

Corporate Social Responsibility, Manager's Characteristics and Corporate Value of Digital Creative Enterprises

Zhen Wang, Xiaohong Zhou

School of Economics and Management, Anhui Polytechnic University, Wuhu, China
Email: wangzhen990101@163.com

How to cite this paper: Wang, Z., & Zhou, X. H. (2023). Corporate Social Responsibility, Manager's Characteristics and Corporate Value of Digital Creative Enterprises. *Open Journal of Business and Management*, 11, 1479-1494.

<https://doi.org/10.4236/ojbm.2023.114081>

Received: May 16, 2023

Accepted: July 9, 2023

Published: July 12, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

The aim of this paper is to analyze the impact of corporate social responsibility (CSR) performance of digital creative enterprises on corporate value. The study takes 397 listed digital creative firms from 2016-2020 as a sample. A fixed-effects model is used to empirically test the relationship between CSR and corporate value of digital creative firms. We also analyzed the moderating effect of R&D investment intensity on the relationship between CSR and corporate value. And the influence of manager's characteristics on the moderating effect of R&D investment intensity of enterprises. The study shows that the performance of social responsibility of digital creative firms contributes to the enhancement of corporate value. R&D investment intensity positively moderates the relationship between CSR and corporate value. Chairman's age further amplifies the moderating effect of R&D investment intensity. However, in the case where the chairman is also the CEO, it weakens the moderating effect of the intensity of R&D investment. The findings of the study can provide valuable insights for digital creative enterprises to achieve high-quality development.

Keywords

Digital Creative Enterprises, CSR, R&D Investment Intensity, Manager's Characteristics, Corporate Value

1. Introduction

In 2016, the "Thirteenth Five-Year" National Strategic Emerging Industries Development Plan promulgated by the Chinese government established the digital creative industry as a strategic emerging industry. So far, the digital creative in-

dustry has become a new driving force for economic growth and cultural development (Xie & Li, 2020; Zang, 2018; Li & Zhao, 2017). Since the digital creative industry has cultural attributes, some scholars have elaborated that the development of the digital creative industry must focus on its social benefits from the theoretical level (Wei, 2021; Li & Li, 2021; Gu, 2022). However, whether focusing on social benefits is really beneficial to the value enhancement of digital creative enterprises requires further research from the empirical perspective.

CSR has been attracting attention from all walks of life since the 1950s (Xiao, 2020). In this context, more and more companies have realized the importance of social responsibility. Companies gradually incorporate socially responsible behaviors such as caring for employees, protecting the environment, and public welfare donations into their strategic planning. Yet, there are numerous problems about companies cheating consumers, leaking customers' privacy, and polluting the environment. This has triggered questions from the government, consumers, and other members of the public about the purposefulness of CSR. It is even considered that CSR behavior is hypocritical morality and business showmanship. At present, there are contradictory conclusions in the research on CSR. The mainstream view is that CSR performance will enhance corporate reputation, strengthen employees' sense of belonging, and promote corporate value (He et al., 2020). However, some scholars emphasize that CSR behaviors increase corporate expenditures and are detrimental to corporate development (Yi et al., 2020). Alternatively, CSR behaviors do not have an impact on enterprises.

Based on the above analysis, this study takes 397 listed companies in the digital creative industry from 2016-2020 as a sample. Regression analysis is conducted using a fixed-effects model to explore the association between CSR and corporate value of digital creative enterprises. The moderating role of the intensity of corporate R&D investment and manager's characteristics in it is also analyzed. Specifically, the moderating effect of this paper is to examine the role that the intensity of corporate R&D investment plays in the relationship between CSR and corporate value, as well as the influence of the characteristics of corporate managers on the modulating impact of R&D investment intensity. The findings of this paper will enrich the research on the digital creative industry and CSR, which can provide valuable policy suggestions for the digital creative industry to achieve sustainable development.

2. Literature Review and Research Hypothesis

2.1. CSR and Corporate Value

CSR is the responsibility that enterprises should bear to their stakeholders (Li et al., 2020). In recent years, numerous scholars have explored the relationship between CSR and corporate value. However, influenced by factors such as industry, property rights attributes, and geography, the scholars' research conclusions vary. There are three main views as follows:

1) CSR performance positively affects corporate value (Tarjo et al., 2023). This part of scholars based on stakeholder theory argues that CSR can significantly reduce business risks and increase corporate value (Song & Xu, 2022; Li et al., 2020). Such as, Yi et al. (2020) show that companies can effectively decrease the cost of equity capital by actively participating in social poverty alleviation. Since CSR behavior is usually perceived by the public as being beneficial to the harmonious development of society as a whole. Therefore, according to signaling theory, when companies carry out social responsibility, the social public will receive a positive signal. This plays a significant role in enhancing the reputation and stakeholder recognition of the company. It also makes it easier for companies to obtain resources that are beneficial to their development and promote corporate value (Zhang et al., 2019). For instance, a study by Wang & Yang (2022) found that social responsibility has a significant positive influence on promoting both the market and book value of firms. Both researches by Minh et al. (2022) and Ho et al. (2021) confirmed that social responsibility performance significantly reduces corporate leverage, which is beneficial to firms.

