fragmented, although domestic research on follow-up motivation has started late, researchers have tried to develop measuring tools. Although the existing scales have been tested by reliability and validity, there are overlaps between the three dimensions. Such as the title of leader charisma:"leaders can give subordinates protection and security", and team maintains dimension items:"following a leader can lead to a sense of belonging". All of these reflect individual needs and can be integrated into individual goals. Therefore, the structure validity of the three dimensional model of follower motivation needs to be improved. More empirical research is needed in the future, further clarify the connotation structure of follower motivation, and construct the measuring tools of follower motivation.

C. An empirical study of follower motivation

The key problem of scientific research is to judge the causality between variables, positivism is based on the anticipation of the laws and facts of objective existence, test theory by scientific measurement (Chen Xiaoping et al., 2008).follower motivation is one of the leading theories of management, its

academic value needs to be tested by a large number of empirical studies. At present, the influence factors and consequence variables of follower motivation have been discussed, further studies should expand the scope of variables, investigate the effects of following traits, leadership styles, organizational situations on motivation to follow, and to clarify how follower motivation affects the attitude and behavior of followers. To clarify the mechanism of follower motivation will provide important theoretical reference for enterprises in personnel recruitment, selection, placement, training and assessment.

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A Review of Dynamic Pricing of Strategic Consumers

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Abstract: With the development of network technology, the speed and cost of information obtained by consumers are declining continuously. The asymmetry of information asymmetry between consumers and manufacturers is becoming more and more, and the increase of shopping experience, consumers' It is necessary to study the dynamic pricing of strategic consumers because of the expectation that the strategic consumption behavior has become the problem that the manufacturers have to face the problem. This paper summarizes the research results of strategic consumption behavior both at home and abroad, and puts forward the future research direction according to the existing achievements, hoping to provide some reference value for the future research on strategy consumers.

Keywords: Strategic consumer, inventory

I. INTRODUCTION

Revenue management originated in the US aviation industry, has been successfully applied in the transportation, hotel management, communications and other fields, and gradually break the traditional application areas, to other industries penetration, dynamic pricing as an important part of revenue management has become increasingly The more attention by the enterprise. However, while increasing the potential expected profit, dynamic pricing will inevitably lead to the strategic buying behavior of consumers, which have a significant impact on retail dynamic pricing and related decisions, and reduce the dynamic pricing Potential gains. Europe and the United States of large retail enterprises have also begun to implement the corresponding dynamic pricing and inventory control strategies, such as Spain's largest clothing retailer ZARA through low inventory to promote early consumers to buy e-commerce giant Best Buy through customer relationship management to distinguish between consumers The way to reduce the consumer's waiting behavior. Therefore, it analyzes and summarizes the current situation of dynamic pricing research of strategic consumers at home and abroad, puts the strategy behavior of consumers into the decision category of dynamic pricing, promotes the maximization of revenue management, and prospects its development prospects, has theoretical significance and Practical significance.

At present, a large number of literatures have studied the dynamic pricing of strategic consumers

from different perspectives, from the impact of strategic consumers on corporate profits and dynamic pricing decisions, to the strategic consumer pricing of specific objects and assumptions As well as the combination of inventory strategy for policy-based consumer dynamic pricing response mechanism, have achieved fruitful results.

II. A SUMMARY OF DOMESTIC AND FOREIGN RESEARCH

Foreign dynamic pricing research for strategic consumer behavior started in the 1970s, developed in the 90's, made a lot of research results. Domestic dynamic pricing research for strategic consumption behavior started late in the 1990s, China's management industry began to study the theory of revenue management and product dynamic pricing issues, after 2004, domestic scholars began to strategy strategy of consumers Sexual consumption behavior in-depth study.

A. *The Impact of Consumer's Strategic Behavior on Dynamic Pricing*

Besanko and Winston introduced the concept of strategic consumption into the dynamic pricing research for the first time, discussed the game model of monopoly and strategic consumers at different prices. At the same time, the price discount factor was introduced in the sub-game equilibrium model, and pointed out that manufacturers ignore the consumer's pricing behavior will make the manufacturer's profits reduced by about 20%; Anderson and Wilson based on the EMSR rules to study the behavior of strategic

consumers in the enterprise have a fixed capacity , The sale of a certain number of products at a lower price to the first sale of the demand, the remaining products are sold at a higher price, at the end of the process, there is a certain probability there will be a product surplus and had to sell, The author studied the method of calculating this probability, and showed that if this probability is very large, the high-yield demand will wait for the last minute to purchase, and finally through the numerical analysis of this strategy wait behavior on earnings management revelation; Zhou et al. The optimal purchase strategy of GVR pricing strategy is based on the optimal purchase strategy of GVR pricing strategy, and the optimal purchase threshold based on consumer valuation and current time is obtained. When the price is lower than the critical point, consumers should purchase immediately, Studied the situation of a number of strategic consumers, found that vendors can be through the consumer's strategic behavior to obtain profits. Although the policy wait may make the seller unable to obtain all the consumer surplus, but the face of high price strategy consumers will not immediately lose, but will return at low prices; Asvanunt and Kachani for EMSR and GVR pricing strategy researched the optimal purchase of consumer purchase problems, consistent with the previous research results, the critical point strategy is the optimal purchase strategy for consumers. They also used numerical analysis to show the impact of consumer behavior on corporate earnings . Cachon and Swinney R classified consumers in the market into three categories: short-sighted consumers, prospective consumers and strategic consumers. When the firm finds that the firm adopts the strategy of low discount and low inventory, the consumer's strategic behavior has a negative impact on the firm's earnings^[1].Aviv and Pazgal Under the assumption that consumers are subject to random distribution assumptions, consumers retain prices that follow the exponential distribution function, and consumers measure the expected utility size of the product at different stages, and when the decision should be made. Su has studied the dynamic pricing of both the strategic and the non-strategic consumers on the market. He divides consumers into four types: high-value strategic consumers, low-value strategic consumers, high-value non-strategic consumers and low-value non-strategic consumers, when these consumers , The heterogeneity of consumers is characterized by both the willingness to pay and the willingness to wait. This model assumes that the consumer is made up of these two types of customers, and when the high valuation is consumed, the consumer's heterogeneity will be influenced by the firm's pricing strategy. Are mostly strategic, the price strategy is optimal, and when the high valuation of consumers are short-sighted, the best price strategy,

the face of high demand will not immediately disappear, the policy waiting will lead to low consumers The price of the purchase competition, thereby increasing the rebound price and high price of the purchase^[2]. In the earlier sales study, Peng and Xiong pointed out that the consumer's strategic behavior affected the service provider's dynamic pricing strategy and was able to obtain more revenue by canceling the service with the low-end consumer near the service delivery period . Zhang and Cooper for the first time in the clear sales to consider the impact of strategic consumers, but did not continue to explore how to ease the impact of consumer behavior^[3].

Yang Hui, Zhou Jing after assuming the consumer heterogeneity and defining the critical valuation, by setting the corresponding assumptions and establishing the model to explore the proportion of strategic consumers on the product price reduction, the expected number of purchases, corporate profits And discussed the optimal pricing strategy in the case of the two types of extreme cases with strategic weight ratio of 1 and 0. In the same market, we sell two kinds of dynamic pricing problems with the substitutable products. Assuming that the consumers have the strategy, the pricing model is established by setting the relevant conditions, and the pricing model is established. The profit of the manufacturer and the optimal pricing strategy, the analysis of the optimal pricing of the manufacturers in the short-sighted situation is carried out. Finally, the profit of the manufacturers is discussed by numerical experiments. In the case of Ren Zhenzhong, Ren Jianbiao combined the strategic behavior of consumers with the reference price effect to accurately describe the dynamic pricing strategy of the retailer under the influence of historical and expected price, and establish a multi-stage dynamic pricing strategy model, Which is based on the model of the normal price and the clearing price. The two different pricing strategies and the prerequisites of the implementation are given. The ratio of the two - stage optimal price and the expected maximum profit to the consumer utility discount factor and the strategy-consumer dependence on historical prices, the relationship between the neglect of consumer policy behavior and price reference effect will give retailers a greater negative impact. Xiao Shengxi from the perspective of psychology analysis of strategic and short-sighted consumers to buy the decision-making process, according to the clothing consumer critical valuation and valuation distribution characteristics of the estimated cost of the purchase of clothing, the establishment of shopping malls clothing dynamic pricing objective function, The proportion of strategic consumers is negatively correlated with the expected profit of the first stage and the total expected profit, and the profit of the second stage is positive,

and the proportion of the strategic consumers is negative. The proportion of strategic consumers is positively correlated with the two-stage optimal pricing, which is negatively correlated with the two-stage price reduction. Bi Wenjie compared the influence of the parameters of the dual channel mental account on the long-term total profit of different payment schemes, and summarized how the manufacturers discuss the dynamic pricing problem under the general payment, the advance payment and the delayed payment scheme. Yang Wenling and so on for the consumer strategy behavior of the "product + service" integrated system pricing strategy, through the construction of retailer pricing decisions and consumer purchase decision-making dynamic game model, the use of reverse solution to retailers in the two stages of the most Optimal pricing strategy and consumer purchase decision-making sub-game perfect balance, and analysis of the service price ratio, the proportion of consumer service valuation and valuation discount factor on the optimal pricing of retailers [4], which is related to the difference between domestic and foreign The compensation mechanism is consistent with the findings.

