

Employee quality, internal control and corporate social responsibility: An empirical study from a perspective of informatization management

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Abstract. Recently, the COVID-19 has swept the whole world. Under this situation, the firm, as a member of the society, should also undertake social responsibilities to jointly respond to the COVID-19. The employee, as a principal part of firm, plays an important role in informatization management which may affect the level of corporate social responsibility. Their ability of informatization management will inevitably affect their access to the information of corporate social responsibility, thus affecting the level of corporate social responsibility. This paper takes A-share listed companies from 2011 to 2018 collected in CSMAR as samples to explore the relations between employees' ability of informatization and corporate social responsibility. This study, as an interdisciplinary research related to computer and management, adopts OLS, IV method and other mathematics methods to build models. Using the employee education level as a proxy for employees' ability of informatization management, this paper finds that firms with a high-quality workforce exhibit higher level of corporate social responsibility, especially in the areas with lower degree of marketization. According to the further analysis using the model of Sobel test, the internal control plays a mediating role between employees' ability of informatization management and corporate social responsibility. This study suggests that employee quality plays an important role in performing corporate social responsibility. This study should be of interest to top managers and regulators who wish to use information technology to improve corporate social responsibility.

1 Introduction

Recently, the COVID-19 has arisen and swept the world. In addition to affecting people's health, the epidemic has also led to a series of social problems, such as unemployment, medical difficulties, material shortage. As a member of the society, firms are facing new challenges in fulfilling their social responsibilities. Some firms actively undertake social responsibility during the epidemic, such as making social donations, providing employment opportunities. This has helped them to establish a good reputation in the society. However, some firms take advantage of the difficulties under this special situation to drive up prices and sell fake goods. Meanwhile, although the state and government has introduced several measures to regulate and restrict the fulfillment of social responsibility, but in recent years, "poisoned milk powder", "waste oil" and other phenomena of lack of corporate social responsibility is still emerging in an endless stream. What factors lead to the decline or even lack of corporate social responsibility, that is a research topic that needs to be paid attention to. However, according to the existing research, there is a lack of attention to the impact of employee on corporate social responsibility.

Nowadays, with the development of information

technology, informatization management has already had a visible impact on social development, and enterprises as a part of social development are no exception. The development of enterprises depends on informatization management, and the informatization management ability of employees greatly affects the information level of enterprises. Therefore, the informatization management level of employees directly affects their acquisition and understanding of corporate social responsibility which is a crucial part of firm. The employee education level is a suitable proxy for employees' ability of informatization management. In the existing literatures, Dyck et al. studied the fraud cases of large companies in the United States from 1996 to 2004 and found that ordinary employees could find more frauds of companies, and the proportion was higher than that of external auditors in the same period (10%)^[1]. The study of Bowen et al. further indicates that employee reporting will lead to a decline in the company's stock price, significant decline of operating performance and restatement of financial report of the whole company^[2]. Call et al. found that the higher the quality of employees, the higher the accrual quality, the better the internal control and the lower the probability of financial report restatement^[3]. The studies of Chinese scholars also found that the higher the degree of employees' education background, the more innovative output of firms, the lower the degree of

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tax aggressiveness, and the lower the audit pricing^[4,5,6]. Therefore, though the top management team bear the primary responsibility for corporate social responsibility, the cognition and participation of all ordinary employees which is influenced by their education level also directly affects the fulfillment level of corporate social responsibility.

Therefore, this paper attempts to use employee education background as a proxy for employees' ability of informatization management to study the impact of employee quality on corporate social responsibility. Based on the data of China's A-share listed companies from 2011 to 2018, this paper finds that there is a positive correlation between employees' education background and corporate social responsibility, and the correlation is more significant in area with low degree of marketization. Further analysis finds that the role of promotion is to improve the quality of internal control, therefore, internal control has a mediating effect. The study of this paper provides a new understanding and empirical evidences of the relationship between the employees' education background and social responsibility, and also provides some enlightenment for the capital market on how to strengthen corporate social responsibility.

