Inzinerine Ekonomika-Engineering Economics, 2024, 35(3), 362–374

Corporate Social Responsibility Disclosure Approaches, Corporate Reputation, and Corporate Performance: Evidence from China

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https://doi.org/10.5755/j01.ee.35.3.34564

Corporate social responsibility (CSR) entails balancing economic, social, and environmental aspects of business activities. The CSR report, a crucial non-financial disclosure tool, enables firms to effectively communicate their CSR strategies, actions' impacts, achievements, and shortcomings to stakeholders. It plays a pivotal role in shaping corporate reputation and performance. Therefore, enhancing CSR report quality is of great importance. This study examines the relationship between Corporate Social Responsibility Disclosure Approaches (CSRDA) and corporate performance, with consideration of corporate reputation's role in this connection. By drawing from stakeholder theory, signaling theory, and reputational capital theory, we address the gap in understanding CSRDA and corporate reputation (CR) linkage. Using the System-Generalized Method of Moments (SYS-GMM) and bootstrapping techniques, we explore this relationship in a dataset of 943 publicly listed Chinese companies from 2011 to 2019, accounting for incomplete CSR data during the pandemic period from 2020 to 2022. Our results indicate a positive association between CSR disclosure approaches and corporate performance, mediated by corporate reputation.

Keywords: *CSR Disclosure Approaches; Corporate Performance; Corporate Reputation; Stakeholder Theory; SYS-GMM.*

Introduction

As society advances, environmental and social responsibility are rapidly emerging as prerequisites for contemporary corporate practices, serving as significant indicators of paradigmatic shifts in societal development. In response to this evolution, corporate social responsibility (CSR) has gained recognition as a metric for assessing business success and fostering opportunities for sustainable development (Grubor *et al.*, 2020). However, prior research has primarily examined the influence of CSR as a business practice on corporate reputation (CR) (Perez-Cornejo *et al.*, 2020) and corporate performance (CP) (Awaysheh *et al.*, 2020), often overlooking the pivotal aspects of information disclosure and transmission.

In contrast, corporate reputation (CR) is construed as the perception of whether enterprises have met stakeholders' expectations or not (Baraibar-Diez & Sotorrio, 2018). Notably, within the Chinese context, CSR remains non-compulsory; thus, CSR disclosure is voluntary, and a lack of uniform mandatory standards governing disclosure content and standards exists. This directly influences the effectiveness of CSR reports and the information they convey. Certain Chinese companies operating abroad, such as Sinopec, China Minerals, COSCO, and others, have undertaken substantial work in the realm of social responsibility. However, they have not actively disclosed and publicized these efforts, sometimes causing misunderstanding and, in some instances, leading to estrangement. A conspicuous case is the scrutiny of CNPC's investment in Sudan, which generated numerous complaints to the United Nations Secretary General regarding human rights and related issues. Subsequently, following UN Global Compact's coordination and research, it was ascertained that CNPC had indeed executed commendable local corporate social responsibility practices, which aligned with international standards, particularly in the ecological protection of its operated oilfields. The primary impediment lay in the deficiency of disclosure and publicity techniques employed by Chinese companies, which often obscured their commendable corporate social responsibility initiatives. In contrast to most prior CSR studies, which assessed this concept based on practical activities, this research explores CSR effectiveness through the lens of signal transmission, employing CR as a mediator to examine the relationship between CSRDA and CP.

Drawing upon an extensive review of the literature on CSR and CR, and utilizing data collected from Chinese company databases spanning the years 2011 to 2019, this study aims to investigate whether enhancements in CSRDA can positively influence CR and CP. This research contributes to the field in several distinct ways.

Firstly, it offers an evaluation of CSRDA and CR within the context of a developing economy. Secondly, this study adopts a longitudinal approach, recognizing that CSR and CR evolve through continuous processes, thus emphasizing the importance of accounting for the temporal dimension in CSR and CR studies. This contrasts with previous research, which predominantly relied on cross-sectional data, such as questionnaires, often overlooking the influence of time. Thirdly, this research leverages panel data from China, providing a managerial perspective and enabling international comparisons concerning CSR disclosure approaches and their associations with other critical concepts, such as reputation and performance. These contributions shed light on the level of sophistication and innovation within CSR reporting, particularly concerning Chinese enterprises.

The remainder of this paper is organized into four primary sections: theoretical background, methodology, results, and conclusion. In the subsequent section, we present an overview of contemporary perspectives on CSRDA, CR, and CP. Following that, we delineate the research methods employed and propose the relevant hypotheses. Subsequently, we discuss our findings, elucidating the relationships between CSRDA, company performance, and CR. The final section draws together the key insights and conclusions of this study.

Theoretical Background

Corporate Social Responsibility Disclosure Approaches

As posited by Aluchna & Roszkowska-Menkes (2019), CSR information provides a comprehensive view of companies, encompassing economic, social, and environmental dimensions. Given that CSR information is primarily disseminated through CSR reports, the technical aspects of CSR report disclosure play a crucial role in determining the effectiveness of transmitting CSR information to the public and a company's ability to communicate its societal contributions. Unfortunately, previous research has often overlooked the pivotal significance of information transmission in this context.

In the 1970s, Spence (1973) proposed signaling theory (see also, Spence, 2002). According to this theory, the provision of reliable and transparent information creates a positive impression among stakeholders, fostering a favorable reputation for the business. This, in turn, encourages stakeholders to act in support of the company's economic interests. In broader terms, proficient CSR information disclosure can lead to reductions in external financing costs and uncertainties surrounding evaluations of the company (Benlemlih & Bitar, 2018; Zhang *et al.*, 2019). Consequently, the present study examines CSR disclosure approaches, focusing on various components, including the content balance, comparability of information, innovative reporting, credibility and transparency, regularity, accessibility, and the effectiveness of information dissemination.

