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Research on the impact of ESG performance on corporate performance—based on the moderating effect of digital transformation

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Abstract: With the gradual implementation of the ESG concept, more and more companies are attracting the attention of stakeholders by disclosing their ESG performance in order to improve corporate performance. This paper selects panel data from Shanghai and Shenzhen A-share listed companies from 2016 to 2022 and uses a two- way fixed model to deeply study the relationship between corporate ESG performance, corporate performance and digital transformation. The results show that: corporate ESG performance and corporate performance have a significant positive effect; digital transformation plays a positive moderating role in the impact of corporate ESG performance and corporate performance. And after a robustness test, this conclusion still holds. In addition, the study found that digital transformation is heterogeneous in the eastern region and heavily polluting enterprises, while digital transformation does not have a moderating effect in non-eastern regions and non-heavy polluting enterprises. This study is conducive to enriching related research in the field of ESG and, to a certain extent, prompting enterprises to accelerate the process of digital transformation.

1. Introduction and literature review

Since the United Nations Global Compact first proposed the concept of ESG in 2004, the ESG concept has gradually penetrated into all areas of financial investment and corporate operations. In this context, environmental, social and governance (ESG) factors have gradually become key indicators for measuring corporate performance and long-term sustainability. However, corporate performance is not only a reflection of financial indicators, but also a reflection of corporate social responsibility and sustainable strategy. As society pays more and more attention to corporate social responsibility and sustainable development, ESG has become an indispensable part of corporate business strategy. At the same time, in the context of the development of digital technology in the 21st century, digital transformation has emerged as an important variable. It is not only a key driver for promoting corporate growth and efficiency improvement, but also an important tool for companies to achieve ESG goals. Through digital means, companies can manage their resources more effectively, improve operational efficiency, reduce environmental impact, enhance interaction with stakeholders, and improve governance quality. The application of digital technologies, such as

big data analysis, cloud computing and artificial intelligence, can help companies achieve social responsibility and environmental protection goals while maintaining business success.

Through the review of relevant domestic and foreign literature, it is found that the research on the relationship between ESG performance and financial performance is still scattered and has not yet formed a systematic theoretical system (Friede et al., 2015) [1]. Most foreign studies start from the macro ESG overall perspective to explore the correlation between the two. For example, Nisar et al. (2021) based on 351 sample companies in the UK FTSE350 index, clearly pointed out that there is a positive correlation between ESG disclosure and corporate financial performance[2].In addition, Aboud and Diab (2018) and other studies also verified the positive correlation between ESG disclosure scores and financial performance through stakeholder theory [3]. The empirical research results of Fatemi(2018) show that the better the enterprise ESG performance, the more obvious the improvement effect on enterprise value. However, when corporate ESG disclosure and corporate performance interact, higher quality and transparent ESG disclosure will weaken the positive valuation effect of enterprises with higher ESG score, and at the same time weaken the negative impact of enterprises with lower ESG score on valuation to some extent.[4] However, few literatures point out that ESG factors will have a negative impact on corporate performance (Ruhaya et al, 2018; Duque-Grisales et al, 2019)[6]. Kim et al. (2019) also suggested that the ESG-FV relationship is nonlinear or U-shaped and has the possibility of negative correlation.[7]

In contrast, domestic ESG research is still in its infancy, with the focus on the connotation and structure of ESG concepts. Previous studies have mainly focused on the impact of individual factors on corporate performance. For example, Wen Subin and Zhou Liuliu (2017) started from the perspective of environmental performance and revealed the impact of carbon information disclosure (CDI) on financial performance (such as ROA,ROE), and pointed out the significant "inverted U-shaped" regulatory role of media governance in this positive relationship [8].Li Baixing et al . (2018) conducted an empirical study on A-share heavily polluting industries from the perspective of social responsibility and found that there is a time lag effect in the performance of social responsibility by polluting enterprises, which has no significant impact on the current and recent financial performance, but has a significant improvement effect on the long-term financial performance after a certain period[9]. In addition, Ye Chengang et al. (2016) started with the performance of corporate governance and found that the governance structure of both state-owned enterprises and private enterprises is significantly positively correlated with corporate value[10].

