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Research on the Effect of Executive Team Heterogeneity on ESG Performance

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Abstract. In recent years, the ESG performance of firms has attracted considerable attention from both academia and the practical field. Enhancing firms' ESG performance not only serves as a “wind vane” for sustainable development but also injects new vitality into the high-quality growth of China’s economy. As the core actors within the corporate power hierarchy, the heterogeneity characteristics of the executive team are significant determinants of corporate behavior and may influence firms' ESG performance. Based on Corporate Life Cycle Theory and Upper Echelons Theory, this paper empirically tests the relationship between executive team heterogeneity and firms' ESG performance using the data from Chinese A-share listed companies for the period 2009-2021. The empirical results reveal that age heterogeneity and financial background heterogeneity in the executive team have significant negative effects on firms' ESG performance; in contrast, executive team academic background heterogeneity significantly enhances firms' ESG performance.The mechanism test indicates that the quality of accounting information disclosure plays a partial mediating role in the relationship between executive team heterogeneity and firms' ESG performance. Further analysis shows that the effect of executive team heterogeneity on firms' ESG performance is more pronounced in corporates that are in the mature and decline stages. This study enriches the research on the economic consequences of executive team heterogeneity and the influencing factors of firms' ESG performance, providing theoretical support and empirical evidence for promoting sustainable development and deeply implementing the "Dual Carbon" goals.

Keywords: ESG Performance; Executive Team Heterogeneity; Corporate Life Cycle; The Quality of Accounting Information Disclosure.

1. Introduction

Since the concept of ESG was officially introduced by the United Nations Global Compact in 2004, the importance of firms' ESG performance has increasingly been highlighted, attracting widespread attention from global capital markets. In recent years, China has continued to deepen ESG-related policy guidance. In 2018, the China Securities Regulatory Commission revised the "Corporate Governance Guidelines for Listed Companies," mandating that listed companies must disclose ESG-related information in accordance with laws, regulations, and relevant departmental requirements. Advancing ESG practices among Chinese enterprises is a core focus for achieving sustainable social and economic development and high-quality growth. As the main driving force behind organizational strategic decisions, senior management teams play a crucial role in the process of sustainable corporate development. According to Upper Echelons Theory (Hambrick and Mason, 1984), the heterogeneity in values and cognitive styles within executive teams leads to varied strategic choices by companies, thereby impacting business development. Thus, clarifying the relationship between executive team heterogeneity and firms' ESG performance holds significant relevance for promoting sustainable social and economic development and has become an important research topic in both academic and practical fields.

Current research on firms' ESG performance is still in the exploratory phase (Zhou and Wang, 2024). Most studies on the factors influencing firms' ESG performance focus on external influences and internal factors such as corporate characteristics (Du et al., 2024; Zhang et al., 2023) and executive background characteristics (Xia et al., 2023; Bu and Geng, 2023), with a lack of discussion on the

heterogeneity of the executive team. Moreover, few studies have analyzed the role of the corporate lifecycle from a dynamic perspective. So, does executive team heterogeneity affect firms' ESG performance? If so, what are the underlying mechanisms? Further, does the relationship vary with the different stages of the corporate lifecycle?

To address these questions, this paper focuses on Chinese A-share listed companies from 2009 to 2021, dividing executive team heterogeneity into three dimensions: age heterogeneity, academic background heterogeneity, and financial background heterogeneity. It empirically tests the effects of executive team heterogeneity on firms' ESG performance and its underlying mechanisms. Compared to previous research, this paper's potential marginal contributions are mainly in the following areas: (1) This study introduces a dynamic perspective of the corporate lifecycle in exploring the mechanisms through which executive team heterogeneity affects firms' ESG performance. By adopting this dynamic viewpoint, the study comprehensively deepens the understanding of how executive team heterogeneity influences firms' ESG performance. It achieves an expansion of the application domain of the Corporate Life Cycle Theory (Adizes, 1988). (2) This paper subdivides executive team heterogeneity into three dimensions and delves into the impact of age heterogeneity, academic background heterogeneity, and financial background heterogeneity on firms' ESG performance, enriching the research outcomes in the area of the economic consequences of executive team heterogeneity. (3) Previous literature focusing on internal factors influencing firms' ESG performance often centered on corporate characteristics and executive background characteristics, overlooking the impact of differences in executive team backgrounds on firms' ESG performance. By incorporating executive team heterogeneity into the research framework, this paper provides a valuable addition to the study of factors affecting firms' ESG performance, offering empirical references for corporations to optimize their top management team structures, support the achievement of "dual carbon" goals, and promote high-quality socio-economic development, which bears significant practical importance.