B. Dynamic pricing strategies for strategic consumers

Krishna expanded Golabi's pricing model, introduced consumer expectations of the price in the model, examined how consumer firms make decision-making based on consumer price expectations and consumer preferences, and examining price promotions and The impact of consumer holding costs on consumer buying behavior. Su in the monopoly of a fixed capacity of the manufacturers under the premise of the strategic consumers to discuss the optimal pricing firms, and gave the parties a balanced price of the game and the monopoly of the profits, obtained by speculators to re-sell , The monopoly of enterprises in the fixed price sales of products can be obtained when the effect of dynamic pricing conclusions [5]. Sriram Dasu studied the dynamic pricing strategy for perishable goods in limited sales time, assumed that policy-based consumers can predict the firm's price strategy, discuss the static price changes of the product and the dynamic price changes based on sales history [6]. Ali K. Parlakturk assumed that the quality of the exogenous, considered the strategic consumer for heterogeneous products have different perceived prices, discussed the enterprise based on this situation of the two-stage pricing strategy [7]. Liu and Zhang, under the customer's strategic behavior, studied the dynamic pricing of two competing firms that offer differentiated products, and used the skimming pricing method to achieve a pure strategy. Markovian equilibrium showed that firms that offer low-quality products under customer policy

behavior are higher Quality enterprises suffer more losses, and that both high-quality enterprises or low-quality enterprises, unilateral static pricing commitments can improve the profits of the two companies [8]. Gallego has proposed a new management method for recalling the airline's position control problem. If the demand for high positions exceeds the remaining seats before boarding, the recall can be recalled by compensating the recallable passenger. Cachon and Swinney R pointed out that the rapid response mechanism can eliminate consumer policy behavior, a substantial increase in business income. O'Donnell proposed to reduce the price of goods in the high price period, reduce the two-stage consumer surplus to guide consumers in the full price of goods to buy. Su divided the consumers into four types from the two dimensions of consumer heterogeneity and strategy, and studied the corresponding pricing strategies according to the different proportions of the four types [2]; Lai et al. Studied short-sighted and strategic consumption The two-cycle dynamic game model in the coexistence environment, through the solution of the model to obtain the optimal dynamic pricing strategy, through the design of a price return contract to study the benefits of retailers and strategic consumer behavior [9];

Liu Xiaofeng explored the effect of price discrimination and difference return contract on consumer purchasing decision-making in heterogeneous consumers. In the study, it is assumed that demand uncertainty and consumer heterogeneity are constructed, and the income model and difference return strategy under price discrimination strategy are constructed Under the income model, through the two strategies under the retailer profit comparison to determine the corresponding pricing decision, obtained in the high retention price consumers less than the critical inventory when the implementation of differential pricing pricing strategy, and vice versa to implement the difference return strategy conclusion. Peng Zhiqiang, Xiong Zhongkai and Li Gendao studied the pricing and corresponding decision-making issues when the monopoly manufacturers produced and sold new products and products at the same time. According to the assumptions, the corresponding game model under the customer waiting behavior is established, and the optimal pricing strategy is obtained according to the profit maximization goal. The optimal pricing strategy of the manufacturer under different remanufacturing costs is discussed. This paper discussed the influence of the sensitivity of the parameters in the model on the remanufacturing cost and the customer 's waiting behavior on the optimal pricing of the two stages. The best discount price of the retailer S in the discount period (PP period) and the option of the purchase price of the strategic customer under the heterogeneity

are discussed. The best discount price of the retailer S in the discount period (PP period) is discussed. (MWP) on the purchase decision and the value of the best customer warranty (MFC), and finally discuss the retailer's sales in the form of price reduction and not the price reduction in the form of numerical analysis. Sales of surplus inventory in the case of profit; Peng Zhiqiang, Xiong Zhongkai, Li Gen Road, strategic consumer pricing and the difference between the return mechanism was studied in the assumption that the market there are short-sighted consumers and strategic consumers in the case of the study. The impact of the strategic behavior of the strategic consumers on the retailer's pricing and its total income, and further discusses the impact of the introduction of the post-return mechanism on the retailer's earnings. Peng Zhiqiang, Xiong Zhongkai and Li Gendao studied the behavior of the clients in the face of the customer's strategic behavior , The retailer's dynamic pricing of perishable goods and the corresponding remanufacturing flexible replenishment mechanism, indicating that the customer strategy line In order to reduce the retailer's expected profit, remanufacturing the flexible replenishment mechanism can alleviate the influence of the customer's strategic behavior and improve the retailer's expected profit; Yang Hui also studied the behavior of consumers to show the strategic or short-sighted different Characteristics and two-stage dynamic pricing decision-making problem in the market environment where the valuation is randomly distributed. Li Hao and so on in the two to provide the same perishable goods manufacturers line competition, starting from the customer's strategic behavior, the two manufacturers of dynamic pricing strategy. Shen Chenglin and Zhang Xinxin studied the dynamic pricing of mixed life products of mixed consumers. Li Gang, Wei Feng studied the issue of purchasing decision-making in the case of consumers in the case of risk-neutral, consumers in the retailers to provide price guarantee commitments and not to provide price guarantee commitments, and discussed the retail contract under different contracts The expected equilibrium and the impact on the retailer's ordering decisions and profits. Zhang Linghong, You Jianxin, Chen Zhen studied the design of dynamic pricing mechanism for perishable goods in the case of price reduction. In the case of short-sighted consumers and strategic consumers, the Stackelberg game model was established at the time of price reduction To determine and uncertain circumstances of the best vendor price strategy model, the manufacturers of pricing and price reduction point of time to set the appropriate management recommendations. Ma Yiping Under the uncertainty demand, the paper studied the optimal price reduction strategy and the reverse return strategy of the two-stage dynamic price of the e-commerce market network manufacturer, and

concludes that there is an optimal clearance strategy and return strategy to make the network The largest business income. Zhang Dabin, Yang Sisi for e-commerce environment, consumer price discrimination against the problem, as well as durable goods life cycle, product demand depends on the time, price and other characteristics, by constructing the transfer probability matrix, derived from online consumers to The probability of the goods under different price conditions, and then according to the consumer multi-stage utility function analysis of consumer purchasing decision-making behavior, and then give the retailer to maximize the profit when the optimal pricing strategy set. In the process of dynamic game pricing of multi-retailers, considering the ratio of strategic consumers and the ratio of purchase at price reduction, consumers are divided into strategic and short-sighted, and the price of multi-retailers is established. The basic model of the game, the conclusion: With the higher the proportion of strategic consumers, retailers between the game pricing level and profit level is higher, but the retailer's demand will change the smaller, the market The more stable the demand, the price war between the retailers will weaken the degree; and when the strategic consumer price increases the probability of increase, the conclusion is the opposite [10].

C. Research on Dynamic Pricing of Strategic Consumers Considering Inventory

Liu and van Ryzin studied the optimal pricing and inventory strategy of retailers in the presence of strategic consumer behavior, and analyzed the impact of risk aversion on order decision making. The sales were divided into two stages. In terms of demand determination and price In the case of the case, we consider how to alleviate the consumer's waiting behavior through the appropriate amount of inventory [14]; Yin et al. Studied the retail pricing of retailers under the inventory display mechanism for policy-oriented consumers. When the display of all goods and the display of a commodity, the information structure of the product is different, and the research shows that the strategy of displaying a commodity can create a potential product scarcity, and the retail performance is better than the display of all commodity strategies^[11]. Cachon and Swinney explored the dynamic pricing and inventory strategy of retailers under uncertain demand. By establishing a two-cycle dynamic game model, the short-sighted consumers, strategic consumers and cheap consumers were found between retailers and retailers^[12]; Akcay et al. Studied the stochastic dynamic pricing problem of the seller in the sale of perishable goods with the given initial inventory under the consumer choice behavior, and discussed the product under the condition of vertical difference and horizontal

difference^[13]. O'Donnell proposed to control the purchase price of the goods by controlling the inventory level of the merchandise; Aviv and Pazgal explored the strategic consumer randomization of the price of the best price with the quality, inventory and time monotonous nature. Dynamic pricing of seasonal products under limited sales under the condition of arrival ;

Liu Xiaofeng and Huang Pei studied the optimal model and optimal stock decision of the monopolist in the case of demand determination and demand uncertainty, and assumed that the demand obeys the high demand of the market under the two points And the number of low demand, find the manufacturers in the uncertain needs of several cases of optimal inventory and the optimal price level. Peng Zhijiang, Xiong Zhongkai and Li Gendao studied the dynamic pricing of the perishable goods and the corresponding replenishment of the replenishment mechanism in the face of the customer's strategic behavior, discussed the effects of the traditional replenishment mechanism and the remanufacturing flexible replenishment mechanism Retailer optimal pricing and optimal order quantity. Liu Xiaofeng, Xu Xianhao studied the game model under the condition of limited inventory and no inventory, and established the basic model and extended model of the game according to the characteristics of the short life cycle product in the risk neutral and monopoly market. The impact of the consumer's strategic behavior on the optimal price and the profit of the firm and the optimal price and maximum profit under different inventories. Xu Xianhao, Chen Wen and Peng Hongwen studied the model of inventory decision-making in the market environment with the combination of the strategy-oriented consumer and the non-strategic consumers, and the decision-making of the inventory decision-making, the price and the inventory , Monopolized manufacturers how to develop price and inventory decision-making issues were analyzed, and manufacturers of price decision-making to provide the appropriate recommendations. Huang Song, Yang Chao, Zhang Xi studied the problem of pricing and inventory control strategy for customers with strategic behavior when there was only one monopoly vendor selling seasonal products on the market. The rational expectation equilibrium of the optimal stock and the optimal return in the case of the potential risk, the rational expectation equilibrium of the retailer for the risk aversion type, and the numerical equilibrium of the model and the rational expected equilibrium solution Relationship. Chen Wen, Xu Xianhao, Peng Hongxia studied the market demand and the retention price of consumers are random variables in the case of monopolies on fashion products and perishable products inventory decision-making and price decision-making issues, to explore the two-stage price

exogenous The optimal order decision of the manufacturer and the optimal reserve price of the consumer, and further compares the influence of the limited strategy and the price commitment strategy firm decision, and gives the application of the two strategies, so as to the manufacturer's decision for reference. Song Hongfang and so on studied the consumer's anchoring effect into the decision-making model, the use of dynamic programming theory to establish the consumer anchoring effect of dynamic pricing and inventory model, taking into account the profit discount and inventory backlog, through numerical analysis shows that consumers will Changes in market prices determine the optimal timing of the purchase, and the retailer's expected return increases with the increase in sales time.

III. SUMMARY AND OUTLOOK

Research on Dynamic Pricing of Strategic Consumers in Foreign Countries From the dynamic pricing of single products to the dynamic pricing of multiple products, from the single-cycle problem to the multi-cycle problem, the discount factor and consumer risk are introduced in the previous research model Preferences, market competition factors and other variables, and according to the type of consumer to its breakdown, from a number of dimensions of the corresponding pricing strategy for a detailed study, it can be said that the existing research has formed a more comprehensive research results system. The domestic research mainly studies the dynamic pricing of the product and the impact of the vendor's inventory control on the consumer's strategic behavior and the profit of the firm. The paper studies the dynamic pricing problem in the following ways: the consumer's risk preference, short-sighted consumption And market-oriented consumer coexistence of the market environment, the existence of a single type of consumer market, consumer demand and uncertainty to determine the demand for heterogeneous consumers and homogeneous consumers, product prices and other settings. Domestic research is to further improve the research abroad, the research direction and foreign also have a lot of similarities, but also the need for competitive factors under the dynamic pricing problem to expand the demand for constant renewal of the pricing problem to expand and so on.