2) CSR performance can adversely affect corporate value. This part of scholars believes that CSR activities can harm the benefits of shareholders (Zhang et al., 2019). The reason is that carrying out social responsibility activities requires spending corporate funds. This increases the additional expenses of the company and leads to less funds for production and operation, increasing the business risks of the company. Additionally, the impact of differences in the attitudes of companies can vary. Research by Yi et al. (2020) pointed out that if a company is forced to disclose social responsibility information, it increases its own cost of equity capital, which is detrimental to growth.

3) CSR performance does not have an impact on firm value. This part of scholars thinks that socially responsible behavior has no relationship with corporate value (Li et al., 2020).

Since the digital creative industry is a product of “culture + technology”, it needs to balance economic benefits and ideological attributes to develop the digital creative industry. Moreover, some scholars point out that putting social benefits in the first place will be more conducive to the high-quality development of the digital creative industry (Wei, 2021). Therefore, hypothesis 1 is proposed:

Hypothesis 1: The CSR performance of digital creative firms has a significant positive impact on corporate value.

2.2. Moderating Effect of R&D Investment Intensity

Firms' R&D activities help them to master cutting-edge technologies, output high value-added products, and enhance market competitiveness. It has been shown that firms' R&D investment will promote firm value (Guo & Sun, 2020). For instance, a study by Liu & Teng (2019) on technology-intensive industry in China found that R&D investment positively affects firm value. But the effect of this impact varies significantly across life cycle stages. Some scholars also em-

phasize that CSR performance will increase the level of a company's own R&D investment (Li & Li, 2022). However, relatively few researches have examined the relationship between CSR, R&D investments and corporate value. A study by Chen and Ha (2021) reveals the path of social responsibility and finds that CSR enhances firm value because it enhances the intensity of R&D investment. The study by Wang et al. (2022) affirms that corporate R&D expenditures increase the market value of the firm, and socially responsible behavior can lead to the efficiency of the use of R&D and innovation funds, so it plays a moderating role. It can be seen that previous studies have mostly emphasized the mediating role of R&D inputs or CSR, and there are fewer studies on the moderating effect.

According to signaling theory, we argue that CSR is highly effective in increasing corporate social recognition, enabling companies to acquire valuable social resources at less cost. Firms with greater R&D intensity are also more efficient in converting resources into competitive advantages in the marketplace, which in turn will increase corporate value, especially in a volatile economic market environment. If companies can work with their stakeholders on innovation activities, it will not only put the risk low, but also help them to build and consolidate a good partnership. Therefore, the following hypothesis is proposed:

Hypothesis 2: The intensity of R&D investment in digital creative firms positively moderates the relationship between CSR performance and corporate value.

2.3. Moderating Effects of Manager's Characteristics

According to high-level theory, the strategic choices and innovation efficiency of firms are influenced by the personal characteristics of top managers. The age (Talavera et al., 2018), education (Zhu et al., 2022; Wang et al., 2021), gender, overseas experience (Yang et al., 2018), independence (Chen et al., 2018), and duality (Xia et al., 2022) of managers have been found to affect firm value to varying degrees.

Due to the significant differences in the values of managers of different ages (Talavera et al., 2018), scholarly studies on the effect of directors' age on firm value hold completely opposite conclusions. A part of scholars argues that younger directors are more competitive and creative, tend to carry out R&D activities with high risk and high reward (Chen & Tao, 2021). Which are more conducive to enhancing corporate value. In contrast, older directors are more conservative and tend to be risk-averse (Talavera et al., 2018). This makes older chairmen less conducive to firm value enhancement. Other scholars suggest that older directors have rich experience and are more comfortable with corporate R&D risk control and handling business dilemmas (Zhu et al., 2022), which is more beneficial to corporate development. For example, based on data from listed companies in Thailand, Jaturat et al. (2021) found that boards of directors over 50 years old have an impact on corporate disclosure and promote sustaina-

ble business. For the digital creative industry, older directors with rich experience and cultural knowledge deposits can better guide companies to make products with rich cultural connotations and wide social influence, thereby enhancing the market competitiveness of companies. Therefore, hypothesis 3a is proposed:

Hypothesis 3a: The age of the chairman enhances the positive moderating effect of the intensity of R&D investment in digital creative firms on the relationship between CSR and corporate value.

According to principal-agent theory, conflicts of interest arise between corporate directors and executives (Guston, 1999). At present, the findings on the impact of a chairman who is also a CEO on corporate value can be divided into two main viewpoints.

