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The Influence of Independent Directors and Board Composition on the Financial Performance

-- An Empirical Study of Listed Companies on SME

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Abstract

Independent directors and the board composition was closely connected to the financial performance of enterprises. Rarely, the research on the relationship between the board composition and financial performance for SME. Therefore, we used the data of 4149 SME samples from 2010 to 2015 listed on the Shenzhen Shanghai stock market to conduct empirical research, and uses SPSS to analyze the correlation between the characteristics of the board composition and financial performance. The results showed that the board size was positively correlated with financial performance; the independent directors ratio was not significantly positively correlated with financial performance; CEO double character was negatively correlated with financial performance. In order to improve the financial performance of SME.This paper suggested to establish a reasonable size of the board of directors, improve the independent director system and implement the separation of chairman and manager two position .

Keywords

Independent Directors; Board Size; CEO Double Character ; Financial Performance; Small and Medium Enterprises(SME).

1. Introduction

1.1. Research Background and Motivation

In recent years, our country small and medium-sized enterprises continued to grow, its status in the society gradually improved, to pull our country's economic development has played an important role. However, with the rapid development of small and medium-sized enterprises, they are also faced with simple internal organizational structure and unscientific decision-making mechanism. Unclear definition and distribution of company property rights; Insufficient legal and policy support and other difficulties [1]. To a certain extent, these problems can reflect the shortcomings of small and medium-sized enterprises in corporate governance. Therefore, the most urgent problem to be solved at present is how to improve the corporate governance of small and medium-sized enterprises.

The composition of the board of directors is a key link in corporate governance, which refers to the outward presentation of the internal characteristics of the board of directors [2]. The board of directors is the core of business decision-making. Good board composition is of great help to corporate governance and improve corporate financial performance. According to Huang Yede and Zhang Xin (2020), the size of the board of directors has a positive impact on financial performance, because it can gather more talents and put forward more opinions conducive to the development of the enterprise [3]. Wang Xue, Pan Qi and Li Zhengguang (2017) studied the

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Shanghai stock market and concluded that CEO double character has no significant impact on earnings per share and return on total assets [4].

At present, there are few domestic examples of using small and medium-sized enterprises as samples for research. Therefore, this paper takes the listed companies on the small and medium-sized Enterprise board of China's Shenzhen and Shanghai Stock markets as the research object, discusses the impact of board composition on financial performance of these companies, and finally puts forward corresponding suggestions for corporate governance based on the research results.

1.2. Research Questions and Objectives

Whether the size of the board of directors has an impact on the financial performance of the enterprise, whether the size of the board of directors is more able to gather talents to provide opinions, or whether people will consider their own interests and have different opinions, which affects the good development of the enterprise; Whether the existence of independent directors can really bring more professional supervision to enterprises or increase management costs; The chairman of the board and the general manager are the same person, the existence of this dual role on the enterprise is positive or negative impact. Under these questions, the research purpose of this paper is put forward as follows:

1. To understand the literature of domestic and foreign scholars on the impact of board characteristics on corporate financial performance.

2, Discuss the board size, The proportion of independent directors and CEO double character on financial performance.

3, To understand how the board characteristics of small and medium-sized board affect the corporate governance, for promoting corporate governance for reference.

1.3. Research Scope

This paper takes listed companies on the Small and medium-sized Enterprise board of China's Shenzhen-Shanghai Stock Market as the research object. The research period is from 2010 to 2015, and the industry covers pharmaceutical manufacturing, bio-products industry, retail industry, clothing manufacturing, tourism and so on. The size of the board of directors, the proportion of independent directors and the same chairman and general manager (CEO double character) are taken as corporate governance variables, and the return on total assets, return on shareholders' equity and earnings per share are taken as financial performance indicators.

2. Literature Review and Hypothesis Derivation

2.1. Corporate Governance

Different scholars have different definitions of corporate governance. Some studies believe that corporate governance is an organizational structure composed of owners, the board of directors and senior executives [5]. Some scholars also propose that corporate governance is to study how to authorize managers and how to supervise managers [6].

The main task of corporate governance is to establish a complete system between the principal and the agent, reasonably constrain the agent, prevent the agent from damaging the owner's equity for personal interests, and thus maximize the shareholder value [7]

2.2. Board Composition and Financial Performance

2.2.1. The Impact of Board Size on Financial Performance

The board of directors is the highest decision-making unit of the company. The larger the scale of the board of directors, the more talents can be organized to provide more opinions. However, different interests may affect the decision-making efficiency and adversely affect the

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development of the company. There are different opinions in the academic circle about the related research of board size.