In summary, although there is ambiguity in the relationship between ESG performance and corporate performance, most scholars believe that environmental, social and corporate governance performance has a positive effect on corporate performance. The current research differences in the literature may be due to the different development conditions of different types of enterprises in different countries, and scholars have different calibers for calculating and measuring ESG. In addition, these literatures have little research on the role of digital transformation in it. Therefore, this paper will take corporate ESG performance as the core explanatory variable, explore 2229 companies represented by China's Shanghai and Shenzhen A-share listed companies from 2016 to 2022, and 15,603 observations, to analyze whether their corporate performance will respond positively to ESG performance. To further study the relationship between ESG and corporate performance, digital transformation is selected as a moderating variable to analyze whether this variable has a moderating effect. The research results can provide help to investors, stakeholders, policymakers and other stakeholders.

2. Research Hypothesis

At present, ESG is gradually becoming one of the most critical indicators for rating companies.

Most scholars have also pointed out that good ESG performance has a positive impact on corporate performance. First, according to stakeholder theory, the soundness and disclosure of corporate environment, social responsibility and corporate governance will increase the trust of stakeholders such as customers, employees, suppliers, and the government, establish a more transparent and trustworthy corporate image, and achieve a higher social reputation. It is conducive to meeting the expectations of stakeholders and establishing a good cooperation mechanism. And companies with high ESG scores are often more likely to obtain lower financing loans. These positive results help improve corporate performance and thus enhance corporate value. Secondly, according to signal transmission theory, on the one hand, companies with good ESG performance are more inclined to convey the status of the company to the society, which will increase media attention. The multi-party transmission of information by the media will increase information transparency, alleviate the information asymmetry between companies and investors, and then promote the achievement of cooperation, thereby improving corporate performance. On the other hand, investment in the environment, society and corporate governance will, to a certain extent, add additional burdens to corporate finances. In this case, if a high ESG score is still obtained, the public is more inclined to believe that the company has strong profitability and good financial performance, thereby enhancing investor confidence and being more conducive to improving corporate performance. In addition, since institutional investors have a clear preference for ESG responsible shareholding[11], enterprises that actively carry out ESG practice have significant advantages in attracting investment and reducing equity financing costs, thus promoting the improvement of performance.

This leads to Hypothesis 1: ESG performance promotes corporate performance.

Digital transformation and ESG implementation are both integrated into the strategic framework for enterprises to achieve sustainable and high-quality development. Seizing the opportunity of digital transformation and actively carrying out digital transformation is conducive to improving the level of digital technology, thereby promoting the upgrading and transformation of systems, technologies, equipment, etc. (Li Chengxiang, 2023) Based on the resource-based view, it is believed that green production lines with high-tech investment can improve efficiency, reduce resource waste, and improve environmental protection to a certain extent. In turn, it can also increase the willingness of enterprises to fulfill their environmental protection responsibilities, and ultimately form unique resources that are difficult for enterprises to imitate to gain competitive advantages and promote the development of corporate performance[12]. On the other hand, the realization of enterprise digitalization is conducive to analyzing and predicting data, thereby helping enterprises make correct corporate governance decision-making plans, reducing the trial-and-error rate, thereby avoiding unnecessary trial and error costs, and thus improving corporate performance levels. And (Zhu Aiping et al., 2024) based on the signal transmission theory pointed out that advanced digital technology can more accurately score corporate ESG, and the higher the corporate ESG rating, the higher the media attention it will receive. The role of the media reduces the impact of information asymmetry on the market, and will convey to the outside world relevant information about the company's active protection of the environment, social responsibility and good corporate governance, forming an advertising effect, thereby indicating that the company has an excellent performance level[13].

This leads to Hypothesis 2: Digital transformation has a positive moderating effect on the impact of ESG on corporate performance.

3. Research Design

3.1. Sample Selection and Data Sources

This paper takes the A-share listed companies on Shanghai and Shenzhen A-shares and ChiNext

in my country from 2016 to 2022 as the research sample, and analyzes them in the following order: The samples were screened and processed: (1) ST and *ST and financial listed companies were excluded; (2) samples with liabilities exceeding assets were excluded; (3) samples with missing data were excluded; (4) samples of companies that were delisted within the sample interval; (5) The continuous variables were indorned by 1% and 99%. Finally, an unbalanced panel data containing 15,603 sample observations was obtained. ESG data uses the rating results provided by the Huazheng ESG evaluation system, which comes from the Wind database, and other data are from the CSMAR database.

