

Empirical Study on the Relationship between Organizational Flexibility and Performance of Agricultural Enterprise

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Abstract Flexible management of enterprise has become a hot topic, but there are fewer researches about the relationship between organizational flexibility and performance of enterprise. In this paper, taking agricultural enterprise as research object, theoretic model on the relationship between organizational flexibility and performance of enterprise is established. Via investigation data, different types of agricultural enterprises are analyzed. Results show that organizational flexibility of agricultural enterprise has certain positive impact on enterprise performance, and the impacts on enterprise performance by different aspects of organizational flexibility from different types of agricultural enterprises are different.

Key words Agricultural enterprise, Enterprise class, Organizational flexibility, Organizational performance

1 Introduction

Agricultural modernization is always the attention focus and research topic of domestic and foreign scholars. To realize China's agricultural modernization, it should value the developments of agricultural enterprises in China. When the developments of agricultural enterprises reach modernization level, the development of agricultural economy could realize the modernization development. However, the development of China society is just at deepening stage of reform, and the development of agricultural enterprise faces complex environment of system and market dual transformation. To maintain development advantage and market competitive strength of the enterprise in complex environment, agricultural enterprise should maintain flexibility (suitability) development. Therefore, it has important theoretic value and actual significance to study the relationship between organizational flexibility and performance of agricultural enterprise in China. At present, some domestic researchers studied agricultural enterprises. For example, Xia Ying *et al.* studied the development roads of state owned agricultural enterprises, and thought that state owned agricultural enterprises should innovate the development mode. Chen Xiaohong *et al.* studied the development strategies of small and medium sized agricultural enterprises, and thought that agricultural enterprise should take the road of industrialization and science. Cao Junjie *et al.* studied the restraining factors of agricultural enterprise development. Liu Liangcan *et al.* studied the performance problem of agricultural enterprise development. But there is nearly no the research about how agricultural enterprise adapt to rapid changes of internal and external environments and make scientific decision (namely flexibility development). For that reason, based on the existing theory about flexibility, the relationships between organizational flexibility and performance of different types of agricultur-

al enterprises are explored. In this paper, several problems will be solved. Firstly, state owned and private agricultural enterprises are studied to analyze the difference of organizational flexibility among different types of agricultural enterprises. Secondly, the relationship between organizational flexibility and performance of agricultural enterprise is studied to analyze if the influences of organizational flexibilities of different types of agricultural enterprises on performance are different. Finally, according to the research results, countermeasures and suggestions adapting to the developments of different types of enterprises are proposed.

2 Research design

2.1 Definition of organizational flexibility concept The flexibility was firstly proposed by Lavington in 1921. To the 1930s, economist Hart AG *et al.* studied the influence of economic cycle oscillation on enterprise and the theory of flexibility management^[1]. Mandelbaum thought that flexibility was a kind of response ability of enterprise to environmental change, namely strain and buffering capacities to the environment^[2]. John Milliman *et al.* thought that flexibility was a kind of human resource management ability, which was used to quickly respond to change demand of enterprise interior or environment^[3]. Tan thought that flexibility was related to agility, and flexibility indicated adaptability and multi-functionality^[4]. Upton defined the flexibility as that it spent very little time, vigor, cost and performance to generate the ability to change^[5]. Gong Daihua *et al.* defined the flexibility as an integrated ability, which contained mutation management adaptation ability, coordination ability and anti realistic ability^[6]. Chowdhary defined the flexibility as the ability to respond to the environment or system change^[7]. Wan Lunlai *et al.* thought that modern enterprise had the abilities of continuous learning and innovation, and organizational flexibility was enterprise's ability of responding to environmental change by integrating internal and external resources^[8]. Dreyer *et al.* thought that flexibility was the

enterprise's ability of adapting to environmental change and finding chance^[9]. Yao Gang thought that flexible organization indicated the self adjustment if organization was continuously conducted under the environment of dynamic competition, thereby adapting to organizational environment^[10]. He Cheng *et al.* thought that organizational flexibility was a kind of ability of organization. When organization environment changed, organization would spend the least cost (time, energy and loss) to adjust or counterattack^[11]. The existing researches on flexibility's definition are not unified, but almost think that organizational flexibility is a kind of ability to respond to internal and external environmental changes. In this paper, the authors also define organizational flexibility, and think that organizational flexibility indicates a kind of ability to adapt to internal and external environmental changes and find market chance. It includes some adaptive adjustments in internal management process, some adaptabilities to enterprise strategy and target when external environmental changes, and some adaptive behaviors when trading with different customs.

