

Top Management Team Educational Background, Internal Control and Corporate Performance

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Keywords: Top Management Team, Educational Background, Internal Control, Corporate Performance, Mediating Role

Abstract: this paper takes shanghai and shenzhen in china a-share listed companies from 2008 to 2017 as samples to make an empirical study on the mediating role of internal control in the relationship between the educational background of the executive team and the corporate performance. The results indicate that the average education level of top management teams, the background of studying abroad, and the background of prestigious schools have a significant positive impact on the company's internal control quality and corporate performance; internal control significantly positive affects corporate performance, and has an intermediary role in the relationship between the top management team's educational background and the corporate performance; among them, the intermediary effect of the internal control in the relationship between the top management team's background of studying abroad and the corporate performance is more obvious.

1. Introduction

Pursuing the high performance is the primary goal of the company's sustainable development. First, corporate performance is closely related to the top management team. The senior management team leads the company to make strategic and tactical decisions, and the effectiveness of these decisions execution will directly affect the company's long-term and short-term performance. Second, corporate performance is also affected by internal control. The main goal of internal control is to reasonably guarantee the realization of business objectives, including improving corporate performance. Among them, the top management team also plays an important role in ensuring the quality of internal control. In addition, with the popularization and improvement of the contemporary social education, the company's requirement that managers with a good educational background, also become a future development trend. Among the top managers of china 500 listed companies in 2016, high educational managers were accounted for 84% and graduated from famous schools were accounted for 48%. Companies are glad to recruit managers with overseas study experience. Talents with a high educational background are still at the field of economic management. Educational background, as a very important aspect of personal characteristic, has an important influence on the cognitive ability, information processing level and decision-making efficiency of top management teams.

In summary, it will be a guiding significance for enriching the methods and paths for companies to improve performance to studying the impact of the educational background of the company's top management team on the company's internal control level and performance and the role of internal control in the corporate governance mechanism. This article constructs a theoretical framework of "educational background of senior management team-internal control-company performance". This paper from the average educational background, studying abroad background, and famous school background three perspectives to analyzes the "black box" of top management team educational background how to improve the company performance through internal control. This will provide theoretical support for listed companies to scientifically recruit managers, strength internal control management, and improve corporate performance.

2. Research Hypotheses

The positive effects of the educational background of the top management team on the company's performance are as follows. First of all, the increasing in education level can improve the executives' cognitive ability, risk acceptance, recognition of innovation activities, and the attitude to resource allocation. So the good educational background of managers can adapt themselves to the changing environment, and conducive to improving corporate performance. Second, the overseas learning experience brings managers with innovative ways of thinking, management models, and behavior attitudes. And they communicate with local managers to each other in terms of governance concepts. Third, the learning environment of famous schools brings high-level human resources to the management team which inspires them with thinking and collaborative ability, is conducive to improve the corporate performance. Education brings a stronger sense of innovation and risk tolerance to the top management team, and pays more attention to corporate r & d and reasonable allocation of related resources.

Based on the above analysis, we put forward the hypothesis H1: Corporate performance and internal control are both positively related to the educational background of the top management team;

H1a: Corporate performance and internal control are both positively related to the average education of the top management team;

H1b: Corporate performance and internal control are both positively related to the studying abroad background of the top management team;

H1c: Corporate performance and internal control are both positively related to the famous school background of the top management team;

Internal control plays an extremely important role in improving company performance. A reasonable and effective internal control system can help enterprises to find the root cause of problems, control the corporate risks, resolve problems immediately, and promote healthy and long-term sustainable development of enterprises.

Based on the above analysis, we put forward the hypothesis H2: corporate performance is positively related to internal control;

In summary, it can be seen that the educational background of executives affects internal control and corporate performance through different channels, and internal control also has an effect on corporate performance. This paper believes that the impact of the educational background of the top management team on the corporate performance will play a part through internal control. That is, internal control plays an intermediary role between the educational background of the top management team and the corporate performance.