Furthermore, it is essential to acknowledge that CSR reports must serve not only the interests of a wide array of external stakeholders but also those of the company's own employees. Effectively disseminating information about a company's CSR initiatives can enhance the company's image, bolster its position in the market, and promote Corporate Performance (CP), encompassing both accounting and market performance. In the absence of formal mandatory regulations, CSR reports exhibit substantial variation in terms of format (design, distribution channels, reporting frequency, etc.) and content (scope, quality, etc.).

Corporate Reputation

CR can be defined as the composite of stakeholders' perceptions regarding an organization and its essential performance parameters (Jukic, 2019). Furthermore, from a managerial perspective, CR may be conceptualized as the amalgamation of a company's identity and image (Wartick, 2002). CR exerts a profound influence on customer attitudes and the company's perception in the market (Fombrun & Shanley, 1990). It enables stakeholders to assess the organization and aids clients in comparing it with others. In this light, CR may be regarded as the collective perceptions of a corporation over time, encompassing both image and identity (Esen, 2013). Thus, the accumulation of CR is an ongoing process, prompting earlier studies to recommend the evaluation of CR through longitudinal research (Fuoli, 2018).

However, it's crucial to note that the scope of reputation extends beyond the boundaries of corporate image or goodwill (Carroll, 2013). It encompasses the present and future expectations of all stakeholders and potential investors. Previous research has predominantly explored the relationship between CSR actions and CR, suggesting that CSR initiatives can enhance a company's image and establish a favorable reputation (Hur *et al.*, 2014). Nevertheless, the role of signal transmission, as elucidated by signaling theory, has often been overlooked. CSR activities are essentially conveyed to stakeholders through signal transmission mediums such as social responsibility reports and media disclosures, and subsequently, they impact CR. In parallel, CR serves as an implicit contractual guarantee, diminishing transaction uncertainties (Fombrun & Shanley, 1990). It thereby contributes to increased transactions and enhances the financial performance of the firm.

Relationship between CSRDA and CR

Numerous studies have delved into the connection between CR and CSR activities. As observed by Rothenhoefer (2019), the prevailing consensus in most of these studies affirms direct and beneficial relationships between these two constructs. However, these investigations have predominantly focused on the influence of CSR practices and activities. Eberle *et al.* (2013) argue that message credibility heightens brand recognition and customer identification, while Vogler & Eisenegger (2021) have discovered that the visibility and tone of news media coverage of CSR exhibit a positive correlation with CR, even when the media coverage carries a negative slant.

In a study conducted by Pérez-Cornejo et al. (2020), encompassing an analysis of 132 firms from nine countries over the period of 2011–2016, it was discerned that high-quality CSR reporting significantly enhances the significance of environmental and social performance.

Building on the insights from the aforementioned studies, it becomes evident that socially responsible disclosure exerts a favorable impact on CR. Nevertheless, existing research has primarily focused on the relationship within the context of specific social responsibility activities, leaving a noticeable gap in understanding the connection between CSRDA and reputation (Perez-Cornejo *et al.*, 2020). Consequently, our study endeavors to bridge this void. Drawing upon the preceding discussion and signaling theory, we propose our first hypothesis:

H1: *CSRDA has a significant positive effect on CR.*

Relationship between CSRDA and CP

Viewed through the lens of signaling theory, when enterprises disclose social responsibility information, they transmit a signal to stakeholders signifying their willingness to engage in altruistic behavior. However, whether stakeholders actively respond to this signal hinges not only on the actual CSR activities undertaken but also on the inherent characteristics of quantity and quality within the disclosed social responsibility information (Chen *et al.*, 2019). Prior empirical research investigating the relationship between CSR information disclosure and its economic ramifications has yielded conflicting results, with some studies revealing a positive correlation (Cahan *et al.*, 2016), while others found no significant correlation (Guidry & Patten, 2010), and some even reported a negative correlation. In their examination of listed corporations, Cheng *et al.* (2016) found that CSR information disclosure exerts a notably positive impact on both current and long-term corporate performance.

However, Li's (2006) involving 521 listed corporations in Shanghai, China in 2003 discovered a significant negative correlation between CSR information disclosure and the corporate net asset income rate. Yan *et al.* (2014), who examined information disclosed in CSR reports, found a negative correlation between the environmental investment of listed corporations and their business performance (although their research considered only 24 corporations, which limits its representativeness).

The apparent contradictions in existing research may be attributed to the fact that previous scholars often used CSR practices or activities as proxies for CSR disclosure, neglecting the impact of disclosure approaches and innovation (Cahan *et al.,* 2016). Moreover, the choice of different CP indicators (e.g., accounting performance and market performance) may also influence the observed relationships. Building upon the preceding discussion and our research objectives, informed by stakeholder theory, we propose the following hypotheses:

H2a: *CSRDA has a significant positive effect on accounting performance.*

H2b: *CSRDA has a significant positive effect on market performance.*

Relationship between CR and CP

Many studies have commonly employed corporate image or popularity as proxies for CR (Zerfass & Viertmann, 2017), and have asserted its role in enhancing a company's competitive position and long-term profitability. The responses from the stock market in the majority of these studies predominantly indicate a positive correlation between CR and financial or stock market performance (Iwu-Egwuonwu, 2011). Nonetheless, there are studies that have yielded conflicting findings. For instance, Brammer *et al.* (2009) conducted an examination of short-term and long-term market responses following the release of social responsibility reports by the 100 most respected enterprises in the United States. Their results showed a minor positive excess return in the short term but a negative excess return in the long term.