2.2 Research framework According to treatment theory of modern enterprise, the related problems in agricultural enterprise are studied, and the relationships between organizational flexibility and performance of different types of agricultural enterprises are explored. The existing researchers deeply studied organizational flexibility and carried out dimension division. For example, Ansoff divided enterprise flexibility into internal and external flexibilities^[12]. The European Commission pointed out that both internal and external flexibilities promoted economy growth. Zhao Bofu divided organizational flexibility into four dimensions, including the distribution of power, business process optimization, organization renewal and flexibility selection. Liu Yan divided organizational flexibility into six dimensions: structure, personnel, process, innovation, resource and culture. Mujde Erol Genevois *et al.* defined the flexibility as the ability to adapt to client, internal or external processes, supplier, law or environment itself, which had uncertainty^[13]. Sushil divided the flexibility into strategy flexibility, organization flexibility, function flexibility and information system flexibility^[14]. According to the researches of Ansoff *et al.*, the authors divide organizational flexibility of enterprise into three dimensions: internal management flexibility, external adaption flexibility and client transaction flexibility. For the evaluation of enterprise performance, there were more evaluation methods in the existing researches. For example, Kaplan *et al.* evaluated enterprise performance from four aspects: financial index, customer index, internal business process index and employee growth learning index. Wall *et al.* studied subjective data of enterprise performance, and thought that there was not significant difference when using subjective and objective data to assess enterprise. Nie Huiping used human resource performance and financial performance to evaluate enterprise performance. Chen Guoquan *et al.* studied enterprise performance by using enterprise client, internal business learning and development and financial condition. Liu Weixing used financial performance and market performance to measure en-

terprise performance. Yang Ying used explicit and hidden performances to measure enterprise performance. In this paper, by referring to prior experience, financial performance and market performance are used to measure enterprise performance. In the existing researches, some scholars studied the relationship between enterprise flexibility and performance and obtained some conclusions. Paik thought that strategy flexibility had positive effect on the performance^[15]. Ranjan V. N. Karri proved that organizational flexibility of enterprise could promote strategy and financial performances of the enterprise by empirical research^[16]. The research results of Fred Phillips showed that the larger the organizational flexibility of enterprise, the better the performance, and organizational flexibility of enterprise had positive effect on performance^[17]. Xie Weihong *et al.* thought that high performance of enterprise was largely related to flexibility, and the better the flexibility, the better the enterprise performance^[18]. Qi Pengju studied organizational flexibility of enterprise, and thought that enterprise flexibility had significantly positive effect on performance. Tang Wenping studied the manufacturing enterprise, and thought that development strategy performance of enterprise had positive effect on performance. Wang Tienan *et al.* thought that the stronger the enterprise's independent learning ability, the higher the enterprise flexibility, and ability flexibility had significant effect on enterprise performance^[19]. Jiang Zhu *et al.* thought that organizational flexibility had significantly positive effect on enterprise performance^[20]. Wu Beilei thought that flexible human resource management could significantly promote organizational performance of enterprise^[21]. Based on the existing researches, the relationships between organizational flexibility and performance from state owned and private agricultural enterprises are contrasted. Internal management flexibility, external adaption flexibility and client transaction flexibility are used to measure organizational flexibility, while financial performance and market performance are used to measure enterprise performance, and concrete research model is shown as Fig. 1.

2.3 Theoretical hypothesis

2.3.1 Influence of internal management flexibility on financial performance. Internal management of enterprise promotes enterprise development, and flexible internal management could make enterprise better adapt to internal environmental change of enterprise. Ashok Abbott thought that enterprise flexibility had positive effect on financial performance^[22]. Xu Meixin thought that flexible management could make enterprise maintain competitive advantage and promote performance^[23]. From this, two kinds of hypotheses are proposed. Hypothesis 1-1: internal management flexibility of state owned agricultural enterprise had positive correlation effect on financial performance; hypothesis 1-2: internal management flexibility of private agricultural enterprise had positive correlation effect on financial performance.