3.2. Variable Definition

3.2.1. Explained variable

Considering that the question this paper attempts to answer is “will ESG positively promote corporate performance”, we choose the Return on total assets (ROA) is used as the explained variable to measure corporate performance.

3.2.2. Core explanatory variables

ESG performance (ESG). This article uses the ESG rating data of Huazheng Securities to divide the ESG performance of enterprises into nine categories from high to low. The grades are AAA, AA, A, BBB, BB, B, CCC, CC, and C. The nine-point method is used to assign points to each grade, that is, C=1, CC=2.and so on.

3.2.3. Moderating variables

Digital transformation (Dig). Referring to the practice of Wu Fei (2021) in the management world, the frequency of 76 digitalization-related words in five dimensions, including artificial intelligence technology, big data technology, cloud computing technology, blockchain technology, and digital technology application, was counted to form the total frequency of digitalization words, and the total frequency was added by one and the logarithm was taken to measure the degree of digital transformation of enterprises[14].

3.2.4. Control variables

In order to enhance the rationality of the study, this study controls the variables of fixed asset ratio (FIXED), debt repayment capacity (Lev), Company size (Size), proportion of independent directors (Indep) and shareholding ratio of the largest shareholder (Top1).

The specific meanings of each variable in the model are shown in Table 1.

Table 1: Definition and explanation of variables.

Variable type	variable name	Variable symbol	Variable definition
Explained variables	Corporate performance	ROA	Net profit/Average balance of total assets
Explanatory variables	ESG performance	ESG	is scored from 9 to 1 according to the Huazheng ESG rating from AAA to C
Moderating variable	Digital transformation	DIG	The natural logarithm of the frequency of digital-related words in corporate annual reports
Control variable	Fixed assets ratio	Fixed	Net fixed assets/total assets
	debt paying ability	Lev	Asset-liability ratio = total liabilities at year-end/total assets at year-end
	scale of company	Size	The natural log of total assets per year
	ratio of independent directors	Indep	Number of independent directors/directors
	share proportion of the largest shareholder	Top1	Number of shares held by the largest shareholder/total number of shares

3.3. Model construction

The following model is constructed to test the relationship between ESG performance and corporate performance, in order to study the role of digital transformation in it. In order to eliminate the node effect, the first-order cross product ESG*DIG was added to construct model (2). In addition, ESG and DIG were added to model (2). The second-order cross product ESG*DIG2 forms model (3) to test whether it exhibits a U-shaped regulatory effect. The model is expressed as follows:

$$ROA_{i,t} = \beta 0 + \beta 1 ESG_{i,t} + \beta 2 controli_{,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (1)$$

$$ROA_{i,t} = \beta 0 + \beta 1 ESG_{i,t} + \beta 2 DIG_{i,t} + \beta 3 ESG_{i,t} \times DIG_{i,t} + \beta 4 controli_{,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (2)$$

$$ROA_{i,t} = \beta 0 + \beta 1 ESG_{i,t} + \beta 2 DIG_{i,t} + \beta 3 ESG_{i,t} \times DIG_{i,t} + \beta 4 ESG_{i,t} \times DIG2_{i,t} + \beta 5 controli_{,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (3)$$

Among them, i is the industry, t is the year, and control represents various control variables. In addition, the model also adds industry Industry and Year virtual variables are used to eliminate the differences caused by different time periods and industries. , indicates the model error item.

4. Empirical Tests and Results

4.1. Descriptive Statistics

Table 2 lists the descriptive statistics of the main variables of the sample enterprises. As shown in the table, the minimum value of the enterprise performance variable (EPS) is -1.900, the maximum value is 5.790, and the standard deviation is 0.725, indicating that there is a gap in the corporate performance of the sample companies, and the mean is 0.420, indicating that there is still much room for improvement in corporate performance; the minimum value of the corporate ESG performance variable (ESG) is 1, the maximum value is 8, and the standard deviation is The average value is 1.105, indicating that there are large differences in the ESG performance of the sample companies. The average value is 4.195, indicating that there are large differences in ESG performance overall. Difference; The minimum value of digital transformation degree is 0, the maximum value is 6.306, and the standard deviation is 1.431, indicating that the level of digital transformation of enterprises varies Obviously, there are still many companies with low levels of

digitalization.