2. Literature Review

2.1. Economic Consequences and Influencing Factors of Firms' ESG Performance

Firms' ESG performance comprehensively reflects a company's sustainable development capability and long-term value through the dimensions of Environment (E), Social (S), and Governance (G). Moreover, the concept of ESG is highly aligned with China's green development perspective and also fits the strategic requirements of China's "Dual Carbon" goals. Research has shown that good firms' ESG performance can reduce the cost of debt financing (Lian et al., 2023), enhance corporate innovation output (Fang and Hu, 2023), promote high-quality corporate development (Wang et al., 2023), and increase firm value (Wong et al., 2021). Therefore, exploring how to improve firms' ESG performance is of significant theoretical and practical importance for the economy, society, and the corporations themselves. A review of the literature reveals that research on the factors affecting firms' ESG performance can be categorized into two streams: one focuses on external influencing factors, where Tao et al. (2023) found that public environmental awareness positively influences firms' ESG performance; and as an important green financial tool, the more green bonds issued, the higher the firms' ESG performance (Flammer, 2021). The other stream focuses on internal influencing factors, primarily looking at corporate characteristics and executive traits. For instance, companies with greater strategic diversity often face higher operational risks, which can reduce their ESG performance (Du et al., 2024); Xia et al. (2023) discovered that executives with academic backgrounds pay more attention to enhancing firms' ESG performance.

2.2. Economic Consequences of Executive Team Heterogeneity

The heterogeneity in age, academic background, and financial background among executive members constitutes executive team heterogeneity, a concept derived from the Upper Echelons Theory. Empirical analysis by Liu and Wu (2022) showed that academic background heterogeneity and

functional background heterogeneity in executive teams significantly contribute to corporate growth; Guo and Ma (2022) found that age heterogeneity, educational heterogeneity, and social capital heterogeneity within executive teams are significantly positively related to corporate technological innovation; Qi et al. (2023), based on the Upper Echelons Theory, indicated that tenure heterogeneity and functional background heterogeneity in executive teams positively impact corporate green innovation performance; furthermore, studies have also shown that executive team heterogeneity significantly affects corporate digital transformation (Tang et al., 2022).

2.3. Summary

As mentioned above, scholars have extensively studied firms' ESG performance and executive team heterogeneity. However, research on whether executive team heterogeneity affects firms' ESG performance remains scarce. Based on this, this paper takes A-share listed companies as the research sample and conducts an in-depth investigation into the relationship between executive team heterogeneity and firms' ESG performance.

3. Theoretical Analysis and Research Hypotheses

3.1. Executive Team Age Heterogeneity and Firms' ESG Performance

Executive team age heterogeneity refers to the age differences among executive team members. According to Social Identity Theory (Tajfel et al., 1979), the more similar the ages of the executive team members, the more similar their value judgments and the stronger the cohesion of the executive team. The age differences among executives can affect their risk preferences, leading to diverse corporate strategic decisions. Decisions regarding ESG, given their nature as long-term value investments with inherent uncertainties and potential risks, could further provoke decision-making conflicts due to age heterogeneity within the executive team. Younger executives are often more open and proactive, willing to take on the risks associated with ESG decisions, focusing on the long-term value behind ESG decisions. In contrast, older executives, out of concern for personal reputation and the pursuit of business stability, may opt for more conservative strategies, tending to avoid potential risks associated with long-term value investments like ESG, and instead focus more on short-term value enhancement. Due to the emotional and cognitive conflicts arising from age heterogeneity, communication barriers between executives of different age groups during ESG decision-making can lead to cooperation difficulties, not only reducing the efficiency of corporate ESG decision-making but also weakening the implementation of ESG strategies, thereby negatively impacting firms' ESG performance. Based on this, the following hypothesis is proposed:

H1: Executive team age heterogeneity negatively affects firms' ESG performance.