Despite CR being recognized as a pivotal facet of a company's intangible assets, its precise impact on the financial performance of enterprises remains uncertain in both theory and practice (Iwu-Egwuonwu, 2011). One primary reason for this ambiguity is the lack of a universally accepted measurement for CR. In particular, applying a CR measurement approach from one country to another, especially in the context of developed versus developing countries, may not be suitable.

Reputation capital theory, as put forth by Carroll (2013) and Ponzi *et al.* (2011), posits that the value of reputation capital is the market value of an enterprise exceeding its book value, inclusive of intellectual capital (such as patents and technologies). This method offers a quantitative means to assess reputation value; however, it has seen limited application in the Chinese context, primarily due to challenges related to data collection. Most prior studies have relied on cross-sectional data, often derived from questionnaires, to investigate reputation (Yang & Stohl, 2020). Yang & Stohl (2020) have also highlighted the necessity for reputation research to incorporate a longitudinal dimension, given that reputation accumulates over time.

Drawing upon the existing literature and reputation capital theory, the following hypotheses are posited:

H3a: *CR has a significant positive effect on accounting performance.*

H3b: *CR has a significant positive effect on market performance.*

The relationship between CSRDA, CR, and CP

Previous research has widely indicated that CSR activities and practices exhibit a positive influence on both accounting performance and market performance. While a few studies have explored the direct relationship between CSR disclosure and CP, none have yet delved into the potential mediation effects (30). According to the criteria established by Baron & Kenny (1986), for a model to be considered eligible for mediation analysis, the three relationships within the model should be individually significant.

Prior studies have demonstrated that CSR disclosure is significantly correlated with CP (correlation coefficient: "*c*"), although definitive conclusions have not been entirely uniform across various investigations (Cahan *et al.,* 2016; Chen *et al.,* 2019; Cheng *et al.,* 2016).

Another prerequisite, as outlined by Baron & Kenny, (1986) is for CSRDA to exhibit a significant association with CR as a mediator (Correlation coefficient: "*a*"). Numerous scholars have concluded that a substantial correlation exists between CSR disclosure and CR (Li, 2015; Wang & Choi, 2013), satisfying this condition for our study.

Lastly, concerning the relationship between CR and CP (correlation coefficient: "*b*"), previous research consistently highlights a significant positive correlation between the two (Iwu-Egwuonwu, 2011), fulfilling the final requirement articulated by Baron & Kenny (1986).

In accordance with Baron and Kenny's (1986) method, we propose the following hypothesis:

H4: *CR has a mediating effect on the relationship between CSRDA and CP.*

Methodology

This section outlines the sample selection and data collection methodology, as well as the statistical tests employed for data analysis. The research was conducted in China over the period 2011–2019, as comprehensive CSR data for the pandemic period from 2020–2022 was unavailable. The study encompassed all listed companies in China that had disclosed CSR reports within this timeframe, with an exclusion of companies listed in Hong Kong (Li & Zeng, 2020). The only other entities excluded from the dataset were those with missing data and those belonging to the financial industry (Liu & Liu, 2014). As of the end of 2019, a total of 943 companies had disclosed social responsibility reports. It's worth noting that unlisted companies rarely publish social responsibility reports. Consequently, the target sample consisted of listed companies in China that had disclosed CSR reports, and the unit of analysis was each individual CSR report issued. After removing missing and extreme values, as well as financial industry data, the final dataset comprised 5,700 reports spanning from 2011 to 2019. To fulfill the research objectives, we employed panel data analysis techniques.

The dependent variable, CP, was categorized into two dimensions: accounting performance (Return on Assets - ROA; Return on Equity - ROE) and market performance (Tobin's Q), in line with the methodology of Iwu-Egwuonwu, 2011. These data were sourced from the CSMAR[1]and CCER[2] databases. These databases have been widely utilized by Chinese scholars to analyze the financial condition of listed corporations (Chen e*t al.*, 2019). Any missing data were manually collected from publicly listed companies' reports available on the Shanghai Stock Exchange (http://www.sse.com.cn/) and Shenzhen Stock Exchange (http://www.szse.cn/).

The independent variable is CSRDA, encompassed aspects related to the content balance, comparability of information, innovation in reporting, credibility and transparency, regularity, accessibility, and effectiveness of information delivery (see Table 1). These data were sourced from the RKS[3] (Rankings ratings) database, an authorized third-party rating organization in China, dedicated to providing objective and scientific corporate responsibility rating information to responsible investors, consumers, and the general public. The RKS database covers all listed companies in the Chinese mainland that disclose CSR reports, and its evaluation system is characterized by objectivity and scientific rigor, rendering it an invaluable resource for scholars studying Chinese CSR (Chen *et al.*, 2019; Cheng *et al.*, 2016).

Table 1

CSR Disclosure Approaches

Index topics	No.	Specific items	Items instructions
Contents Balancing	A1	Integrality	A1: Coverage completeness of CSR and stakeholder responsibility
	A2	Cogency	A2: Disclosure of the negative information about social responsibility performance or challenges and obstacles, etc.
Information Comparison	A3	Consistency	A3: Consistency with previous reports (compilation form, method, interpretation of hypotheses, data computing method)
	A4	Data	A4: Covering the degree of information disclosure of social responsibility performance with total number, ratio, etc.
Report Innovation	A5	Innovation and efficiency	A5:Statement structure innovation, compilation innovation, form innovation, Effectiveness of innovation for enterprises, possibility of promotion within the industry, etc.
Credibility and Transparency	A6	Disclosure of stakeholders' opinions	A6: If contains stakeholders' opinions
	A7	Third-party inspection degree	A7: Entirety, Depth, Principle, None)
	A8	Authority score of third-party inspection agency	A8: Level of third-party inspection agency
	A9	Effectiveness of feedback system of	A9: Feedback channels
Normalization	A10	reporting readers' opinions and suggestions	A10: Reporting time limit, coverage, release cycle, authenticity commitment, letters from participants

[1] CSMAR Financial Research Database is a professional standard based on academic research needs. It got experiences on professional standards from CRSP (University of Chicago), Standard & Poor's Compustat, New York Stock Exchange TAQ, I/B/E/S, Thomson and other internationally renowned databases. CSMAR Economic and financial database is also developed according to Chinese actual conditions.