Table 2: Descriptive statistics.

variable	sample size	mean	Standard Deviation	Minimum	Maximum
ROA	15603	0.0363	0.0651	-0.373	0.247
ESG	15603	4.128	1.151	1	8
Dig	15603	1.682	1.374	0	6.248
FIXED	15603	0.207	0.157	0.00164	0.699
Lev	15603	0.436	0.194	0.0515	0.902
Size	15603	22.64	1.305	19.81	26.45
Indep	15603	37.74	5.500	28.57	57.14
Top1	15603	32.67	14.49	8.020	73.98

4.2. Descriptive Statistics

Table 3: Analysis of the regression results of the benchmark model.

variable	Model (1)	Model (2)	Model (3)
ESG	0.007*** (16.04)	0.006*** (8.74)	0.006*** (8.14)
DIG		-0.005*** (-3.63)	-0.005*** (-3.80)
ESG*DIG		0.001*** (2.71)	0.001*** (2.94)
ESG*DIG2			-0.000 (-1.38)
Fixed	-0.028*** (-7.04)	-0.030*** (-7.44)	-0.030*** (-7.48)
Lev	-0.139*** (-45.72)	-0.139*** (-45.76)	-0.139*** (-45.78)
Size	0.014*** (28.08)	0.014*** (28.14)	0.014*** (28.13)
Indep	-0.000*** (-3.90)	-0.000*** (-3.86)	-0.000*** (-3.87)
Top1	0.001*** (14.78)	0.001*** (14.68)	0.001*** (14.60)
Constant	-0.237*** (-22.90)	-0.234*** (-22.00)	-0.233*** (-21.93)
Industry	YES	YES	YES
Year	YES	YES	YES
Observations	15603	15603	15603

Note: *, ** and *** represent significant at the level of 10%, 5% and 1% respectively

Table 3 lists the regression results of the three main effect models. The ESG coefficient in model (1) is 0.007, which is significant at the 1% level.is positive. This means that the company's improvement of ESG performance has a significant positive effect on corporate performance. Therefore, hypothesis 1 is established. Models (2) and (3) report the moderating effect of digital transformation. Model (2) only introduces the first-order moderating term of digital transformation, ESG× DIG is used to test whether there is a linear moderation effect. The results show that the positive effect of ESG on corporate performance is in the digital transformation. The coefficient of the interaction term ESG×DIG is 0.001, which is significantly positive at the 1% level and has a significant correlation with ESG. The results are consistent with those of the previous two studies. This indicates that digital transformation has a positive regulatory effect on the relationship between ESG performance and corporate performance. Based on model (2), model (3) introduces the second-order adjustment term ESG×DIG2 of digital transformation to test the effect of digital transformation on the performance of digital transformation. The model is to determine whether it is a “positive U-shaped or inverted U-shaped” regulatory effect. However, the results do not show a significant pattern, indicating that model (3) is not valid.

This further verifies the validity of hypothesis 2.

4.3. Robustness test

4.3.1. Replace the explained variable

Drawing on the previous scholars' practice of measuring corporate performance, we use the return on equity (ROE), which is the average of net profit/owner's equity. Balance is used as the new explained variable of the model. The results are shown in the left half of Table 4. After changing the explained variable, model (1) (2) (3) It is still significant, and the second-order cross-product term is not significant, and the robustness test of assumptions 1 and 2 is passed.

4.3.2. Shorten the sample period

In view of the financial crisis in 2018 and the COVID-19 epidemic in 2020, the company's development has brought adverse effects, which will interfere with corporate performance to a certain extent. Therefore, the data for 2018 and 2020 are excluded, and only 11,145 observations are retained, thus ensuring the robustness of the model. As shown in the right half of Table 4, after removing unstable data, ESG is still significant at 1% level, and the first-order cross-multiplication term is also significantly positive. Assumptions 1 and 2 remain true, and there are no significant changes.