3.2. Executive Team Academic Background Heterogeneity and Firms' ESG Performance

Executive team academic background heterogeneity refers to the diversity among executive team members, arising from different academic experiences such as teaching at universities, holding positions in research institutions, or engaging in research within associations. Executive members develop diverse research methodologies and practical skills in different academic environments. Firstly, based on Information Decision Theory (Williams and O'Reilly, 1998), a high level of academic background heterogeneity in the executive team provides diverse cognitive thinking, problem analysis, and solving capabilities, which can help the company comprehensively evaluate challenges and opportunities in ESG aspects. Guided by cutting-edge ESG theories, this diversity leads to more scientifically-informed corporate ESG decisions, thereby enhancing firms' ESG performance. Secondly, according to Imprinting Theory (Marquis and Tilcsik, 2013), different academic experiences imprint executive team members, with university-affiliated executives being more proficient in theoretical construction and logical deduction, research institution executives excelling in practical extrapolation, and those in associations grasping cutting-edge theories and industry trends. These imprints encourage a long-term developmental perspective in corporate

decision-making, a deeper understanding of phenomena, and a focus on long-term value and sustainable development, thereby actively advancing corporate ESG practices. Lastly, from a social capital perspective, executive teams with high academic background heterogeneity possess rich social capital, which can provide the company with more information channels, aiding in the timely and comprehensive acquisition of external information on ESG development, thus mitigating the potential harm of information asymmetry on firms' ESG performance and providing favorable conditions for advancing corporate ESG practices. Based on this, the following hypothesis is proposed:

H2: Executive team academic background heterogeneity positively affects firms' ESG performance.

3.3. Executive Team Financial Background Heterogeneity and Firms' ESG Performance

Executive team financial background heterogeneity refers to the differences in financial industry backgrounds among team members, stemming from their positions in diverse financial institutions such as banks, insurance companies, and securities firms. From a risk management perspective, executives with different financial backgrounds can leverage their accumulated industry experience and sensitivity to risk to conduct comprehensive analyses of the external economic environment, market dynamics, and financial policies. However, given the current economic uncertainties, executive teams with a high level of financial background heterogeneity often weigh risks and benefits across multiple aspects, avoiding the potential risks of long-term value investments and opting for risk-controllable short-term investment strategies. Under this more conservative strategy orientation, the executive team may prefer financial investments that quickly yield high returns, focusing on short-term arbitrage, thereby leading to corporate financialization, management myopia, and reduced investment in areas like ESG that require long-term commitments and have longer payback periods, adversely affecting firms' ESG performance and further impairing the company's sustainable development capabilities. Based on this, the following hypothesis is proposed:

H3: Executive team financial background heterogeneity negatively affects firms' ESG performance.

4. Research Design

4.1. Sample Selection and Data Sources

Considering the disclosure timeline of the Huazheng ESG rating data, this study selects Chinese A-share listed companies from 2009 to 2021 as the sample. The sample undergoes the following treatments: (1) exclusion of companies in abnormal listing statuses such as ST; (2) removal of samples with anomalies and missing data. After filtering, a total of 28,285 company-year sample observations are included. The Huazheng ESG rating data used in this paper is sourced from the Wind database; data on executive team heterogeneity are derived from the annual reports of companies listed since 2007; other data are sourced from the CSMAR database. To mitigate the impact of outliers, continuous variables are winsorized at the 1% level for both tails.

4.2. Variable Description

(1)Dependent Variable: *ESG*

Given that Huazheng was among the first to conduct ESG assessments in China and possesses the most extensive coverage, closely reflecting the actual conditions of the Chinese market (Xie and Lv, 2022).Therefore,this study uses the Huazheng ESG comprehensive score to measure firms' ESG performance.

(2)Independent Variables: *Hage, Haca, Hfin*

This study measures executive team heterogeneity from three perspectives: age, academic background, and financial background.

Age is treated as a continuous variable, and its heterogeneity is measured using the coefficient of variation method, with the calculation formula as follows:

$$C.V = \frac{S}{\overline{X}} \tag{1}$$

In the formula (1), S represents the standard deviation of the executive team's ages; $\overline{X}$ denotes the average age of the executive team; and $C.V$ is the coefficient of variation for age heterogeneity among the executive team, with higher values indicating greater age heterogeneity.

Due to the categorical nature of financial and academic backgrounds.As Blau (1977),this study adopts the Herfindahl-Hirschman Index for measurement. The calculation formula is as follows:

$$H = 1 - \sum_{i=1}^{n} p_i^2 \tag{2}$$

In the formula (2), H represents the heterogeneity in the executive team's financial or academic backgrounds, with values ranging from 0 to 1, higher value of H indicates greater dispersion among the categorical variables, signifying a higher level of heterogeneity within the executive team; n denotes the number of categories in the executive team's financial or academic backgrounds, with financial backgrounds divided into 14 categories and academic backgrounds into 4 categories; p_i represents the proportion of executives with characteristic i relative to the total number of team members.