The remainder of this paper proceeds as follows: Section II provides literature review and hypothesis; Section III provides research design and descriptive statistics; Section IV、V and VI report the main empirical results, robustness tests and further analysis; Finally, conclusion and revelation.

2 Hypothesis development

Since Schultz raised that the knowledge level and skills mastered by individuals belong to the category of human capital, Becker further developed the theory of human capital, and proposed that the increasing quality of human capital will increase the possibility of discovering opportunities. Therefore, individuals with higher quality of human capital will have more ability and higher possibility to realize more opportunities than those with lower quality of human capital. Firms that actively undertake social responsibilities will have better reputation, lower risk reduction probability, and stronger investment willingness and more opportunities for investors. Therefore, a higher level of education is conducive to the formation of employees' prudent and rigorous logical inference ability and analysis ability. They are more cautious in making decisions, more likely to be aware of the potential benefits brought by taking social responsibilities, and more likely to promote firms to actively take social responsibilities. Secondly, highly educated employees are more capable of detecting frauds in firms, which has a significant positive impact on internal supervision and internal control of firms. Therefore, as one of the good performances of internal control, the level of social responsibility will also be higher. Thirdly, according to Maslow's hierarchy of needs theory, after satisfying lower needs, people will have higher needs, that is, self-actualization needs. After meeting basic needs such as food and clothing, highly educated people will pay more attention to the balance of self-value and collective

value and how to maximize their personal ambition and ability. Therefore, they will be more likely to pay attention to social issues such as environmental protection and food safety to enhance personal reputation and collective value, so as to promote the performance of corporate social responsibility. Fourth, since ancient times, the Chinese nation has been a country of culture and etiquette. It advocated a concept of "cultivating one's morality, regulating the family, governing the country and keeping the world peaceful" and the integrity morality of "not deceiving ourselves internally and not deceiving others outside". The influence of culture on Chinese people is deeply rooted in all aspects, and corporate social responsibility is no exception. Hope has long since pointed out that culture plays an irreplaceable role in corporate social responsibility^[7]. Piotroski et al. also find that China's cultural tradition is the reason that affects corporate social responsibility. Therefore, employees with higher degrees may have a stronger sense of social responsibility and morality commitment due to the long-term culture and etiquette knowledge edification and higher moral pursuit. Such a sense of self-discipline and integrity moral awareness may make them more willing to undertake social responsibility. Finally, people with higher education background will think more comprehensively and pay more attention to the long-term development of firms rather than the immediate interests, while taking social responsibility will significantly promote the long-term performance of the firm, so they will significantly improve the level of corporate social responsibility for long-term interests. Based on the above discussion, we specify our first hypothesis as follow:

H1: Employees' education background is positively correlated with the fulfillment of corporate social responsibility.

The All firms in the market are under certain institution environments, and all their behaviors will be restrained and affected by the system. With the continuous promotion of China's market-oriented reform, the degree of marketization in the region where the firm is located has also become an important factor affecting the decision-making behavior of firms. The degree of marketization reflects the level of legalization, economic development and government intervention in the region where the firm is located. Previous studies have shown, generally speaking, the higher the degree of marketization is, the higher the level of legalization will be, so the relevant laws and regulations will have more requirements and provisions for firms to bear social responsibility. Therefore, in the region with higher degree of marketization, due to the higher requirement for the standardization and efficiency of social responsibility fulfillment and more effective supervision, social responsibility is fulfilled more. Accordingly, in areas with lower degree of marketization, due to the imperfection of legal system and supervision, firms have a weak sense of fulfilling social responsibility, pay more attention to the short-term interests in the development of firms, but lack of understanding of the potential benefits such as long-term performance growth, reputation promotion and risk reduction brought about by fulfilling social responsibility, which leads to the low level of corporate social responsibility. In this case, the

advantages of high-degree employees will be better reflected. High-degree employees have stronger analytical ability, better moral awareness and longer-term perspective. They can correctly recognize the long-term benefits brought about by undertaking social responsibility and efficiently promote firms to undertake social responsibility. The level of social responsibility in areas with high degree of marketization is originally high, so the advantages of high-degree employees may not be significantly displayed, but that might be much more significant in areas with lower level of corporate social responsibility. Based on the above discussion, we specify our third hypothesis as follow:

H2: Compared with areas with higher degree of marketization, the positive correlation between employees' education background and corporate social responsibility is more significant in areas with lower degree of marketization.

3 Research design

3.1 Data and sample selection

This paper selects all A-share listed companies in Shenzhen Stock Exchange and Shanghai Stock Exchange from 2011 to 2018 as the research object, except the finance and insurance firm. Our sample consists of the 4302 valid samples after excluding the missing values. We use RKS's social responsibility score to measure the performance of corporate social responsibility of firm. The data of employee education level are collected manually from the annual report of listed companies. The rest of the data are from CSMAR and RESSET. In this paper, we winsorize all of the continuous variables at the 0.01 and 0.99 levels.

3.2 Measuring corporate social responsibility

Referring to the Quan and Wang, in this paper, the CSR, dependent variable, measured by the RKS's social responsibility score^[8,9]. RKS is an authoritative third-party organization of evaluating corporate social responsibility in China. Based on the GRI framework the unique social responsibility elements of Chinese firms, RKS evaluates the social responsibility of firms scientifically and reasonably, which is scientific, objective and authentic.

3.3 Measuring employee quality

Referring to the Wang et.al, employee quality(EDU) is to be measured by the proportion of employees with bachelor degree or above in the total number of employees^[4]. The

reason why we choose this measurement is because many researches on human capital think that the employee with lower education level is not included in the scope of human capital measurement.

3.4 Control variables

Based on the papers of Ni and Wang, this paper selects growth ability (grow), firm size (size), leverage ratio (Lev), shareholding ratio of the largest shareholder (first), proportion of independent directors (indepe), profitability (roa), dual (dual) and property right (soe) as control variables^[10,8]. Table I shows all variable definition.

3.5 Equations

For testing hypothesis1, this study runs the following baseline regression model to examine the effect of employee quality on corporate social responsibility:

$$CSR = \alpha + \beta_1 EDU + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROA + \beta_5 GROW + \beta_6 FIRST + \beta_7 INDEPE + \beta_8 DUAL + \beta_9 SOE + IndustryEffect + YearEffect + \varepsilon \quad (1)$$

From the viewpoints of hypothesis1, in the regression of full sample, the coefficient β_1 should be significantly positive because firms with high quality employees have higher level of corporate social responsibility.

For testing hypothesis2, this study runs the following model to test the moderating effect of the marketization on the relationship between employee quality and corporate social responsibility:

$$CSR = \alpha + \beta_1 EDU + \beta_2 MARKET * EDU + \beta_3 SIZE + \beta_4 LEV + \beta_5 ROA + \beta_6 GROW + \beta_7 FIRST + \beta_8 INDEPE + \beta_9 DUAL + \beta_{10} SOE + \beta_{11} MARKET + IndustryEffect + YearEffect + \varepsilon \quad (2)$$

Finally, above models include year (YEAR), industry (INDUSTRY) variables to control year and industry effects.

4 Empirical results

4.1 Descriptive statistics

Table II presents the descriptive statistics for all of the variables. In Table II, the mean of EDU is 0.285, which indicates that the average number of employees with bachelor degree or above accounts for 28.5% of the total number of employees in China's A-share listed companies.