A view is that it is beneficial for a company to have a chairman who is also the CEO of the company. Having one person as the chairman and CEO can bring more clear and powerful leadership to the firm, thereby enabling more effective decision making. For instance, a study by Xia et al. (2022) reveals that CEO duality is more conducive to corporate green innovation. The other view is the opposite, and this part of scholars believes that CEO duality is detrimental to firm development (Salem et al., 2019). For example, Naciti (2019) emphasizes that CEO duality leads to the control of corporate authority by one person, which may lead to CEO abuse in the event of a conflict of interest, to the detriment of corporate value enhancement. This opinion is supported by the research of Hsu et al. (2021) who concluded that CEO duality significantly reduces the business performance of firms.

Considering that digital creative industry is an emerging industry and its high-technology nature. We consider that leaders within the company have different views, in the constant interchange and collision of views, new ideas will be generated. This can promote the company to make more reasonable strategic planning and be more conducive to the growth of the emerging digital creative industry. On the contrary, it will reduce the innovation of the company and hinder its development. Therefore, hypothesis 3b is proposed:

Hypothesis 3b: The positive moderating effect of R&D investment intensity on the relationship between CSR and corporate value in digital creative firms is weakened in the case where the chairman is also the CEO.

The research model of this paper is shown in **Figure 1**.

3. Research Design

3.1. Sample Selection

In this paper, data of listed companies in digital creative industry from 2016 to 2020 are selected. ST, *ST, and companies with serious missing data are excluded (ST implies that the firm has lost money for two consecutive years, *ST implies that the firm has lost money for three consecutive years, we exclude it because such companies have abnormal accounting information disclosure).

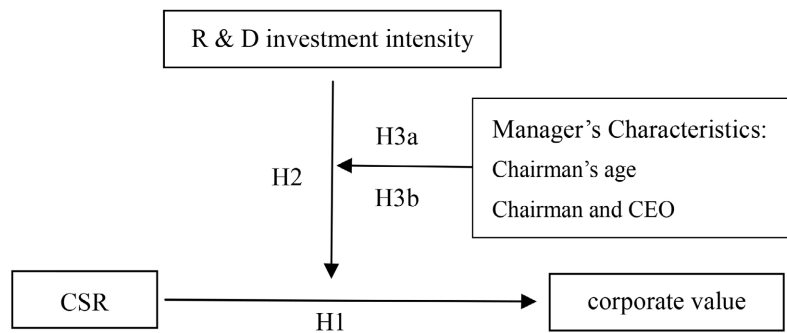


Figure 1. Model of the study.

Finally, 397 sample companies were obtained. CSR data are from Hexun.com, and the other data are from China Stock Market & Accounting Research Database.

3.2. Variable Design and Measurement

3.2.1. Dependent Variable

Corporate value (TQ). Scholars often use indicators such as the rate of return on common stockholders' equity or Tobin's Q to measure corporate value. We use Tobin's Q value to measure corporate value by referring to the study of [Li et al. \(2020\)](#) and [Chen & Ha \(2021\)](#).

3.2.2. Independent Variable

Corporate social responsibility (CSR). Chinese scholars usually use the CSR score of Rankins CSR Ratings or Hexun CSR Rating to measure CSR performance. In this research, we refer to the study of [Jiang & Meng \(2022\)](#), using the Hexun CSR Rating score to measure CSR indicator.

3.2.3. Moderating Variables

1) R&D investment intensity (RD). We draw on the study of [Yang et al. \(2018\)](#) and [Chen & Ha \(2021\)](#) to measure the R&D investment intensity by the ratio of R&D investment expenses to operating income.

2) Chairman's age (Age). This indicator reflects the age of the chairman of the board.

3) Chairman and CEO (CEOD). Assign a value of 1 if the chairman is also the CEO, 0 otherwise.

3.2.4. Control Variables

Considering that CSR performance is not the only factor that affects corporate value. We also control for firm size, gearing, and operating capacity by referring to previous studies. The main variables are defined as shown in [Table 1](#).

3.3. Model Design

The following model is constructed in this paper. Where model (1) is used to examine the relationship between CSR and corporate value of digital creative

Table 1. Variable descriptions.

Variables	Symbol	Measure
Dependent variable		
Tobin's Q	TQ	Ratio of market value to asset replacement cost
Independent variable		
Corporate social responsibility	CSR	Hexun CSR Rating score
Moderating variables		
R&D investment intensity	RD	Ratio of R&D investment to business revenue
Chairman's age	Age	The age of the chairman
Chairman and CEO	CEOD	Assign a value of 1 if the chairman is also the CEO, 0 otherwise
Control variables		
Size	Size	Ln (Total corporate assets)
Gearing ratio	Lev	Ratio of total liabilities to total assets
Business capability	TAT	Ratio of business income to total assets

enterprises. Scholars have generally examined moderating effects using interaction terms or group regressions, drawing on the studies of Wang & Wang (2019) and Wu & Zhang (2021) to test the moderating effect in this paper in the form of interaction terms. Model (2) is used to analyze the moderating effect of R&D investment intensity. Models (3) and (4) are used to test the influence of managerial characteristics on the moderating effect of the firm's R&D investment intensity.