4.3. Control Variables

Drawing on related studies(Zhang and Huang, 2022; Wang et al., 2023), this study selects the following control variables: financial leverage (*Lev*), firm size (*Size*), firm age (*Age*), company cash flow (*Cashflow*), return on assets (*Roa*), and revenue growth rate (*Growth*) to represent basic corporate characteristics. In terms of corporate governance, the proportion of independent directors (*Indirec*), ownership concentration (*Top1*), and the duality of CEO and chairman roles (*Dual*) are chosen. Additionally, this study controls for year and industry fixed effects.

$$ESG_{i,t} = \alpha_0 + \alpha_1 High_{i,t} + \alpha_2 Controls_{i,t} + \sum Year_t + \sum Industry_i + \varepsilon_{i,t} \tag{3}$$

In the above model (3), i represents the firm, t denotes the year; $High_{i,t}$ is the executive team heterogeneity; $ESG_{i,t}$ refers to the ESG performance of firm i in the year t; $Controls$ is the set of control variables; $Year_t$ and $Industry_i$ respectively represent the fixed effects for the year and industry; $\varepsilon_{i,t}$ is the random error term.

5. Empirical Analysis

5.1. Descriptive Statistics

Table 1 presents the descriptive statistics for the main variables. The average ESG comprehensive score (*ESG*) is 73.27 with a standard deviation of 5.101, indicating that the overall ESG scores of listed companies in China are favorable, with significant variability in ESG performance among companies. The minimum value of executive team age heterogeneity (*Hage*) is 0.0302, the maximum is 0.2744, and the standard deviation is 0.05. The minimum value for heterogeneity in the academic backgrounds of the executive team (*Haca*) is 0, the maximum is 0.722, and the standard deviation is 0.21. The minimum value for heterogeneity in the financial backgrounds of the executive team (*Hfin*) is 0, the maximum is 0.48, and the standard deviation is 0.143, indicating a significant degree of

heterogeneity in terms of age, academic, and financial backgrounds among the executive teams of the sample firms. In addition, the control variables are all within reasonable ranges.

Table 1. Descriptive statistical results of main variables

Variable	*N*	*Mean*	*SD*	*Min*	*Max*
ESG	28285	73.271	5.101	57.600	84.060
Hage	28285	0.128	0.051	0.030	0.274
Haca	28285	0.434	0.210	0.000	0.722
Hfin	28285	0.078	0.143	0.000	0.480
Lev	28285	0.408	0.203	0.049	0.868
Size	28285	22.098	1.272	19.951	26.210
Age	28285	2.863	0.346	1.723	3.511
Cashflow	28285	0.049	0.068	-0.148	0.238
Roa	28285	0.041	0.059	-0.225	0.195
Growth	28285	0.330	0.790	-0.641	5.331
Indirec	28285	37.506	5.316	33.330	57.140
Top1	28285	34.372	14.831	8.650	74.820
Dual	28285	0.294	0.455	0.000	1.000

5.2. Analysis of Baseline Regression Results

Table 2 presents the baseline regression results for the effect of executive team heterogeneity on firms' ESG performance. Column (1) reports the regression results for the effect of the executive team age heterogeneity (*Hage*) on ESG performance, with the regression coefficient significantly negative at the 1% level. This finding indicates that higher levels of age heterogeneity within the executive team are associated with poorer ESG performance, thus supporting research hypothesis H1. Column (2) provides the results for the executive team academic background heterogeneity (*Haca*), where the regression coefficient is significantly positive at the 5% level. This suggests that greater academic background heterogeneity within the executive team correlates with better ESG performance, confirming research hypothesis H2. Column (3) provides the regression outcomes for the executive team financial background heterogeneity (*Hfin*), with the regression coefficient significantly negative at the 1% level, indicating that higher levels of financial background heterogeneity lead to worse ESG performance, thereby validating research hypothesis H3.

5.3. Endogeneity and Robustness Checks

To further examine the robustness of the regression results and to address potential reverse causality issues, this paper conducts several robustness and endogeneity checks including: substituting the dependent variable, reducing the sample size, adding control variables, and employing instrumental variable methods. The results of these checks consistently indicate that the regression coefficients for *Hage*, *Haca*, and *Hfin* are largely in agreement with the baseline regression results, affirming the reliability and robustness of the study's conclusions. (Due to space limitations in the publication, detailed results are available upon request.)