Table1. Variable name and definition

VARIABLE TYPE	VARIABLE	DEFINITION
dependent variable	CSR	corporate social responsibility, RKS's social responsibility score/100
Independent variable	EDU	employee education level, number of employees with bachelor degree or above / total number of employees

Control variables	SIZE	firm size, natural logarithm of the total market value at the end of the year
	LEV	Leverage, total liabilities / total assets
	ROA	return on assets, net profit / total assets
	GROW	growth capability, (T+1 business income-T business income)/T business income
	FIRST	shareholding ratio of the largest shareholder
	INDEPE	proportion of independent directors in the board
	DUAL	duality, if there is a combination of chairman and general manager, take 1, otherwise take 0
	SOE	property right, state owned firms take 1, otherwise take 0

Therefore, at present, the highly educated employees are not common, and the difference between the minimum and the maximum is also very large, which indicates that there are great differences in the understanding of the importance of employees' education among firms. The mean value of CSR is 0.403.

4.2 Analysis of H1

Table III shows the results of regression analysis of employee education and corporate social responsibility. According to the regression results in column (1) of Table III, when other variables are not controlled, the coefficient between EDU and CSR is 0.033, which is significant at the 1% level, indicating that employees' educational background has a significant positive impact on the level of corporate social responsibility. H1 is preliminarily supported. After adding the control variables, according to the column (2), the coefficient between EDU and CSR is 0.024, and the result is still significantly positive, which

indicates that the higher the employee's educational background, the higher the level of corporate social responsibility. H1 is further supported.

The regression results of other control variables are as follow. The coefficient of SIZE is significantly positive at the level of 1%, indicating that the larger the scale of firms, the higher the level of social responsibility. The coefficient of LEV has a positive impact on the level of corporate social responsibility, which indicates that the higher the financial leverage, the more inclined to fulfill the corporate social responsibility. This result is consistent with the research results of Botosan (1997), Francis et al. (2005). The coefficient of ROA is significantly positive at the level of 1%, showing that the better the firm profitability, the higher the level of social responsibility. The coefficient of FIRST also shows that the shareholding ratio of the largest shareholder has a positive impact on the social responsibility. The coefficient of DUAL is significant at the level of 1%, which indicates that the level of corporate social responsibility is higher when there is no duality of chairman and general manager.

Table2. Descriptive statistics

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	N	mean	Std Err	min	median	max
CSR	4,302	0.403	0.119	0.203	0.377	0.766
EDU	4,302	0.285	0.199	0.008	0.238	0.872
SIZE	4,302	22.78	1.081	20.90	22.59	26.24
LEV	4,302	0.490	0.201	0.072	0.502	0.929
ROA	4,302	0.045	0.050	-0.112	0.036	0.219
FIRST	4,302	37.50	15.88	7.630	36.75	76.31
INDEPE	4,302	0.377	0.0565	0.333	0.364	0.600
GROW	4,302	0.138	0.287	-0.456	0.097	1.480
DUAL	4,302	0.177	0.382	0	0	1
SOE	4,302	0.602	0.489	0	1	1

4.3 Analysis of H2

With the gradual advancement of China's market-oriented reform, the degree of marketization has become an important factor affecting the decision-making of firms. The degree of marketization measures the level of legal construction, the degree of government intervention and the level of economic development in the region where the firm is located, which will have an important impact on the operation of firms in the market environment. Generally speaking, compared with the high degree of marketization, the lower marketization areas have lower level of rule of law and relax supervision of corporate social responsibility performance, so the overall level of social responsibility is low. The advantages of highly educated employees will be more obvious, and their long-term thinking ability and meticulous logical thinking will be more sensitive to capture the benefits brought to the firm by taking social responsibility, so as to significantly promote the improvement of corporate social responsibility level. Therefore, this paper further considers the impact of marketization on the relationship between employee quality and corporate social responsibility, and uses the marketization index to measure the degree of marketization in the region where the firm is located.

We use the multiplier of marketization index and employee education, MAR_EDU, to measure the moderating effect of the marketization. As shown in column (3) of Table III, the regression coefficient of MAR_EDU is -0.019, which is significant at the 1% level, indicating that the degree of marketization plays an alternative role in the relationship between employee quality and corporate social responsibility. That is, compared with the high degree of marketization, the positive impact of employee education on corporate social responsibility is more significant in firms in low marketization area, which verifies H2.

