

**Optimization the Research on Relationship between the characteristics of  
top managers and corporate performance---Listed agricultural listing  
companies**

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*Abstract: The company's top management is the company's intangible assets, it has a significant impact on business. The company executives have a profound influence on the performance of the company. For agricultural listing companies, the special industry background and the development characteristics make many problems to be solved. Taking agricultural listing companies as the research samples, the Wind database by the end of 2016 is used to research the relations between characteristics of the 35 agricultural listing companies senior management and the performance of the company, which the companies are audited by SFC. Descriptive statistics by SPSS17.0 software, were analyzed by correlation analysis of senior management and corporate performance. The results showed that the relationship between the average pay and the average number of age of senior managers of listing companies are significant correlation; The higher education is conducive to improve corporate performance; Managers short tenure on corporate performance is negatively correlated.*

*Keywords: Agricultural Listing Corporation, corporate management, corporate performance, top management characteristics*

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## **1. INTRODUCTION**

In early 1984, management expert (Hambrick and Mason) has already started thinking about senior managers, it should have what kind of qualities, and put forward the "Higher Order Theory". The study found that top management characteristics have an important impact on the company's competition(1).The Strategic choice of organization and performance level depend on the corporate executives. "Higher Order Theory" has been widely supported in the empirical research, but has not reached the same conclusion in the specific research.

## **2. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS**

### **2.1 Executive Compensation and Corporate Performance**

In early 1920s, the domestic and foreign scholars have carried out research on the relationship between top management compensation and corporate performance. The better performance of the company has a strong ability to pay top managers, more able to hire more senior managers, the better ability senior managers are more willing to display their expertise, it will give the company bring good performance. Such as Zhang Lin (2015) selected 63 state-owned holding listed company executive compensation data as the sample, the study found that compensation incentive is positively related to corporate performance(2); Liu Xiaoyan (2013) selected the listing companies of Jiangsu, empirical studies show this opinion. Imam Subekti conducted a study of 303 family firms in Indonesia and found a positive correlation between executive compensation and firm performance(3). The study suggests the following hypothesis:

Hypothesis 1: Executive compensation of listing agricultural companies have a positive impact on corporate performance

### **2.2 Executive Education and Corporate Performance**

The senior managers' higher education, then the whole team cognitive ability, the novelty, complex information collection and processing ability are more stronger, and willing to accept new ideas, so it can create the greater value. Such as Zhang Yue (2011) has conducted an empirical study of 79 listing companies, that corporate performance is positively correlate to senior managers; Ronny (2014) studies the performance of listing companies during the 2009-2013, the data demonstrates that the level of education of female executives can strengthen its positive impact on the performance of the company(4); Shanthi Rachagan (2014) selected the senior management of 136 companies in the Malaysia also verified the idea(5). Put forward the following hypothesis:

Hypothesis 2: Executive educational background of listing agricultural companies have a positive impact on corporate performance

### **2.3 Executive Average Age and Corporate Performance**

Yang Peng (2014) takes 249 of the Chinese entrepreneurial plate of listing companies as the research object, found that the average age have a significant negative effect of the corporate performance(6); Zhang Xiaoyan (2014) analysis the average age of the top management of 100 listing companies has also proved negatively the validation on firm performance(7); Dimitrios Koufopoulos (2008) selected executives of 27 Athens Stock Exchange listing corporate, found between the age and the company performance are negative. So owing to the market change, the traditional mode of operation has been difficultly to adapt to the current complex, fierce competition. In a sense, corporate executives, judgment of market dynamics determines the innovation ability of the enterprise, thus affecting the enterprise's performance. However, the average age of the senior management may be too large to find business opportunities, seize the opportunity to judge the market dynamics and other aspects of ability and effort are not enough, it will affect the performance of its duties. In summary, based on hypothesis:

Hypothesis 3: Executive average age of listing agricultural companies have a positive impact on corporate performance