2.3.2 Influence of external adaption flexibility on financial performance. Enterprise could adapt to external environmental change well, avoid loss and enhance its own competitiveness, thereby

promoting enterprise's economic benefit. Ranjan V. N. Karri proved that organizational flexibility of enterprise could promote strategy and financial performances of enterprise by empirical research. Ashok Abbott thought that enterprise flexibility had positive effect on enterprise's financial performance. The European Commission pointed out that both external and internal flexibilities had very important effects on economic growth, competitiveness

and employment, which had very important relationships with economic growth, competitiveness and employment. Therefore, two kinds of hypotheses are proposed. Hypothesis 2 - 1; external adaption flexibility of state owned agricultural enterprise has positive correlation effect on financial performance; hypothesis 2 - 2; external adaption flexibility of private agricultural enterprise has positive correlation effect on financial performance.

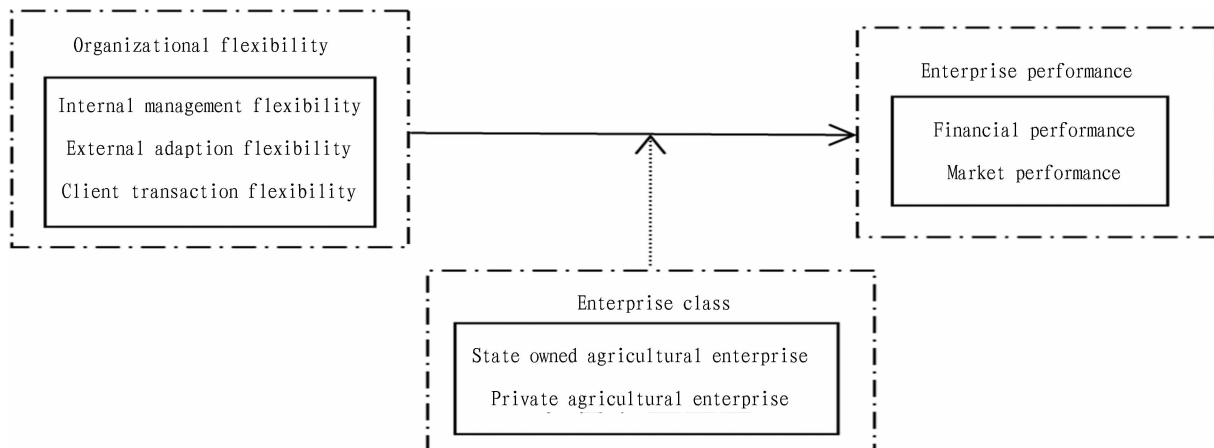


Fig. 1 Theoretical model of research

2.3.3 Influence of client transaction flexibility on financial performance. Enterprise could accurately and conveniently trade with clients, which could promote the enterprise product or service sale, thereby promoting enterprise's economic benefit, and it has great impact on financial performance of enterprise. Paik thought that flexibility had positive effect on performance. Therefore, there are two kinds of hypotheses. Hypothesis 3 - 1; client transaction flexibility of state owned agricultural enterprise has positive correlation effect on financial performance; hypothesis 3 - 2; client transaction flexibility of private agricultural enterprise has positive correlation effect on financial performance.

2.3.4 Influence of internal management flexibility on market performance. Internal management flexibility of enterprise has great impact on the promotion of whole enterprise benefit, which could not only promote enterprise's financial performance but also market share and product competitiveness. The ILO thought that enterprise was flexible protagonist. When they were forced to adapt to new market, technology, organizational form and employment form, productivity and competitiveness could be maintained by flexible manner to provide specious work. Therefore, there are two kinds of hypotheses. Hypothesis 4 - 1; internal management flexibility of state owned agricultural enterprise has positive correlation effect on market performance; hypothesis 4 - 2; internal management flexibility of private agricultural enterprise has positive correlation effect on market performance.

2.3.5 Influence of external adaption flexibility on market performance. When possessing external environmental adaption flexibility, enterprise could timely respond to environmental change and find chance, thereby expanding market share of en-

terprise. Dreyerand *et al.* thought that flexibility was the ability of enterprise adapting to environmental change and finding chance. The research of Hao Cheng showed that external environmental adaption of enterprise had significant impact on enterprise performance. Wang Yu thought that external environmental adaption had significant impact on non financial performance of enterprise^[24]. Therefore, there are two kinds of hypotheses. Hypothesis 5 - 1; external adaption flexibility of state owned agricultural enterprise has positive correlation effect on market performance; hypothesis 5 - 2; external adaption flexibility of private agricultural enterprise has positive correlation effect on market performance.