Guo Huifang (2011) took China's listed coal companies as the research object and pointed out that the scale of the board of directors is positively correlated with the financial performance at a significant level of 10%, suggesting that a large-scale board of directors is more conducive to the improvement of corporate performance [8]. He Yan (2014) concluded that there was no significant relationship between them based on the data of real estate enterprises [9]. However, Luo Xiao (2015) made an empirical study with the data of SME board and GEM board, but got the opposite result [10]. This paper believes that small and medium-sized board enterprises are small in scale, most of the board of directors are in the hands of family members, and there are few professional personnel, which is not conducive to business performance. In other words, the large size of the board of directors can improve the business performance of enterprises. Therefore, the following hypothesis is proposed for empirical evidence:

H1: Board size is significantly correlated with financial performance.

H1a:The Board size and the total assets return rate was significantly positively related;

H1b: The Board size and the return on equity was significantly positively related;

H1c:The Board size and the eps was significantly positively related.

2.2.2. The Influence of The Proportion of Independent Directors on Dinancial Performance

An independent director is a person who performs checks and balances on the board of directors and monitors the company. Scholars at home and abroad have different research objects and different research results.

Guo Huifang(2011) Research results show that for listed coal companies, the higher the proportion of independent directors, the more detrimental to financial performance [8]. (He Yan,2014) found that the correlation between the two was not obvious, and believed that the independent director system of the company still needed to be further improved [9]. Luo Xiao(2015) Taking small and medium-sized board and GEM companies as the research object, it is concluded that there is a weak positive correlation between the proportion of independent directors and corporate financial performance. This is because the equity of small and medium-sized board and GEM companies is relatively concentrated, and hiring independent directors can promote performance improvement. On the other hand, independent directors are controlled by major shareholders and cannot fully perform their duties, so the correlation is not strong [10]. Quan Xixi(2017) Research found that the higher the proportion of independent directors, the more effective the supervision of the company and the improvement of corporate financial performance [11]. Based on this, this paper proposes the following hypotheses:

H2: The proportion of independent directors is significantly correlated with financial performance.

H2a: The proportion of independent directors to the total assets return rate was significantly positively related;

H2b: The proportion of independent directors and return on equity has significant positive correlation;

H2c: The proportion of independent directors and eps was significantly positively related.

2.2.3. The Influence of CEO Double character on Financial Performance

Guo Huifang(2011) Research shows that there is insignificant negative correlation between the double character of China's coal listed CEO [8]. (Quan Xixi,2017) found that the double character of CEO of listed companies in Xinjiang had a negative effect on financial performance, and the separation of the two positions was more conducive to improving financial performance [11]. Zhang Yannan(2019) shows that CEO double character has a negative impact

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on the financial performance of listed retail companies. This situation weakens the independence of the board of directors and leads to the decline of financial performance [12].

Through the above literature discussion, it is found that there is no consistent conclusion in the empirical results of the scale of board of directors, the proportion of independent directors and the double character of CEO, which may be caused by the different industries studied by researchers and the different methods of evaluating business performance. This study focuses on the governance variables of small and medium-sized board enterprises to empirically analyze their financial performance, hoping to provide more detailed results. Therefore, the following hypotheses are proposed:

H3: CEO double character is significantly correlated with financial performance.

H3a: CEO double character and total assets return rate has significant negative correlation;

H3b: CEO double character and return on equity has significant negative correlation;

H3c: CEO double character and eps has significant negative correlation.

2.3. Research Framework

According to the above research hypotheses, this paper formulates the research framework as shown in Figure 1.