5 Robustness tests

5.1 Endogeneity issue

The model established in this paper may have the following endogenous issues: (1) Missing variables. Missing variables are common problems in empirical research, which may lead to some errors in the results; (2) Reverse causality. The possible reverse causality problem in this paper is that firms tend to employ higher quality employees to achieve high level of social responsibility, which will affect the positive relationship between employee quality and corporate social responsibility. In order to solve the endogenous problem, this paper adopt the instrumental variable method.

Table3. Employee quality and social responsibility

VARIABLES	(1)	(2)	(3)
	CSR	CSR	CSR
EDU	0.033*** (3.06)	0.024** (2.26)	0.026** (2.47)

SIZE		0.005*** (3.10)	0.005*** (3.20)
LEV		0.090*** (8.59)	0.095*** (9.01)
ROA		0.225*** (6.16)	0.213*** (5.84)
FIRST		0.000*** (3.58)	0.000*** (2.97)
INDEPE		0.052* (1.69)	0.066** (2.18)
GROW		-0.003 (-0.48)	-0.002 (-0.31)
SOE		0.016*** (3.71)	0.017*** (3.92)
DUAL		-0.015*** (-3.44)	-0.016*** (-3.70)
MARKET			0.005*** (6.41)
MAR_EDU			-0.019*** (-5.00)
Constant	0.278*** (15.20)	0.063 (1.44)	0.030 (0.68)
IndustryEffect	YES	YES	YES
YearEffect	YES	YES	YES
Observations	4,302	4,302	4,302
R-squared	0.190	0.222	0.230

Note: *, **, and*** are significant at 10%, 5% and 1% levels respectively, and T statistics are shown in brackets (the same below).

Referring to the Wang et.al and Zheng et.al, the number of "211 Project" and above universities owned by the Ministry of Education in the province where the firm is located is selected as the instrumental variable^[4,6]. The number of "211 Project" and above universities will affect the education level of local firm employees, but it has no direct correlation with the level of corporate social responsibility, so it can be used as the proxy variable of employee's education in theory. The corresponding test results of instrumental variable are shown in Table IV.

Table4. Instrumental variable

Panel A: Hausman-Wu test				
Wu-Hausman F statistic		14.664		
(P value)		(0.00)		
Panel B				
	(1)	(2)	(3)	(4)
Method	OLS	the first stage	the second stage	the second stage
VARIABLES	CSR	CSR	CSR	CSR
EDU	0.024** (2.26)		0.182*** (3.16)	0.092* (1.70)
SIZE	0.005*** (3.10)		0.006*** (3.37)	0.006*** (3.35)
LEV	0.090*** (8.59)		0.089*** (8.49)	0.094*** (9.06)
ROA	0.225*** (6.16)		0.186*** (4.58)	0.196*** (5.02)
FIRST	0.000*** (3.58)		0.000*** (3.24)	0.000*** (2.87)
INDEPE	0.052* (1.69)		0.055* (1.78)	0.068* (2.25)
GROW	-0.003 (-0.48)		-0.004 (-0.68)	-0.002 (-0.41)
SOE	0.016*** (3.71)		0.011** (2.24)	0.015*** (3.25)
DUAL	-0.015*** (-3.44)		-0.017*** (-3.81)	-0.017*** (-3.86)
MARKET				0.005*** (6.53)

MAR_EDU				-0.022*** (-5.06)
Iv211		0.004** * (11.74)		
Constant	0.063 (1.44)	0.279** * (4.75)	0.027 (0.56)	0.016 (0.34)
IndustryEffect	YES	YES	YES	YES
YearEffects	YES	YES	YES	YES
Observations	4,302	4,302	4,302	4,302
R-squared	0.068		0.182	0.224
F value of joint test containing only instrumental variables		137.91 (0.00)		
Insufficient identification test of instrumental variables: Kleibergen-Paap rk.LM statistic			120.951 (0.00)	100.487 (0.00)
weak instrumental variable test: Cragg-Donald Wald F statistic			171.234	174.226
Stock-Yogo Weak IDTest Critical Values:10% Maximal IV			16.38	16.38