Where $\beta_1, \beta_2, \beta_3, \beta_4,$ and β_5 are the regression coefficients, *Controls* represent control variables, including firm size, gearing, and operating capacity variables, and ε is a random error term.

$$TQ = \beta_0 + \beta_1 CSR + \beta_2 Controls + \varepsilon \quad (1)$$

$$TQ = \beta_0 + \beta_1 CSR + \beta_2 RD + \beta_3 CSR * RD + \beta_4 Controls + \varepsilon \quad (2)$$

$$TQ = \beta_0 + \beta_1 CSR + \beta_2 RD + \beta_3 Age + \beta_4 CSR * RD * Age + \beta_5 Controls + \varepsilon \quad (3)$$

$$TQ = \beta_0 + \beta_1 CSR + \beta_2 RD + \beta_3 CEOD + \beta_4 CSR * RD * CEOD + \beta_5 Controls + \varepsilon \quad (4)$$

4. Empirical Results

4.1. Descriptive Statistics and Correlation Analysis

Table 2 reports the results of descriptive statistics. The mean value of CSR is 20.362, the minimum value is -18.450, and the maximum value is 85.800. From the data, it can be seen that the overall level of social responsibility contribution of digital creative enterprises is not high, and there is a large gap between companies. The mean value of Chairman and CEO (CEOD) is 0.351, with a

Table 2. Descriptive statistics.

Variables	Obs.	Mean	SD	Min	Max
TQ	1985	2.451	1.589	0.674	26.818
CSR	1985	20.362	11.422	-18.450	85.800
RD	1985	9.313	7.815	0.000	76.350
CEOD	1985	0.351	0.477	0.000	1.000
Age	1985	53.607	7.352	24.000	80.000
Size	1985	22.060	1.151	19.662	27.146
Lev	1985	0.352	0.173	0.0174	0.916
TAT	1985	0.545	0.490	0.003	11.345

minimum value of 0 and a maximum value of 1, indicating that there are not many companies where the Chairman is also the CEO. The mean value of the Chairman's age (Age) is 53.607, with a minimum value of 24 and a maximum value of 80.

The results of the correlation analysis are reported in **Table 3**. From **Table 3**, it can be seen that CSR, RD, Size, and Lev are significantly related with TQ at the 1% level. Additionally, we check the multicollinearity problem between variables and find that the maximum value of VIF is 1.46, which indicates that there is no serious multicollinearity problem between variables (Dospinescu et al., 2021).

4.2. Regression Analysis

Based on the results of the Hausman test, a fixed effects model is appropriate for this paper. **Table 4** reports the results of the regression analysis. From Model 1, it is clear that CSR has a significant effect on firm value enhancement at the 1% level. It indicates that although the fulfillment of social responsibility by digital creative companies may increase the additional expenditure of enterprises, it can gain higher recognition from stakeholders. This creates more favorable conditions for enterprise product development and market exploration, and promotes corporate value enhancement. Hypothesis 1 is supported. Model 2 reports the results of the regression analysis of the interaction term between CSR and R&D investment intensity (CSR*RD). It can be seen that the coefficient of the interaction term is significantly positive at the 1% level. This indicates that the intensity of R&D investment in digital creative firms has a positive moderating influence on the relationship between CSR and corporate value. Hypothesis 2 is supported.

As shown in Model 3, the regression coefficient of the interaction term (CSR*RD*Age) among CSR, R&D investment intensity and chairman's age is significantly positive at the 1% level. It suggests that the age of the chairman further strengthens the positive moderating effect of the intensity of corporate R & D investment on the relationship between CSR and corporate value. Hypothesis 3a is supported. The moderating effect in the case where the chairman is also

Table 3. Correlation analysis.

Variables	TQ	CSR	RD	CEOD	Age	Size	Lev	TAT
TQ	1.000							
CSR	0.112***	1.000						
RD	0.277***	-0.012	1.000					
CEOD	-0.002	-0.055*	0.079***	1.000				
Age	0.073**	0.042	-0.032	-0.212***	1.000			
Size	-0.326***	0.112***	-0.158***	-0.162***	0.098***	1.000		
Lev	-0.237***	-0.147***	-0.278***	-0.065**	-0.017	0.420***	1.000	
TAT	-0.036	0.040	-0.251***	-0.103***	-0.008	0.105***	0.310***	1.000

Note: *, **, *** indicate that the statistics are significant at the 10%, 5%, and 1% levels, respectively.

Table 4. Regression results.