6. Further Analysis

6.1. Heterogeneity Analysis

Based on the Corporate Life Cycle Theory, a corporate exhibits lifecycle characteristics spanning from growth stage to decline stage. As firms exhibit different internal and external characteristics at various stages of their lifecycle (Wang et al., 2023), there are notable differences in their risk-bearing capacity, financing constraints, strategic choices, and operational status. During the growth stage, firms face significant financing constraints (Huang and Song, 2023), tighter capital turnover, and

weaker financial risk tolerance (Wang and Zhang, 2020). Executive teams with greater age heterogeneity, having a broader acceptance of risk, are often more willing to undertake risks that may exceed the firm's capacity to bear them, leading to more pronounced negative impacts on firms' ESG performance. Furthermore, during the growth stage, as strategies primarily focus on expanding market share, there is a preference to allocate funds to projects with short-term benefits rather than to ESG initiatives that could yield long-term advantages (Wang et al., 2023). This can exacerbate the myopic behaviors of executives with diverse financial backgrounds, significantly undermining ESG performance. In the decline stage, as operational conditions deteriorate, market share reduces, and profits drop sharply, firms need to find new avenues for transformation and upgrading. Executive teams with a diverse academic background can integrate diverse informational resources and provide multi-layered, multi-dimensional analysis, more readily identifying new profit opportunities and aiding sustainable corporate development. Thus, in the decline stage, the positive impact of executive team academic background heterogeneity on firms' ESG performance is significant.

Table 2. Baseline Regression Results

	(1)	(2)	(3)
VARIABLES	*ESG*	*ESG*	*ESG*
Hage	-3.139***		
	(-3.232)		
Haca		0.455**	
		(1.984)	
Hfin			-1.239***
			(-3.626)
Lev	-4.289***	-4.224***	-4.269***
	(-12.304)	(-12.111)	(-12.252)
Size	1.170***	1.187***	1.193***
	(20.254)	(20.715)	(20.807)
Age	-0.618***	-0.597***	-0.641***
	(-3.287)	(-3.153)	(-3.415)
Cashflow	-1.417**	-1.401**	-1.433**
	(-2.367)	(-2.341)	(-2.395)
Roa	15.797***	15.835***	15.790***
	(18.328)	(18.370)	(18.355)
Growth	-0.154***	-0.151***	-0.149***
	(-2.889)	(-2.845)	(-2.809)
Indirec	0.072***	0.072***	0.072***
	(7.692)	(7.680)	(7.754)
Dual	-0.057	-0.098	-0.071
	(-0.530)	(-0.913)	(-0.660)
Top1	0.013***	0.013***	0.013***
	(3.256)	(3.338)	(3.158)
Constant	46.449***	45.354***	45.721***
	(24.188)	(23.872)	(23.872)
Observations	28,285	28,285	28,285
R-squared	0.194	0.194	0.194
Industry	YES	YES	YES
Year	YES	YES	YES
Adj_r²	0.184	0.184	0.185

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 3. Heterogeneity Analysis Results (1)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	*ESG*	*ESG*	*ESG*	*ESG*	*ESG*	*ESG*
Hage	-3.152***			-3.385**		
	(-2.838)			(-2.444)		
Haca		0.119			0.310	
		(0.443)			(0.960)	
Hfin			-1.318***			-1.078**
			(-3.101)			(-2.277)
Constant	49.774***	48.852***	49.071***	43.276***	42.284***	42.519***
	(22.484)	(22.529)	(22.431)	(15.895)	(15.529)	(15.585)
Observations	13,330	13,330	13,330	9,925	9,925	9,925
R-squared	0.181	0.180	0.181	0.218	0.217	0.217
Controls	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Adj_r²	0.160	0.159	0.161	0.194	0.193	0.194

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 3. Heterogeneity Analysis Results(2)

	(7)	(8)	(9)
VARIABLES	*ESG*	*ESG*	*ESG*
Hage	-3.836**		
	(-2.022)		
Haca		0.729*	
		(1.728)	
Hfin			-0.999*
			(-1.653)
Constant	42.917***	41.352***	41.969***
	(11.466)	(11.256)	(11.539)
Observations	4,960	4,960	4,960
R-squared	0.270	0.270	0.270
Controls	YES	YES	YES
Industry	YES	YES	YES
Year	YES	YES	YES
Adj_r²	0.232	0.231	0.231

