

Study on Relationship between Officers' Education Background and Performance of Listed Companies on Growth Enterprise Board

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Abstract

For the purpose of supporting SMEs with vigorous growth and innovativeness, listed companies on GEM (growth enterprise board) offer a financing platform for China's self-dependent innovation strategies, enriching the multi-level capital market system. Against the background that nationwide enterprise-starting is encouraged, listing on GEM becomes the ultimate goal sought by numerous entrepreneurs and their teams; under this circumstance, relationship between entrepreneurs' education background and operation performance of their companies came up as a hot topic. According to the human capital theory, the education is an important approach and means creating and improving human capital. Education degree reflects the education background one undergoes; therefore, it may be considered as an indicator showing the human capital investment via education. For the officer team of any enterprise, specific human capital may not only affect interaction among the officer team, but also significantly influence the company performance. Based on the human capital theory, this paper, by use of data about 406 listed companies on GEM in 2014 and taking company size and officer's compensation as control variable, makes a study on the relationship between the officers' education background and company performance of listed companies on GEM. Through studying, it is revealed that there exists no correlation between the officer' education background and performance of listed companies on GEM. As a result, it is recommended that great importance should be attached to ability development while improving education degree. In recruiting, a company shall focus on the applicants' ability.

Keywords

GEM, Officers' Education Background, Company Performance

1. Introduction

For the purpose of supporting SMEs with vigorous growth and innovativeness, listed companies on GEM (growth enterprise board) offer a financing platform for China's self-dependent innovation strategies, enriching the multi-level capital market system. Listing on GEM becomes the ultimate goal sought by numerous entrepreneurs and their teams. In recent years, individual features of officer team become the research focus, such as relationship between company performance and the officers' individual features (like education background, specialties, age, compensation, shareholding proportion, etc.). As the core team assuming the responsibilities of deciding and implementing strategic plan, the officer team plays a critical role in development of a business. Hambrick and Marson (1984) [1] also believe that an officer team is the primary power to determine a company's operation and development, and the qualities and co-competencies of team member may influence the company's business decision-making action, thus influencing its performance [1]. Human capital theory holds that the higher the education degree is, the more education background undergoes. The one who has the better human capital and capability will make greater contribution to his company, thus bringing about the higher performance. However, under the existing market environment, controversy arises with respect to correlation between entrepreneurs' education degree and companies' performance. This paper, by taking listed companies on GEM for instance, researches relationship between officer team's education degree and companies' performance, with important theoretical and practical significance.

2. Literature and Theory

Regarding relationship between education degree and human capital, Schultz [2] set forth the promotion function of education to human capital in Human Capital Theory [2]. At later, Becker and Ehrenberg [3] believed that human capital includes education, training and all investment accumulated during activities like labor migration, and education is an important approach and means to create and improve human capital [3]. Education degree reflects the education background undergone; therefore, it may be considered as an indicator showing the human capital investment made via education. Romer [4] divided the knowledge acquainted through education into two parts: general knowledge and professional knowledge, and demonstrated that general knowledge can promote formation of economies of scale, and professional knowledge can facilitate achievement of increasing return for a company [4]. Similarly, Lucas [5] divided human capital into "general human capital" and "professional human capital" and, by building corresponding model, verified influence of general human capital upon an enterprise's output increment and decisive role of professional human capital in output increment [5]. General human capital refers to the ability to complete the general work. Professional human capital refers to a certain special skills of person. Professional human capital needs a long time of training and education, generally to receive higher education, and then through the training and practice to grasp professional knowledge and skills.

