



Founder Control, R&D Investment and Firm Performance: An Empirical Study Based on High-tech Firms

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Abstract

From the founders control perspective, this paper view incomplete contracting theory and principal-agent theory as the foundation, the gem private high-tech enterprises as the research object, explore the relationship between founder control and firm performance. In the same time, we also verify the mediating role of R&D investment and the function of the market environment to adjust the relationship between them. Stata15 analysis software is used for regression analysis, results shows that founder control is positively correlated with firm performance in private high-tech enterprises; Founders control can influence corporate performance through R&D investment. Besides, market environment strengthens the positive effect of founder control on firm performance.

Keywords: Linear regression; Founder control; R&D investment; Firm performance; Market environment.

1. INTRODUCTION

In the process of corporate governance, a reasonable allocation of control rights is beneficial to improve enterprise performance and protect the legitimate rights and interests of all stakeholders. However, in reality, the problem of the reasonable allocation of control among the main bodies of the enterprise has not been effectively solved. In the case of disagreement or even serious differences between investors and founders, the smooth implementation of enterprise business strategy is hindered, which will have a negative impact on enterprise performance. In addition, in the era of rapid technological change and increasingly fierce competition, enterprise innovation is not only related to the survival and development of enterprises, but also an important driving force to promote the upgrading of industrial structure and lead macroeconomic transformation. Therefore, enterprises need to take innovation as their long-term development strategy. Compared with professional managers, the control right of the founder of the enterprise is more conducive to the implementation of the innovation and R&D strategy of the enterprise in the listed companies that implement the two rights separation system, and enhance the core competitiveness of the enterprise in the industry, which is conducive to the improvement of the business performance of the enterprise.

Therefore, based on the incomplete contract theory and principal-agent theory, this paper adopts the public data of Chinese private high-tech listed companies. Through empirical analysis, this paper explores whether the founder's control is beneficial to the development of enterprises. To some extent, this study can enrich and expand the research results of founder control on firm performance, supplement the mature entrepreneur theory, and provide some references for perfecting the management system of listed companies and improving the market environment.

2. THEORY AND HYPOTHESES

2.1 Founder Control and Firm Performance

2.1.1 Founder Control

Founder control refers to the fact that the founders (issuers and founders) of an enterprise have the right to operate, make decisions and control the enterprise in their daily management, and can make important decisions on major issues such as enterprise development strategy, innovation strategy and investment strategy. Scholars hold different views on the dimensional division of Founder control. Some scholars use whether the founder succeeds to the chairman or general manager to measure

the founder's control [11] [14]; Other scholars use multiple dimensions of power sources to measure founder control [5] [12].

Based on the research of Finkelstein (1992), this paper clearly divides the management power into four dimensions: succession power, share power, technology power and political power. Successional power is the power given by organizational rules and regulations, organizational levels and formal authority of the organization; The share power comes from the direct and indirect shareholding ratio of the management. Generally speaking, the higher the shareholding ratio, and the higher the ownership power, the higher the discourse power of the enterprise's business decision-making; Technology power comes from the general cultural knowledge and information possessed by the management, as well as the professional skills and professional title certification obtained in specific fields; Prestige power comes from the relationships and resources accumulated by the management in the social relationship network, including horizontal network relationships (relationships and experiences with government departments, industry associations, etc.) and vertical network relationships (working in multiple enterprises or embedded in the enterprise supply chain relationship network).

2.1.2 The Relation Between Founder Control and Firm Performance

According to the principal-agent theory, the principal-agent cost of enterprises is lower, which is more conducive to the long-term stable development of enterprises [14]. Compared with professional managers, founders have a stronger sense of responsibility and belonging to the enterprise and pay more attention to whether the enterprise can achieve sustainable development in the future [4]. At the same time, its unique human capital characteristics such as professional experience and special skills can also bring business performance advantages to enterprises [1] [9].

To position power, if the founder holds key positions such as chairman and general manager, his goal is consistent with that of the owner, which is easy to produce benefit synergy, which helps to reduce the principal-agent cost of the enterprise and improve the efficiency and level of scientific decision-making of the enterprise. Secondly, holding a position at the formal level of the organization can strengthen the voice of the founder in the enterprise decision-making group and strengthen his own business control, which is conducive to the stable implementation of the long-term development strategy of the enterprise formulated by the founder, help the enterprise improve business performance and accelerate the pace of enterprise growth and development. Therefore, the assumption is put forward:

Hypothesis 1: Founder succession power has a positive impact on firm performance.