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

To further test the moderating effect of the corporate lifecycle, this study uses the cash flow pattern method to measure the corporate lifecycle based on the characteristics of net cash flows from operating, investing, and financing activities during different periods (Chen and Wang, 2023). The sample is divided into growth, maturity, and decline stages for regression analysis. The results of the lifecycle heterogeneity analysis are shown in Table 3, where Columns (1) to (3), (4) to (6), and (7) to (9) respectively report the impact of executive team heterogeneity on firms' ESG performance during

the growth, maturity, and decline stages. The report shows that during the maturity stage, the regression coefficients for *Hage* and *Hfin* are significant at the 1% level, while in other stages, they are only significant at the 5% and 10% levels; the regression coefficient for *Haca* is only significant during the decline stage. Overall, the analysis indicates that while the negative impacts of age and financial background heterogeneity on ESG performance are significant across different lifecycle stages, their inhibitory effects on ESG performance are most pronounced during the maturity stage; the promotive effect of academic background heterogeneity on ESG performance is only evident during the decline stage.

6.2. Mechanism Test

The enhancement of accounting information disclosure quality can alleviate financing constraints for firms and further increase their investment in innovation. According to the Resource-based Theory (Wernerfelt, 1984), a firm is a collection of unique resources and capabilities. Increasing investment in innovation means more resources are allocated to green technologies and management, which helps improve the level of green innovation and creates greater combined economic, social, and environmental value (Zhang and Song, 2023). The question then arises: does the effect of executive team heterogeneity on firms' ESG performance depend on the mediating effect of accounting information disclosure quality? Further analyzes are as follows.

Executive teams with higher levels of academic background heterogeneity are able to consider information and risk factors more comprehensively and holistically, which benefits the quality of internal controls (Guo and Ma, 2020) and enhances the reliability and authenticity of accounting information disclosures (Ye and Wang, 2022). Therefore, this paper predicts that executive teams with a diverse academic background can positively influence firms' ESG performance by improving the quality of accounting information disclosure.

According to Imprinting Theory, the diverse financial industry experiences of executive team members can leave a lasting impact on their career, leading to speculative thinking and short-term behaviors (Li et al., 2021), resulting in opportunistic motives and earnings management behaviors, and negatively affecting the quality of corporate accounting information disclosures. Thus, this paper predicts that executive teams with high financial background heterogeneity could negatively affect firms' ESG performance by reducing the quality of accounting information disclosure.

Considering the prevalence of authoritative leadership among Chinese executives and the reality that older executives often focus on short-term performance, in executive teams with high age heterogeneity, older members, possessing greater authority and influence, may steer the team's decisions towards enhancing short-term benefits, leading to adverse selection and moral hazard issues, thereby damaging the quality of accounting information disclosure and negatively impacting firms' ESG performance.

To test these predictions, this paper follows the approach of Wen and Ye (2014), constructing a three-step model to perform the mechanism test:

$$Inform_{i,t} = \beta_0 + \beta_1 High_{i,t} + \beta_2 Controls_{i,t} + \sum Year_t + \sum Industry_i + \varepsilon_{i,t} \quad (4)$$

$$ESG_{i,t} = \gamma_0 + \gamma_1 Hight_{i,t} + \gamma_2 Inform_{i,t} + \gamma_3 Controls_{i,t} + \sum Year_t + \sum Industry_i + \varepsilon_{i,t} \quad (5)$$

In the above models, $Inform_{i,t}$ represents the quality of accounting information disclosure for company i in year t, with other definitions consistent with earlier parts of this study. model (4) is used to validate the causal impact of executive team heterogeneity on the quality of accounting information disclosure, while model (5) examines the causal impact of accounting information disclosure quality on firms' ESG performance, thereby establishing a causal chain.The quality of accounting information disclosure, as sourced from CSMAR, is categorized into four levels: 1 = Excellent; 2 = Good; 3 =

Satisfactory; 4 = Unsatisfactory, with higher values of $Inform_{i,t}$ indicating poorer quality of accounting information disclosure.

The results of the mechanism tests, as shown in Table 4, indicate that the regression coefficients for *Hage*, *Haca*, and *Hfin* are all significant at the 1% level in columns (1), (2), and (3). This suggests that lower heterogeneity in age and financial backgrounds and higher heterogeneity in academic backgrounds within the executive team are associated with higher quality of accounting information disclosure.Furthermore, columns (4), (5), and (6) show that the regression coefficients for Inform are also significant at the 1% level, indicating that the quality of accounting information disclosure can mediate the impact of executive team heterogeneity on firms' ESG performance. Executive teams with greater age and financial background heterogeneity can negatively affect firms' ESG performance by reducing the quality of accounting information disclosure. Conversely, teams with greater academic background heterogeneity can enhance firms' ESG performance by improving the quality of accounting information disclosure.