### 2.4 Executive Average Tenure and Corporate Performance

Tenure properties affect team internal communication, interaction patterns within the team. The term is more longer, and the team cooperation degree is higher, more conducive to the dissemination of information and the flow of resources between each other, to promote the exchange of information between the team, enhance team cohesion, to improve the level of corporate profits, and to further improve the performance of the enterprise company. Zhu Guojun (2013) selected the 153 of top listed companies in China from 2011 to 2010, the results show that the long term management of senior executives can significantly improve the performance of enterprise innovation technology; Xu Jingchang, Wang Shenghai (2010) from the perspective of human capital characteristics of senior managers, it is found that the performance of listing companies is significantly correlated with the average age and average tenure of core executives; Based on the appeal, the following hypotheses are proposed:

Hypothesis 4: Executive average tenure of listing agricultural companies have a positive impact on corporate performance

## 3. RESEARCH DESIGN

### 3.1 Samples and Data

This paper selected the listing agricultural company, according to the Wind database by the end of 2016, the Commission approved the 35 agricultural listed companies, collects the background characteristics of senior management of these companies' data. In order to ensure the company behavior is relatively mature and the sample data are comparable, excluding ST shares, and the company missing data.

Table 1. Specimen Company.

Security Code	Company Abbreviation	Security Code	Company Abbreviation
002772.SZ	Zhongxing Bio-technology Co., Ltd.	300511.SZ	Xuerong Bio-Technology Co., Ltd.
200992.SZ	Zhonglu Oceanic Fisheries Co., Ltd.	002746.SZ	Shandong Xiantan Co., Ltd.
002086.SZ	Oriental Ocean Sci-Tech Co., Ltd.	002505.SZ	Dakang I Farming Co., Ltd.
300143.SZ	Gumu zhen Bio-technology Co., Ltd.	300189.SZ	Shennong Gene Technology Co., Ltd.
300498.SZ	Wen's Foodstuffs Group Co., Ltd.	300087.SZ	Winall Hi-tech Seed Co., Ltd.
002477.SZ	Chuying Agro-Pastoral Group Co., Ltd.	002696.SZ	Baiyang Investment Group, Inc.
002714.SZ	Muyuan Foodstuff Co., Ltd.	000998.SZ	Longping High-tech Agriculture Co., Ltd.
000735.SZ	Luoniushan Co. Ltd	002321.SZ	Huaying-Agricultural-Development Co., Ltd.
300094.SZ	Guolian Aquatic Products Co., Ltd.	002041.SZ	Shandong Denghai Seeds Co., Ltd.
600108.SH	Gansu Yasheng Industrial (Group) Co., Ltd.	600354.SH	Gansu Dunhuang Seed Co., Ltd.
600975.SH	Hunan New Wellful Co., Ltd.	600467.SH	Homey Aquat Development Co., Ltd.
600359.SH	Xinjiang-Talimu-Agriculture-Development-Co., Ltd	600965.SH	Fortune Ng Fung Food (Hebei) Co., Ltd
600506.SH	Xinjiang Korla Pear Co., Ltd.	600962.SH	Sdic Zhonglu Fruit Juice Co., Ltd.
600189.SH	JiLin Forest Industry Co., Ltd.	600257.SH	Dahu Aquaculture Co. Ltd.
600313.SH	Zhongnongfa Seed Industry Group Co., Ltd.	600371.SH	WanXiang Doneed Co., Ltd.
600180.SH	Ccs Supply Chain Management Co., Ltd.	002679.SZ	Fujian Jinsen Forestry Co., Ltd.
000713.SZ	Hefei Fengle Seed Co., Ltd.	000592.SZ	Straits (Pingtan) Development Co., Ltd.

### 3.2 Models and Variables

In order to further verify the impact of the characteristics of the top managers of agricultural listing companies on corporate performance, this study takes PERF as the dependent variable and takes the characteristics of the top managers as independent variables to establish the regression equation:

$$PERF = \alpha + \beta_1 ASAL + \beta_2 AGE + \beta_3 ATIM + \beta_4 AEDU + \beta_5 FIRM + \beta_6 DEBT + \varepsilon \quad (1)$$

$\alpha$  as intercept, the regression coefficient of each variable for  $\beta$ ,  $\varepsilon$  as residuals.

The variables of the study include the explanatory variables and the explanatory variables, the specific meaning is shown in table 2.

Table 2. Variable Description.