2.3.6 Influence of client transaction flexibility on market performance. Client transaction flexibility of enterprise could make that enterprise maintain good relationship with dealer, thereby promoting the sale of enterprise product, increasing market share of enterprise, and promoting market performance of enterprise. Enterprise possess good client transaction flexibility, which has important promoting role in enterprise's production or product sale, which could promote enterprise's economic benefit and also has great impact on financial performance. Yasmeeen Ansari thought that when maintaining flexibility, enterprise could establish good cooperation relationship with client, which makes product or service sale convenient and quick, thereby promoting product or service sale. Therefore, there are two kinds of hypotheses. Hypothesis 6 - 1; client transaction flexibility of state owned agricultural enterprise has positive correlation effect on market performance; hypothesis 6 - 2; client transaction flexibility of private agricultural enterprise has positive correlation effect on market performance.

3 Data source and variable illustration

3.1 Sample and data collection By investigating concrete situations of many agricultural enterprises, the data are obtained. Enterprise distribution includes more than 10 provinces, such as Hubei, Hunan and Jiangsu, and the investigated agricultural enterprises include grain and oil industry, aquatic products industry,

fruit and vegetable industry, poultry, egg and meat industry, forestry industry, feed industry, flower industry and seed industry. There are 210 questionnaires in total, and 196 effective questionnaires are recovered finally, with 93.33% of effective rate. Basic characteristics of sample include sex, age, culture degree, post of the investigated staff and enterprise category (Table 1).

Table 1 Basic characteristics of samples

Item	Classification index	Number	Frequency // %
Sex	Male	128	65.3
	Female	66	33.7
Age	20 – 29 years old	11	5.6
	30 – 39 years old	60	30.6
	40 – 49 years old	104	53.1
	50 – 59 years old	21	10.7
	More than 60 years old	0	0
Culture degree	Junior high school and below	20	10.2
	Senior middle school	67	34.2
	Junior college	56	28.5
	Undergraduate	46	23.5
	Graduate	7	3.6
Post	General staff	140	64.0
	Department manager	14	10.1
	Financial staff	32	19.4
	General manager	2	1.6
	Shareholder	8	4.9
Enterprise category	State owned agricultural enterprise	64	32.7
	Private agricultural enterprise	132	67.7

3.2 Variable and measurement For the measurement of variable, based on prior theories, organizational flexibility of agricultural enterprise is divided into three dimensions in this paper: internal management flexibility, external adaption flexibility and client transaction flexibility, and each variable designs 6 measurement indexes. Performance of agricultural enterprise is divided into two dimensions: financial performance and market performance, and each variable designs 3 measurement indexes. Each item all uses Likert 1 – 7 (1 represents very disagree, and 7 represents very agree) to measure. Concrete item and code of each variable are shown as Table 2.

3.3 Reliability and validity test Data reliability is tested by using Cronbach's α value referring to internal consistency. According to test results, Cronbach's α of each variable is almost more than 0.7 of level suggested by Nunnally. Here, reliability of internal management flexibility of variable is 0.786, while reliability of external adaption flexibility of variable is 0.800, and reliability of client transaction flexibility of variable is 0.866, which shows that each variable has good reliability. In data research process, the authors also use principal component analysis of maximum variance rotation for exploratory factor analysis. Seen from research results, KMO value of sample data is 0.922, and variance explanation rate is 55.559%, and factor loading value of each item at the related variable is all more than 0.5. According to research results, the measured tool is effective and reliable,

and results are shown as Table 3.

Seen from test results, reliability of financial performance is 0.791, while reliability of market performance is 0.824, showing that each variable has good reliability. In data research process, the authors also use principal component analysis of maximum variance rotation for exploratory factor analysis. Seen from research results, KMO value of sample data is 0.931, and variance explanation rate is 72.406%, and factor loading value of each item at the related variable is all more than 0.5. According to research results, the measured tool is effective and reliable, and results are shown as Table 4.