In the future, we can combine with the new market environment to consider the strategy of consumer pricing, inventory, quality of service, product innovation and other strategies, or from the Internet and e-commerce background, consider the strategic consumer changes over time for multi-retailer dynamic The impact of pricing model and other aspects of in-depth study, the impact factors will be more and more, more complex, combined with the new real conditions, there will be new problems.

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Organization Pattern of Rural Tourism Industry in Henan

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Abstract: Rural tourism has great potential, it covers a wide range of groups and market demands, with a strong driving ability. In the national market, rural tourism can not only enrich the regional tourism varieties, improve regional tourism competitiveness, and increase the income of farmers, while environmental protection can be achieved, carrying forward and inheriting the role of traditional folk culture. Therefore, vigorously developing rural tourism is of great theoretical and practical significance. This paper analyzes the organizational pattern of developing rural tourism industry in Henan Province, finds out the problems existing in various development patterns and puts forward the measures to optimize the organization pattern of rural tourism industry in Henan Province.

Keywords: Rural Tourism, organization pattern, optimization measures

I. INTRODUCTION

The No. 1 central document - Opinions on Deepening Supply-side Structural Reform in Agriculture and Accelerating the Cultivation of New Growth Engines in Agriculture and Rural Areas was issued on February 5, 2017, which is the 19th central No. 1 document guiding the “issues of agriculture, farmer and rural area” since the reform and opening up, also the 14th time focusing on the above issues consecutively since 2004. Rural tourism shows in central No. 1 document for the second time, from the development sense, the development of “issues of agriculture, farmer and rural area” expands the development space of rural tourism while providing support to the industry, ecology, property, environment and so on, pointing out the direction and path of the development of rural tourism.

II. THE DEVELOPMENT STATUS OF RURAL TOURISM IN HENAN PROVINCE

Henan Province enjoys a vast rural area, a wealth of natural resources and deep cultural heritage, where the beautiful scenery lays a good foundation for carrying out rural leisure sightseeing and vacation, as well as for experiencing tourism activities. Accelerating the development of rural tourism is an important part of the construction of a new socialist countryside, an important way to coordinate urban and rural economic development and realize industrial linkage. It is an important starting point for adjusting and optimizing the rural industrial structure and

broadening the channels for increasing farmers' income. In this context, the provincial government office issued Notice of the Provincial People's Government of the People's Government of Henan Province on the Opinions of the Provincial Tourism Administration on Accelerating the Development of the Rural Tourism in 2013. Since then, rural tourism has been included in the ten people's livelihood projects in Henan Province for many years, Opinions on Accelerating the Development of Rural Tourism, Rural Tourism Development Plan for Henan Province and other documents were issued, and the leading role of policy was constantly strengthened. After recent years of rapid development, as of the end of 2016, the rural tourism of Henan Province continued to grow and develop, and achieved remarkable results. Today, Luoyang Luanchuan County, Jiaozuo Anshang Village, Xinxiang Guoliang Village, Xinyang Haotang Village have become famous tourism destinations. In 2016, tourism in Henan Province received 518 million tourists at home and abroad, the total tourism income tapped RMB 503.5 billion yuan. Of which rural tourism received a total of more than 90 million tourists, an increase of 13.3%, achieving tourism revenue of RMB 44.2 billion yuan, an increase of 14.7%. More than 1,000 poverty-stricken villages in the province have the conditions to develop rural tourism. It should be said that the tourism industry is one of the fastest growing industries in the province, becoming an absolute new force and reserve force for the development of regional tourism.

III. THE STATUS QUO AND DEFICIENCIES OF THE ORGANIZATION PATTERN OF RURAL TOURISM INDUSTRY IN HENAN PROVINCE

At present, there are pros and cons of different organization patterns of rural tourism industry. As a large tourism province, especially Henan that is rich in rural tourism resources, it covers almost all kinds of patterns formed by the market. Specifically there are the following:

1) “Farmer household + farmer household” pattern, an initial rural tourism business pattern. In remote villages, farmers have concerns and resistance against rural tourism development by enterprises. They are reluctant to give limited funds or land to enterprises. However, with the success of demonstration households, farmers have also joined tourism receptions, and gradually formed a rural tourism development pattern of “farmer household + farmer household”. This pattern has less investment and effective effect, retaining most of the authentic rural culture, visitors can experience the most genuine local customs and culture by spending a small amount of money. However, the drawbacks are also obvious, including limited level of funds and management, small number of tourists, and relatively poor diet and accommodation conditions.

2) “Company + farmer household” pattern. That is, linking up big companies and small farmer households. This business pattern also appeared earlier and has played a positive role for the farmer household to avoid market risk and increase scale business income. This pattern participates in the business and management of the rural tourism through the absorption of farmer households. In the development of tourism resources, it makes full use of the farmer households’ idle assets and labor force, introduces advanced management, and regulates the tourism reception service to avoid damage to the tourists’ interest. But because the market relationship between the strength of the farmer households and the company is not completely equal, a slight care could expose its inherent flaws.

3) “Company + community + farmer household” pattern. This pattern is an extension of “company + farmer household” pattern. Communities or village committees build bridges, companies work with local communities, and then participate in rural tourism through community organizations. Generally companies do not cooperate with farmer households, they contact with the community, but the farmer households’ reception services, participation in tourism development will have to go through professional training by the companies. Relevant regulations must be developed to regulate farmer households’ behavior, ensure the quality of reception

services, protect the interests of the company, farmer household and tourists. Through the community link, this pattern facilitates the coordination and communication between the company and farmer household, helps to overcome the conflict arising from the distribution of benefits between the company and farmer household. At the same time, the community can also play a certain role in the supervision of the company to ensure the regular tourism and orderly development.

4) “Corporation” pattern. This pattern is characterized by high starting point, fast development and large scale. With correct ideas and advanced management philosophy, it is easy to turn rural tourism into a high level tourism project, and accelerate the development to a new level. But the opposite is true, the corporation pattern appeared in the early stages of the township tourism, with the farmer households’ attention and participation, corporate pattern found it hard to adapt to the development of rural tourism trends within a short time. Because as the main participant in the rural tourism, farmer households’ participation is greatly reduced, and their benefit can not be reflected. Public resources as the carrier of rural tourism are the basis for the development of rural tourism, and the benefits of these public resources should be owned by the farmer household. However, the corporation pattern makes most of the benefits occupied by the travel company, causing the local farmer household dissatisfied.

5) “Government + company + farmer household” pattern. From the current situation of rural tourism development, the essence of this pattern is “company + farmer household” under the guidance of the government. That is, in the development of the rural tourism, the county and township governments at all levels and the tourism authorities determine the development location, content and time according to market demand and the county tourism’s overall planning, and mobilize local villagers to join the development. Government and tourism authorities make the necessary guidance during the development process. The local villagers or villagers build farming tourism development limited liability companies with foreign investors, tourism management follows the operation of enterprises, profits are shared by the villagers (rural tourism resources owners) and foreign investors by a certain percentage. In addition, the villagers also obtain income through the provision of accommodation, catering and other services for tourists.

IV. OPTIMIZATION OF THE ORGANIZATION PATTERN OF RURAL TOURISM INDUSTRY IN HENAN PROVINCE

A. To Achieve the Core Driving Force of Scenic spots

The core scenic spot has a wide radiation around, it is an important impetus driving the development of rural tourism in surrounding countryside. First, to develop strategies suitable for the local tourism and to help rural areas with their advantages, and bring rural development into the tourism planning system, finding development opportunities from the prospects. Second, strengthen and rely on the scenic line connection, do a good job in infrastructure construction, improve the traffic accessibility of rural area and core scenic spots, integrate the village and scenic areas into the same tourist route, and link development. Complement each other in the content and functions to form functional complementation and reduce unnecessary competition consumption. Finally, with the implementation of the joint marketing and relying on scenic areas, actively participate in scenic marketing activities, improve publicity via popularity and reputation, creating a big regional tourism brand.

B. To Minimize the Interests Imbalance Among the Main Stakeholders

The important value of rural tourism lies in the attraction of rural folk customs to urban residents. Rural tourism is often involved in more residents' participation, so the distribution of benefits among development subjects such as government, enterprises, collectives and peasants is an important factor restricting the sustainable development of rural tourism. To minimize the interests imbalance among the main stakeholders, the key is the protection of the interests of rural residents. First, scenic spots must respect for local traditions and local residents' will. Second, the sound distribution mechanism, make clear rights and responsibilities and standardize the distribution of benefits system at the initial development, give full consideration to the interests of local residents. Correctly handle the relationship between tourists and residents, respect for the local residents' living habits. Finally, deal with the superposition between residents' living space and cultural display scenes, taking into account the protection of living space and facticity of cultural display, forming cultural and ecological internal balance.

C. The Government Should be Properly Involved

The development of rural tourism involves a wide range of aspects, it is a system project, one sector alone is difficult to promote the whole development. Party committees and governments at all levels should

take the rural tourism and tourism poverty alleviation work in an important position, establish and improve a rural tourism and tourism poverty alleviation work mechanism under the unified leadership and joint involvement of the relevant departments. Achieve co-management of tourism, poverty alleviation, development and reform, finance, transportation, construction, land, environmental protection and other departments. Make efforts to solve the planning docking, land security, administrative approval, financial support and other issues in tourism poverty alleviation, integrate financial support for agriculture, poverty alleviation, tourism development, traffic construction and other funds for infrastructure and tourism facilities in poverty-stricken areas, and improve the concentration and effectiveness of capital investment.

V. CONCLUSION

As a new industry, the tourism industry has made a great contribution to the comprehensive development of the economy after the reform and opening up. The rural tourism industry is a tourism project that has emerged and developed rapidly in recent years. It is not only enriching traveling, but also solving the problem of surplus labor and food and clothing for the vast rural farmer households. Some areas flourished from the rapid development of rural tourism. Therefore, the development of rural tourism is one of the important initiatives to promote rural industrial restructuring and solve the problem of rural poverty. In the process of developing rural tourism, it is necessary to take its essence and find a new pattern suitable for the local region and promote it. Instead of blindly imitating, investigation and analysis need to be carried out. Resources are the basis of tourism development, the market is the means of modern tourism development, and benefit is the ultimate purpose of tourism development. Tourism development should also strive for the strong support and cooperation of government departments and the masses, so as to strive for greater development.