[2] CCER is a research database created by Xenophon Information Service Company and Peking University's National Development Research Institute. The database is constantly updated with data from the stock market, currency market, and national and regional macroeconomics. It employs a uniform database structure design, extensive data coverage, and stringent data quality control.

[3] RKS is an authorized third-party rating organization in China committed to delivering objective and scientific corporate responsibility rating information to responsible investors, responsible consumers, and the general public. RKS database contains all listed companies which disclose CSR reports in Chinese mainland, and its evaluation system features strong objectivity and scientificity. It is an excellent data source for scholars studying Chinese CSR.

CSR Disclosure Approaches			
Index topics	No.	Specific items	Items instructions
		Policy standardization of report	and makers
	A11	Reporting standardization and seriousness	A11: Selection of reporting standards, clarity degree against standards, Wrongly written or mispronounced characters
Available and information transfer effectiveness	A12	Report language version adequacy	A12: Multilingual version
	A13	Available report channel, and special methods for groups in special needs to achieve the report	A13: Openness and ease of access
	A14	Improvement of disclosure effect through graphic design, typesetting	A14: Aesthetic degree
	A15	Graphicalization degree of report data and information	A15: Degree of graphic representations

The mediating variable is CR. Although CR represents intangible capital, it holds substantial value and has the potential to influence financial performance, akin to tangible capital. CR is quantified as the market value of an enterprise exceeding its book value (goodwill), incorporating intellectual capital such as patents and technologies. The data for CR was collected through manual extraction from annual reports and the CSMAR database.

Furthermore, control variables were introduced to account for potential influences on the study's variables. These control variables encompass corporate size (CSIZE), leverage (LEV), state ownership (STATE), age (AGE), cash ratio (CASHR), and liquidity (LIQ). These variables pertain to both accounting and market performance and can also exert an impact on CR, as evidenced in prior research (Hu *et al.*, 2018).

Data Analysis Procedure

We applied a stepwise method to examine the relationships between CSRDA, CR, and CP. Specifically, the analysis was divided into four steps: we tested (a) whether there is a significant relationship between CSRDA and CP, (b) whether there is a significant relationship between CSRDA and CR, (c) whether there is a significant relationship between CR and CP, and (d) whether there is a significant relationship between CSRDA and CP after adding the mediating variable (CR). In addition to these steps, we scrutinized changes in correlation coefficients to determine if there is a mediating effect, and if so, whether it is full or partial. The overall research framework is depicted in Figure 1 for clarity.

Model_{1a}: $CP_M=\alpha+\beta 1 CSRDAit+\beta 2 \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{1b}: $CP_A=\alpha+\beta 1 CSRDAit+\beta 2 \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{2}: $CR=\alpha+\beta 1 CSRDAit+\beta 2 \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{3a}: $CP_M=\alpha+\beta 1\ CR\ it+\beta 2\ \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{3b}: $CP_A=\alpha+\beta 1\ CR\ it+\beta 2\ \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{4a}:

$CP_M=\alpha+\beta 1\ CSRDA_{it}+\beta 2\ CR_{it}+\beta 3 \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

Model_{4b}:

$CP_A=\alpha+\beta 1\ CSRDA_{it}+\beta 2\ CR_{it}+\beta 3 \mathit{Control}it+\mu i+\lambda t+\varepsilon it$

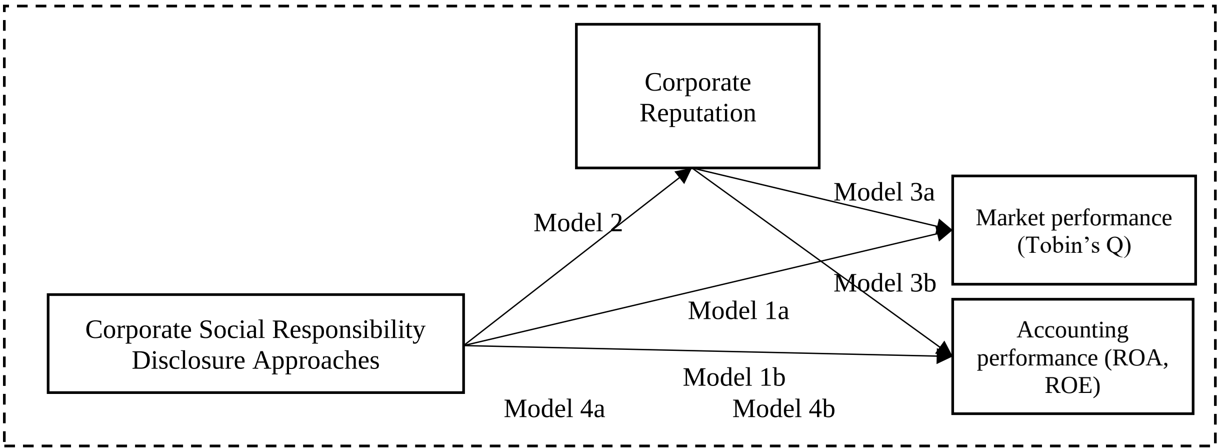

Figure 1. Research Framework

To enhance the robustness of the estimators and address issues such as multicollinearity, normality, serial correlation, heteroscedasticity, and potential endogeneity problems, the initial models were subjected to the System-Generalized Method of Moments (SYS-GMM).