With further development of human capital theory, many scholars subsequently researched influence of human capital upon an enterprise's performance from the macro or industrial level and micro-level. For example, Cabello-Medina (2011) [6] examined, based on data about 85 enterprises located in Spain, relationship between human capital and enterprise performance by use of structural equation model [6]. It was concluded that uniqueness of human capital is not its value, but the direct and position influence upon an enterprise' innovation capability. Such uniqueness is further improved by social capital based on potential ability and human communication ability, thus improving the company's performance. Egon Franck *et al.* [7], on the basis of resource-based view and acquaintance function idea, held that human capital is a kind of intangible, unforeseeable, unique and irreplaceable resource and difficult to be imitated or replaced by rivals [7]. Therefore, the team enjoying such resource may maintain their competitive advantages at least for a short period. For the officer team serving in an enterprise, specific human capital may not only affect interaction among the officers team, but also significantly influence the enterprise's company performance. Thomas *et al.* [8] researched how the education degree to influence the working performance [8]. The conclusion revealed that education degree is significantly correlative to work performance, innovation performance and behavior performance.

In recent years, a great deal of research work has been done on individual features of officer team and company performance. With respect to relationship between officers' education degree and company performance, the following research results are presented: 1) Positive correlation exists between officers' education degree and company performance. Hambrick and Mason [1] believed that the one who possesses high education degree enjoys abundant experience and competency in handling complicated information [1]. The education degree of

officer team is in positive correlation to strategy selection and company performance. Wiersema *et al.* [9], based on officer teams in American manufacturing and banking industries, made research on the officer teams' individual features and company strategy change, found that the officer teams in high education degree are capable of dealing with and implementing strategic change in a better manner [9]. Research made by Tihanyi [10] also revealed that the officer teams at the higher educational level can acquire and process the more information, thus developing appropriate company strategies and improving company performance [10]. 2) There is no obvious correlation between officers' education degree and company performance. Through studying the relationship between education background of company CEOs and financial performance, Daily and Johnson [11] found that there is no obvious correlation between the education background of CEOs and performance indexes like ROE and ROI [11]. Gottesman and Morey [12], through research, deemed that there is no obvious difference between the company performance brought about by CEOs at higher education degree and that by CEOs at a lower education degree [12]. In addition, Zhang Jin held that education degree mainly reflects explicit knowledge, but skill reflected by tacit knowledge is the only key to enterprise growth. 3) Negative correlation exists between officers' education degree and company performance. Flood [13], through studying on officer teams and business starting, found that the management who is at the higher education degree prefer to avoid risks when they are challenged by complicated external environment, and may make more useless analysis during decision-making course [13]. Further, compared with the officers at a lower education degree, the former generally lags behind their rivals in developing new products.

According to above, although a great deal of research work has been done on the relationship between the education background and individual features of senior officers and company performance, different conclusions were obtained. From the prospective of human capital theory, the higher education level of officer team members represents the higher education degree they undergo; therefore, an officer team, as main source creating human capital, will bring about the higher ROI and make more contribution to companies. With respect to personal ability, the higher education degree of officer team stands for the better cognitive competency, ability of judgment, strategy planning and implementing ability. They are good at accepting new ideas and acquiring new opportunities; furthermore, they prefer to conduct daily operation and management by employing advanced management philosophy and methods, thus improving company performance. At present, nationwide business starting is encouraged. The graduates at different education degree have growing awareness of starting a business, and strive for listing on GEM. This Paper makes research on the listed companies on GEM, with certain theoretical and realistic significance in understanding correlation between education background and company performance.

Meanwhile, high company performance brought about by the officers at the higher education degree may be affected other factors: in aspect of officers; individual features, compensation received by the officers may influence their working enthusiasm and initiative; in aspect of company size, the larger-size companies generally have the better ability to withstand risks and obtain more profits. Compensation gap may inspire the officer to obtain more incentives by actively participating into this work, thus remarkably boosting up company performance. Company size may reduce transaction costs to some extent and achieve economies of scale and improve a company's profitability and market value. To explore inherent correlation between officers' background level and company performance, this research considers officer compensation and company size as two control variables in building models.

