Does the Average Age of Executives Affect the ESG Performance of Enterprises?

Yunzhi Chen *

International Joint Audit Institute, Nanjing Audit University, Nanjing, China

* Corresponding author: 213140203@stu.nau.edu.cn

Abstract. In today's global business environment, the importance of ESG has been widely recognized globally. This article uses data from 4578 A-share listed companies from 2015 to 2021 to study the impact of the average age of executives on ESG performance. The results show that the average age of executives is significantly positively correlated with ESG performance. For the three specific aspects of ESG, as the average age of executives increases, the performance of environmental (E) and social (S) also shows a better trend, but the performance of corporate governance level (G) is worse. This study suggests that companies should attach importance to the diversity of their executive teams, establish continuous training mechanisms, and develop clear ESG strategies and goals. This study provides more accurate guidance for enterprise decision-making, ESG management, and executive selection, and helps companies select and cultivate executives more accurately to ensure that the executive team is aligned with the company's ESG goals.

Keywords: ESG, Executive, Average age.

1. Introduction

In today's global business environment, social responsibility and sustainable development have become indispensable factors for the success and long-term prosperity of enterprises. ESG performance has a profound impact on attracting investment, gaining support from partners, and maintaining consumer trust. The importance of ESG has been widely recognized globally, which requires companies to pay more attention to improving ESG performance. As key players in corporate decision-making and execution, executives play a vital role in ESG leadership and decision-making. The personal traits and behavior patterns of executives influence their attention and decision-making on ESG issues. Previous literature has found that factors such as executive equity incentives, team stability, overseas backgrounds and gender affect corporate ESG performance, but few articles have focused on one of the most distinctive characteristics of executives - age [1-4]. Studying age factors can help reveal the connection between leadership characteristics and sustainable development goals, provide new dimensions for leadership research, and deepen understanding of the ESG performance impact mechanism. This study helps to reveal the complex relationship between executive traits and corporate ESG performance, providing more accurate guidance for corporate decision-making, ESG management, and executive selection. This study helps companies more accurately select and cultivate executives to ensure that the executive team aligns with the company's ESG goals. In addition, this study can guide companies in making smarter choices in ESG strategy, decision-making, and communication, and drive them towards a more sustainable future.

2. Theoretical Analysis and Research Hypotheses

Han Qingxiao et al. concluded through empirical analysis that relatively speaking, older employees are better able to make strategic decisions with a vision for development [5]. They are more confident and accurate in dealing with complex problems, formulating strategies, and dealing with risks. This experience may make them more capable of effectively promoting corporate goals and initiatives in ESG, thereby improving performance. Fred et al. pointed out that the company's good ESG performance indicates its focus on long-term value and sustainable development, which is often emphasized by older executives [6]. Older executives tend to allocate resources to achieve sustainable

development goals and improve ESG performance. Han Fei pointed out that the older one is, the more experienced one is, the more comprehensive one's consideration of problems is, the more balanced one's interests are, and the more attention one pays to fulfilling social responsibilities [7]. They may prefer to position their company as an active promoter of social responsibility, achieving ESG goals through participation in social philanthropy activities, environmental protection projects, and other initiatives, thereby enhancing the company's social image. Older executives have demonstrated more outstanding performance in corporate governance. They have a deep understanding of the key roles of internal control, transparency, and accountability, and have the ability to build a sound governance system. This helps to enhance the governance performance of the enterprise, thereby affecting the improvement of ESG performance.

Therefore, this article proposes the following assumptions:

H1: There is a positive correlation between the average age of executives and the ESG performance of enterprises.

H1a: There is a positive correlation between the average age of executives and the environmental performance (E) of enterprises.

H1b: There is a positive correlation between the average age of executives and the social performance (S) of enterprises.

H1c: There is a positive correlation between the average age of executives and the governance performance (G) of enterprises.

3. Research Design

3.1. Sample Selection

The research sample selected is A-share listed companies from 2015 to 2021. After eliminating the missing data from the sample, 4578 sample observations were finally obtained. ESG performance data comes from Huazheng rating data. The age of executives and control variable data are sourced from the CSMAR database.

3.2. Variable Definition and Model Setting

3.2.1. Explanatory variable

Enterprise ESG performance. Drawing on the research results of Gao, et al., the Huazheng ESG rating index was used [8]. Huazheng ESG rating divides a company's ESG performance into nine levels from AAA to C. Based on the research of Wang et al., and according to the nine-grade rating results of c-aaa in the China Securities ESG evaluation system, the value is assigned from 1 to 9 to measure the performance of enterprise ESG responsibility [9].