For the analysis of the mediation effect, a slightly different approach was employed. It was estimated through stepwise regression, and the bootstrapping test was used. The bootstrapping method allowed for the estimation of the statistical significance of the total, direct, and indirect effects within the models, serving to confirm the mediation effect results obtained through the stepwise approach.

Results

Descriptive Statistics

In the initial step, we calculated the mean value for CSRDA over the period spanning from 2011 to 2019, which provides an indication of the level of CSR report disclosure (Benlemlih & Bitar, 2018). As illustrated in Table 2, the

CSRDA level exhibited fluctuations during this timeframe. Specifically, from 2011 to 2013, there was a declining trend, but from 2014 to 2017, it experienced an increase. Subsequently, it exhibited fluctuations in 2018 and 2019. These variations signify that the level of CSRDA among Chinese listed companies was not consistent. Furthermore, the mean value for CR from 2011 to 2019 indicated a rising trend, suggesting a gradual improvement in the CR level of Chinese companies. Additionally, the means for the ROA, ROE, and TQ ratios, which served as proxies for firm performance in this study, were determined as 0.0430, 0.0800, and 1.4120, respectively (refer to Table 3).

Correlation Matrix

Table 4 displays the Pearson correlation matrix, which reveals the relationships between variables. As observed in the table, there were moderate correlations among all variables. The only exception was the correlation between ROA and ROE, which stood at 88.6 %. However, it is important to note that in this study, the high correlation between ROA and ROE did not pose a concern as they were not simultaneously included in the same models. Furthermore, the subsequent section will include a multicollinearity test to assess potential issues related to multicollinearity.

Table 2

Descriptive Statistics (Mean, 2011–2019)

Variables	2011	2012	2013	2014	2015	2016	2017	2018	2019
	mean	mean	mean	mean	mean	mean	mean	mean	mean
ROA	0.0570	0.0450	0.0460	0.0420	0.0360	0.0400	0.0440	0.0410	0.0430
ROE	0.1120	0.0850	0.0860	0.0770	0.0610	0.0730	0.0840	0.0740	0.0780
Tobin's Q	1.2390	1.1290	1.2810	1.5200	2.0860	1.6970	1.4760	1.0040	1.2700
CSRDA	7.1362	6.3521	6.2490	6.3800	6.9170	7.5830	8.1390	8.0660	8.4860
CR	14.8260	15.2250	15.5000	15.3490	16.4470	16.9710	17.3720	17.4890	17.5170

Table 3

Descriptive Statistics

variable	N	mean	sd	min	max
ROA	5,700	0.0430	0.0540	-0.1560	0.2200
ROE	5,700	0.0800	0.1070	-0.4380	0.3450
Tobin's Q	5,700	1.4120	1.3530	0.1140	7.5230
CSRDA	5,700	7.2890	1.8790	4.1450	13.5300
CR	5,700	16.4590	4.9760	0.0000	23.0950
Csize	5,700	23.2140	1.4460	20.4340	27.1480
Lev	5,700	0.4890	0.1990	0.0690	0.8910
Liq	5,700	0.5300	0.2250	0.0680	0.9540
CashR	5,700	0.5970	0.8760	0.0310	5.8140
Age	5,700	2.3800	0.7060	0.0000	3.3670
State	5,700	0.6130	0.4870	0.0000	1.0000

Table 4

Correlation Matrix

variables	ROA	ROE	TOBIN'Q	CSRDA	CR	Csize	Lev	Liq	CashR	Age	state
ROA	1										
ROE	0.886***	1									
TOBIN'Q	0.381***	0.179***	1								
CSRDA	0.022*	0.063***	0.154***	1							
CR	0.046***	0.084***	0.0170***	0.222***	1						
Csize	-0.051***	0.126***	-0.528***	0.387***	0.269***	1					
Lev	-0.412***	-0.143***	-0.569***	0.104***	0.076***	0.542***	1				
Liq	0.114***	0.167***	0.158***	-0.121***	-0.00200	-0.113***	0.042***	1			
CashR	0.251***	0.083***	0.439***	-0.094***	-0.071***	-0.316***	-0.576***	0.139***	1		
Age	-0.154***	-0.084***	-0.234***	0.095***	0.0110	0.219***	0.225***	-0.073***	-0.165***	1	
State	-0.153***	-0.087***	-0.277***	0.056***	-0.036***	0.295***	0.225***	-0.134***	-0.096***	0.307***	1

In this study, the primary measures for accounting performance and market performance were ROA, ROE, and TQ. As indicated by the correlation matrix, ROA displayed significant correlations with all independent and control variables. A similar pattern was observed for ROE and TQ, reinforcing the robustness of the results.

Furthermore, CSR Disclosure Approaches (CSRDA) exhibited a strong positive correlation with Corporate Reputation (CR) and both accounting performance (ROA, ROE) and market performance (TQ) (Lee *et al.*, 2018). In the case of the control variables, correlations between ROA, ROE, TQ, and most control variables were statistically significant. Specifically, positive correlations were identified with liquidity and the cash ratio, while negative correlations were observed with corporate size, leverage, age, and state ownership (Braune *et al.*, 2019; Lee *et al.*, 2018).