The principal-agent theory points out that ownership is the core of the power of the principal-agent contract. In general, the ownership of the business is controlled by the shareholders, and the founder owns a certain proportion of equity. Through equity ownership, founders tie their interests closely to the overall development of the business. The community of interests urges the founders to have a stronger sense of responsibility and self drive for the enterprise, take strategic decisions conducive to the long-term development of the enterprise, effectively reduce the principal-agent cost, and then promote the improvement of enterprise performance and growth.

Hypothesis 2: Founder share power has a positive impact on firm performance.

In addition to formal power, what is brought about by personal characteristics and abilities is called informal power [8]. Professional skills and core technologies can bring individuals more authority in the organization and enhance their actual power. Founders tend to choose the major and industry they are familiar with when choosing a business project. The long-term accumulation of technical and professional experience gives the founders an advantage, that is, a more scientific analysis of the changing trend of the industry and improved the accuracy of the company's development strategy selection. Founders tend to have a sharper sense of industry and strategic awareness of long-term layout, which are key abilities for enterprises to achieve long-term survival and promote growth. [4].

Hypothesis 3: Founder technology power has a positive impact on firm performance.

The power of reputation can also increase a founder's control. According to the theory of entrepreneur human capital and social capital, founder reputation and social network relationship will affect the actual effect of entrepreneur's original power. The personal reputation of the founder gives the founder the right of reputation in the organization. With the improvement of the social reputation and status of the founder, his control over the enterprise is naturally enhanced. At the same time, the good reputation of the founder represents the external image of the enterprise, which is more like a signal mechanism that can show investors the mission and vision of the enterprise. Many studies have found that entrepreneurs' political connections contribute to the improvement of enterprise performance and promote the growth and development of enterprises [6] [13].

Hypothesis 4: Founder political power has a positive impact on firm performance.

2.2 The Intermediary Role of R&D Investment

For high-tech enterprises, innovation is the first driving force for development, and the innovative consciousness of managers can effectively promote enterprises to carry out R&D innovation [3]. As the founders have more entrepreneurial experience and enterprise management experience in their industry, they have accumulated strong risk-taking ability and comprehensive strength [2], which increases the possibility and success probability of innovation. In particular, the founders who continue to serve as the chairman or manager and other special positions can give play to their own appeal and leadership and have a greater impact on other members of the organization [7]. The innovation consciousness of the founders is integrated into the organization, which boosts the enthusiasm and recognition of R&D and innovation of the personnel in the organization, and makes the enterprise as a whole have a stronger ability to face the risk of technology R&D, which helps to improve the innovation and R&D investment of the enterprise and enhance the innovation ability of the enterprise as a whole [10].

The R&D activities of enterprises can produce more new technologies and products, help enterprises improve production efficiency, effectively reduce costs, and may give birth to new economic growth points. A large number of studies show that high-tech enterprises attach great importance to and continue to invest in R&D activities, which is the resource guarantee for employees' learning progress and improving their innovation ability, and the driving force and source for enterprises to achieve high-quality growth and development. Therefore, the following assumptions are proposed:

Hypothesis 5: The founder control can improve firm performance by increasing R&D investment.

2.3 The Moderating Effect of Market Environment

Every organization needs a positive interaction with the environment to obtain resources for survival, and the quality of the market environment largely determines the external environment of enterprise operation. A good market environment can provide relatively fair growth opportunities for enterprises. There is a significant correlation between the constituent factors of the market environment such as regional market size and local government behavior and the performance of private

enterprises, which also proves that the market environment can have a significant impact on the firm performance [15]. In a good market environment, the process of marketization is fast, the business environment of enterprises is good, and the operation efficiency of the whole society is accelerated. The effect of founders strengthening their control to improve the business performance of enterprises will be more obvious, and the level of business performance will also be improved.

Hypothesis 6: Market environment can enhance the positive effect of founder control on firm performance.

To sum up, the conceptual framework of this study is shown in Figure 1.

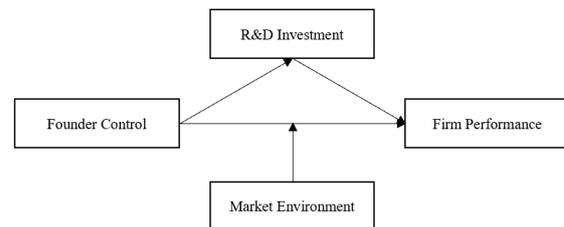


Figure 1: Theoretical framework.