Variables	Model 1	Model 2	Model 3	Model 4
CSR	0.011*** (4.20)	0.013*** (4.67)	0.013*** (4.74)	0.013*** (4.80)
RD		0.041*** (5.13)	0.032*** (4.04)	0.040*** (4.93)
Age			0.002 (0.33)	
CEOD				-0.110 (-1.11)
CSR*RD		0.001*** (4.95)	0.001** (3.16)	0.001*** (4.14)
CSR*RD*Age			0.0003*** (8.40)	
CSR*RD*CEOD				-0.001* (-2.30)
Size	-0.630*** (-6.79)	-0.613*** (-6.69)	-0.648*** (-7.13)	-0.607*** (-6.63)
Lev	-0.899* (-2.33)	-1.002** (-2.62)	-0.958* (-2.56)	-1.057** (-2.77)
TAT	0.340* (2.37)	0.407** (2.85)	0.446** (3.18)	0.402** (2.81)
Constant	16.248*** (8.01)	15.465*** (7.69)	16.164*** (8.20)	15.396*** (7.67)
R ²	0.058	0.083	0.123	0.087
N	1985	1985	1985	1985

Note: t-values in parentheses, *, **, *** indicate statistics significant at the 10%, 5%, and 1% levels, respectively.

the CEO is reported in Model 4. It can be seen that the interaction term of CSR, R&D investment intensity and chairman's concurrent CEO (CSR*RD*CEOD) is significantly negatively related to firm value at the 10% level. It means that the Chairman's concurrent CEO weakens the positive moderating effect of the intensity of R&D investment on the relationship between CSR and corporate value. Hypothesis 3b is supported.

4.3. Robustness Tests

We take the following approach to robustness testing. 1) Considering the huge impact of COVID-19 on the development of China's digital creative industry in 2020, the data from 2020 were excluded and regressed again. 2) Change the measurement of the dependent variable. We draw on previous scholars' research and use the ratio of market value to book value to replace Tobin's Q. The results of the robustness tests are reported in **Table 5** and **Table 6**. In **Table 5**, from

Table 5. Regression results excluding 2020 data.

Variables	Model 1	Model 2	Model 3	Model 4
CSR	0.012*** (4.25)	0.125*** (4.53)	0.012*** (4.44)	0.013*** (4.71)
RD		0.033*** (3.76)	0.024** (2.75)	0.032*** (3.36)
Age			0.001 (0.18)	
CEOD				-0.085 (-0.74)
CSR*RD		0.001*** (4.35)	0.001* (2.01)	0.001** (3.35)
CSR*RD*Age			0.0003*** (8.17)	
CSR*RD*CEOD				-0.002* (-2.35)
Size	-1.026*** (-9.43)	-1.003*** (-9.32)	-1.060*** (-10.03)	-1.002*** (-9.39)
Lev	-0.929* (-2.14)	-1.062* (-2.47)	-1.006* (-2.40)	-1.080* (-2.51)
TAT	0.288 (1.62)	0.356* (2.02)	0.389* (2.27)	0.354* (2.01)
Constant	24.933*** (10.54)	24.13*** (10.28)	25.356*** (11.04)	24.14*** (10.30)
R ²	0.112	0.133	0.179	0.138
N	1588	1588	1588	1588

Note: t-values in parentheses, *, **, *** indicate statistics significant at the 10%, 5%, and 1% levels, respectively.

Table 6. Regression results of replacing the dependent variable.

Variables	Model 1	Model 2	Model 3	Model 4
CSR	0.020*** (4.44)	0.023*** (5.21)	0.227*** (5.17)	0.023*** (5.29)
RD		0.081*** (6.17)	0.072*** (5.49)	0.081*** (6.16)
Age			-0.005 (-0.43)	
CEOD				-0.431** (-2.68)
CSR*RD		0.001** (2.72)	0.001 (1.64)	0.001* (2.52)
CSR*RD*Age			0.0003*** (4.88)	
CSR*RD*CEOD				-0.001 (-0.74)
Size	-1.426*** (-9.49)	-1.388*** (-9.34)	-1.407*** (-9.40)	-1.382*** (-9.31)
Lev	8.490*** (13.57)	8.279*** (13.37)	8.313*** (13.51)	8.247*** (13.32)
TAT	0.253 (1.09)	0.405 (1.75)	0.443 (1.92)	0.393 (1.70)
Constant	31.902*** (9.71)	30.231*** (9.28)	30.980*** (9.56)	30.270*** (9.30)
R ²	0.131	0.153	0.166	0.157
N	1985	1985	1985	1985

Note: t-values in parentheses, *, **, *** indicate statistics significant at the 10%, 5%, and 1% levels, respectively.

models 1 to 3, CSR, CSR*RD, and CSR*RD*Age are significantly and positively correlated with TQ at the 1% level. From model 4, CSR*RD*CEOD is significantly and negatively correlated with TQ at the 10% level. In **Table 6**, from models 1 and 3, CSR and CSR*RD*Age are all significantly and positively correlated with TQ at the 1% level. From model 2 it can be seen that CSR*RD and both are significantly and positively correlated with TQ at the 5% level. From model 4 it can be seen that the regression coefficient of CSR*RD*CEOD with TQ is negative. The results of the robustness tests are generally consistent with the results described in the previous article. The conclusions of the article are robust.