Table 4. Mechanism Test Results

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	*Inform*	*Inform*	*Inform*	*ESG*	*ESG*	*ESG*
Hage	0.670***			-1.936*		
	(6.013)			(-1.904)		
Haca		-0.078***			0.365	
		(-2.840)			(1.441)	
Hfin			0.124***			-1.168***
			(3.410)			(-3.279)
Inform				-1.944***	-1.951***	-1.945***
				(-23.097)	(-23.141)	(-23.109)
Constant	5.140***	5.363***	5.300***	55.056***	54.367***	54.695***
	(19.766)	(20.500)	(20.192)	(24.863)	(24.806)	(24.777)
Observations	21,849	21,849	21,849	21,849	21,849	21,849
Controls	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

In recent years, firms' ESG performance has garnered significant attention. Based on the theories of Corporate Life Cycle Theory and Upper Echelons Theory, this study uses Chinese A-share listed companies from 2009 to 2021 as research samples to empirically analyze the effect of executive team heterogeneity on firms' ESG performance and its mechanisms. The findings indicate that executive team heterogeneity significantly affects ESG performance. Specifically, age and financial background heterogeneity within the executive team negatively influence ESG performance, while academic background heterogeneity has a positive impact. These conclusions hold true even after tests for endogeneity and robustness. The mechanism test shows that the quality of accounting information disclosure plays a partial mediating role in the relationship between executive team heterogeneity and firms' ESG performance. Further analysis reveals that for corporates in the maturity and decline stages, the effect of executive team heterogeneity on ESG performance is significantly pronounced.

Based on these findings, this paper offers the following three policy recommendations:

Firstly, when selecting and appointing executives, firms should carefully consider the heterogeneity of the executive team's backgrounds to optimize team structure.Companies should actively recruit executives with diverse academic backgrounds to enhance the variety of perspectives and analytical approaches in ESG decision-making, thereby improving the quality of decisions on ESG.In addition, companies should maintain a stable and balanced age structure within the executive team, strengthen internal unity, foster a cooperative atmosphere, and ensure efficient ESG execution.Furthermore, companies should keep financial background heterogeneity within the executive team at a lower level to avoid the risks of financialization and myopic management behaviors that adversely affect ESG performance. Therefore, companies should strategically manage their executive teams from these three aspects to achieve sustainable development.

Secondly, as companies integrate ESG principles into their daily operations and management activities, they should consider the complex interrelationships between the corporate lifecycle, executive team heterogeneity, and firms' ESG performance. It is essential to construct an ESG management system that aligns with the corporate lifecycle, thereby collaboratively enhancing firms' ESG performance and achieving sustainable development.

Lastly, government agencies should systematically study the challenges and needs faced by companies at different stages of enhancing ESG performance, deeply understand the rules of the corporate lifecycle, and implement differentiated strategic deployments and policy arrangements. This ensures that policies aimed at advancing corporate ESG development are targeted and timely.

References

[1] Xie, H. & Lv, X. (2022). Responsible International Investment: ESG and China's OFDI. Economic Research Journal, (03), 83-99.

[2] Du, Y., Shi, H., & Wang, S. (2024). Does Corporate Strategy Diversity Affect ESG Performance? Finance and Accounting Monthly, (06), 65-71.

[3] Zhang, Y., Zhai, J., Zhu, Y., & Wang, K. (2023). How Does Digital Transformation Affect Corporate ESG Performance? Journal of China University of Geosciences(Social Sciences Edition), (06), 126-141.

[4] Xia, Y., Cai, K., & Lin, Z. (2023). The Impact of CEO Academic Experience on Corporate ESG Performance: Empirical Data from Chinese Listed Companies. Journal of Industrial Technology and Economy, (12), 42-53.

[5] Bu, G. & Geng, Y. (2023). The Impact of Executives with Overseas Backgrounds on Corporate ESG Performance: An Empirical Test Based on A-share Listed Companies. Journal of Industrial Technology and Economy, (05), 95-104.

[6] Lian, Y., He, X., & Zhang, L. (2023). Corporate ESG Performance and Debt Financing Costs. Collected Essays on Finance and Economics, (01), 48-58.

[7] Fang, X. & Hu, D. (2023). Corporate ESG Performance and Innovation: Evidence from A-share Listed Companies. Economic Research Journal, (02), 91-106.