4 Empirical analysis and results

4.1 Correlation analysis According to the existing researches, in the results of correlation analysis, when $|r| < 0.7$, it illustrates that there is not stronger linear correlation among variables. In this paper, the authors use correlation analysis method to test the relationship among data to verify data reliability. Seen from correlation analysis results, each variable in this research shows significantly positive correlation relationship, that is to say, under the confidence level of $P < 0.05$, correlation coefficient among each variable is all less than 0.7. It illustrates that each research variable does not have multiple co-linearity. Seen from correlation analysis results, data in the research are authentic and reliable, and research results are shown as Table 5.

Table 2 Operational definition of variable

Dimension	Variable	Code	Content
Organizational flexibility	Internal management flexibility	Q1	Business practice is consistent with employee ideas
		Q2	Long-term working aspiration of employee in enterprise is high
		Q3	Participating degree of employee in enterprise decision is high
		Q4	Enterprise leaderships often listen to employees' suggestions
		Q5	Enterprise could observe the market and timely adjust measures
		Q6	Management system of enterprise is perfect
	External adaption flexibility	Q7	Influence degree of product transportation change on enterprise is low
		Q8	Influence degree of advertisement change on enterprise is low
		Q9	Influence degree of bank loan policy change on enterprise is low
		Q10	Influence degree of government policy change on enterprise is low
		Q11	Influence degree of technology development change on enterprise is low
		Q12	Influence degree of market purchasing power change on enterprise is low
	Client transaction flexibility	Q13	Convenient degree of enterprise trading with supplier or purchaser is high
		Q14	Interdependence degree between enterprise and supplier or purchaser is high
		Q15	Enterprise and supplier or purchaser establish the relationship for multiple trading
		Q16	Participating degrees of supplier and purchaser in enterprise's production are high
		Q17	Supplier and purchaser often approve enterprise's suggestions
		Q18	The situation that supplier and purchaser often break a contract is less
Enterprise performance	Financial performance	Q19	Satisfaction degree of enterprise on sales amount is high
		Q20	Satisfaction degree of enterprise on return rate of investment is high
		Q21	Satisfaction degree of enterprise on profit rate is high
	Market performance	Q22	Satisfaction degree of enterprise on market share stability is high
		Q23	Satisfaction degree of enterprise on product innovation is high
		Q24	Satisfaction degree of enterprise on product market competitiveness is high

Table 3 Factor analysis and reliability test of enterprise organizational flexibility

Variable	Item	Factor load matrix after rotation(a)			Cronbach's α
		1	2	3	
Internal management flexibility	Q1	0.579			0.786
	Q2	0.545			
	Q3	0.758			
	Q4	0.517			
	Q5	0.548			
	Q6	0.734			
External adaption flexibility	Q7		0.664		0.800
	Q8		0.576		
	Q9		0.774		
	Q10		0.669		
	Q11		0.547		
	Q12		0.618		
Client transaction flexibility	Q13			0.554	0.866
	Q14			0.712	
	Q15			0.675	
	Q16			0.778	
	Q17			0.703	
	Q18			0.755	

4.2 Regression analysis In this paper, performance of agricultural enterprise uses two dimensions to measure: financial performance and market performance. Moreover, classification of agricultural enterprise is taken as control variable to study the influence of organizational flexibility of agricultural enterprise on enterprise performance. In this paper, regression analysis method is

used to analyze research content, and concrete analysis results are as below.

4.2.1 Influence of organizational flexibility on financial performance. Regression analysis results between organizational flexibility of agricultural enterprise and enterprise financial performance are shown as Table 6. Seen from F value, P value is all less than

0.01, illustrating that in different properties of agricultural enterprises, regression model between organizational flexibility and enterprise performance is very significant. The adjusted R^2 are respectively 0.454 and 0.135, illustrating that regression model has

very strong explanatory power. D. W values are 1.872 and 2.871 respectively, illustrating that there does not exist obvious self correlation among variables.

Table 4 Factor analysis and reliability test of enterprise performance

Variable	Item	Factor load matrix after rotation(a)			Cronbach's α
		1	2	3	
Financial performance	Q19	0.807		0.824	
	Q20	0.805			
	Q21	0.807			
Market performance	Q22		0.816	0.791	
	Q23		0.836		
	Q24		0.823		

Table 5 Pearson correlation coefficient of variable factors

Item	Internal management flexibility	External adaption flexibility	Client transaction flexibility	Financial performance	Market performance
Internal management flexibility	1				
External adaption flexibility	0.624 **	1			
Client transaction flexibility	0.653 **	0.556 **	1		
Financial performance	0.480 **	0.474 **	0.550 **	1	
Market performance	0.422 **	0.421 **	0.457 **	0.540 **	1

Note: *** shows significant level of $P < 0.01$, while ** shows significant level of $P < 0.05$, and * shows significant level of $P < 0.1$.