3. METHODOLOGY

3.1 Data and Sample

This paper selects private high-tech enterprises that were initially listed on the gem from 2013 to 2018 as the research sample. The data are mainly from the official website of Shenzhen Stock Exchange, CSMAR, China research data service platform and other channels. After screening, 1266 sample data of 211 enterprises were obtained. In this paper, Excel software is mainly used for data screening and matching, and stata15 is used for data analysis and inspection. In order to verify the assumptions involved in this study, the model is constructed as follows:

$$ROA_{i,t} = \beta_0 + \beta_{11} Succession_{i,t} + \beta_{12} controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

Among them, $ROA_{i,t}$ refers to the impact of the founder's right on the enterprise's business performance, i refers to the enterprise individual, t refers to the year, β_0 represents the intercept of the regression equation, that is, the constant term, β_{ii} is the corresponding regression number, ε Represents the random error term. By analogy, the impact model of founders' other rights on firm performance.

Table 1: Descriptive statistics of variables.

Variable name	Sample size	Mean value	Standard deviation	Min	Max
Roa	1266	0.033	0.094	1.016	0.137
Power	1266	0.531	0.211	0.003	0.860

Succession	1266	0.893	0.309	0	1
Share	1266	0.253	0.128	0.003	0.539
Technology	1266	0.360	0.480	0	1
Political	1266	0.616	0.487	0	1
R&D	1266	0.072	0.052	0.001	0.239
Marketindex	1266	8.868	1.358	3.490	11.017

$$ROA_{i,t} = \beta_0 + \beta_{51} Power_{i,t} + \beta_{52} RD_{it} + \beta_{53} controls_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$ROA_{i,t} = \beta_0 + \beta_{61} Power_{i,t} + \beta_{62} Marketindex + \beta_{63} Power-Market + \beta_{64} controls_{i,t} + \varepsilon_{i,t} \quad (3)$$

(2) is the transmission model of Founder control, R&D investment and business performance, (3) represents the relationship between founder control, market environment and business performance.

3.2 Results

3.2.1 Descriptive Statistics

Table 1 shows the descriptive data of some variables. Among them, the standard deviation of Roa is 0.094, indicating that there is a large gap between the operating performance levels of different enterprises. The average value is 0.033, indicating that the business performance level of the enterprise is not high in general. Success, Technology and Political are all dummy variables with values of 0 or 1. Each standard deviation also shows that the dispersion of these three variables is relatively large, and the differences between samples are relatively large. The standard deviation of power is 0.211, and the average value is 0.531, indicating that the founders of high-tech enterprises generally hold a large amount of control

power, but there are great differences in control power among different enterprises, so it is necessary to study the control power of founders. By analogy, we can see that there are great differences in the decision-making subjects, corporate governance structure, enterprise production activities, etc. of the high-tech enterprises selected in the sample.

3.2.2 Regression Analysis

It can be seen from the table 2 that taking the results of model (1) as an example, success and business performance passed the significance test at the level of 1%, and the estimated coefficient is 0.0175, indicating that there is a significant positive correlation between founders' position power and business performance, and hypothesis 1 has been verified. Similarly, the founder's ownership power, expert power, reputation power and business performance passed the significance test at the 1% level, and hypothesis 2, 3 and 4 passed the test, indicating that the founder's power has a significant role in promoting firm performance.

Similarly, it passed the test of the intermediary effect of R&D investment and the regulatory variables of market environment. Due to space reasons, the relevant empirical analysis results will not be shown here.

Table 2: Main effect regression analysis table.

	(1) Roa	(2) Roa	(3) Roa	(4) Roa	(5) Roa
Succession	0.0175*** (0.0050)				
Share		0.0425*** (0.0080)			
Technology			0.0077*** (0.0024)		
Political				0.0152*** (0.0020)	
Power					0.0169*** (0.0052)
N	1266	1266	1266	1266	1266
R Square	0.1083	0.1092	0.1073	0.1087	0.1072
Adjusted R Square	0.1764	0.1771	0.1754	0.1767	0.1753

Note: the standard deviation of heteroscedasticity and autocorrelation robustness in brackets; * * *** And * respectively indicate that they pass the significance test at the significance level of 1%, 5% and 10%.