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The Development Path and Pricing Mechanism of B2B Cross-border E-commerce Platform

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Abstract: B2B cross-border e-commerce platform replaces the traditional role of trade broker in international trade to some extent, and functions as a trade intermediary platform. However, unlike the general trade broker, it does not aim at earning trade spread, but achieves its benefits by charging lower compensatory costs and higher value-added costs. Although cross-border e-commerce platform can reduce the cost of information collection between buyers and sellers, it can increase the cost of information screening and increase the quality risk of buyers and sellers. Therefore, its future development path needs to be oriented to reduce the cost of information screening between buyers and sellers, and take a more professional development path. The degree of specialization depends on the trade-off between the costs of information screening. To achieve this path, cross-border e-commerce platforms should have different pricing strategies for users with different needs, with a higher fixed cost and higher marginal cost for those with lower demand.

Keywords: B2B, cross-border e-commerce platform, development path, pricing mechanism

I. INTRODUCTION

Currently there are two types of cross-border e-commerce platforms functioning in cross-border e-commerce: B2B cross-border e-commerce platform, represented by Alibaba International Station; B2C cross-border e-commerce platform, represented by Lanting Market [1,2]. In the cross-border e-commerce trade of China, B2B has the absolute advantage, so the research on the benefits coordination mechanism between the former B2B cross-border e-commerce platform and cross-border e-commerce supply chain has more extensive practical significance. However, from the current research, there are two problems to be solved: One is the functional orientation and development path of B2B cross-border e-commerce platform. The other is the pricing mechanism of B2B cross-border e-commerce platform.

II. FUNCTION AND PRICING STRATEGY OF CROSS-BORDER E-COMMERCE PLATFORM

The development of new trade theory regards heterogeneous enterprises as the object of study, and it analyses the requirements for enterprises to export, that only those enterprises with higher efficiency will export because of the higher costs involved in international trade [3, 4]. But the emergency of trade brokers has somewhat eased the efficiency constraints on exports. This is because

trade intermediaries (including exporters and importers) have more specialized trade knowledge and more comprehensive supply and demand information, and can achieve economies of scale to some extent, thus reducing the cost of doing business, so that less efficient firms can also participate in international trade through trade intermediaries.

At the same time, in the context of cross-border e-commerce platform links buyers and sellers within different countries through information technology [5]. As compared with trade brokers, its lower entry threshold can attract more manufacturers than the trading middlemen, and convenient search methods will make it easy and fast for buyers to find the products they need. Therefore, as similar to the traditional trading intermediaries in international trade, cross-border e-commerce platforms also act as trading intermediaries. However, cross-border e-commerce platforms are less involved in the trading process between buyers and sellers, and the buyers and sellers are more likely to conduct their own transactions. So, if the purpose of trading between traders is to earn a middle price difference, then the purpose of B2B cross-border e-commerce platform is only to provide a platform form both buyers and sellers to trade, so it plays more of a trade intermediary platform, in other words, it is not a typical “business person” role, but rather a market platform to a certain extent.

How can cross-border e-commerce platform be profitable as a trade intermediary platform? Basically,

due to the appearance of cross-border e-commerce platform, on one hand, the cost of information search is greatly reduced, and the information which was previously held by the trade brokers can now be realized by the platform's search functions. On the other hand, cross-border e-commerce platform can use its own technical and data advantages to customize special information release activities for buyers and sellers, so that the product or demand information can be satisfied in the very first time, and the profit and utility of buyers and sellers can be improved. Then cross-border e-commerce can get some benefits from this upgrading, which we call value-added costs.

As a cross-border e-commerce platform, the main advantage of the platform is that a large number of participants can make use of its information and data advantages. So the first step is to attract enough participants, which means that cross-border e-commerce platforms cannot set compensatory costs too high, or else they will make that platform less attractive. At the same time, the cross-border e-commerce platform can formulate a higher value-added cost. As the value-added cost is generally chosen by both buyers and sellers themselves, the platform has certain negotiating advantages and can charge higher fees, therefore, as an intermediate trade platform; cross-border e-commerce can charge a lower compensatory fee and a higher value-added cost.

III. THE SHORTAGE AND DEVELOPMENT PATH OF CROSS-BORDER E-COMMERCE PLATFORM

Cross-border e-commerce platform, as a trade intermediate platform, can reduce the cost of information collection between buyers and sellers, but on the other hand, it also increases the cost of information screening between buyers and sellers, although it can provide value-added services to both buyers and sellers to a certain extent, it does not take risks for both buyers and sellers. Therefore, although cross-border e-commerce platform has achieved a reduction in trade costs, the reduction of such costs is at the expense of higher quality risks, at the beginning of the development of e-commerce platform, the cost savings cannot offset the increased risk to both buyers and sellers, so the development speed is slower. But as the cross-border e-commerce platform has deepened its understanding of these issues, through a series of mechanisms such as third-party payment platform, also to a certain extent, the return and exchange system, the quality certification and the margin system have reduced the selection risk, which has enabled the cross-border e-commerce platform to develop rapidly and largely replaced the

role of trade middleman in traditional international trade.

Therefore, the future development of cross-border e-commerce platform is bound to be in the direction of reducing the risks to be chosen by both buyers and sellers. There are two ways to reduce the risks to be chosen: One is to reduce the choice of non-professional subjects, such as domestic e-commerce and foreign e-commerce, to reduce the risk of selection through the choice of subject specialization, which is actually a completely online B2B trading model. The other is to increase the degree of specialization to help buyers and sellers identify information. This is actually to reduce the selection risk through the platform's own professional way, but either way, it means the platform's entry threshold will be raised, thus to a certain extent, increasing the cost of cross-border e-commerce platform information collection. In summary, the future equilibrium depends on the trade-off between the cost of collecting information and the cost of screening information on cross-border e-commerce platforms. On the other hand, the current non-specialized platform can develop in the direction of specialization, and the specialized platform can lower the entry threshold to a certain extent and reduce the cost of information collection.

IV. ANALYSIS OF PRICING MECHANISM OF CROSS-BORDER BUSINESS PLATFORM

In the above analysis, we have pointed out that the future path of cross-border e-commerce platform is to reduce the cost of information screening between buyers and sellers. This makes cross-border e-commerce platform face two dilemmas: is it to retain high-demand consumers who demand more specialization, or to reduce specialization in order to maintain the size of users. Obviously, for high-demand consumers, if the cost of screening cross-border e-commerce platforms is too high, it may be more profitable for them to build their own e-commerce platforms, but this also caused the cross-border e-commerce platform revenue decline and the supply chain damage, so cross-border e-commerce platform needs to find a reasonable pricing mechanism to promote the sustainable operation of cross-border e-commerce supply chain [6, 7].

Assuming that cross-border e-commerce platforms provide services to both groups of users, $i = 1, 2$, the number of services provided to each type of unit user is β_i, β_s , the number items purchased (or sold) for each category of user is q_1, q_2 , then the total consumption of the two groups of users for the services provided by cross-border e-commerce platforms is: $Y = \beta_1 q_1 + \beta_2 q_2$. U_i utility from Users from Services Provided by Cross-border E-commerce,

for convenience, hypothesis, $U_1(q_1) = U_2(q_2)$, $U_2(q_2) = \lambda U(q_1)$, $\lambda > 1$, this means that user 2 is a high-demand user, as a result, the service centers of cross-border e-commerce platforms can be more effectively utilized.

Assuming that the cost of cross-border electricity supplier platform is $C = (\theta - e)Y$, among them, θ is the efficient type of cross-border e-commerce platform, which is endowed by natural exogenesis, e is the level of efforts of the cross-border e-commerce platforms. For the users, it can pay a fixed cost f to build its own cross-border e-commerce platform, and he has to pay a constant marginal cost a , generality, we set up for the less demanding user 1, its utility of constructing a new cross-border e-commerce platform is no more than 0, namely:

$$U_1^* = \max(U(q_1) - f - aq_1) \leq 0$$

So Low Demand Users Are Not Motivated to Build New E-commerce Platform; but for High Demand User 2, under certain conditions, it is motivated to build a new cross-border e-commerce platform, which makes the existing cross-border e-commerce supply chain unsustainable.

Suppose there is some kind of non-linear pricing scheme where cross-border e-commerce platform sets different pricing options for users with different needs, which is $\{(R_1, q_1), (R_2, q_2)\}$, the income thus obtained is: $R(q_1, q_2) = \beta_1 R_1 + \beta_2 R_2$.

Under the above assumptions, we can get the surplus (or social welfare) of the cross-border e-commerce supply chain as:

$$W = U(q_1) + \lambda U(q_2) - C = p_1 q_1 + \lambda p_2 q_2 - c(q_1 + q_2) \quad (1)$$

For the sake of simplicity, we assume that both users are cross-border e-commerce operators and that the utility of the two users is that their earnings are profits $\pi = pq - cq$, among them c is total marginal cost of services provided for cross-border e-commerce production and use of cross-border e-business platforms. Further assuming that the final sale price of the product is fixed, all are p , then $p_1 = p + c_1$, $p_2 = p + c_2$, price for different users after payment of cross-border e-commerce platform services.

When the objective function of cross-border e-commerce platform is to maximize (1), according to FOC conditions, we have

$$\begin{aligned} c_1 &= c - p \\ c_2 &= \frac{1}{\lambda} c - p \end{aligned} \quad (2)$$

In the case (2), because of $\lambda > 1$, so we have:

$$c_1 = c - p > c_2 = \frac{1}{\lambda} c - p \quad (3)$$

Therefore, cross-border e-commerce platforms should charge a lower marginal fee for higher-demand users, and a higher fixed fee should be charged to those high-demand users in order to prevent low-demand users from impersonating high-demand users.

V. SUMMARY AND POLICY RECOMMENDATIONS

Cross-border e-commerce platforms should have different pricing strategies for users with different needs, a higher fixed and lower marginal costs for those with higher demand, and a lower fixed and higher marginal costs for those with lower demand. For those users with lower demand, a lower fixed cost and a higher marginal cost should be established. This is in fact in line with the way forward for cross-boundary e-commerce platform we have analyzed above. In the future development process, cross-border e-commerce platforms need to weigh the cost of information collection and information screening reasonably to determine the degree of specialization, however, if a higher entry threshold is set to reduce screening costs, the information and data advantages of cross-border e-commerce platforms will be sacrificed. But those who need more will try to meet their needs by building their own cross-border e-commerce platform in order to reduce the cost of information gathering without specialization. However, differentiating between the two types of users would avoid the contradiction between the two costs.