3. Research Design

3.1. Sample and Data Source

The samples used by this research are from data about listed companies on GEM in 2014 in Shenzhen Stock Exchange. Sampling data about 406 listing companies are collected while data about 7 companies whose information is incomplete. According to the industrial classification basis of listing companies displayed in Shenzhen Stock Exchange, these companies are classified into 40 industries including software information technology, computer communication, electrical machinery, chemical raw materials and equipment manufacturing.

3.2. Variable Selection

- Explained variable. There are many indicators to measure company performance. The scholars at home and

abroad, in measuring company performance, mostly employ two types of indicators, *i.e.* financial indicators, like book value per share (BPS), return on total assets (ROA), rate of return on common stockholders' equity (ROE), earning per share (EPS); and value indicators including economic value-added (EVA), market book ratio (MBR) and market value added (MVA). In evaluating company performance, application of the two types of indicators can make comprehensive appraisal on company performance. However, China's security market mechanism is not yet improved, so the value indicator cannot be forecasted in an objective and correct way. Therefore, this research measures company performance by use of financial indicators. In consideration of data availability, ROE is taken as explained variable. ROE is the percent of company profits after taxes divided by net assets, which reflects the ability of its own capital to obtain net income.

- Explanatory variable. Firstly, the officer team is only limited to Chairman, Vice Chairman, President, Vice President, member of Supervising Committee, General Manager, etc. In light of the functions, positions of independent directors of the current listing companies in China, and failure by independent directors to fully participate into daily operation and management, this research does not incorporate independent directors into officer teams. Secondly, education degree is divided into four levels: junior college and below, bachelor degree, master degree and PHD, to which the value 1 - 4 is assigned respectively.
- Control variable. As said above, this research considers officer compensation and company size as two control variables. Officer compensation is the sum of all officers published by listing companies, being expressed by natural logarithm of total compensations. Company size is expressed by natural logarithm of total assets.

3.3. Testing Model

According to the foregoing literatures and the research subject, this paper, on the basis of education degree, compensations of officers of listed companies on GEM, company performance and size, makes study on the correlation between officer team's education degree and company performance. The model is shown as follows:

$$ROE = \alpha_1 \text{Degree} + \alpha_2 \text{LnSize} + \alpha_3 \text{LnCompensation} + C + \varepsilon$$

where, α_i represents the coefficients to be checked in the model; C represents intercept term, ε means residual term.

4. Result and Analysis of Empirical Study

4.1. Descriptive Statistics

Descriptive statistics and analysis is conducted with respect to relevant variables of the 406 listed companies on GEM, and the statistical and analysis results are as shown in **Table 1**. The maximum ROE is 49.5%, the minimum one is -47.75%, with mean being 9.355%, mid-value: 7.790%; standard deviation: 9.663%; representing that the companies' profitability varies from each other. Regarding education degree, the mean is 2.205, mid-value: 2.200; standard deviation: 0.410, indicating that the average education degree of officer teams is bachelor. When the minimum value is 1.060 and maximum value 3.330, it is shown that the lowest education degree of entrepreneurship officer team is junior college and below, and the highest one is master degree and above. In respect of company size, the mean is 11.759, mid-value: 11.710; standard deviation: 0.646; the minimum value: 10.180; the maximum value 13.720, showing that the size of listed companies on GEM is different from each other. In respect of officer compensation, the mean is 5.465; the mid-value: 5.464; standard deviation: 0.575; the minimum value: 2.710; the maximum value: 7.540, representing that there is great gap between the officer compensation of different companies.

Table 1. Descriptive statistics.

Variable	Mean	Mid-value	SD	Min. value	Max. value
ROE (%)	9.355	7.790	9.663	-47.750	49.500
Degree	2.205	2.200	0.410	1.060	3.330
LnSize	11.759	11.710	0.646	10.180	13.720
LnCompensation	5.465	5.464	0.575	2.710	7.540

4.2. Relevant Analysis and Result

Before model checking, analysis is made to general relationship among the officers' education degree, compensation, company size and performance, with analysis results as shown in **Table 2**.