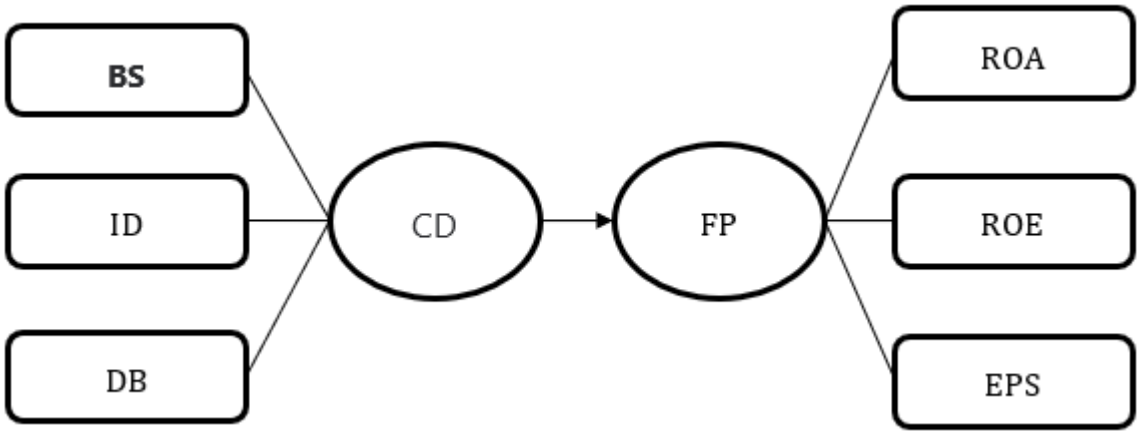

Figure 1. Study architecture diagram

Note: CD:Characteristics of the board; FP:financial performance;BS: board size; ID: ratio of independent directors; DB: CEO double character; ROA: rate of return on total assets; ROE: return on shareholders' equity; EPS: earnings per share.

3. Research Methods

3.1. Data Source

In this study, the companies listed on the Small and medium-sized Enterprise board of China's Shenzhen-Shanghai Stock Market are selected as the research objects, and their industries cover pharmaceutical manufacturing, biological products, retail, clothing manufacturing, tourism and so on. After deleting the companies with incomplete data, this paper selects a total of 4149 sample annual data from 2010 to 2015 for analysis, and the sample data source is Taiwan Economic News Mainland database.

3.2. Variable Definition and Measurement

In this study, questionnaires were used to collect data. The questionnaire is divided into six parts, including board size, ratio of independent directors, CEO double character, return on total assets, return on shareholders' equity and earnings per share, Such as table 1.

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Table 1. Definition and Measurement of Variables

types of variables	variable name	symbol	definition
independent variable	board size	BS	Take the number of board members as the board size
	ratio of independent directors	ID	The proportion of independent directors on the board of directors is taken as the proportion of independent directors
	CEO double character	DB	If the chairman concurrently serves as the general manager, the value is 1, and if not, the value is 0
dependent variable	rate of return on total assets	ROA	Return on total assets = earnings before interest and tax/average total assets *100%
	return on stockholder's equity	ROE	Return on shareholders' equity = net profit/average net asset *100%
	earnings per share	EPS	Earnings per share = (net income - Preferred stock dividend)/number of common shares outstanding
Data Source: Collation of this study			

3.3. Regression Model

The empirical model of this study is as follows:

$$ROA_{i,t} = \alpha_0 + \alpha_1 \mathrm{BS}_{i,t} + \alpha_2 \mathrm{ID}_{i,t} + \alpha_3 \mathrm{DB}_{i,t} + \varepsilon_{\mathrm{i,t}}$$

$$ROE_{i,t} = \beta_0 + \beta_1 \mathrm{BS}_{i,t} + \beta_2 \mathrm{ID}_{i,t} + \beta_3 \mathrm{DB}_{i,t} + \varepsilon_{\mathrm{i,t}}$$

$$EPS_{i,t} = \gamma_0 + \gamma_1 \mathrm{BS}_{i,t} + \gamma_2 \mathrm{I}D + \gamma_3 \mathrm{DB}_{i,t} + \varepsilon_{\mathrm{i,t}}$$

BS: the size of the board of directors; ID: Proportion of independent directors; DB: CEO double character; ROA: return on total assets; ROE: rate of return on shareholders' equity; EPS: earnings per share; I: Company; T: years; / : constant term; ε : error term.

4. Empirical Results and Analysis

4.1. Descriptive Statistic

Statistics show that the smallest size of the board of directors of small and medium-sized enterprises is 4, the maximum is 26, the average is 12 directors, and the average is 3 independent directors. The average CEO double character is 0.46, which means that 54% of companies separate decision-makers from executives.

The statistical data of financial performance variables show that the average value of return on total assets (ROA), return on shareholders' equity (ROE) and earnings per share (EPS) are 0.08, 0.09 and 0.43, respectively.

4.2. Correlation Coefficient Analysis

Through analysis, the correlation coefficient between board size and EPS is.031, reaching a statistically significant level of.1, indicating that EPS increases with the increase of board size. In addition, the other independent variables and dependent variables were not significant. Secondly, the correlation coefficient between the independent variables shows that the correlation coefficient between the size of the board and the proportion of independent directors is -.180, the correlation coefficient between the size of the board and the double character of the CEO is -.079, and the correlation coefficient between the proportion of independent directors and the double character of the CEO is.095, all of which reach the

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significance level of 5%. It indicates that there may be linear coincidence between these variables, which needs further verification.