First of all, we build a precision matching and a shopping guide recommendation system. By accumulating big data and information advantage, we can locate the exact demand of both buyers and sellers, and compare them with each other on the basis of diversification. Guided by the way of price gradient, customers can be selected, and combined with the culture of the target country, the products with high praise and characteristic can be recommended. In particular, attention should be paid to removing language barriers and designing different payment methods for customers in different regions, assisting buyers and sellers to pay for the goods, reducing the selective burden of buyers and sellers and reducing their time costs.

Secondly, establish and improve the relevant quality management system. The full implementation of quality management should be carried out in two ways: On the one hand, the relationship between cross-border e-commerce enterprises and regulatory authorities should be properly handled. Cross-border e-commerce enterprises should set up an independent product quality regulatory body or outsource to a third-party service agency so as to provide independent opinions on the quality of cross-border

e-commerce enterprises, reduce the decision-making risks of senior managers and improve the scientificity of decision-making. On the other hand, we should improve the internal quality management system as soon as possible, hire experts and scholars, conduct internal quality management training, establish perfect system, determine strict implementation standard, and design a suitable internal quality management system.

Finally, we will strengthen the overall control of the cross-border e-commerce supply chain link; each element carries on the systematic carding, and regards the various businesses inside the platform enterprise and between the node enterprises as a whole, Through the control of information flow, logistics and capital flow, all activities in the supply chain can be seamlessly connected. For the post-entry cross-border e-commerce platform, it is necessary to deepen the operation in a specific market segment, especially to refine the supply chain with limited resources. Can also rely on the free trade zone and free trade zone models; properly carry on product's self-support.

In short, B2B cross-border e-commerce platform has replaced the traditional role of trade middleman in international trade to some extent, and plays the function of trade intermediate platform, unlike general traders, however, it does not aim to earn a trade spread, but rather to realize its benefits by charging lower compensatory costs and higher value-added costs. Although cross-border e-commerce platform can reduce the cost of information collection between buyers and sellers, it has increased the cost of information screening and increased the quality risk of buyers and sellers, therefore, its future

development path needs to be oriented to reduce the cost of information screening between buyers and sellers, and take a more specialized development path. The degree of specialization depends on the trade-off between the cost of information collection and the cost of information screening in cross-border e-commerce platforms.

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Construction of Green Hotel in China and its Implementation Path

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Abstract: The implementation of a resource-saving and environment-friendly construction is the realization of China's economic development mode shift in major strategic initiatives. The hotel industry has long been regarded as one of high energy consumption and high emissions of waste industry. Thus, how to reduce energy consumption and protect the environment, which has also naturally urged China's hotel industry toward face and solve realistic problem urgently. The construction of "green hotel" is an effective way to solve this problem. According to the basic content of green hotel construction requirements, if green hotel's construction want to be implemented effectively, Chinese enterprises must strengthen the hotel staff education and the awareness of the hotel green atmosphere; Implement the target assessment and improve the system of hotel environmental protection; Cultivate hotel staff good habits of environmental protection; Pay more attention to the scientific of the green hotel environment and utmost create the core area of the hotel green environment ; Strengthen the matching work of hotel facilities and equipment; Vigorously strengthen to promote hotel virtuous cycle of energy conservation and consumption reduction.

Keywords: Green hotel, resource saving, environment-friendly

I. AN ANALYSIS OF THE NECESSITY AND URGENCY OF THE CHINA GREEN HOTEL CONSTRUCTION

The Communist Party of China's eighteen major report pointed out the full implementation of promoting all-round economic, political, cultural, social, and ecological progress .The construction of ecological civilization to the same position as the economic and political construction, which has fully proved that the party and the country's emphasis on related environmental protection to an unprecedented height, and releasing the signal of strong focus on environmental protection, resources recycle, emission reduction in the related field. It also fully shows that the construction of ecological civilization has related to the vital interests of the people and the Chinese nation's survival and development. Therefore, it is necessary to further the construction of resource - saving and environment- friendly society in the outstanding position in China's modernization development strategy.

The so-called resource conserving society refers to the entire social economy should be established on the basis of the resource conservation. Constructing a conservation-minded society is to production, circulation, consumption and other aspects in the social production through the means of perfecting the mechanism, adjusting the structure, in addition to take the market and administrative and other

measures to improve the efficiency of resource utilization conscientiously with minimal resource consumption to gain the maximum economic benefit and social benefit, so its core is to save resources.

The So-called environmental friendly society refers to a kind of social state which achieves the harmony between man and nature as the center and the harmonious coexistence of human as the goal. The construction of environment-friendly society is to follow the laws of nature and take conducive environmental protection modes of production, lifestyles and consumption patterns in order to establish benign interaction relations between the people and the environment within the scope of the bearing capacity of the environment and resources. Its core connotation is the coordinated and sustainable development of human production and consumption activities combined with the natural ecological system.

In essence, the construction of "two-oriented society" is the realization of China's economic development mode change of major strategic initiatives. The economic development is accompanied by the economic growth with the social comprehensive progress, which is the synchronization improvement of the economic quantity size and economic quality level. The economic development is accompanied by and social progress, which is of economic size and economic level of quality.

Therefore, China, currently in the transformation of the mode of economic development, is to realize the national economy from the previous "backward growth" to be based on technological progress "comprehensive development", namely "three transformations": from the investment mainly relies on exports for economic growth to rely on consumption, investment and export coordination for pulling change; from mainly relying on the second industry to lead the first, second, third, industry driven collaborative change; from mainly relying on material resources consumption to scientific and technological progress, workers quality improvement, management innovation. It is China that has made major changes which is the great practice of the scientific outlook on development in order to adapt the economic globalization, informationization and marketization with the new international economic situation [1].

And Green Hotel as for the sustainable development concept adheres to the clean production, advocate Green consumption, protect the ecological environment and rational use of resources, so it should consider focus on Green design, energy management, environmental protection and Green management and other several aspects. Building green hotel is not only the need of future sustainable development of hotel enterprises, but also the implementation of the Scientific Outlook on Development put forward by Central Committee for building resource-saving society and environment-friendly enterprises of the real requirements.

As early as in 1987, the United Nations World Commission on environment and development "our common future" in the report was released, the first time it linked to environmental problems and the development. The report had explicitly put forward: the fundamental cause of the serious environmental problems lied in the human development mode and development path. In 1991, "Prince Welsh business Leadership Forum created international hotel environment initiative" institution, which is a committee, composed of 11 world famous hotel management group by the British Prince Charles president. Subsequently, veteran from the top ten International hotel chain groups jointly initiated and established the International hotel association of environmental management (International Hotels Environment Initiative, IHEI). Thus, marking the environmental management of hotel industry is no longer a restaurant, a group behavior, but has become the behavior of the global hotel industry. In January 1995, the world trade organization was formally established, and held a number of international conferences on environmental protection and signed a number of international conventions and agreements

on environmental protection. Thus, it has paved the way for the development of the global green movement to a certain extent.

The hotel industry has long been considered one of the high energy consumption and high emissions industry. Generally speaking, when hotel is in the process of the operation, its energy consumption and material consumption accounted for two of its total operating cost greatly. According to statistics, China's food store water, electricity, coal, gas energy consumption has accounted for more than 30% of its operating costs. The hotel unit building area of urban residents is the average power consumption of electricity 10 times, and the daily per capita water consumption is 5 times more water for city residents. A building in the area of 80 thousand - 100 thousand m² large hotels, and annual consumption of about 130 thousand to 180 thousand tons of standard coal, the energy consumption is not less than a large factory. The total annual cost of disposable items a three-star hotel which has 150 to 180 rooms is about 260 thousand to 300 thousand Yuan. The hotel air conditioner will a large number of oil and gas, and kitchen Produce and discharge a lot of smoke emissions, and the rooms and washing will produce large amounts of sewage. In this way, how to effectively reduce the energy consumption and environmental protection will naturally become the hotel industry which must face the reality of the problem. So the implementation of the green hotel construction is the effective way to solve the problem. [2, 3].

Therefore, the implementation of green hotel construction is the future development direction of China's Hotel, which not only embodies the progress of the times and the city's civilization, but also reflects the humanistic care. Duration of environmental protection has become global extremely hot today. As the production of special products and resource consumption of large enterprises, the hotel should reduce resource consumption and provide health products under the precondition of satisfying the needs of guests as much as possible. With the most reasonable allocation of resources to ensure the good quality of service and management benefit and eventually realize the sustainable development of the hotel, it has obviously become the urgent need for the survival and development of the hotel industry in China.

II. THE BASIC REQUIREMENTS FOR THE CONSTRUCTION OF GREEN HOTELS

According to the law of the People's Republic of China tourism industry standards of "Green Hotel" (LB / T007-2006) standard, the implementation of the basic requirements of China green hotel construction

should be mainly embodied in the following five aspects:

A. Green Design

Research shows that green building measures taken at the hotel when the construction and renovation can save the building construction operation cost and improve the labor productivity of employees significantly at the same time. Comprehensive measures for green building construction can make the hotel buildings in all relevant areas of the greatest environmental and economic benefits. Therefore, the introduction of the green building design can become the driving force for environmental protection.

B. Energy Management

Many environmental problems and energy use have direct or indirect relationship. Hotel is a very high level of energy consumption enterprises, and energy consumption depends on many factors, including geographical location, climate change, scale, operation time, system equipment, operation management, etc, so no two hotels are alike. Energy management is concerned with the utilization of energy, which is based on two aspects: First, the efficiency of energy use in the process of operation. Secondly, the efficiency of buildings, equipment and systems. Hotel energy management needs to have very clear principles or managed entry points.

C. Environmental Management

Hotel environmental management is a micro-management activity. Through the hotel management mechanism, organization, management model , service form, operating methods and other hotel management adjustment or reform of various factors, the establishment of appropriate in-house environmental management system so that the management of the hotel can meet the needs of environmental protection and the hotel's survival and development.