Based on the above analysis, we put forward the hypothesis H3: Internal control plays a mediating role in the relationship between executive educational background and corporate performance;

H3a: Internal control plays a mediating role in the relationship between the average education of the top management team and the corporate performance;

H3b: Internal control plays a mediating role in the relationship between the top management team's study abroad background and the corporate performance;

H3c: Internal control plays a mediating role in the relationship between the famous school background of the top management team and the corporate performance;

3. Research Design

3.1 Sample Selection and Variable Definitions

This paper takes Shanghai and Shenzhen in China A-share listed companies from 2008 to 2017 as samples. It excludes ST-type companies, financial industry-type listed companies and samples with missing data. The definition of variables' names and symbols are shown in Table 1. Among them, the average education level of top management team (Aed): Managers who has no bachelor degree is equal to 1, who has bachelor degree is equal to 2, who has master degree is equal to 3,

who has doctor degree or postdoctoral degree is equal to 4. The average academic qualification of the top management team is the average score.

Table 1 List of study variables

	Variable name	Symbol	Variable definitions
Explained variable	Corporate Performance	ROA	Return on Assets
Explanatory variables EDU	Top management team average education	Aed	Average academic score of top management team
	Top management team study abroad background	Ove	Managers with a background of studying abroad / Total number of managers
	Top management team famous school background	Sch	Manager with famous school graduation background / Total number of managers
Mediation variable	Internal Control	IC	Internal control composite index takes natural logarithm
Control variable	Company Size	AS	Natural logarithm of total assets at the end of the period
	Growth Ability	GR	Main business income growth rate
	Operating Ability	AT	Total asset turnover
	Executive Shareholding	MS	Number of shares held by the top management team / Total number of shares
	Equity Concentration	CR	Shareholding of the largest shareholder
	Year	YR	Listed company statistics year

3.2 Construction of the Model

The construction of the model mainly to verify the effect of the educational background of the top management team on internal control and company performance, and to verify the mediating effect of internal control in the relationship between the educational background of the top management team to company performance. Building the model (1) to (4):

$$ROA = \beta_0 + \beta_1 EDU + \beta_2 AS + \beta_3 GR + \beta_4 AT + \beta_5 MS + \beta_6 CR + \varepsilon \quad (1)$$

$$IC = \beta_0 + \beta_1 EDU + \beta_2 AS + \beta_3 GR + \beta_4 AT + \beta_5 MS + \beta_6 CR + \varepsilon \quad (2)$$

$$ROA = \beta_0 + \beta_1 IC + \beta_2 AS + \beta_3 GR + \beta_4 AT + \beta_5 MS + \beta_6 CR + \varepsilon \quad (3)$$

$$ROA = \beta_0 + \beta_1 EDU + \beta_2 IC + \beta_3 AS + \beta_4 GR + \beta_5 AT + \beta_6 MS + \beta_7 CR + \varepsilon \quad (4)$$

4. Regression Analysis

In order to verify the degree of correlation and significance between the variables, regression was performed according to the relevant model (1), model (2), model (3), and model (4).

In Table 2, the education level (Aed), study abroad background (Ove) and famous school background (Sch) in the top management team are significantly positively correlated with the corporate performance and regression coefficient at a confidence level of 1%, which tests the hypothesis 1.

Table 2 Regression analysis of the influence of top management team educational background on corporate performance

Variables	Model (1)		
	ROA	ROA	ROA
Aed	0.007*** (-0.002)		
Ove		0.032*** (-0.008)	
Sch			0.005***

			(-0.002)
AS	-0.001***	-0.001**	-0.001*
	(-0.001)	0	0
GR	0.017***	0.017***	0.017***
	(-0.001)	(-0.001)	(-0.001)
AT	0.018***	0.018***	0.018***
	(-0.001)	(-0.001)	(-0.001)
MS	0.052***	0.051***	0.051***
	(-0.004)	(-0.004)	(-0.004)
CR	0.025***	0.024***	0.026***
	(-0.004)	(-0.004)	(-0.004)
YR control	control	control	
_cons	0.020*	0.032***	0.024**
	(-0.011)	(-0.011)	(-0.011)
Obs.	6665	6665	6665
R ²	0.102	0.102	0.101
Adj R ²	0.1	0.1	0.099

Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively.