Table 4: Robustness test.

variable	Replace the explained variable			Excluding 2018/2020 data		
	ROE			ROA		
	Model(1)	Model(2)	Model(3)	Model(1)	Model(2)	Model(3)
ESG	0.013*** (14.34)	0.010*** (7.31)	0.010*** (6.74)	0.007*** (14.35)	0.006*** (8.33)	0.006*** (7.78)
DIG		-0.008*** (-3.17)	-0.009*** (-3.35)		-0.004*** (-2.67)	-0.004*** (-2.83)
ESG*DIG		0.002*** (3.05)	0.003*** (3.24)		0.001* (1.81)	0.001** (2.19)
ESG*DIG2			-0.000(-1.45)			-0.000(-1.26)
Controls	control	control	control	control	control	control
Constant	-0.605*** (-28.25)	-0.593*** (-26.90)	-0.591*** (-26.81)	-0.230*** (-19.86)	-0.228*** (-19.16)	-0.228*** (-19.10)
Industry	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Observations	15603	15603	15603	11145	11145	11145
R-squared	0.193	0.193	0.193	0.259	0.260	0.260

Note: *, ** and *** represent significant at the level of 10%, 5% and 1% respectively

4.3.3. Endogeneity test

This paper uses the instrumental variable method to ensure that the research conclusions have a certain degree of robustness. The mean value of ESG (mean_ESG) of all listed companies in the same industry in the same year is selected as the instrumental variable, because the ESG performance of an enterprise will be affected by the ESG performance of other enterprises in the same industry, and the ESG of other enterprises in the same industry has no other direct correlation with the enterprise performance. In view of this, this paper uses mean_ESG as an instrumental variable and conducts a two-stage least squares regression.

The regression coefficient of the first stage instrumental variables and ESG performance is 0.934, which is significant at the 1% level. The regression coefficient of the second stage is still significantly positive. In addition, the instrumental variable mean_ESG is tested, and the results show that The Cragg-Donald Wald F statistic for the weak instrumental variable test is 913.456, and the Kleibergen-Paap Wald F statistic is the value is 828.394. Both statistics are greater than the critical value of 16.38 at the 10% level of the Stock-Yogo test, and there is no weak instrument

variable. The Kleibergen-Paap rk LM statistic of the unidentifiable test is 599.369, and the P value is less than 0.001. It can be proved that the conclusion of this study has passed the robustness test.

Table 5: Instrumental variable method.

variable	The first stage	second stage
	ESG	ROA
mean_ESG	0.934*** (28.78)	
ESG		0.006*** (2.81)
controls	control	control
Industry	YES	YES
Year	YES	YES
Observations	15603	15603
Ceagg-Donald Wald F		913.456
Kleibergen-paap Wald rk F		828.394
Kleibergen-Paap rk LM		599.369

Note: *, ** and *** represent significant at the level of 10%, 5% and 1% respectively

5. Heterogeneity analysis

5.1. Heterogeneity analysis at the regional level

Geographical location differences are, to a certain extent, key external factors that affect corporate behavior and performance. The selected companies are divided into the eastern region and the central and western regions for heterogeneity analysis. From the results in Table 5, we can see that ESG is at the 1% level.It is significantly positive, which also shows that ESG can promote corporate performance to a certain extent.After adding the first-order cross-product term, the model regression results showed significant differences. In non-eastern regions, digital transformation was not significant. The above results are due to the slowdown in global economic growth and the business operations of enterprises.

Whether in the eastern region or the central and western regions, all enterprises are facing great competitive pressure. Good ESG performance is conducive to It is to send a signal of good management to the society and attract the attention of stakeholders, which will make the company more active in ESG performance .In order to achieve the goal of improving performance. On the other hand, the eastern region has a high level of economic development and has more funds for digital transformation and the introduction of new equipment. In addition, enterprises in the eastern region are more likely to attract government and national policy support, which to a certain extent reduces the need for the rising costs brought about by large-scale digitalization. With the help of new technologies, the measurement of ESG ratings will be more accurate, and the higher the ESG rating, the better. The more recognition they can get from all walks of life, the more they can promote the improvement of corporate performance. On the contrary, companies located in the central and western regions are more likely to They are more concerned about the survival of the company and will not spend a lot of money on the digitalization process of the enterprise, so the degree of digitization is low. This means that under the regulation of digitalization, the performance of non-eastern regions is inferior to that of eastern regions.