Multicollinearity

To assess the presence of potential multicollinearity in Model 1, the Variance Inflation Factor (VIF) was computed, along with the tolerance values. As per the guidelines by Gujarati (2003), a VIF value exceeding 5 for the independent variables or a tolerance value less than 0.1 would indicate the presence of multicollinearity. Table 5 presents the VIF values and tolerance values. It is evident that all VIF values are below 5, and all tolerance values exceed 0.1. Consequently, there is no evidence of multicollinearity among the independent variables in this model.

Table 5

Multicollinearity Test for CSRDA and CP Models

Variable	**CSRDA**	
	VIF	**Tolerance**
ROA/ROE/TQ	1.21	0.824986
CR	1.21	0.824986
Lev	2.06	0.484756
Csize	1.78	0.561254
CashR	1.57	0.636341
state	1.20	0.830194
Age	1.15	0.871165
Liq	1.10	0.912119
Mean VIF	1.41	

Stepwise regression: SYS-GMM

The SYS-GMM method was employed to mitigate potential issues related to heteroscedasticity, autocorrelation, weak instrumental variables, and reciprocal causation between the independent and dependent variables.

Based on the findings presented in Table 6 (columns 1, 2, and 3), a significant positive relationship was observed between CSRDA and accounting performance (ROA, ROE) and market performance (TQ). However, it is noteworthy that the correlation coefficient between CSRDA and market performance was notably higher in comparison to its correlation with accounting performance. This suggests that CSRDA exerts a more pronounced influence on market performance than on accounting performance. These results indicate that more comprehensive and advanced CSRDA practices are associated with improved market performance, which aligns with prior research findings (Hang & Ngoc, 2018; Platonova *et al.*, 2018)

Table 6

GMM Results for the CSRDA and CP (Model 1), CSRDA and CR (Model 2), and CR and CP (Model 3)

VARIABLES	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	ROA(2)	**ROE(2)**	**TQ(1)**	**CR(1)(2)**	**ROA(1)**	**ROE(1)**	**TQ(1)**
Constant	-0.1945***	-0.5747***	8.0221***	-6.4395***	-0.1807***	-0.5305***	8.4228***
	(-12.7241)	(-15.3978)	(-29.1516)	(-3.6004)	(-13.1279)	(-16.1591)	-30.3174
CSRDA	**0.0082****	**0.0143***	**0.3011*****	**0.201**			
	(-2.2891)	**(-1.8125)**	**(-4.5428)**	**(-0.3155)**			
LCSRDA				**2.0704*****			
				(-3.2466)			
CR					**0.0001**	**0.0002**	**0.0242*****
					(-0.4083)	**(-0.6051)**	**(-9.8858)**
Csize	0.0120***	0.0289***	-0.2771***	0.9283***	0.0122***	0.0283***	-0.2862***
	(-16.7009)	(-16.1838)	(-21.0287)	(-11.3686)	(-19.3456)	(-18.3932)	(-23.3254)
Lev	-0.1632***	-0.2223***	-2.1015***	-1.7805***	-0.1616***	-0.2082***	-2.0631***
	(-25.9727)	(-13.8233)	(-19.8640)	(-2.6743)	(-27.8455)	(-14.4242)	(-19.6158)
Liq	0.0381***	0.1017***	0.7044***	1.0715***	0.0382***	0.1011***	0.6579***
	(-11.9749)	(-12.8539)	(-11.9074)	(-2.9318)	(-13.3766)	(-14.4636)	(-11.0488)
CashR	-0.0016	-0.0063***	0.2141***	-0.2658**	-0.0015	-0.0063***	0.2229***
	(-1.1707)	(-3.0812)	(-6.5356)	(-1.9789)	(-1.1083)	(-3.3062)	(-6.8412)
Age	0.0008	0.0029	-0.1314***	-0.6310***	-0.0008	0	-0.1250***
	(-0.5125)	(-0.917)	(-4.8858)	(-4.1987)	(-0.6157)	(-0.0099)	(-4.7016)
state	-0.0108***	-0.0211***	-0.1841***	-0.7155***	-0.0100***	-0.0197***	-0.1665***
	(-6.5744)	(-6.0579)	(-5.6920)	(-4.1941)	(-6.5631)	(-6.2369)	(-5.2174)
Observations	3,927	3,927	4,712	3,887	4,712	4,712	4,712
R-squared	0.2716	0.166	0.5079	0.1164	0.2648	0.1572	0.5137
Adj_R2	0.2691	0.1632	0.5065	0.1132	0.2626	0.1547	0.5122
Hansen-J P value	**0.4115**	**0.8203**	**0.2289**	**0.1645**	**0.0008**	**0.0018**	**0.5849**

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

*(2) represents two-period lagged instrumental variable system GMM method.

*(1) represents one-period lagged instrumental variable system GMM method.

The results presented in Table 6 (columns 1, 2, 3) indicate several significant relationships with the control variables. First, corporate size is positively and significantly correlated with ROA and ROE at the 1 % level, but it exhibits a negative and significant correlation with TQ at the 1% level. Second, leverage is significantly negatively associated with both accounting performance (ROA and ROE) and market performance (TQ). Third, liquidity shows significant positive associations with accounting performance (ROA and ROE) and market performance (TQ). Forth, the cash ratio is negatively and significantly associated with accounting performance (ROE) and positively and significantly associated with market performance (TQ). Lastly, age and state ownership are both negatively and significantly associated with market performance (TQ).

In Table 6 (column 4), it is revealed that the impact of CSRDA on CR became statistically insignificant in the current period as a result of using the SYS-GMM method. This suggests that statistical issues, such as heteroscedasticity and endogeneity, influence the relationship between CSRDA and CR. This discrepancy in results between our study and previous research (Veh *et al.*, 2019) can be attributed to the use of different methodologies and measurements. Nevertheless, the one-phase lagged independent variables (LCSRDA) and CR passed the Hansen test (with a Hansen value higher than 0.05) after the SYS-GMM test and were found to be positively significant. This indicates that CSRDA has a lagging effect on reputation (Cui *et al.*, 2018).