Variable Type	Variable Name	Variable Symbol	Variable Meaning	
Be Interpreted Variable	Company Performance	PERF	Earnings per share	Ratio of after tax profit to total equity(EPS)
			Return on net assets	Ratio of after tax profit to owner's equity(ROE)
Explanatory Variable	Average Salary	ASAL	The logarithm of the average remuneration of all executives	
	Average Age	AGE	The average age of all the executives of the company	
	Average Term	ATIME	Average tenure of senior executives	
	Educational Level	AEDU	The education level is from low to high, which is 1 to 4, and the average level of education level of the company's executives as the company's education level	
Control Variable	Enterprise Size	SIZE	Natural logarithm of total assets	
	Asset Liability Ratio	DEBT	Ratio of total liabilities to total assets	

### 3.3 Empirical Results AND Analysis

#### 3.4 Descriptive Analysis of Variables

Table 3. Descriptive Statistical Analysis

Variable	Minimum	Maximum	Dean Standard	Deviation
ROE	1.11	35.78	7.91	8.87
EPS	.01	1.26	0.22	0.29
ASAL	18.85	84.00	36.19	16.88
AGE	41.00	57.00	46.59	3.11
ATIME	1.00	5.00	3.09	1.44
AEDUE	1	4	2.00	1.10
SIZE	10.98	20.65	13.10	1.96
DEBT	7.46	69.39	39.51	17.44

Table 4. Correlation Analysis

	ROE	EPS	ASAL	AGE	ATIME	AEDU	SIZE	DEBT
ROE	1							
EPS	.799**	1						
ASAL	.502**	.630**	1					
AGE	.656**	.514**	.245	1				
ATIME	-.560**	-.517*	-.199	-.350*	1			
AEDUE	.515**	.644**	.303	.161	-.264	1		
SIZE	.673**	.617**	.466**	.561**	-.538**	.204	1	
DEBT	.067	.093	.084	.218	-.289	-.171	.095	1

Descriptive statistical analysis of variables, as shown in table three. The minimum rate of return on net assets was 1.11%, the maximum is 35.78%, those are very different, that fierce competition in the market, with income uncertainty and risk characteristics of the larger net assets per share; The average is 0.22 , the overall profitability of the company weak, the standard deviation is 0.29, indicating the existence of the performance gap between the different agricultural listed companies; Pay the maximum is 84, the minimum is 18.85, indicating the existence of significant income gap between executives; The average age of TMT average was 47 years, standard deviation is 3.11, which indicates that the agricultural listing company executives team members in a middle-aged term; the average value of 3.09, that most senior members of the short term, frequent changes, may be related to start-up company; Average level of education executive team for the 2, that most executives educated; The scale of the enterprise average value is 13.10, the standard deviation is 1.96, there was significant difference between the size of the company; Asset liability ratio is 39.51, the overall debt is moderate, but the maximum and minimum were 69.39 and 7.46, shows that the gap between the different companies greater financial risk. Needless to say that the most important criterion for the route selection is the total production cost of the final active substance. I.e. a

short synthesis route including a selective late-stage trifluoromethylation based on an expensive reagent could be more cost-efficient than a multi-stage route including a well-priced early trifluoromethylation step.

### 3.5 Variables Correlation Analysis

Table 4 gives the Pearson correlation coefficient between the study variables. We can see from table four, explained by a high correlation between variables EPS and ROE, the correlation coefficient reached 0.799. Explanatory variables, executive group salary (ASAL), age (AGE) and EPS, ROE were significantly positively correlated, suggesting that the executives team greater scale. The older, the better the corporate performance. The executive team education level (AEDU) was positively correlated with EPS and ROE, showed that the higher education of the team, the more scientific management, more can make full use of various resources, thus the performance of the company. The higher the average office term (ATIME) and EPS, ROE show a significant negative correlation, that company executives tenure is too short, is not conducive to the company's performance. The control variables, the enterprise size (SIZE) and ROE, EPS show a significant positive correlation between enterprise scale and performance. The asset liability ratio (DEBT) and EPS, ROE positive correlation, but not remarkable.