3.2.2. Explained variable

Senior executive age. Senior executives refer to senior executives who are directly involved in corporate governance, including CEO, general manager, deputy general manager, etc.

3.2.3. Control variable

This article introduces these control variables: asset size (Size), leverage level (Lev), profitability (Roa), enterprise growth (Growth), board size (Boaridsze), and the proportion of independent directors (Indr).

3.2.4. Construction of regression model

To verify the hypothesis, a model (1) was constructed for empirical testing

$$Esg/E/S/G = \alpha_0 + \alpha_1 AverageAge + \alpha_2 Size + \alpha_3 Lev + \alpha_4 Roa + \alpha_5 Grow + \alpha_6 Boardsize + \alpha_7 Indr + \varepsilon \quad (1)$$

Table 1. Definition of main variables

Variable type	Variable Symbol	Variable	Variable definition and description
Explanatory Variable	Esg	Enterprise ESG performance	Assign values from c-aaa to 1-9
	E	Environmental score	Assign values from c-aaa to 1-9
	S	Social score	Assign values from c-aaa to 1-9
	G	Corporate governance score	Assign values from c-aaa to 1-9
Explained Variable	Average Age	Average age of executives	Total age of Senior Executives/number of senior executives
Control Variable	Size	Asset size	Logarithm of total assets
	Lev	Asset liability ratio	Leverage
	Roa	Enterprise performance	Net profit rate of total assets
	Grow	Growth rate of operating revenue	Growth rate of operating revenue of enterprises
	Boardsize	Board size	Natural logarithm
	Indr	Proportion of independent directors	Proportion of the number of independent directors

4. Analysis of Empirical Results

4.1. Descriptive Statistics

Table 2 shows the results of descriptive statistical analysis. From the table, it can be seen that in terms of explanatory variables, the average value of the variables that divide the ESG rating of enterprises into 9 levels and assign values of 1-9 is 4.17, and the maximum value is 7.07. This reflects the significant differences in the annual ESG performance of listed companies in the sample. In the three specific aspects of ESG, the average in terms of environment is 1.98, which is much lower than 4.52 in terms of society and 5.34 in terms of corporate governance. This reflects the general lack of environmental protection awareness among companies. The average age of executives is 49 years old, with a minimum of 39 years old and a maximum of 61 years old, indicating significant age differences among executives from different companies.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ESG	4, 578	4.17	0.96	1.00	7.07
AverageAge	4, 578	49.08	3.14	38.86	60.84
E	4, 578	1.98	1.05	1.00	7.36
S	4, 578	4.52	1.56	1.00	9.00
G	4, 578	5.34	1.15	1.07	9.00
Size	4, 578	22.17	1.44	18.03	30.97
Lev	4, 578	0.42	0.50	0.02	30.46
Roa	4, 578	0.03	0.16	-7.36	1.02
Grow	4, 576	0.59	9.09	-0.70	472.00
Boardsize	4, 578	2.11	0.19	1.35	2.94
Indr	4, 578	0.38	0.05	0.20	0.68

4.2. Correlation Analysis

Table 3 shows the correlation analysis results. The average age of executives is significantly positively correlated with ESG overall performance at the 1% level; In the three specific aspects of ESG, the average age of executives is significantly positively correlated with the performance of the corporate environment (E) and governance level (G) at the 1% level, but not with the social aspect

(S). The results of the variable correlation test preliminarily confirmed the inference of the three hypotheses in this study, but it was inconsistent with H1B hypothesis.

Table 3. Correlation analysis

	AverageAge	ESG	E	S	G	size	Lev	Roa	Grow	Boardsize	Indr
AverageAge	1										
ESG	0.114***	1									
E	0.107***	0.587***	1								
S	0.007	0.703***	0.353***	1							
G	0.113***	0.690***	0.151***	0.139***	1						
size	0.406***	0.192***	0.198***	0.147***	0.041***	1					
Lev	0.045***	-0.112***	0.023	-0.026*	-0.192***	0.200***	1				
Roa	0.042***	0.237***	0.044***	0.124***	0.269***	0.001	-0.806***	1			
Grow	-0.011	-0.031**	-0.035**	-0.017	-0.012	0.019	0.02	-0.051***	1		
Boardsize	0.299***	0.057***	0.084***	0.056***	-0.009	0.379***	0.089***	-0.013	0.038**	1	
Indr	-0.070***	0.052***	-0.024	-0.013	0.114***	-0.024	-0.006	-0.007	-0.018	-0.560***	1

4.3. Regression Analysis

4.3.1. ESG performance

The regression coefficient between the average age of executives and the overall performance of ESG is 0.01, which is significant at the level of 5%. Hypothesis H1 is verified.