5. Discussion and Conclusions

5.1. Main Findings

This paper analyzes the impact of CSR performance on corporate value of digital

creative firms with a sample of 397 listed companies in digital creative industry from 2016 to 2020. It also explores the moderating role of the intensity of firm's R&D investment and the characteristics of managers. The main research findings are as follows.

1) CSR performance of digital creative enterprises has a significant positive impact on enterprise value enhancement. This finding is similar to those of [Zhang et al. \(2019\)](#), [He et al. \(2020\)](#), and [Song & Xu \(2022\)](#). CSR behaviors make it easier for companies to obtain valuable social resources, such as financial subsidies from the government, technical support from peers, and recognition from consumers, which promote enterprise value. Moreover, the development of digital creative industries cannot be based solely on economic benefits as the only indicator, but also needs to take into account the social attributes of the industry ([Liu & Bai, 2021](#)). The findings of this paper support the theoretical findings of [Wei \(2021\)](#), [Li & Li \(2021\)](#), and illustrate the positive impact of social responsibility of digital creative enterprises on corporate value through empirical analysis. Digital creative enterprises need to focus on their own social benefits, and good social responsibility performance can promote the industry to achieve high-quality development.

2) The R&D investment intensity of digital creative enterprises has a significant positive moderating influence on the relationship between CSR and corporate value. Most previous studies have emphasized the mediating role of the intensity of corporate R&D investment ([Chen et al., 2018](#)), or that R&D investment directly affects firm value, and the findings of this paper enrich such studies. In addition, it has been established that enhanced corporate R&D investment can promote corporate innovation and value enhancement ([Zhu et al., 2022](#)). Positive social responsibility performance makes it easier for firms to access many available resources, and a stronger level of corporate R&D promotes the ability to transform resources into market competitiveness, thus contributing to corporate value enhancement.

3) A chairman's age enhances the positive moderating effect of R&D investment intensity on CSR and corporate value. The older the chairman is, the more obvious the positive moderating effect is. However, the chairman's concurrent role as CEO weakens the positive moderating effect of R&D investment intensity on the relationship between CSR and corporate value. This finding enriches the research on the high-level theory and principal-agent theory and supports the studies of [Naciti \(2019\)](#) and [Zhu et al. \(2022\)](#). The difference from previous studies is that we discuss the effect of managers' characteristics on the moderating effect of R&D input intensity, which is almost absent in that previous study. We argue that older chairmen with richer experience and expertise reserves can formulate more reasonable development strategies, effectively reduce the risk of R&D activities, and promote stable corporate development. In contrast, when the chairman is also the CEO, it may lead to abuse of power and behaviors that harm the value of the company.

5.2. Policy Suggestions

1) Digital creative enterprises should proactively fulfill their social responsibilities. At the same time, in the process of fulfilling social responsibility, enterprises need to strengthen publicity through various channels, which can make stakeholders understand more clearly the social responsibility behaviors done by enterprises. For example, strengthening network publicity through online platforms such as WeChat public account and microblog. Furthermore, enterprises also need to correct the previous concept that performing social responsibility is to obtain short-term economic benefits, and incorporate it into their long-term strategic planning, so as to achieve sustainable development of enterprises and stakeholders.

2) Digital creative enterprises need to actively carry out R&D and innovation activities, and enhance the intensity of their own R&D investment. The high technology nature of digital creative enterprises also indicates that enhancing their own R&D level is an important measure for enterprises to achieve high-quality development. Through R&D activities, the resources obtained by enterprises can be transformed into competitive advantages in the market and promote the enhancement of enterprise market value.

3) Digital creative enterprises can give priority to older persons in the selection of the chairman. Older managers have rich experience and can more effectively control the uncertainties in the R&D process. Besides, companies can hire professional managers as the CEO by hiring them. Try to avoid having the chairman of the board as much as possible. The combination of two positions can lead to too much authority for one person and cause problems of abuse of power. A reasonable division of power not only brings more knowledge of different viewpoints to the company, but also limits the rights of the manager, which is more beneficial to the development of the company.

5.3. Limitations

The limitations and further research directions of this paper are mainly as follows: 1) Considering the validity and accessibility of data. This paper uses data from some listed companies in digital creative industries, and unlisted companies are not considered, which reduces the generalizability of the research findings. In the future, questionnaires and interviews can be adopted to obtain more effective data for a deeper study. 2) Regarding the moderating effect of managerial characteristics, this paper only discusses the moderating effect of the chairman's age and whether he/she is also the CEO. The moderating effects of the chairman's overseas background, work experience, and risk preference can be further studied in the future.