In this paper, Hausman-Wu endogeneity test is carried out. Through endogeneity test, the original hypothesis is significantly rejected, and it is proved that the test results do have endogenous problems. Therefore, it is necessary to use instrumental variable method to solve the endogeneity problem. The test results are shown in Table IV panel A. Panel B shows the estimated results under the instrumental variable method. According to the regression results of the first stage in column (2) of panel B, the estimated coefficient of the instrumental variable is 0.004, which is significant at the 1% level, indicating that the more "211 Project" and above universities in the firm area are, the more highly educated employees in the firm are, which is consistent with the expectation. In the second stage regression results shown in column (3), the coefficient of edu is 0.182, which is significant at the level of 1%, indicating that the education background of employees has a significant positive effect on corporate social responsibility, which is also consistent with the expected hypothesis. In addition, this paper also makes some tests on the effectiveness of instrumental variables. The test of insufficient identification of instrumental variables significantly rejected the original hypothesis, indicating that there is a correlation between instrumental variables and endogenous explanatory variables. The Cragg-Donald Wald F statistic is 171.234, which is far greater than the critical value of Stock-Yogo weak instrumental variable test, indicating that the model does not have weak instrumental variable problem. Columns (4) shows the regression results of instrumental variables after adding the cross multiplier. The coefficient of EDU is 0.092, and it is significant. It shows that the hypothesis results are still robust, and a series of tests on the effectiveness of tool variables have passed, indicating that under the moderating effect, the instrumental variable is still valid and there is no weak instrumental variable problem.

5.2 Alternative measure of employee education

In the original model, the proportion of employees with bachelor degree or above in the total number of employees is used as the measurement method of employee quality, now, referring to the Call et.al, the employee education is redefined by assignment method^[3]. In this paper, the value of graduate students and above is 2, the value of undergraduate is 1, and the value of others is 0. The test results are listed in Table V.

Table5. Alternative measure of employee education

	(1)	(2)
VARIABLES	CSR	CSR
EDUFZ	0.022** (2.43)	0.024*** (2.65)
SIZE	0.005*** (3.10)	0.005*** (3.20)
LEV	0.090*** (8.61)	0.095*** (9.03)
ROA	0.226*** (6.18)	0.213*** (5.85)
FIRST	0.000*** (3.56)	0.000*** (2.95)
INDEPE	0.052* (1.70)	0.066** (2.19)
GROW	-0.003 (-0.50)	-0.002 (-0.33)
SOE	0.016*** (3.63)	0.017*** (3.85)
DUAL	-0.015*** (-3.43)	-0.016*** (-3.69)
MARKET		0.005*** (6.42)
MAR_EDU		-0.019*** (-5.08)
Constant	0.063 (1.44)	0.030 (0.68)
IndustryEffect	YES	YES
YearEffect	YES	YES
Observations	4,302	4,302
R-squared	0.223	0.231

In the regression results in column (1) of Table V, the coefficient of EDUFZ is significantly positive, which indicates that the higher the degree of employees, the higher the level of corporate social responsibility. The coefficient of MAR_EDU in column (2) is -0.019, which is significant at the 1% level, indicating that the degree of marketization plays an alternative role in the positive relationship between employee education and corporate social responsibility. The above two results verify the robustness of our conclusions.