The results obtained from Table 6 (columns 5, 6, 7) reveal several important findings. There is a significant positive relationship between Corporate Reputation (CR) and market performance (Tobin's Q - TQ), indicating that higher CR leads to improved market performance, which is in line with previous research (Cha *et al.*, 2019; Hu et al., 2018). Besides that, the effect of CR on ROA and ROE was not significant when the SYS-GMM method was applied. These variables failed the Hansen test, suggesting that CR does not have a direct impact on accounting performance. One possible explanation for this is that CR, being an intangible asset, does not directly influence net profit unless it is traded or disposed of, as noted in previous studies (Iwu-Egwuonwu, 2011; Veh *et al.*, 2019).

Finally, the study explored the mediation effect between CSRDA, CR, and CP. As shown in Table 7, for ROA and ROE as dependent variables, the correlations with CSRDA remained positively significant even after controlling for CR. However, the correlation coefficients did not change, and CR was found to be insignificant. This preliminary analysis suggests that there may be no mediating effects in these cases. Further investigation through a bootstrapping test was required to assess the significance of the correlation coefficient ab, as proposed by Hayes, 2018.

In contrast, when TQ was the dependent variable, the correlation with CSRDA after controlling for CR remained significantly positive, albeit with a slight drop in the correlation coefficient. Furthermore, the correlation of CR remained significant, indicating a partial mediating effect. The correlations and significance levels of the control variables remained consistent with the previously described findings. A summary of the mediation effect results obtained through SYS-GMM is provided in Table 8.

Table 7

GMM Results of the Relationship between CSRDA, CR, and CP (Model 4)

	1	2	3
VARIABLES	**ROA(2)**	**ROE(2)**	**TQ(1)**
Constant	-0.1941***	-0.5731***	8.1976***
	(-12.6750)	(-15.3975)	(29.7067)
CR	**0.0001**	**0.0002**	**0.0238*** **
	(0.3952)	**(0.6343)**	**(9.5434)**
CSRDA	**0.0081** **	**0.0139* **	**0.2605*** **
	(2.2458)	**(1.7575)**	**(3.8816)**
Csize	0.0119***	0.0286***	-0.3012***
	(16.3174)	(15.9153)	(-22.7615)
Lev	-0.1631***	-0.2218***	-2.0508***
	(-25.8701)	(-13.8467)	(-19.5157)
Liq	0.0380***	0.1015***	0.6805***
	(11.9542)	(12.8740)	(11.5111)
CashR	-0.0016	-0.0063***	0.2215***
	(-1.1606)	(-3.0511)	(6.7931)
Age	0.0008	0.0031	-0.1188***
	(0.5417)	(0.9631)	(-4.4580)
State	-0.0108***	-0.0210***	-0.1667***
	(-6.5454)	(-6.0230)	(-5.2194)
Observations	3,927	3,927	4,712
R-squared	0.2716	0.1661	0.5151
Adj_R2	0.2690	0.1631	0.5135
Hansen-J P value	**0.3991**	**0.7917**	**0.4251**

Robust t-statistics in parentheses*** p<0.01, ** p<0.05, * p<0.1.
*(2) represents two-period lagged instrumental variable system GMM method.
*(1) represents one-period lagged instrumental variable system GMM method.

Table 8

Summary of Mediation Effect Results (SYS-GMM)

	c (model 1)	*a* (model 2)	*b* (model 3)	*c'* (model 4)	subsequent test *ab*
CSRDA→CR→ROA	0.0082** (2.2891)	0.2010 (0.3155)	0.0001 (0.4083)	0.0081** (2.2458)	Bootstrap test
CSRDA→CR→ROE	0.0143* (1.8125)	0.2010 (0.3155)	0.0002 (0.6051)	0.0139* (1.7575)	Bootstrap test
CSRDA→CR→TQ	0.3011*** (4.5428)	0.2010 (0.3155)	0.0242*** (9.8858)	0.2605*** (3.8816)	Bootstrap test

*** p<0.01, ** p<0.05, * p<0.1

Bootstrapping Results

One of the coefficients, denoted as *a* or *b*, obtained through the SYS-GMM methodology in the previous analysis, did not exhibit statistical significance. This raised questions regarding the presence of a mediating effect. To further assess the reliability and accuracy of our findings, we subjected the model to a bootstrapping test.

Table 9 presents the outcomes derived from the bootstrapping test, specifically focusing on the mediating effect involving CR in the relationships between CSRDA and two aspects of corporate performance: accounting performance (ROA and ROE) and market performance (TQ). The table compiles the summary results for the total effect, direct effect, and indirect effect within each pathway. All data underwent standardization prior to the bootstrapping analysis.

Three key conclusions can be drawn from the results. Firstly, the confidence interval for the total effect between CSRDA and accounting performance (ROA) included zero, implying the absence of a total effect between CSRDA and ROA (as indicated by the correlation coefficient in model 1, denoted as *c*). Secondly, the confidence interval for the direct effect involving CSRDA, CR, and accounting performance (ROA) also encompassed zero, signifying that there was no direct effect between CSRDA, CR, and ROA (as suggested by the correlation coefficient in model 4, labeled as *c'*). Furthermore, the confidence interval for the indirect effect within the pathway of CSRDA, CR, and accounting performance (ROA) once again included zero. This indicates that the coefficient 'ab' lacked significance, and consequently, there was no mediating effect present (Chen *et al.*, 2013; Hayes, 2018). The same results were replicated in the context of the pathway involving CSRDA, CR, and ROE.