Acknowledgements

This work was funded by the Major Project of Humanities and Social Sciences Research in Anhui Province, grant number SK2020ZD20.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Chen, H. B., & Tao, Y. T. (2021). Efficacy of Entrepreneurs' Psychological Capital on the Performance of New Ventures in the Development of Regional Economy in the Greater Bay Area. *Frontiers in Psychology, 12*, Article ID: 705095. <https://doi.org/10.3389/fpsyg.2021.705095>
- Chen, X., & Ha, J. H. (2021). Research on the Relationship among Corporate Social Responsibility Contribution, Technological Innovation Input and Enterprise Value Creation. *Frontiers of Science and Technology of Engineering Management, 40*, 32-38.
- Chen, Y., Zhan, Y. H., Wang, L. X., Li, Y., & Zhai, R. R. (2018). R&D, Independent Director Structure, Innovation Performance—An Empirical Test on Chinese Listed Family Enterprises. *Science Research Management, 39*, 95-107.
- Dospinescu, O., Dospinescu, N., & Agheorghiesei, D. T. (2021). FinTech Services and Factors Determining the Expected Benefits of Users: Evidence in Romania for Millennials and Generation Z. *E&M Economics and Management, 24*, 101-118. <https://doi.org/10.15240/tul/001/2021-2-007>
- Gu, J. (2022). The Achievements, Experience and Prospects of China's Cultural Industry Development since the 18th National Congress of the Communist Party of China. *Journal of Management World, 38*, 49-60.
- Guo, X. Q., & Sun, Y. M. (2020). R & D Investment, Technology Accumulation and High-Tech Enterprise Market Performance. *Studies in Science of Science, 38*, 1630-1637.
- Guston, D. H. (1999). Stabilizing the Boundary between US Politics and Science: The Role of the Office of Technology Transfer as a Boundary Organization. *Social Studies of Science, 29*, 87-111. <https://doi.org/10.1177/030631299029001004>
- He, Y., Li, J., Cai, M. T., & Zhang, X. (2020). Corporate Social Responsibility and Enterprise Value: The Mechanism of Marketing Competitiveness and Customer Awareness. *Journal of Industrial Engineering and Engineering Management, 34*, 84-94.
- Ho, K. C., Wang, Q., Sun, X. M., & Wang, L. F. S. (2021). How Does Corporate Social Responsibility Affect Firm Leverage? *Kybernetes, 51*, 2902-2926. <https://doi.org/10.1108/K-10-2020-0708>
- Hsu, S., Lin, S. W., Chen, W. P., & Huang, J. W. (2021). CEO Duality, Information Costs, and Firm Performance. *The North American Journal of Economics and Finance, 55*, Article ID: 101011. <https://doi.org/10.1016/j.najef.2019.101011>
- Jaturat, M., Dampitakse, K., & Kuntonbutr, C. (2021). The Effect of Corporate Governance on the Board of Directors' Characteristics and Sustainability Disclosure: An Empirical Study from Thailand. *Journal of Asian Finance Economics and Business, 8*, 191-201.
- Jiang, D. Q., & Meng, L. (2022). Corporate Social Responsibility and Product Market Performance. *Journal of Finance and Economics, 48*, 109-122.
- Li, F. L., & Zhao, X. T. (2017). Digital Creative Industries and the Promotion of State Cultural Soft Power: Strategies and Pathways. *Journal of Guangxi Minzu University (Philosophy and Social Science Edition), 39*, 2-7.
- Li, W. J., & Li, Q. M. (2021). Development Trend and Countermeasures of Digital Creative Industry during the "14th Five-Year Plan" Period. *Economic Review Journal, 37*,

71-81.