6 Further analysis

6.1 Mediation test

The empirical results mentioned above have shown that there is a positive correlation between employee quality and corporate social responsibility. However, it is still an issue worthy of attention that what path does employee quality use to achieve the impact on social responsibility. The research of Zhang et al. shows that internal control is a process that requires the efforts of all employees, the

higher the employee quality in an enterprise is, the more effective internal control will be^[11]. Ge and McVay (2005) point out that the lack of high-quality employees is one of the common reasons for the ineffective internal control^[12]. Liu et al. (2017) examine and prove the positive relationship between employee quality and internal control^[13]. Call et al. point out that if the quality of employees in enterprises is higher, and there are fewer violations of internal control^[3]. Therefore, the higher the quality of employees is, the higher the quality of the company's internal control is, that is to say there is a positive correlation between the two. As a resource that can reduce the internal transaction costs of enterprises, internal control can effectively promote the practice and standardized management of corporate social responsibility. According to the existing research on the influencing factors of corporate social responsibility, high quality of internal control can effectively promote the fulfillment of corporate social responsibility. Li studies the spillover effects of internal control based on the perspective of social responsibility, pointing out that internal control can significantly and positively promote the fulfillment of corporate social responsibility^[14]. Based on the analysis above, internal control may play a mediating role between employee quality and corporate social responsibility. Therefore, according to Wen, our study will use internal control as an intermediary variable to test the mediating effect^[15].

Our research conducts a test in turn initially, and in order to ensure the robustness of the results, the Sobel test is performed followed. In the second step of the test, referred to the research of Chi, we select enterprise size (SIZE), financial leverage (LEV), growth (GROW) and company age (AGE) as control variables^[16]. The results of successive inspections of each step are shown in Table VI Panel A. According to the panel (1) column, the result of the coefficient C is significant, so the follow-up test is performed. For the results in column (2), it can be seen that the coefficient a is also significant, while the coefficient of Lnic in column (3) is significant with number of 0.088, indicating that both coefficients a and b are significant. The coefficient of EDU is 0.027, which is significant at the 1% level, indicating that the coefficient c is also significant, as a result, there should be partial mediating effect. Therefore, internal control plays a part of the intermediary role in the positive relationship between employee quality and corporate social responsibility. In order to ensure the robustness of the results, our study continues to carry out the Sobel test on the intermediary effect of internal control. The results are listed in Table VI Panel B. The P value of Sobel in column (4) of Panel B is significant at the 1% level, indicating that the mediation effect exists, and the interpretation ratio of the mediation effect is 0.182.

Table6. Mediation test

Panel A: Test in turn				
	(1)	(2)	(3)	
VARIABLES	CSR	Lnic	CSR	

EDU	0.029*** (3.27)	0.029*** (2.76)	0.027*** (3.05)	
Lnic			0.088*** (6.35)	
Controls	YES	YES	YES	
Constant	0.098** (2.52)	6.356*** (143.12)	-0.501*** (-5.21)	
Observations	4,302	4,302	4,302	
R-square	0.068	0.035	0.081	
Panel B: Sobel Test				
	(1)	(2)	(3)	(4)
	Coef	Std Err	Z	P>Z
Sobel	0.004	0.001	2.653	0.008
Proportion of total effect that is mediated			0.182	

7 Conclusions

Our study examines the relationship between employee quality and enterprise social responsibility based on the sample data of A-share listed companies from 2011 to 2018, from a perspective of informatization management. The results prove that the educational backgrounds of employees have a significant role in promoting the fulfillment of corporate social responsibility, which is more prominent in social responsibility-sensitive industries and regions with low marketization. Furthermore, we argue that internal control has a mediating effect during the whole process.

Our research enriches the factors affecting corporate social responsibility. Previous studies mainly focused on the Upper Echelons Perspective, studying the impacts of corporate executive characteristics on enterprise social responsibility. However, although the senior management are supposed to be responsible for the corporate social responsibility, employees still play an important role in corporate social responsibility. As a result, their qualities are the important factor which affect the quality of corporate social responsibility performance. Our study provides a certain reference for companies in improving social responsibility. Our study should be of interest to top managers and regulators who wish to improve corporate social responsibility.

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