D. To Provide Green Products and Services

The hotel is the economic entity which combines tangible facilities with intangible services to the tourists and other guests to provide food, living, shopping, entertainment and other aspects of integrated services. Its products are divided into tangible and intangible part. The product in the hotel should not only meet guests' needs but also not affect comfort while reducing the impact of waste on the environment and resources as much as possible. In fact, the starting point for green products and service is to conserve resources and reduce waste. Thus, the hotel offers green service should follow three basic principles: First, the principle of reduction. Through

reasonable measures such as compacting hotel products, packaging and other simple methods to reduce the input of non-core products to achieve lower costs and reduce unnecessary wastage of resources purpose; the second is recycling principle. It means to use renewable resources as far as possible, and turn waste into treasure; the third is substitution principle. That is using non polluting supplies or regeneration materials frequently to reduce pollution.

E. Strengthen the Social Environment and Economic Benefits

Hotel is the society window and its behavior will cause radiation effects on society, which will naturally affect the other service industries and tourism consumers. Through the implementation of green management, staff and guests can foster awareness of environmental protection. At the same time, with the energy saving and environmental protection new technology and new equipment to promote the application, so that the hotel's energy consumption costs further reduced enhancing the economic and social benefits of the hotel[4].

III. THE IMPLEMENTATION OF BASIC WAY OF THE CONSTRUCTION OF THE GREEN HOTEL

For the construction of green hotel, in the past , there is quite a few discuss . But from the perspective of the actual operation of the hotel, under the background of construction of "two type society", according to the requirements of national standards in our green hotel construction, to be more effective to the implementation of the construction of green hotel, the hotel industry should be more effort from the following several aspects:

A. Strengthen Staff education, Strengthen the Awareness of the Hotel Green Atmosphere

In order to strengthen the management and employees' environmental consciousness, the hotel should be timely organize every department, the shift from the "create a green hotel, hotel competitiveness" of the study and discussion , Systematic learing of energy management, environmental protection, green rooms and green food, green management basic theory and its importance to the operation of hotel. Only through learning, can make the hotel staff to learn energy resource consumption is the important factors that affect the environment, and therefore must be prepared to reasonable consumption energy, reasonably control the waste gas and wastewater emissions, enhance the hotel garbage classification processing, thus providing green room, green food and so on, to meet the hotel guests green consumer demand [5].

B. The Implementation of Target Assessment, Improve the System of Hotel Environmental Protection

In order to make environmental protection work more practical, the hotel should make special environmental assessment objectives, adhere to the basic principle of rewards and punishment which is clear, in order to "safety, health, environmental protection" as the core of the three concepts, comprehensive renovation hotel internal and external environmental health, strictly to good food with purchase and service personnel health, ensure food safety and public health security. The hotel in the ventilation and disinfection, health management to the standardization and institutionalization. And on this basis to strengthen and perfect the system of environmental protection, such as "sunshine" kitchen health management and system for the storage of food, food-storing in strict accordance with the health standards, students cooked separately, hot and cold, in order to ensure the cleanliness of food; Rooms every day insist on room available for dust removal, regular cleaning and disinfection, can make the guests feel comfortable and neat; Dropping points clear in time the garbage every day, in order to prevent the waste of corrupt metamorphism and flies breeding; Hotel guest room can also be placed "everybody to participate in water conservation", "if you want to change the sheets, please put on the pillow," the "I", "please protect our earth", "washing supplies every year increase in the pollution of water quality, we sincerely request your help reduce such items, the usage of" environment such as signs, to remind the hotel guests to participate in environmental protection work together, to better maintain the operating environment of the hotel.

C. Cultivating Hotel Staff Good Habits of Environmental Protection

Hotel staff good habits of environmental protection should be based on to start from the intravenous drip, it is based on the formulation and implementation of various environmental protection system and hotel staff environmental awareness rising. Hotel in the process of operation, therefore, should always be emphasized staff good habit of environmental protection gradually formed. Requirements such as hotel employees in the work to do with close the faucet, the necessary human leave lights went out, throw the garbage classification and so on good habits. Thus, not only for the hotel to save a lot of resources, but also can effectively prevent the waste pollution to the environment, thus to beautify the environment, and gradually form the hotel environmental human atmosphere.

D. Pay Attention to the Scientific Hotel Environment Greening

Green hotel's fundamental purpose is to improve the guests and staff's living environment and working environment, improve the quality of consumption. Hotel implementation of indoor and outdoor greening, therefore, must according to the plant world based on objective laws, drive midge sterilization and distinguish between different tree species in the health care function of the fresh air, is given priority to with tall trees, the formation of the multilayer structure of Joe, irrigation, grass grow different plants and reflect different azimuth, make human body can be beneficial gas by absorption of plants and improve physical fitness, regulate mood, promote health. Both can fully display and beautiful, and to maximize the plant itself environmental protection function.

E. To Build the Hotel's Core Region Green Environment

Guest room is the main part of hotel management project. Create a green hotel guest room atmosphere is particularly important. People know that smoking is harmful to health, passive smoking also leads to people's physical damage. Therefore, the hotel can create room for smokeless room, and setting up non-smoking signs, guest room should be a consumables from plastic packaging to the environmental protection paper, consumable to minimize the use of plastic products, to help protect the ecological environment; Hotel rooms should cancel disposable shampoo and bath, and use soap liquid device, can not only reduce waste, and convenience of the guests, also conducive to environmental protection; Towels and bedding shall all be made of pure cotton, soft and appropriate; Per room can also be equipped with green plants to purify the air, which is beautiful and environment.

Meet the demand of the environmental health of the guests, but also should always pursue the goal of hotel restaurants. Hotel restaurant to meet the needs of special groups, should also be special setting non-smoking section or smoke-free rooms like room, create a healthy environmental protection area; Hotel should also establish long-term cooperative relationship with pollution-free vegetable base, to ensure access to fresh green vegetables, no pesticide residues and other green food, and can develop green recipes, to advocate green food consumption; The guest when have dinner, strictly provide the dining-table centiliter, encourage guests to the rest of the food packaging, for remaining liquor storage, can attract guests held again, another customer is conducive to timely and reasonable consumption; When guide guests dining food consumption, should be timely remind guests order not too much, advocate "consumption without waste"; In the process of room

service, should be banned the use of disposable chopsticks and disposable foam tableware, when the guest finished eating, tableware should be back in time, lest affect guest room sanitation.

F. And to Strengthen the Hotel Facilities Matching

Hotel construction should not only emphasize environmental protection design. And more on its facilities installation and matching should pay attention to environment protection. Such as the selection and installation of central air-conditioning equipment, can first consider energy conservation and environmental protection of lithium bromide direct-fired machine, try to put an end to freon pollution to the atmospheric ozone layer; Kitchen stoves hookah cover, should be adopted to reduce the air pollution caused by lampblack; Energy-saving lamps should be common to replace incandescent lamp, in order to effectively save power; Hotel according to their own conditions as far as possible by building automation technology to effectively control the hotel's major regional air conditioning start-stop and temperature regulation, can not only easy to use, but also save energy.

G. Strengthen to Promote Hotel a Virtuous Cycle of Energy Conservation and Consumption Reduction Work for Saving Energy and Reducing Consumption

The hotel should be according to own actual situation, adjust measures to local conditions to take some necessary measures. In order to save water, for example, the hotel can by limiting the flush toilet water tank, in order to reduce the toilet water or too much surplus water phenomenon. Hotel guest room

and bathroom to all employees for hybrid water-saving faucet, shower when one-time set of hot and cold water ratio, halfway shut after water don't have to move, not only save time and effort, and can save valuable water resources; At the same time, the hotel can also take measures to recycle the laundry steam heat used to heat the water. According to the experiment, a 250 - room hotel if such measures are taken, it can produce life of about 100 tons of hot water every day, every day can save diesel about 270 kg, a year can save about 100 tons of oil, the energy-saving effect is very significant [6].

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The Design and Implementation of Online Bookstore

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Abstracts: With the development of network, the online bookstore system is becoming more and more popular as part of it. The online bookstore system has two roles for users and administrators. The basic function of users is: User registration. The user login, look for books, View historical records, Modify personal information, to view the order, shopping cart and comment evaluation function. The basic functions of the administrator are: Book management, user management, category management, order management, administrator management, message management, sales statistics and other functions.

Keywords: ASP.NET, ADO.NET, SQL Server, Online bookstore

I. INTRODUCTION

Compared with the traditional bookstore, Online bookstores can avoid the limitations and blindness of bibliographic orders, It can also overcome the shortage of large input, high cost and difficult management. And the wide range of online choices can be seen visually, ready to order, conveniently and quickly, these advantages are beyond the reach of other trading methods. As a result, Book online trading is an inevitable future development of the book sales field, it is the only way to establish new circulate channels of the publishing industry.

II. SYSTEM DESIGN

This topic is written and tested on Windows 7 system, Using ASP.NET technology, SQL Server 2005 technology development completed. The system requires hardware and software, and no special purchase is required for all hardware devices. The operating system on software USES Windows series operating system and Microsoft Visual Studio 2010 as the foreground development tool. At the same time, ASP.NET is relatively easy to learn as one of the introductory programming language, with the use of Microsoft SQL Server 2005 database editing software basic can complete online bookstore system development goals.

A. Demand analysis

- User login: To use the data which is added to the database after the user registers successfully, to compare the user's account password entered the login interface and verify if the login is successful.
- User information: To look for personal

information, personal shopping cart, and personal data.

- To view the order: The user enters his own home page, returns the application, checks the historical order, and evaluates the books he bought.
- Comments: For users to log on to their own home page, check the contents of the message board, and send comments and Suggestions to the administrator.
- Book management: It is used to manage, add, delete, modify and query the book information.
- User management: It is used for the management of user information and the view of the general user information and the deletion function.
- User information: It is used to manage the book category and realize the function of adding, deleting and modifying the information of the book category.
- Order management: To manage order information, the administrator can conduct order query, deliver goods, and accept the application of user returns and other functions through this interface.
- Administrator management: To manage administrators, Administrator status is managed by other administrators, Query, modify and delete existing administrator information.
- Message management: For the management of message information, the design stipulates that the administrator cannot leave a message to the user as an administrator, and can only query,

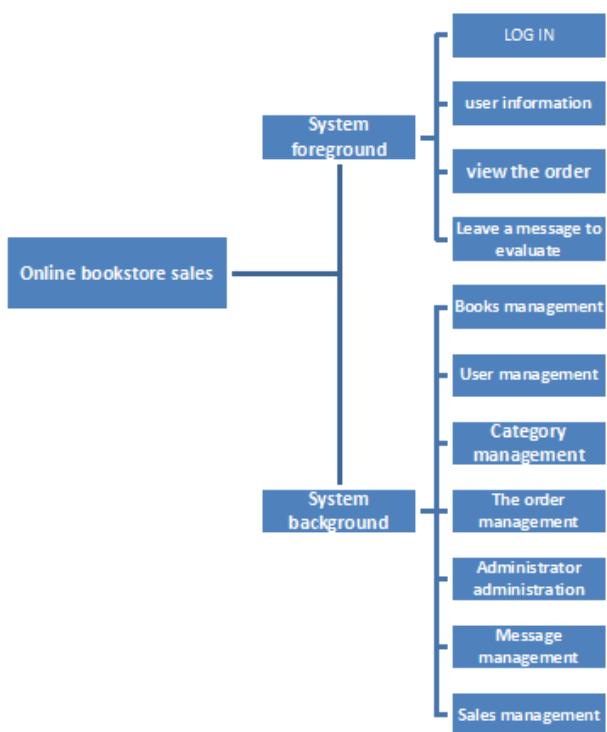
modify and delete the existing message information.