- Li, X. F., & Li, F. F. (2022). The Influence of Social Responsibility of Heavily Polluting Enterprises on TFP: Intermediary Role Based on R&D Investment. *Administrative Tribune*, 28, 135-142.
- Li, Z. B., Ruan, D. D., & Zhang, T. S. (2020). Value Creation Mechanism of Corporate Social Responsibility: A Study Based on Internal Control. *Accounting Research*, 41, 112-124.
- Liu, H., & Teng, H. (2019). Study on Threshold Effects of R&D Investment on Manufacturing Corporate Value from the View of Enterprise Life Cycle Perspective. *Soft Science*, 33, 93-96.
- Liu, J., & Bai, S. X. (2021). Analysis of the Competitiveness of China's Digital Creative Industry and Research on Development Countermeasures. *Macroeconomics*, 43, 70-78+138.
- Minh, T. N., Ngoc, A. M., Tuan, A. N., & Dao, T. N. (2022). Corporate Social Responsibility, Market Rivalry and Firm Leverage: New Evidence from a Fixed-Effect Quantile Regression Approach. *Finance Research Letters*, 47, Article ID: 102794. <https://doi.org/10.1016/j.frl.2022.102794>
- Naciti, V. (2019). Corporate Governance and Board of Directors: The Effect of a Board Composition on Firm Sustainability Performance. *Journal of Cleaner Production*, 237, Article ID: 117727. <https://doi.org/10.1016/j.jclepro.2019.117727>
- Salem, W., Metawe, S., Youssef, A., & Mohamed, M. (2019). Boards of Directors' Characteristics and Firm Value: A Comparative Study between Egypt and USA. *Open Access Library Journal*, 6, e5323. <https://doi.org/10.4236/oalib.1105323>
- Song, Y., & Xu, Y. (2022). On the Relationship between the Social Responsibility, Media Attention and Enterprise Value of Platform Enterprise. *Journal of Yantai University (Philosophy and Social Science Edition)*, 35, 109-124.
- Talavera, O., Yin, S., & Zhang, M. (2018). Age Diversity, Directors' Personal Values, and Bank Performance. *International Review of Financial Analysis*, 55, 60-79. <https://doi.org/10.1016/j.irfa.2017.10.007>
- Tarjo, T., Anggono, A., Yuliana, R., Prasetyono, P., Syarif, M., Wildan, M. A., & Kusufi, M. S. (2023). Corporate Social Responsibility, Financial Fraud, and Firm's Value in Indonesia and Malaysia. *Helicon*, 8, e11907. <https://doi.org/10.1016/j.helicon.2022.e11907>
- Wang, B., & Yang, M. J. (2022). A Study on the Mechanism of ESG Performance on Corporate Value—Empirical Evidence from A-Share Listed Companies in China. *Soft Science*, 36, 78-84.
- Wang, C. Y., Yang, J. L., Cheng, Z., & Ni, C. Q. (2021). Postgraduate Education of Board Members and R & D Investment—Evidence from China. *Sustainability*, 13, Article No. 3324. <https://doi.org/10.3390/su13063324>
- Wang, W. Q., & Wang, X. Q. (2019). The Influence of Working Experience Heterogeneity and Technical Sensitivity of Board Chairman and General Manager on the Scale of Technological Mergers & Acquisitions. *Science & Technology Progress and Policy*, 36, 130-137.
- Wang, X.H., Luan, X. Y., & Zhang, S. P. (2022). Corporate R&D Investment, ESG Performance and Market Value—The Moderating Effect of Enterprise Digital Level. *Studies in Science of Science*, 41, 896-904+915.
- Wei, P. J. (2021). The Righteous and Innovative Approach to High-Quality Development of Cultural Industry. *People's Tribune*, 11, 104-106.

- Wu, W. W., & Zhang, T. Y. (2021). The Asymmetric Influence of Non-R&D Subsidies and R&D Subsidies on Innovation Output of New Ventures. *Journal of Management World*, *37*, 137-160+10.
- Xia, L., Gao, S., Wei, J. C., & Ding, Q. Y. (2022). Government Subsidy and Corporate Green Innovation—Does Board Governance Play a Role? *Energy Policy*, *161*, Article ID: 112720. <https://doi.org/10.1016/j.enpol.2021.112720>
- Xiao, H. J. (2020). The Reflection and Transcendence of the Creating Shared Value as a Corporate Social Responsibility Paradigm. *Journal of Management World*, *36*, 87-115+133+13.
- Xie, X. F., & Li, L. (2020). A Study on the Urban Atlas of Global Digital Creative Industry Agglomeration and China's Innovation Approach. *Journal of Tongji University (Social Science Edition)*, *31*, 36-51.
- Yang, L., Duan, M. Y., Liu, J., & Xu, C. W. (2018). Top Management Team Overseas Experiences, R&D Investment Intensity and Enterprise Innovation Performance. *Science Research Management*, *39*, 9-21.
- Yi, Y. T., Xie, B. S., Zhou, L. X., & Wei, Y. Z. (2020). Does CSR Affect the Cost of Equity Capital: Empirical Evidence from the Targeted Poverty Alleviation of Listed Companies in China. *PLOS ONE*, *15*, e0227952. <https://doi.org/10.1371/journal.pone.0227952>
- Zang, Z. (2018). GVC of Digital Creative Industries: Review of World Structure and China's Restructuring Strategy. *Forum on Science and Technology in China*, *34*, 64-73+87.
- Zhang, X., Lin, Y. W., & Zhang, H. X. (2019). How Investors Evaluate Corporate Social Responsibility? An Empirical Research on China Listed Companies. *Chinese Journal of Management*, *16*, 1088-1096.
- Zhu, T., Li, J. S., & Zhu, L. R. (2022). Manager Characteristics, R&D Input and Enterprise Performance. *Science Research Management*, *43*, 201-208.