Table 6: Heterogeneity analysis: region

variable	Eastern Region		Midwestern Region	
	Model(1)	Model(2)	Model(1)	Model(2)
ESG	0.008*** (13.89)	0.006*** (7.03)	0.007*** (8.89)	0.007*** (6.75)
DIG		-0.005*** (-3.04)		-0.002 (-0.81)
ESG*DIG		0.001** (2.53)		-0.000 (-0.39)
Constant	-0.240*** (-19.11)	-0.236*** (-18.24)		-0.269*** (-14.08)
Controls	Control	Control	Control	Control
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
Observations	10922	10922	4680	4680
R-squared	0.242	0.242	0.286	0.286

Note: *, ** and *** represent significant at the level of 10%, 5% and 1% respectively

5.2. Heterogeneity analysis based on the enterprise level

Considering that enterprises with different degrees of pollution will have different degrees of impact on enterprise performance, this paper refers to the research of Li Jinglin and other scholars. The sample enterprises were divided into heavy polluting industries and non-heavy polluting industries[15]. The heterogeneity results are shown in Table 6.After the digital transformation and the first-order cross-product, there is no significance. The analysis shows that the possible reason for this phenomenon is that with the development of society. All sectors of society are paying more and more attention to environmental governance. Heavy polluting industries not only have to face public supervision, but also have to meet the country's "double The goal of reducing carbon emissions is proposed. For heavily polluting industries, governance is difficult and requires long-term cost investment .Investment in digital technology will bring a higher financial burden to enterprises. Therefore, for heavily polluting industries, digital transformation is not. It plays a moderating role in the relationship between ESG and corporate performance. (Table 7)

Table 7: Heterogeneity analysis: Industry

variable	Non-heavy pollution		Heavy polluting industries	
	Model(1)	Model(2)	Model(1)	Model(2)
ESG	0.007*** (13.79)	0.006** (6.33)	0.006*** (8.29)	0.006*** (6.35)
DIG		-0.005*** (-3.39)		-0.001 (-0.25)
ESG*DIG		0.001** (2.63)		-0.000 (-0.10)
Constant	-0.252*** (-20.43)	-0.247*** (-19.35)	-0.207*** (-10.93)	-0.269*** (-14.08)
Controls	Control	Control	Control	Control
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
Observations	10997	10997	4606	4606
R-squared	0.233	0.234	0.237	0.237

Note: *, ** and *** represent significant at the level of 10%, 5% and 1% respectively

6. Conclusion and Recommendations

This study uses enterprise digital transformation as a moderating variable to explore the relationship between ESG and corporate performance. The A-share listed companies in 2022 were used as the research sample, and the following conclusions were drawn: First, the ESG performance of listed companies is positively correlated with corporate performance. Secondly, digital transformation plays a positive role in the impact of ESG and corporate performance. Finally, for enterprises in the central and western regions and those in heavily polluting industries, digitalization

does not play a moderating role in the relationship between ESG and corporate performance use.

Based on the above conclusions, this paper puts forward the following conclusions and suggestions:

At the corporate level, companies should actively disclose ESG information and abandon ESG practices that waste corporate resources and increase corporate costs. In addition, companies should clarify the consistency between ESG strategy and long-term development goals, and incorporate ESG factors into corporate strategic planning. Finally, enterprises should also actively promote the process of digital transformation and use big data, artificial intelligence and other

Digital technologies such as AI can be used to collect, analyze and apply ESG data to improve the efficiency and accuracy of ESG management. Improving the transparency and readability of ESG information disclosure will, to a certain extent, improve stakeholders' awareness of corporate ESG performance and trust, thereby improving business performance.

At the government level, on the one hand, the government should formulate clear ESG standards and norms to clarify the environmental, social and Governance responsibilities and obligations. Expose companies that violate ESG standards and norms to create an effective deterrent effect. This will help companies better understand and comply with ESG requirements, and also help investors and consumers better evaluate companies' ESG performance. On the other hand, the government can encourage companies to actively invest in ESG implementation by providing incentives such as tax incentives and financial subsidies. These incentives can reduce the cost of enterprises implementing ESG strategies and increase their enthusiasm for implementing ESG strategies. The government should also encourage enterprises to actively carry out digital transformation to adapt to the development trend of the times, and for some central and western regions or heavily polluted areas Provide technical guidance and financial support to encourage these enterprises to combine ESG strategies with digital transformation strategies. And optimize ESG performance through technological innovation.

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