Table 6 Regression analysis of organizational flexibility on financial performance

Variable	Financial performance	
	State owned enterprise	Private enterprise
Internal management flexibility	0.041	0.189 **
External adaption flexibility	0.265	0.123
Client transaction flexibility	0.427 ***	0.224 **
F value	16.632 ***	7.798 ***
R^2	0.454	0.155
The adjusted R^2	0.427	0.135
D. W	1.872	2.871

Note: *** shows significant level of $P < 0.01$, while ** shows significant level of $P < 0.05$, and * shows significant level of $P < 0.1$.

In state owned agricultural enterprises, regression coefficients of internal management flexibility and external adaption flexibility on financial performance of enterprise are respectively 0.041 and 0.265. It illustrates that both internal management flexibility and external adaption flexibility have positive influence on financial performance of enterprise, but the influence is insignificant, and hypotheses 1 – 1 and 2 – 1 are verified. Client transaction flexibility has significantly positive correlation with financial performance of enterprise, and regression coefficient is 0.628. It illustrates that it could effectively promote financial performance by enhancing client transaction flexibility, and hypothesis 3 – 1 is verified. In private agricultural enterprise, both internal management flexibility and client transaction flexibility have significantly positive correlations with financial performance, and their regression coefficients are 0.189 and 0.224 respectively, but the influence of client transaction flexibility is more significant. It illustrates that it

could effectively promote financial performance by enhancing internal management flexibility and client transaction flexibility, and the influence of client transaction flexibility is the largest, followed by internal management flexibility, and hypotheses 1 – 2 and 3 – 2 are verified. External adaption flexibility has positive influence on financial performance, but the influence is not significant, and hypothesis 2 – 2 is verified. Overall, in state owned and private agricultural enterprises, three dimensions of organizational flexibility all have positive influences on financial performance, but the influence effects are different. Here, internal management flexibility has significantly positive correlation with financial performance of private agricultural enterprise, while it has positive influence on state owned agricultural enterprise but the influence is insignificant. External adaption flexibility has positive influence on financial performances of state owned and private agricultural enterprises but the influence is insignificant. Client transaction flexibility has significantly positive correlation with financial performances of state owned and private agricultural enterprises.

4.2.2 Influence of organization flexibility on market performance. Regression analysis results of organizational flexibility of agricultural enterprise on market performance are shown as Table 7. Seen from F value, P values are all less than 0.01, illustrating that regression models between organizational flexibility and market performance in different properties of agricultural enterprises are all very significant. The adjusted R^2 are respectively 0.490, 0.440 and 0.113, illustrating that regression model has very strong explanatory power. D. W values are 1.885, 2.426 and 2.136 respectively, illustrating that there does not exist obvious self correlation among variables.

Table 7 Regression analysis of organizational flexibility on market performance

Variable	Market performance	
	State owned enterprise	Private enterprise
Internal management flexibility	0.189	0.127 *
External adaption flexibility	0.123	0.076
Client transaction flexibility	0.224 **	0.200 **
F value	7.798 ***	4.082 ***
R ²	0.155	0.087
The adjusted R ²	0.135	0.066
D. W	1.871	2.074

Note: *** shows significant level of $P < 0.01$, while ** shows significant level of $P < 0.05$, and * shows significant level of $P < 0.1$.

In state owned agricultural enterprise, regression coefficients of internal management flexibility and external adaption flexibility on market performance are respectively 0.189 and 0.123. It illustrates that both internal management flexibility and external adaption flexibility have positive influences on market performance, but the influence is insignificant, and hypotheses 4 – 1 and 5 – 1 are verified. Client transaction flexibility has significantly positive correlation with market performance, and regression coefficient is 0.506. It illustrates that it could effectively promote market performance by enhancing client transaction flexibility, and hypothesis 6 – 1 is verified. In private agricultural enterprise, both internal management flexibility and client transaction flexibility have significantly positive correlations with market performance, and their regression coefficients are 0.127 and 0.200 respectively, but the influence of client transaction flexibility is more significant. It illustrates that it could effectively promote market performance by enhancing internal management flexibility and client transaction flexibility, and the influence of client transaction flexibility is the largest, followed by internal management flexibility, and hypotheses 4 – 2 and 6 – 2 are verified. External adaption flexibility has positive influence on market performance, but the influence is insignificant, and hypothesis 5 – 2 is verified. Overall, in state owned and private agricultural enterprises, three dimensions of organizational flexibility all have positive influences on market performance, but the influence effects are different. Here, internal management flexibility has significantly positive correlation with market performance of private agricultural enterprise, and insignificantly positive influence on market performance of state owned agricultural enterprise. External adaption flexibility has insignificantly positive influence on market performances of state owned and private agricultural enterprises. Client transaction flexibility has significantly positive correlation with market performances of state owned and private agricultural enterprises.

