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**DOES CORPORATE DIGITAL TRANSFORMATION IMPROVE CORPORATE  
ESG PERFORMANCE?**J. Zhang

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E-mail: [zhang.2021@inbox.ru](mailto:zhang.2021@inbox.ru)**УЛУЧШАЕТ ЛИ ЦИФРОВАЯ ТРАНСФОРМАЦИЯ КОМПАНИЙ ИХ ESG-ЭФФЕКТИВНОСТЬ?**Ц. Чжан

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***Аннотация.** В корпоративной практике известно множество факторов, определяющих инвестиционную привлекательность. В последние годы все более значимым среди них становится тренд на устойчивое развитие, предполагающий следование трем принципам: ответственного отношения к окружающей среде, социальной ответственности и качества корпоративного управления, известных в международной практике как ESG. Цифровая трансформация современных компаний создает новые возможности для следования этим принципам. В данном исследовании анализируются процесс цифровой трансформации 325 китайских компаний, зарегистрированных на бирже с акциями класса А по данным об их деятельности за период с 2012 по 2021 год. Цель исследования – изучить влияние цифровой трансформации компаний на эффективность корпоративных систем ESG. По результатам исследования сделан вывод о том, что цифровая трансформация компании может значительно повысить ее ESG-эффективность. Автор выдвигает предложения о перспективных направлениях деятельности компаний, проходящих цифровую трансформацию, по выполнению ими корпоративных обязательств в области ESG и устойчивого развития.*

**Introduction.** The traditional firm theories hold that the objective of the business firm is to maximize the profit and the value of the firm's shareholders. Modern corporate governance theory and stakeholder theory require firms not only to be responsible to shareholders but also to creditors, employees, suppliers and customers, government, communities and the environment [1]. Firms should pay more attention to their external governance and stakeholders and realize the maximization of the overall interests of stakeholders. However, the ESG practices of companies have certain externalities, and there needs to be more investment. On the one hand, corporate investment in environmental and social responsibility will waste corporate resources, increase additional expenses, and bring "negative effects" to the corporate, thus weakening corporate competitiveness and harming the interests of shareholders [2]. On the other hand, due to resource constraints, backward technical means, and information asymmetry between firms and stakeholders in ESG practice, many of them are not able to improve ESG performance, which leads to insufficient incentives for corporate ESG.

The mutual embedding of digital information technology and the traditional production mode is the core strategy for firms to achieve high-quality development in the era of the digital economy. The value of digital transformation is not only reflected in the improvement of the economic performance of firms but also the non-economic performance of firms such as environment, society and governance. Firstly, firms' digital transformation can promote technological innovation, especially the innovation and application of green technology, thereby enhancing firms' contribution to the environment and sustainable development. Secondly, digital technology is conducive to reducing information asymmetry and transaction costs, improving the transparency of corporate information [3], and helping firms improve their governance and better fulfil their social responsibilities. Thirdly, the application of digital technology is conducive to promoting the efficiency of corporate resource allocation and use, improving the efficiency of decision-making and operation management, enhancing the ability of the firm to practice ESG, and reducing the cost of ESG practice. It can be seen that the digital transformation of firms is conducive to reducing the "negative effect" of corporate ESG and can enhance the internal motivation of corporate ESG investment, thereby improving corporate ESG performance. Thus, the research hypothesis is formulated as follows:

H1: The digital transformation of firms can improve their ESG performance.

**Research methods.** This paper takes the data of China's Shanghai and Shenzhen A-share listed companies from 2012 to 2021 as the research sample. After screening, a sample of 1,013 observations were obtained. The corporate financial and governance data are all from the CSMAR database, and the ESG performance data of the companies are from the Huazheng ESG rating system. The digital transformation data are obtained through text analysis and word frequency statistics on the annual reports of listed companies.

In order to study the impact of corporate digital transformation on corporate ESG performance, the paper sets the following benchmark regression model:

$$ESG_{it} = \alpha_0 + \alpha_1 digital_{it} + \sum \alpha_k Controls_{it} + \chi_i + \delta_t + \varepsilon_{it} \quad (1)$$

Among them,  $i$  represents the enterprise;  $t$  stands for the year;  $ESG_{it}$  means the ESG performance of firm  $i$  in year  $t$ ;  $digital_{it}$  represents the digital transformation of firm  $i$  in year  $t$ ;  $Controls_{it}$  is the aforementioned control variables;  $\chi_i$  is the firm fixed effect;  $\delta_t$  stands for the year fixed effect;  $\varepsilon_{it}$  is the residual item. In order to make the statistical inference results more robust, this paper uses robust standard errors to estimate the regression model.

Firstly, this study conducts descriptive statistics on the main variables, and the statistical results show significant differences between firms in terms of ESG performance and digital transformation degree. Secondly, the study conducts correlation analysis, and the results show that corporate digital transformation positively correlates with corporate ESG performance. It is significant at the 1% level, preliminarily verifying the study's hypothesis.

**Results.** Table 1 shows the test results of the benchmark regression model in this paper. Column (1) of Table 1 is the regression result with only core explanatory variable added. The results show that corporate digital transformation positively affects corporate ESG performance at a significance level of 1%. Columns (2) and (3) in Table 1 are the progressive regression results after sequentially adding relevant control variables. The results show that corporate digital transformation still positively affects corporate ESG performance at a significance level of 1%. Through digital transformation, firms can strengthen their relationship with stakeholders and better fulfil their social responsibilities, thereby improving the performance of firms in terms of environment, society and governance and realizing non-economic value creation. Thus, the research hypothesis H1 is verified.

Table 1

*Benchmark regression test results*

Variables	(1) ESG	(2) ESG	(3) ESG
digital	0.043*** (9.012)	0.038*** (8.270)	0.040*** (8.192)
size		0.236*** (22.651)	0.219*** (22.582)
age		-0.215*** (-11.547)	-0.206*** (-10.458)
growth		-0.0462*** (-5.036)	-0.0479*** (-5.210)
lever		-0.701*** (-15.262)	-0.703*** (-15.284)
indep			0.967*** (6.398)
dual			-0.0287** (-2.159)
top1			0.002*** (3.896)
board			0.027 (0.685)
_cons	4.021*** (536.045)	-0.839*** (-3.372)	-1.388*** (-5.025)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	1013	1013	1013
R <sup>2</sup>	0.542	0.570	0.573

Note: t statistics in parentheses, \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

**Conclusion.** In recent years, with the continuous breakthrough and development of digital technology, the deep integration of digital technology with the traditional production mode has become an important strategic choice for firms to achieve high-quality development. This paper selects China's Shanghai and Shenzhen A-share listed companies from 2012 to 2021 as a research sample and empirically tests the impact and mechanism of digital transformation of firms on their ESG performance in the context of the digital economy. The empirical test results show that corporate digital transformation can significantly promote corporate ESG performance. This study provides theoretical support and empirical evidence for improving corporate ESG performance from the perspective of corporate digital transformation.

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