4.3. Collinearity Analysis

The tolerance value can be used as a basis to test whether there is collinearity between independent variables. The smaller the tolerance value, the greater the possibility of collinearity. Generally, the tolerance must be greater than 0.5, otherwise collinearity exists. From the analysis, it is concluded that the allowance of all independent variables is greater than 0.5, so there is no serious collinearity between the independent variables.

4.4. Difference Analysis

To analyze the influence of the size of the board of directors on the financial performance among the corporate governance variables, the independent sample t-test is used to analyze, check the average of the two, and explore the difference between them. When the board size is larger than the mean 12, the number of samples is 1157, and the number of samples is smaller than the mean 12 is 2992. The mean values of ROA, ROE and EPS have little difference between large-scale enterprises and small-scale enterprises, indicating that there is no obvious gap between financial performance and board size.

The results of independent sample t test of board size were obtained by difference analysis. The F values of ROA, ROE and EPS were.11,.69 and 1.88, respectively, with P values greater than.05, indicating homogeneity in the variance of the two groups. The t value of ROA is -2.25(P =.024), which has reached the significance level of 0.05, indicating that the board size has a significant difference in the mean value of the dependent variable ROA. The t value of ROE is -1.67(P =.096), which has reached the significance level of.1, indicating that the size of the board of directors has a significant difference in the average ROE of the dependent variable. The t value of EPS was -.19 (P =.848), which did not reach the significance level of.05, indicating that there was no significant difference in the average value of the board size in the dependent variable EPS.

In addition, the independent sample t-test is used to analyze the influence of CEO double character on financial performance, and to check whether there is any difference in CEO double character and the dependent variable. According to the analysis, the number of samples with CEO double character was 1901, and the number of samples without CEO double character was 2,248. The mean values of ROA, ROE and EPS have little difference between the part-time and non-part-time positions, which indicates that there is no obvious gap between financial performance and CEO double character.

After the difference analysis, the results of the independent sample t-test of CEO double character were obtained. The F values of ROA, ROE and EPS were.02,.01 and.39, respectively, and the P values were all greater than.05, indicating the homogeneity of the variance of the two groups of samples. The t value of ROA was -.61 (P =.542), which did not reach the significance level of.05, indicating that there was no significant difference in the average value of CEO double character in the dependent variable ROA. The t value of ROE is -1.70 (P =.09), which has reached the significance level of.1, indicating that there is a significant difference in the average of the dependent variable ROE. The t value of EPS was -.63 (P =.527), which did not reach the significance level of.05, indicating that there was no significant difference in the average of the dependent variable EPS of CEO double character.

4.5. Analysis of Regression

In Table 2, F values of model I, Model II and model III are 0.962, 1.245 and 1.525, respectively, with a significance level of 5%.

Model I is the regression analysis result of the characteristics of the board of directors on the return on total assets. The regression coefficient of the size of the board of directors is -.018,

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which does not reach the 5% significance level. The size of the board of directors is negatively correlated with the return on total assets, and H1a is not valid. The regression coefficient of the proportion of independent directors is.014, indicating that the proportion of independent directors is significantly positively correlated with the rate of return on total assets, which is consistent with hypothesis H2a, but not significant. The regression coefficient of CEO double character is -.012. The negative correlation between CEO double character and return on total assets is consistent with hypothesis H3a, but not significant.

Model II is the regression analysis result of the characteristics of the board of directors on the return on shareholders' equity. The regression coefficient of the size of the board of directors is -.004, which does not reach the 5% significance level. The size of the board of directors is negatively correlated with the return on shareholders' equity, and H1b is not valid. The regression coefficient of the proportion of independent directors is.013. The proportion of independent directors is significantly positively correlated with the rate of return on shareholders' equity, which is consistent with hypothesis H2b, but not significant. The regression coefficient of CEO double character is -.028, and the significance level is 10%. CEO double character is negatively correlated with the rate of return on shareholders' equity, so H3b is established.