5 Conclusions

Taking internal management flexibility, external adaption flexibility and client transaction flexibility as three dimensions of organizational flexibility, the relationship between organizational flexibility and performance of enterprise is studied in this paper. Taking

enterprise class as control variable, corresponding theoretic model is established, and the conclusions are obtained via empirical analysis. Firstly, internal management flexibility of enterprise has positive influence on financial and market performances of different categories of agricultural enterprises, and the influence is insignificant in state owned agricultural enterprise and extremely significant in private agricultural enterprise. Internal management of state owned agricultural enterprise is more normative but lacks flexibility, and internal management of enterprise should develop toward flexibility to promote enterprise performance. Private enterprise has good internal management flexibility, and should use internal flexibility to develop toward innovative strategy, thereby promoting whole competitiveness of enterprise. Secondly, external adaption flexibility of enterprise has positive influence on financial and market performances of state owned and private agricultural enterprises, but the influence is insignificant. In state owned and private agricultural enterprises, it should value suitability of enterprise to external environment to effectively respond to the influence brought by social or market environment change on the enterprise, thereby promoting sustainable development of enterprise. Thirdly, client transaction flexibility of enterprise has significantly positive influence on financial and market performances of state owned and private agricultural enterprises. In state owned and private agricultural enterprises, enterprise should maintain flexible transaction relationship and environment with supplier or purchaser to increase enterprise's product or serve sale, thereby promoting enterprise performance. Under increasingly complex internal and external environments, to quickly respond to environmental change and make scientific decision, enterprise should take rational flexible strategy according to actual situation. Flexible development of enterprise could make the enterprise adapt to environment change and uncertainty, promote integrated strength of enterprise and maintain sustainable development of enterprise.

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scattered state of arable land in Western Hubei and Central Hubei Mountain, it is not suitable for arable land contracting of major grain growers and family farms. The importance and necessity of grain scale management shall be publicized to the local farmers, to encourage farmers to join the local farmers' professional cooperatives, provide full service for farmers, and allow farmers who grow grain to get more professional and technical guidance. In addition, the mountains still need to strengthen the construction of agricultural infrastructure, ensure the delivery of agricultural machinery, and let farmers enjoy the convenience brought about by agricultural machinery equipment. Meanwhile, it should support local agricultural leading enterprises to promote the development of local agricultural economy and ecological agriculture, and speed up the realization of scale management of grain. The mountain areas are rich in speciality products, and there is a need to create special local product brand effect on the premise of guaranteeing the grain output, and also focus on ecological tourism, to promote the development of local agricultural economy.

4.3.2 Eastern Hubei Plain and Jiangnan Plain. The plain region is flat, there are a lot of cities and counties along the river, and water and land resources are relatively abundant. It is necessary to give priority to the model of family farms and major grain growers to improve the grain scale management in the plain region. The model of establishing farmers' professional cooperatives and supporting local leading agricultural enterprises is complementary. These models should be combined and applied reasonably. The food production and processing enterprises have obvious advantages, and it is necessary to improve food product distribution

chain, and enhance added value of food products, so as to achieve grain scale management in the plains, and gradually improve grain scale management in the surrounding areas.

4.3.3 Central Hubei, Northern Hubei Hills and Downland. Central Hubei, Northern Hubei Hills and Downland's climate is suitable, and the environmental conditions are suitable for farming, so it can take corresponding grain scale management modes according to the specific terrain status in the region. Near the foothill of the mountain, we can take scale management model, namely joining the farmers' professional cooperatives; in hill and hill-ock, we can combine several models of operation to speed up the realization of the local grain scale management.

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