It is revealed from **Table 2** that education degree is correlative to company size and compensation at 0.01-level, indicating that the officers at the higher education degree prefer to work in the larger-size companies because of more compensation. Officer compensation is correlative to company performance below 0.01-level, showing that the higher compensations will inspire officer's working enthusiasm, thus improving company performance. However, education degree is uncorrelated to company performance. To further explore correlation among officer education degree, compensation, company size and company performance, regression analysis is, by taking officer compensation and company size, presented in the section below.

4.3. Regression Analysis Result

Regression analysis is made by this research model according to the data about the 406 listed companies on GEM, with analysis results are shown in **Table 3**. There exists no correlation between the explained variable (ROE) and education degree. The analysis result reveals that, in respect of listed companies on GEM, the education degree of officer team is not significantly correlative to company performance; the explained variable (ROE) is significant correlative to the coefficient of company size variable (LnSize) below 5% level and to that of officer compensation variable (LnCompensation) below 1% level. This model adjusts R² to be 0.097, but the coefficient is significant below 1% and 5% level, which is acceptable.

5. Discussion and Conclusions

This research examines the correlation between the officers' education degree and performance of listed companies on GEM based on the human capital theory. The research result reveals that there exists no correlative relationship between the officers' education degree and performance of listed companies on GEM in China. This conclusion sustains the research results obtained by other scholars like Daily and Johnson (1997) [11], Gottesman and Morey [12] and Zhang Jin but denies other conclusions, *i.e.* the higher education represents the better ability and higher performance.

This may be attributed to the following reasons: 1) most of the GEM listed companies in China are private enterprises and developed from family or partnership enterprise. Therefore, many of these enterprises fail to establish reasonable power operating mechanism and the individual authority of entrepreneur himself is exercised excessively. Under this circumstance, the entrepreneur generally dominates the making of final business decisions. Additionally, the shareholding structure of such enterprises is concentrated and the officer team has no sufficient authority to implement their functions. 2) Improved incentive mechanism has not been developed by most of listed companies on GEM in China, hampering development of these enterprises. Long-term incentive modes like equity incentive are rarely utilized, so the company officers are restricted to make good use of their

Table 2. Correlation.

Variables	ROE	Degree	LnSize	LnCompensation
ROE	1			
Degree	0.053	1		
LnSize	-0.007	0.145**	1	
LnCompensation	0.300**	0.238**	0.336**	1

**There is significant correlation when the value is at 0.01-level above (both sides).

Table 3. Regression analysis result.

Explained Variable	Degree	LnSize	LnCompensation	F	Adjusted R ²	N
ROE	-0.012	-0.121**	0.343***	15.442***	0.097	406

, * respectively represent significant correlation at 5% and 1% level.

knowledge. 3) High education degree may not be standard for corresponding ability. During the business starting phase, a company will be challenged by complicated conditions under which courage and insight, boldness, bravery and ability of entrepreneurs are more important than the higher education degree. 4) Most of GEM listed companies are incorporated in recent years and are small in size compared with share-A market. They have different characteristics in terms of founders, core team, development history, industrial breakdown or technical level, but now it is not the time to improve company performance by relying on human capital and accumulated knowledge.

Under the current internal and external market environment, to give full play to the role of innovation, to facilitate further development of listed companies on GEM in China and to achieve the goal of sustainable development, appropriate measures shall be taken to improve company management structure and optimize system of selecting senior officers, so as to encourage the officer team to give full play to their roles in company operation through change in external and internal conditions, thus boosting up company performance. However, this research conclusion does not deny human capital theory but demonstrates that the only high education may not bring about satisfactory company performance. Therefore, we shall make more efforts to improve abilities while increasing education degree. A company shall focus on the candidates' competence and ability in selecting and promoting talents.

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