- Sales management: To manage the statistics of sales books, You can check the sales situation, quantity, total price of books sold in this bookstore.

III. OVERALL DESIGN

A. Functional design

The overall functional block diagram of the whole system is shown in the figure.



B. Database design

All information processing systems are depended on background database support. The design of database is undoubtedly a key link. The database design is mainly divided into logical structure design and physical structure design.

The design of logical structure is mainly divided into administrator information attribute, user information attribute, book type information attribute, book information attribute, and message information attribute and entity relationship. Physical structure design can be divided into seven parts: administrator information, message information, user information, book type information, order, book information and order information.

IV. THE DETAILED DESIGN

A. The connection implementation of the database

The relevant code that implements the database operation in this system is encapsulated in the sqhelper.cs class, this class creates a connection to the database in the constructor, and other pages provide a variety of methods to database deletion and rechecking.

The database connection string is as follows:

```

<add name="ConnectionString" connectionString=
"DataSource=WIN-KSDF3VQ0HOP;
InitialCatalog=HawickBOOKS;User
ID=sa;Password=sasa;" />;
  
```

B. System foreground function implementation

The user enters the login.aspx page for operation. If the user input account password information is consistent with the information stored in the database, it will jump. If the information is incorrect, the login fails. The user need to fill out the user information in the Register.aspx page, the format will be correct, and then the registration will be uploaded to the database, otherwise the registration will fail. The user login will enter the personal homepage EditMInfo. Aspx page, and the user's user information (phone, home address, electronic mail, etc.) will be completed on the page. The page is nested in the master page. Master. The user can access the "my order" page through the personal homepage to see the order status of the purchase books. Delivery status information through the GridView control binding, according to the data source into the "my orders" Lishi. Aspx page, used for trading to return after successful application, this page has a Button, click apply for a refund after waiting for audit. Entering the history order, the historical order information is displayed through the GridView control binding data source. Into Lishi. Aspx page, after the success of the deal to buy books, can evaluate the purchase of books, this page includes a DropDownList control, a TextBox control, a Button control, click the DropDownList select high praise, medium review and bad review, fill out the evaluation content in the TextBox, evaluation after the format is correct, click the evaluation Button to submit.

C. System background function implementation

Background management is mainly divided into GoodsManage. Aspx books management interface, MManage. Aspx user management interface, Typemanger. Aspx category management interface, OrderManage. Aspx order management interface, AdminManage. Aspx administrator management interface, liuyanlist. Aspx message management interface, SellITj. Aspx seven parts sales management interface, these pages are nested within the iframe control of administrators to manage and maintain site

information.

V. CONCLUSION

The online bookstore of this design has a huge social benefit, the number of online bookstores is large, and the variety is full. In addition, there are books and old books published in the past.

Moreover, it can provide value-added services and give full play to its network advantages, providing new book recommendations, best seller lists, reader comments, author interviews, expert comments and other columns. To provide users with a direct communication with the bookstore, one of the superior conditions.

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Xu Yuanchong's image translation of Chinese Poems through Cross-cultural perspective

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Abstract: Chinese classical poetry is the treasure of literary translation, and image is the soul of poetry. Poetry translation is the difficulty of literary translation. Images of poetry contain rich cultural connotation, which increases the difficulty of poetry translation. Nowadays intercultural communication becomes more and more important with the tendency of globalization, the focus of translation studies transfer to culture from language. Cultural relativism holds that intercultural communication includes assimilating the external culture and exporting local culture. Because image contains abundant culture, the image translation effects the readers' understanding of the original work directly. As a master of poetry translation, Xu Yuanchong's translation provides new perspective and new ideas for the translation of image. From the intercultural perspective, the definition and relationship of culture and translation is discussed, the image of poetry translation is classified and integrated, and the translation strategies of image is explored based on the poetry translation of Xu Yuanchong. This thesis aims to find a basic rule of image translation of Chinese classical poetry.

Keywords: Poetry translation, image, Xu Yuanchong.

I. INTRODUCTION

The mutual understanding among the nations of the world is hindered, not only because of language diversity, but also because of the different thinking modes, that is to say, people's knowledge source and differences in ways of thinking cause the understanding obstacle. Translation is an intercultural communication activity, which makes translator use target language to externalize the cultural world of source language consciously. Zhang Peiji held that translation is a language activity which through a language to express another language's conceptual work accurately. Yang zijian point that translation is translators' special and complex thinking activity process. Wang gaosheng regarded translation as translator use target language to think again to the conceptual work of source language. Huang zhonglian held that translation is a thinking activity and language activity which translator transfer the source language cultural information to the target language cultural information to meet readers' special needs. Peng lin point that translation is a cross-language and intercultural thinking activity.

The image of poetry is an important pattern of manifestation of poetic beauty, and the image translation effect the beauty transmission of original poem. The most interesting thing is the image of poetry in poetry translation. In poems, everything is

filled with new life and inspiration, poets express their feelings through scenery description. From "Book of Songs" to Lisao, and to Tang and Song poems, the poetic change reflects the change of time. While the image of poetry also records the characteristics of Chinese cultural aesthetics. Chinese and Western image translation art has their own profound historical origin and cultural connotation, and they have many similarities and differences on practice and theory, which not only provides foundation to image translation, but also sets many obstacles objectively. Image is the concentrated reflection of poetry nature, and there is no poetry nature in poem without image. Every image's structure is multi-layered regardless of simple or complex. Xu Yuanchong is a outstanding representative among Chinese modern translators, he translated a lot of Chinese classical poetry, made great contribution to the spread of Chinese culture, and improve Chinese literary position in the world [1,2].

In English, culture is derived from Latin--cultura, its earliest basic meaning is planting, later with the development of social civilization, its connotation and extension become more abundant. Culture is a complex, including material object, knowledge, belief, art, moral, law, custom and other social competence and habits [3-5]. Traditionally, culture is combination of material wealth and spiritual wealth created by human beings in the process of society historical development. Culture is produced with the production

of language. Language is the premise of cultural formation and development, and it is the carrier of culture, both of them cannot exist independently. Usually culture is a kind of language activity. It is the bridge of different languages communication in the process of human communication thinking, it expresses the information of source language through the information of target language, translation makes readers get the idea of original author, and the similar feeling of source language readers [6-9]. Translation and culture closely connection based on the interdependent web of language and culture. In 1980s, Susan Bassnet put forward translation is the communication of internal culture and different cultures. Translation equivalence is the equivalence of source and target language in terms of cultural function.

In poems, image is a special concept, it can be called “traditional image”, “fixed image”, and “allusive image”. Image cannot be felt directly, it needs thinking and memory to arouse individual psychological thoughts, it can be modified by descriptive adjective [10]. In literary image, once some art or artistic images are adopted successfully, other authors can utilize these images. In poetry, image is given the author's feeling, is the carrier of author's thinking and emotion. There are realistic narrative poems and lyric poetry, and image is divided into real image and virtual image. Real image is a material which can be seen, and virtual image is a kind of feeling or ideas of author. Image includes individual subjective feeling. In literary works, image cannot be showed independent, it depends on external objects. In Chinese poetry, there exists some Chinese cultural image, which relates to cultural background and living customs. For example, “green” stands for vitality and hope, “red leaves” stands for the love between man and woman, “plum” “orchid” “bamboo” “chrysanthemum” stands for noble quality, “plum” stands for noble and unsullied, “orchid” stands for elegant and graceful, “bamboo” stands for positive integrity, “chrysanthemum” stands for hermit and unworldly, which are popular among Chinese literary intellectuals.

Cultural image is the language sign of cultural record, it embodies great wisdom and experience of human beings. It is the spiritual fruit which different nations observe and analyze outside world, is nations' historical precipitation and cultural crystallization. It highly embodies every nation's cultural spirit, reflects nation's collective unconsciousness. These cultural images change depend on their cultural source, and they become precious legacy of national culture. It is difficult to achieve complete cultural equivalence when transfer these cultural image from one language to another language. But the translation and transmission of cultural image has been an important form of cultural communication and spread. Especially in the cultural context of globalization, Eastern and Western culture become a cultural

pattern of mutual penetration, fusion and complementation.

II. THE CLASSIFICATION OF IMAGE

A. Numeral image

Number seems simple and boring, while it has rich meaning because of its unique cultural connotation. Chinese classical poems are very charming, which contains a lot of numeral images. Compared with Western countries, numbers in China have many different meanings. In Chinese poems, number contains rich culture and specific rhetorical means. Therefore, numeral translation should not be ignored because its different meanings in different cultural background. For example:

梧桐树，三更雨，不道离情更苦。
一叶叶，一声声，空阶滴到明。”（温庭筠《更漏子》）

Translation

“The lonely withered tress. And midnight rain and breeze. Don't care about her bitter parting sorrow. Leaf on leaf without grief. Drop by drop without stop. They fall on vacant steps until the morrow.”

Figure.1. Song of water clock at night translated by Xu Yuanchong.

As shown in Figure.1., Xu didn't translate the number directly, while he used “Leaf on leaf without grief, drop by drop without stop” to imitate the sentence pattern of source text, which expresses complete meaning and produces tuneful swing. Xu's version retains the source text's rhythm beauty and formal beauty, it has highly readability and express deep parting sorrow of the source text.

白日依山尽，黄河入海流。
欲穷千里目，更上一层楼。”（王之涣《登鹳雀楼》）

Translation

“The sun beyond the mountains glows. The Yellow River seawards flows,
You can enjoy a grander sight. By climbing to a greater height.”

Figure.2. On the stock tower translated by Xu Yuanchong.