4.3.2. Environmental performance

The regression coefficient between the average age of executives and the performance of corporate environmental (E) is 0.01, which is significant at the 10% level. Hypothesis H1a is verified.

4.3.3. Social performance

The regression coefficient between the average age of executives and the performance of corporate social aspects (S) is - 0.035, which is significant at the level of 1%, indicating that the older the average age of executives, the worse the performance of corporate social aspects (S), so it is assumed that H1B is not valid.

4.3.4. Governance performance

The regression coefficient between the average age of executives and the performance of corporate governance (G) is 0.038, which is significant at the 1% level. Hypothesis H1C is verified.

4.3.5. Analysis of hypothesis H1b not valid

According to Bantel and Jackson's research, older executives are relatively more conservative and lack innovation, which affects the performance of social responsibility. Older executives may have a

harder time accepting and pushing for changes to the company's culture and values, preventing companies from making the necessary social improvements. Older executives may not have received modern education and training related to social responsibility [10]. A lack of awareness of social responsibility. A younger generation of executives is more likely to understand and leverage emerging technologies and digital tools to help companies better track and fulfill their social responsibilities. Older executives may not be familiar with these tools enough to limit their social responsibility performance.

Table 4. Regression results

	(1)	(2)	(3)	(4)
Variable	ESG	E	S	G
AverageAge	0.010**	0.010*	-0.035***	0.038***
	(2.08)	(1.85)	(-4.41)	(6.59)
size	0.096***	0.129***	0.158***	-0.025*
	(8.37)	(10.01)	(8.18)	(-1.79)
Lev	0.255***	0.124**	0.445***	0.133**
	(5.28)	(2.29)	(5.51)	(2.29)
Roa	2.110***	0.596***	2.420***	2.308***
	(13.87)	(3.49)	(9.50)	(12.65)
Grow	-0.002	-0.004**	-0.002	0.001
	(-1.30)	(-2.37)	(-0.82)	(0.36)
Boardsize	0.150	-0.040	0.069	0.344***
	(1.56)	(-0.37)	(0.43)	(2.98)
Indr	1.567***	-0.480	-0.276	3.757***
	(4.43)	(-1.21)	(-0.47)	(8.85)
Cons	0.471	-1.173***	2.461***	1.760***
	(1.47)	(-3.25)	(4.57)	(4.56)

4.4. Robust Test

In order to test the robustness of the conclusion, the following robustness tests are carried out by replacing variables.

This paper assigns ESG ratings in a new way. The nine grades of Huazheng "aaa-c" are divided into three groups, aaa-a is assigned 3, bbb-b is assigned 2, ccc-c is assigned 1, and a new variable esg2 is generated. In addition, this paper also replaces a series of indicators. For example, in the measurement of corporate performance, this paper selects ROA as the indicator and re-selects ROE as the alternative indicator for the regression test. The results of the two tests are consistent with the main conclusions of this paper.

5. Conclusion

The results show that the average age of executives is significantly positively correlated with ESG performance. For the three specific aspects of ESG, as the average age of executives increases, the company's performance in environmental (E) and social (s) also shows a better trend, but the performance of corporate governance level (G) is even worse. In practical application, these conclusions provide a useful reference for the selection and training of executives. Enterprises should improve the diversity level of the top management team, taking into account the executives of different ages, so as to accumulate different experiences and thinking. This diversity helps to comprehensively consider various strategies and innovative solutions and better respond to the changing business environment. At the same time, in order to maintain the ability and wisdom of the top management team, enterprises should establish a continuous training and knowledge inheritance mechanism. Older executives usually have accumulated rich experience. With the changes of the times, they need to keep in touch with new business trends and technological progress. Through

training, they can update their knowledge and adapt to new challenges, so as to better lead the enterprise towards the goal of sustainable development. Formulate clear ESG strategies and objectives to ensure that the team shares the vision and mission of the enterprise in ESG. This helps ensure consistency at the executive level and encourages them to participate more actively in the ESG agenda. To sum up, this study broadens the perspective of enterprise sustainable development strategy and also provides useful experience for the cultivation and selection of top management teams.

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