### 3.6 Regression Analysis

Table 5. Regression of TMT Characteristics and Corporate Performance

Variable	ROE					EPS				
	Non standardized coefficient		Standard coefficient	t	Sig.	Non standardized coefficient		Standard coefficient	t	Sig.
	B	Standard error	Trial version			B	Standard error	Trial version		
(constant)	-56.275	14.706		-3.827	.001	-1.246	.428		-2.909	.007
ASAL	.130	.055	.247	2.363	.025	.007	.002	.390	4.127	.000
AGE	1.290	.302	.451	4.267	.000	.025	.009	.269	2.812	.009
ATIME	-1.691	.657	-.275	-2.576	.015	-.046	.019	-.234	-2.431	.021
AEDU	2.375	.844	.294	2.813	.009	.110	.025	.421	4.453	.000
ASAL	.130	.055	.247	2.363	.025	.007	.002	.390	4.127	.000
SIZE	control					control				
DEBT	control					control				
R <sup>2</sup>	0.726					0.776				

Table 5 presents the regression results of team characteristics and executive performance. According to the regression results, either ROE or EPS as explanatory variables, TMT (ASAL) and Education (AEDU) in 5% and the following effects are significantly positively related to the level of executive salary, that the higher the level of enthusiasm for work the greater the company's performance is also better. At the same time, senior members of the higher education, professional background is stronger, the sensitivity of the dynamic condition of the industry is stronger, more can seize the opportunity to create a higher performance to the company, supposing 1 and 2 verified. AGE, ROE and EPS were at the 5% level significant positive correlation, show that the executive team of higher age, professional background is stronger, more easily achieved good operating results, This result denies the hypothesis three. ATIME was significantly negatively correlated with ROA and ROE, the average years limit

the shorter , executives change more frequent, the frequency of the company's operating conditions and development strategies and policies of poor grasp of the long-term development of the company is obviously unfavorable, assuming that four is negative.

#### **4. RESULTS DISCUSSION AND RECOMMENDATIONS**

The results of regression analysis showed that the average salary level of agricultural senior managers of listing companies, There is a significant positive correlation among the average salary level, education level, age and corporate performance Average tenure and corporate performance are negatively correlated.

(1)Agricultural senior managers of listing companies average salary level has a significant positive effect on corporate performance. In the agricultural listing companies, the higher the level of compensation for managers to create value for the company, the higher the enthusiasm of the work, will be more energy into the work, then the higher the value of the enterprise to create. On the other hand, the higher the value of the enterprise, the better the performance of the company, and the higher the enthusiasm of the senior managers, thus forming a virtuous cycle system.

(2)The average education level of top managers of agricultural listing companies has a significant positive impact on corporate performance. The education level represents the knowledge, skills, learning ability. Learning skills will encourage managers to stimulate more innovation and inspiration,, which leads to more industry experts and managers to communicate with each other, it can accelerate a lot of information and knowledge resources flow in the agricultural industry, it is also help to improve the performance of the company.

(3)The average age of top managers of agricultural listing companies has a significant positive impact on corporate performance. Excellent senior management can master a wide range of social resources, can deal with other enterprises, government departments, etc. The relationship between the operational capability and knowledge in network resources, can not be ignored for the performance of the company. This makes between senior managers' average age and company performance have a positive correlation.

(4)The average tenure of top managers of agricultural listing companies has a significant negative impact on corporate performance. Generally speaking, the key position of the top management is the future development of the enterprise plays a vital role. However, there are corporate secrets, master the core technology of job hopping for the company, it will be a huge loss. Therefore, senior managers of shorter term changes more frequently, more is not conducive to the long-term development of the enterprise, is not conducive to improve the performance of the company.

In short, Agricultural listing companies want to stable development, the urgent need to solve the practical problems of the short period of senior managers. Enterprises should improve the compensation management mechanism, this includes not only wages, performance, bonuses and other short-term incentives, but also includes long-term incentives such as equity. Senior managers' compensation to be linked to the team or company performance, the self value and

the value of the company will be made one, this incentive is more long-term, more incentives. At the same time, enterprises should also strengthen the senior management of the honorary incentive, awarded a variety of honorary titles. Because of the good reputation of the senior managers has an important role to the pay level and future career development, it can promote the rise of the value of their human capital, enterprises should pay attention to their reputation incentives.

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