Table 2. Regression Analysis of Board Characteristics on Financial Performance

Model I: $ROA_{i,t} = \alpha_0 + \alpha_1 \mathrm{BS}_{i,t} + \alpha_2 \mathrm{IB}_{i,t} + \alpha_3 \mathrm{DB}_{i,t} + \varepsilon_{i,t}$			
	Standardized Coefficients	t	P
(**constant**)		8.260	.000
BS	-.018	-1.136	.256
ID	.014	.894	.371
DB	-.012	-.779	.436
Mode lII: $ROE_{i,t} = \beta_0 + \beta_1 \mathrm{BS}_{i,t} + \beta_2 \mathrm{ID}_{i,t} + \beta_3 \mathrm{DB}_{i,t} + \varepsilon_{i,t}$			
(**constant**)		5.869	.000
BS	-.004	-.242	.809
ID	.013	.795	.427
DB	-.028	-1.803*	.071
Model III: $EPS_{i,t} = \gamma_0 + \gamma_1 \mathrm{BS}_{i,t} + \gamma_2 \mathrm{ID}_{i,t} + \gamma_3 \mathrm{DB}_{i,t} + \varepsilon_{i,t}$			
(**constant**)		4.059	.000
BS	.032	2.035**	.042
ID	.008	.534	.593
DB	-.008	-.517	.605

Data source: SPSS Statistical analysis

Note: Independent variable: BS: board size; ID: ratio of independent directors; DB: CEO double character

Dependent variable: ROA: rate of return on total assets; ROE: return on shareholders' equity; EPS: earnings per share

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Model III is the regression analysis result of the characteristics of the board of directors on earnings per share, the regression coefficient of board size is.032, reaching the 5% significance level, and the board size is significantly positively correlated with earnings per share, H1c is established. The regression coefficient of the proportion of independent directors is.008. The positive correlation between the proportion of independent directors and earnings per share is consistent with hypothesis H2c, but not significant. The regression coefficient of CEO double character is -.008. The negative correlation between CEO double character and earnings per share is consistent with hypothesis H3c, but not significant.

According to the regression test and integration of board size and financial performance, the results show that H1a hypothesis is not valid, H1b hypothesis is not valid, and H1c hypothesis is valid and significant.

According to the regression test of board of directors proportion and financial performance, the results show that H2a, H2b and H2c hypotheses are valid but not significant.

According to the integration of CEO double character and financial performance regression tests, the results show that H3a hypothesis is valid but not significant, H3b hypothesis is valid and significant, and H3c hypothesis is valid but not significant.

5. Conclusion and Recommendations

5.1. Research Conclusion

This study finds that :(1) there is a positive correlation between board size and financial performance, and only EPS conforms to the hypothesis and is significant. The results of this paper are consistent with those of Guo Huifang (2011). In smes, a larger board size means that members have richer knowledge and experience, which is more conducive to the development of the company. (2) The proportion of independent directors is positively correlated with financial performance, but not significantly. The results of this paper are consistent with those of Luo Xiao (2015). The equity of small and medium-sized board companies is relatively concentrated, so hiring independent directors can promote performance improvement. However, independent directors employed by the board of directors can not fully play their supervisory duties, so the significance is not strong. (3) There is a significant negative correlation between CEO double character and financial performance. The results of this paper are consistent with those of Guo Huifang (2011), Quan Xixi (2017) and Zhang Yannan (2019). When the decision maker concurrently acts as the executive, fairness and justice will be questioned, which weakens the independence of the board of directors and has a negative impact on the company.

5.2. Suggest

5.2.1. Establish a Reasonable Board Size

Research shows that board size is positively correlated with financial performance. Having many directors from different backgrounds on the board of directors can provide more effective suggestions for the company and improve the decision-making quality of the board of directors. Therefore, enterprises can determine a more reasonable and scientific scale of the board of directors according to different factors such as industry characteristics, size and development degree.

5.2.2. Improve the Independent Director System

The results show that the proportion of independent directors has no significant positive correlation with financial performance. This is because many small and medium-sized enterprises fail to improve the independent director system, and only stay at the level of system construction, which makes the independent director play little role. Enterprises should ensure that independent directors are elected in accordance with relevant regulations, and

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independent directors have no incentive to occupy the rights and interests of interested parties, so as to ensure that independent directors can play their own functions objectively and freely, fully mobilize their enthusiasm in enterprise management, and play their due role.

5.2.3. Implement the Separation System of Two Posts

The results show that CEO double character is negatively correlated with financial performance. It shows that when the chairman of the board concurrently serves as the general manager, it is easy to produce self-interest motive and disadvantageous to the development of the company. Small and medium-sized enterprises should implement the system of separation of the two positions. When the chairman and general manager are assigned to different people, the checks and balances mechanism can be better implemented and the efficiency of corporate governance can be improved.

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