As shown in Figure.2., Xu translates “qian li” and “yi ceng lou” to “sight” and “height”, it seems different with literal meaning from the source text, but it is easy to find it corresponds to the main idea of the poem. “greater” and “grander” are added to modify “sight” and “height”, which express the magnificent scene vividly. In a word, though Xu's version downplays the literal meaning of the source text, the poet's idea and feeling is fully represented.

B. Color image

Tang-Song poetry is competitive product of Chinese traditional cultural treasury, is the summit of Chinese classical poems. Poets show us many beautiful picture by using several colors. In Tang-Song poetry, every color is filled with feelings regardless of describing scene and expressing thoughts. Various colors show poets' rich inner world

and broad social life in Tang-Song poems. For example:

“两个黄鹂鸣翠柳，一行白鹭上青天。
窗含西岭千秋雪，门泊东吴万里船。”（杜甫《绝句》）

Translation

Two golden orioles sing amid the willows green. A flock of white egrets flies into the blue sky. My window frames the snow-crowned western mountain scene. My door often says to eastward-going ships “Goodbye”!

Figure.3. A quatrain translated by Xu Yuanchong.

As shown in Figure.3., the poem creates a bright and pleasant atmosphere based on natural beautiful scenery. In the first two sentences, “golden” “green” “white” “blue” constructs a beautiful landscape painting. These warm colors express the poet's positive attitude and vivid scene of early spring, which make readers get the main idea of the source text.

“绿蚁新醅酒，红泥小火炉。
晚来天欲雪，能饮一杯无？”（白居易《问刘十九》）

Translation

My new brew gives green glow; My red clay stove flames up. At dusk it threats snow, Won't you come for a cup?

Figure.4. Requesting mr.liu, the nineteenth translated by Xu Yuanchong.

As shown in Figure.4., Liu shiji is the poet's friend, this poem has no profound hopes and flowery ornate terms, but the happy and warm tone is filled with every word, which express the poet's enthusiasm. “green glow” describes the wine's fresh and rough, which make readers feel the wine's good smell. “red clay stove” is tendentious and heighten atmosphere, the wine is attractive, while red clay stove adds warm atmosphere.

C. Sound image

Image refers to those objects which involve poet's emotion. People are used to regard image as those objective materials, however, image includes some sound images, which appear in classical poems usually. For example:

“大弦嘈嘈如急雨，小弦切切如私语，嘈嘈切切错杂
弹，大珠小珠落玉盘。”（白居易《琵琶行》）

Translation

The thick strings loudly thrummed like the pattering rain, The fine strings softly tinkled in murmuring strain. When mingling loud and soft notes were together played, It was like large and small pearls dropping on plate of jade.

Figure.5. Song of a pipa player translated by Xu Yuanchong.

As shown in Figure.5., “cao cao” and “qie qie” are mimetic words, Xu didn't copy them simply by using onomatopoeia, but he added vivid adverbs - loudly and softly, and verbs - thrum and tinkle, which express the features of sound exactly. “loud and soft” and “large and small” construct striking contrast, which make the target text more lively and vivid.

“梧桐更兼细雨，
到黄昏、点点滴滴。”（李清照《声声慢》）

Translation

On plane's broad leaves a fine rain drizzles, As twilight grizzles.

Figure.6. Slow, slow tune translated by Xu Yuanchong.

As shown in Figure.6., autumn rain falls on the phoenix tree leaves, which attracts the sorrows of poet, “dian dian di di” indicates the rain patter and the rainy weather. Xu use “grizzles” to express the gloomy tone, shows the phonology beauty of the source text through rhyme.

D. Animal Image

Animal culture is an unique carrier in Chinese classical poems. As an indispensable part of Chinese culture, animal images have profound and rich cultural meaning. But because of the difference of cultures, the same animal image stands for different meanings, which improves the difficulty of animal image translation. For example:

“锦瑟无端五十弦，一弦一柱思华年。
庄生晓梦迷蝴蝶，望帝春心托杜鹃。”（李商隐《锦瑟》）

Translation

Why should the zither sad have fifty strings?
Each string, each strain evokes but vanished springs,
Dim morning dream to be a butterfly,
Amorous heart poured out in cuckoo's cry.

Figure.7. The sad zither translated by Xu Yuanchong.

As shown in Figure.7., the third sentence is come from a literary quotation---Chuang Chou Dreaming a Butterfly, Xu didn't focus on Chuang Chou, and not translate the butterfly directly, he translated to “dim dream”, which make readers understand the original meaning of this sentence. “Dim” expresses the grief and confusion of poet. Since Tang dynasty, the cuckoo is regarded as sad bird or hatred bird. Xu added “cry” after “cuckoo” to show the poet's indignantly resent to the end of the story, and the source text's sad tone.

III. IMAGE TRANSLATION STRATEGIES

Translator should notice that images should follow the original meaning of the source text when translate them, and guarantee the objectivity of translation, not add translators' subjective ideas. But sometimes, because of difference of language, culture, and custom, it is difficult to follow the meaning of source text for translation. There are some image translation strategies:

A. Preservation

If some images in poems are proper, and they have highly aesthetic value and artistic value, then they should be preserved in the process of translation. For example:

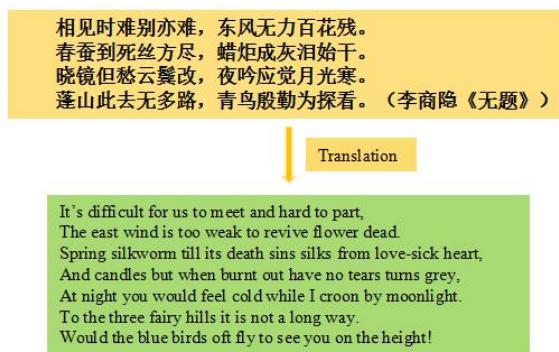


Figure.8. To one unnamed translated by Xu Yuanchong.

As shown in Figure.8., the poem describes the love between man and woman, there are a lot of Chinese cultural images. In Xu's version, “the east wind”, “dead flower”, “candles”, “moonlight”, “the three fairy hills” and other cultural images are preserved directly, and are modified by “weak”, “burnt out”, “grey”, “cold” and other words, which expresses the sentiment of missing of protagonist. From the perspective of art, these images are classical, and have profound meaning and highly artistic value.

B. Transplantation

Transplantation is a translation means of copying the culture of source language, that is to say, the thoughts and ideas of source language keep consistent in the ideas of target language, or try to reserve the image, metaphor and rhetorical devices of source language and highlight the feature of target language. This means is helpful to understand and accept other cultures, and add new ideas to culture of the target language. For example:



Figure.9. Buddhist dancers translated by Xu Yuanchong.

As shown in Figure.9., “mo mo” and “you you” are translated to “sympathetic” and “carefree”, which is understandable and exactly. The emotion of the source text is expressed in plain words.

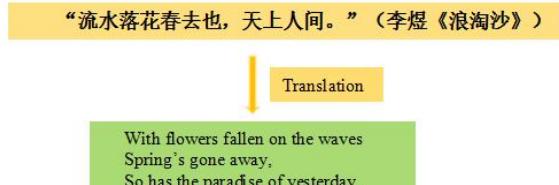


Figure.10. Ripple sifting sand translated by Xu Yuanchong.

As shown in Figure.10., Xu translated “tian shang” to “paradise”, which accords with Western culture, and express the meaning of original sentence.

In Chinese culture, “tian shang” has no pain, no sorrow, which has same meaning with “paradise”.

“日照香炉生紫烟，遥看瀑布挂前川。
飞流直下三千尺，疑是银河落九天。”（李白《望庐山瀑布》）

Translation

The sunlit Genser peak exhales a wreath of cloud.
Like an unpended stream the cataract sounds loud.
It's torrent dashes down three thousand feet from
As if the Silver River fell from azure sky.

Figure.11. Cataract on mount lu translated by Xu Yuanchong.

As shown in Figure.11., the original poem relates to the cultural image “Yin he”, according to the knowledge of astronomy, its English is “the Milky Way”, but the connotation of “Yin he” in China is different from “the Milky Way” in West, so the associative meanings are different, which causes the loss of culture. Xu translated “Yin he” to “Silver River”, which make the artistic cultural image is preserved completely, and transfer the artistic effect of the source text.

C. Omission

Because of Chinese long history and rich culture, in Chinese classical poems, some images cannot correspond to English. These images is national appearance, they reflect the nation's historical culture and customs. Given the feature of these images, omission can be used in translation, that is avoiding the image of source text, but translate its meaning directly. For example:

“故人西辞黄鹤楼，烟花三月下扬州。
孤帆远影碧空尽，唯见长江天际流。”（李白《送孟浩然之广陵》）

Translation

My friend has left the west where towers Yellow Crane,
For River Town when willow-down and flowers reign.
His lessening sail is lost in boundless azure sky,
Where I see but the endless River rolling by.

Figure.12. Seeing meng haoran off at yellow crane tower translated by Xu Yuanchong.

As shown in Figure.12., “Yang Zhou” and “Chang Jiang” are omitted, Xu translated them to “River Town” and “endless River”, which show the feature of “Yang Zhou” and “Chang Jiang” exactly. Readers can understand the meaning of the poem.

“青山横北郭，白水绕东城。此地一为别，孤蓬万里征。
浮云游子意，落日故人情。挥手自兹去，萧萧班马鸣。”（李白《送友人》）

Translation

Green moutains bar the northern sky;
White water girds the eastern town.
Here is the place to say goodbye,
You'll drift out, lonely thistledown.
Like floating cloud you'll float away'
With parting day I'll part from you.
We wave and you start on your way,
Your horse still neighs: "Adieu! Adieu!"

Figure.13. Farewell to a friend translated by Xu Yuanchong.

As shown in Figure.13., the poet express the

feeling of separation from his best friend through some images, such as “green mountains”, “white water” “eastern town”. “wan li” in English means “thousands of miles”, in Chinese, it refers to the far distance. Xu omitted the “thousands of miles”, while translate to “lonely thistledown”. In the third sentence, Xu omitted the image of “You zi”, and “luo ri”, and he used “you” and “parting day” to express the poet's meaning.

IV. CONCLUSION

Images constructs the beauty of poems, whose unique cultural characteristics not only show the colorful perspective of understanding culture for translators, but also provide endless imaginary space for translation. Chinese classical poems' image translation is a hot topic among translators. When translate images of poems, translator not only transfer the cultural images of the source text, but also think about the acceptability of target readers, that is, guarantee the readability of the target text.

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