3.3 Robustness Test Analysis

In order to verify the reliability of the above research results, Roe is used as a substitute variable of business performance. In this paper, the new explained variables are used for regression of the model, and the results obtained are generally consistent with the empirical analysis of the above research, which proves that the model has strong robustness.

4. CONCLUSIONS

This paper takes "founder control-R&D investment - firm performance" as the research path, and takes R&D investment and market environment into account. Through empirical analysis, the following conclusions are drawn: (a) In private high-tech enterprises, founder control significantly improves firm performance, and succession power, share power, technology power, political power will have a positive role in promoting business performance. (b) Founder control can affect firm performance by increasing R&D investment. (c) The better the market environment is, the more obvious the positive impact of founder control on firm performance is.

For enterprises, attention should be paid to maintaining founders' reasonable control over the company, especially the protection of founders' control after financing and listing. Secondly, innovation is the source of development. Enterprises should attach great importance to the cultivation of R&D innovation ability. Through innovation, enterprises can obtain competitive advantages and achieve long-term sustainable development. Finally, the government should create a good market environment for the development of enterprises, so as to enhance the positive influence of enterprise leaders on enterprise performance and stimulate the internal vitality of market economy.

REFERENCES

- [1] Begley T M. Using founder status, age of firm and company growth rate as the basis for distinguishing entrepreneurs from managers of smaller business[J]. *Journal of Business Venturing*, 1995, 10(3): 249-263.
- [2] Deckop J R., Merriman K K., Gupta S. The Effects of CEO Pay Structure on Corporate Social Performance [J]. *Journal of Management*, 2006, 32(3): 329-42.
- [3] Fahlenbraach R. Founder-CEOs, investment decisions, and stock market performance [J]. *Journal of Financial and Quantitative Analysis*, 2009, 44(2): 439-466.
- [4] He L. Do Founders Matter? A study of executive compensation, governance structure and firm performance[J]. *Journal of Business Venturing*, 2008, 23(3): 257-279.
- [5] Hui Wang. Research on the relationship between founder control, strategic change and enterprise performance [D] Xinjiang University, 2018.
- [6] Jian Li, Chuanming Chen, Junhua sun. Entrepreneurs' political relevance, competitive strategy choice and enterprise value-An Empirical Study Based on dynamic panel data of listed companies [J]. *Nankai management review*, 2012, 15 (06): 147-157.
- [7] Jianzhan Guo. Founder management, market environment and company performance[D]. Fudan University, 2012.
- [8] Knights D, Mc Cabe D. Are There No Limits to Authority? TQM and Organizational Power[J]. *Organization Studies*, 1999, 20(2): 197-224.
- [9] Ko E J, McKelvie A. Signaling for more money: The roles of founders' human capital and investor prominence in resource acquisition across different stages of firm development[J]. *Journal of Business Venturing*, 2018, 33(4): 438-454.
- [10] Lei Qi, Yingxing Lin. Research on the construction and maintenance of social capital of Fujian Coastal Science and technology entrepreneurs[J]. *Journal of Fujian Normal University (Philosophy and Social Sciences edition)*, 2006 (5): 1-6.
- [11] Lijun Xia, Jianzhan Guo, Ming Lu. Entrepreneurs' "political freedom" -- founder management, market environment and company performance of private IPO companies [J]. *Management world*, 2012 (09): 132-141+155+188.
- [12] Qiaofeng Li. An empirical study on the relationship between the control right of founders of high-tech start-ups and enterprise growth [D]. Beijing University of Posts and telecommunications, 2017.
- [13] Wei Wang, Qiaohui Zheng, Penghua Qiao. Research on entrepreneurs' political connection, R&D investment and the growth of technology-based small and medium-sized enterprises[J]. *Scientific and Technological Progress and Countermeasures*, 2014, 31 (18): 90-96.
- [14] Xu Qu, Dan Yang, Yanqing Qu, bin Su. Founder protection, scapegoat, and sit in effect -- a study of executive change based on the background of accounting violations [J]. *Management world*, 2012 (5): 137-151.
- [15] Zao Sun, Qingyan Liu. Market environment, entrepreneurial ability and enterprise performance - An Empirical Study on the factors affecting the

performance of private enterprises in China during the transition period [J]. Nankai economic research, 2006 (02): 92-104.

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