Table 3 shows the results of the regression analysis of the top management team educational background on internal control quality. The internal control index (IC) was significantly positively related to the education level (Aed), study abroad background (Ove), and famous school background (Sch), which tests the hypothesis 2.

Table 3 Regression analysis of the influence of top management team educational background on internal control

Variables	Model (2)		
	IC	IC	IC
Aed	0.016***		
	(-0.004)		
Ove		0.069***	
		(-0.018)	
Sch			0.008**
			(-0.004)
AS	0.029***	0.030***	0.030***
	(-0.001)	(-0.001)	(-0.001)
GR	0.023***	0.023***	0.023***
	(-0.003)	(-0.003)	(-0.003)
AT	0.040***	0.040***	0.040***
	(-0.003)	(-0.003)	(-0.003)
MS	0.099***	0.096***	0.097***
	(-0.008)	(-0.008)	(-0.008)
CR	0.027***	0.026***	0.028***
	(-0.009)	(-0.009)	(-0.009)
YR control	control	control	control
_cons	5.774***	5.800***	5.782***
	(-0.023)	(-0.023)	(-0.023)
Obs.	6665	6665	6665
R ²	0.21	0.21	0.209
Adj R ²	0.208	0.208	0.207

Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively.

Table 4 shows the results of regression analysis of internal control quality on corporate performance. The regression coefficient of internal control reached 0.172. The improvement of the quality of internal control has a significant positive effect on the corporate performance, which tests the hypothesis 3.

Table 4 Regression analysis of the impact of internal control on corporate performance

Variables	Model (3)
	ROA
IC	0.172*** (-0.005)
AS	-0.006***
	0
GR	0.013*** (-0.001)
AT	0.011*** (-0.001)
MS	0.035*** (-0.004)
CR	0.020*** (-0.004)
YR	control
_cons	-0.969*** (-0.032)
Obs.	6665
R ²	0.226
Adj R ²	0.225

Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively.

Table 5 The mediating effect of internal control on the educational background of top management teams

Variables	Model (4)		
	ROA	ROA	ROA
Aed	0.005*** (-0.002)		
Ove		0.020** (-0.008)	
Sch			0.004** (-0.002)
IC	0.171*** (-0.005)	0.171*** (-0.005)	0.172*** (-0.005)
AS	-0.006***	-0.006***	-0.006***
	0	0	0
GR	0.013*** (-0.001)	0.013*** (-0.001)	0.013*** (-0.001)
AT	0.011*** (-0.001)	0.011*** (-0.001)	0.011*** (-0.001)
MS	0.035*** (-0.004)	0.034*** (-0.004)	0.035*** (-0.004)
CR	0.020*** (-0.004)	0.020*** (-0.004)	0.021*** (-0.004)
YR	control	control	control
_cons	-0.968*** (-0.032)	-0.961*** (-0.032)	-0.968*** (-0.032)
Obs.	6665	6665	6665
R ²	0.227	0.227	0.227
Adj R ²	0.225	0.225	0.225

Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively.

Table 5 shows the mediating effect of the internal control level on the relationship between top management team educational background and corporate performance. From the regression results, it can be seen that the intermediary role of internal control (IC) reduced the regression coefficient of

the education level (Aed) on corporate performance from 0.007 to 0.005, with a significant level of 1%. The regression coefficient of study abroad background (Ove) on corporate performance decreased from 0.032 to 0.020, with a significance level of 5%. The regression coefficient of famous school background (Sch) on corporate performance decreased from 0.005 to 0.004, with a significance level of 5%. The results validate the research hypothesis 4, indicating that internal control is an intermediary variable in top management educational background affects corporate performance.

5. Conclusion

The conclusions are as follows: (1) Corporate performance is positively related to the educational background of the top management team. (2) The corporate internal control level is positively related to the educational background of the top management team. (3) The improvement of internal control quality can improve corporate performance. (4) The educational background of the top management team partially affects the quality of internal control, which in turn affects the corporate performance. This means the mediating effect of internal control between the educational background of the top management team and the corporate performance.

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