[8] Tao, Y., Hou, W., Liu, Z., & Yang, Z. How Does Public Environmental Concern Enhance Corporate ESG Performance? A Dual Perspective of External Pressure and Internal Focus. Science of Science and Management of S.& T., 1-28.

[9] Liu, P. & Wu, A. (2022). Executive Team Heterogeneity and Corporate Growth: The Mediating Effect of Dynamic Capabilities. East China Economic Management, (11), 117-128.

[10] Qi, L., Wang, J., Liu, Y., & Lv, Z. (2023). Research on the Impact of Executive Team Heterogeneity on Corporate Green Innovation Performance. Science Research Management, (04), 175-184.

[11] Tang, X., Gao, X., Zhao, T., & Ding, S. (2022). Executive Team Heterogeneity and Corporate Digital Transformation. China Soft Science, (10), 83-98.

[12] Zhang, H. & Huang, Q. (2022). Institutional Pressure, Dominant CEO, and ESG Performance in Listed Companies. Journal of Shanxi University of Finance and Economics, (09), 74-86.

[13] Wang, H., Wang, S., Zhang, C., & Guo, L. (2023). Does Digital Transformation Enhance Corporate ESG Responsibility? An Empirical Study Based on the MSCI Index. Foreign Economics & Management, (06), 19-35.

[14] Wang, L., Fang, Y., & Wang, C. (2023). Study on the Impact of ESG Performance on Corporate High-Quality Development. Friends of Accounting, (13), 74-81.

[15] Huang, J. & Song, W. (2023). Digital Transformation, Corporate Lifecycle, and Breakthrough Innovation: Empirical Evidence from Chinese Listed Companies. Shanghai Journal of Economics, (01), 48-69.

[16] Wang, J. & Zhang, Y. (2020). Corporate Lifecycle, Internal Control Quality, and Financial Risks. Friends of Accounting, (19), 87-94.

[17] Chen, R. & Wang, H. (2023). Development of the Technology Market and Green Technology Innovation in Manufacturing Firms: A Perspective from the Corporate Lifecycle. Enterprise Economy, (11), 136-148.

[18] Zhang, M. & Song, S. (2023). Enterprise Digitization, Innovation-Driven Policy, and ESG Performance. Journal of Beijing Technology and Business University(Social Sciences), (06), 34-46+101.

[19] Guo, J. & Ma, H. (2022). Executive Team Heterogeneity, Internal Control, and Corporate Technological Innovation. Statistics & Decision, (17), 174-178.

[20] Ye, B. & Wang, X. (2022). Board Fracture Zone, Internal Control, and Accounting Information Quality. Journal of Nanjing Audit University, (01), 58-68.

[21] Li, G., Fang, K., & Xiao, T. (2021). CEO Financial Background and Corporate Innovation: Does It Promote or Inhibit? Accounting and Economics Research, (05), 43-61.

[22] Wen, Z. & Ye, B. (2014). Analysis of Mediating Effects: Methods and Model Development. Advances in Psychological Science, (05), 731-745.

[23] FLAMMER C. Corporate Green Bonds[J]. Journal of Financial Economics,2021,142(2):499-516.

[24] Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. Academy of Management Review, 9(2), 193-206.

[25] Wong, W. C., Batten, J. A., Mohamed-Arshad, S. B., Nordin, S., & Adzis, A. A. (2021). Does ESG certification add firm value? Finance Research Letters, 39, 101593.

[26] Baik, K. H., & Shogren, J. F. (2008). Strategic behavior in contests: comment. In 40 Years of Research on Rent Seeking 1 (pp. 439-442). Springer, Berlin, Heidelberg.

[27] Tajfel, H., Turner, J. C., Austin, W. G., & Worchel, S. (1979). An integrative theory of intergroup conflict. Organizational Identity: A Reader, 56(65), 9780203505984-16.

[28] Williams, K. Y., & O'Reilly III, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. Research in Organizational Behavior, 20, 77-140.

[29] Marquis, C., & Tilcsik, A. (2013). Imprinting: Toward a multilevel theory. The Academy Of Management Annals, 7(1), 195-245.

[30] Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 5(2), 171-180.

[31] Adizes, I. (1988). Corporate lifecycles: How and why corporations grow and die and what to do about it. Prentice Hall.

[32] Blau, P.M. (1977) Inequality and Heterogeneity: A Primitive Theory of Social Structure. Free Press, New York.