However, a notable shift was observed in the last pathway encompassing CSRDA, CR, and TQ. Here, the confidence interval for the total effect between CSRDA and market performance (TQ) did not include zero, signifying the existence of a significant total effect between CSRDA and TQ at a 1% significance level (0.0267) (in line with step one: *c*). The confidence interval for the direct effect in this pathway, after controlling for CR, included zero, suggesting the absence of a direct effect between CSRDA and TQ (as demonstrated in step four: *c'*). In contrast, the confidence interval for the indirect effect within the pathway of CSRDA, CR, and market performance (TQ) excluded zero. This indicates that the coefficient 'ab' was both positive and significant (0.0133), signifying the presence of an indirect effect between CSRDA, CR, and TQ. Consequently, CR emerged as a full mediator in the relationship between CSRDA and TQ, elucidating its vital role in enhancing market performance.

Table 9

Summary of Results regarding Total Effect, Direct Effect, and Indirect Effect

	Total effect				Direct effect				Indirect effect				Conclusion
	Effect/*c*	SE	**LLCI**	**ULCI**	Effect/ *c'*	SE	**LLCI**	**ULCI**	Effect/*ab*	SE	**LLCI**	**ULCI**	
CSRDA→CR→ROA	-.0098	.0126	**-.0345**	**.0150**	-.0105	.0127	**-.0355**	**.0144**	.0007	.0015	**-.0021**	**.0038**	no mediation
CSRDA→CR→ROE	-.0095	.0136	**-.0361**	**.0170**	-.0109	.0137	**-.0377**	**.0158**	.0014	.0018	**-.0020**	**.0050**	no mediation
CSRDA→CR→TQ	.0267**	.0110	**.0051**	**.0482**	.0134	.0110	**-.0082**	**.0349**	.0133	.0020	**.0097**	**.0174**	full mediation

Indirect effect confidence interval [BootLLCI, BootULCI] includes 0, accept the null hypothesis *ab*=0, no mediation effect; exclude 0, reject the null hypothesis *ab*=0, significant mediation effect (Hayes & Montoya, 2017; Hayes & Scharkow, 2013; Preacher & Hayes, 2008).

*** p<0.01, ** p<0.05, * p<0.1.

Discussion

This study, based on a sample of listed companies in China from 2011 to 2019, empirically explores the intricate relationship between CSRDA, CR and CP. The findings of our analysis shed new light on these interrelated constructs. Notably, CSRDA demonstrates a positive association with CP, encompassing accounting performance and market performance. This suggests that companies effectively disclosing their CSR initiatives can bolster their reputation and overall performance. It's worth highlighting that, in emerging countries, CSRDA appears to exert a more pronounced impact on market performance compared to its influence on accounting performance.

Furthermore, the results affirm a positive correlation between corporate reputation and market performance, underscoring that improvements in reputation can enhance market confidence among investors and stakeholders, ultimately translating to superior market performance. However, it is crucial to note that corporate reputation does not directly influence accounting performance since it doesn't directly impact net profit. This reinforces the notion that the link between reputation and financial performance is indirect and more market-centric.

The research also uncovers that the impact of CSRDA on CR is insignificant in the current period but gains significance in the lagged period. This implies that the transmission of information disclosure requires time, and the effectiveness of disclosure methods, techniques, and innovations plays a pivotal role in enhancing CSR's influence on CR. As alluded to in the introduction, this delay in realizing the effects of CSR activities is reminiscent of certain overseas Chinese enterprises that, despite substantial efforts in social responsibility, remain relatively unknown, sometimes leading to misconceptions among stakeholders. This situation emphasizes the critical importance of understanding the significance of effectively disclosing social responsibility reports and the strategies for doing so.

The control variables in this study yield noteworthy insights into the influence of company characteristics on accounting performance and market performance. Firstly, we observed that larger companies tend to exhibit superior accounting performance, a finding consistent with prior research (Braune *et al.*, 2019). This positive relationship between company size and accounting performance aligns with the notion that larger firms often have more resources and capabilities to generate better financial results. However, it's important to note that a company's size, characterized by its total asset value, doesn't necessarily translate to higher stock prices, underlining the distinctions between accounting and market performance.

On the other hand, leverage, as measured by the debt-to-asset ratio, indicates that companies with lower debt burdens tend to showcase better performance. This observation is in line with earlier studies (Hu *et al.*, 2018) and reinforces the idea that lower leverage signifies reduced financial risk, which can contribute to enhanced performance. Similarly, liquidity, denoting the availability of current assets, implies that companies with more readily accessible assets tend to deliver improved performance. This concurs with findings from Cherian et al. (2019) and highlights the advantages of maintaining a higher level of liquidity. The cash ratio, another control variable, reveals that companies with a higher proportion of cash assets may have greater market and investment opportunities. However, this propensity for holding substantial cash reserves may adversely affect accounting performance, perhaps due to the opportunity cost associated with uninvested cash. This finding resonates with previous studies by Javed et al. (2020) and Cherian et al. (2019).

Finally, the variables "Age" and "State" provide intriguing insights. They suggest that compared to mature state-owned enterprises with a stable reputation, newer and non-state-owned companies have more significant growth prospects and a higher potential for building popularity, reputation, and strong market performance. This underscores the dynamic nature of the corporate landscape and the diverse pathways companies can take in achieving market success.

In summary, the findings from this research validate the hypotheses posited, revealing both direct and indirect positive relationships between CSRDA and market performance mediated by CR. Moreover, this study underscores the pivotal role of CR, emphasizing its substantial impact on market performance, thereby affirming the interconnectedness of these critical constructs.

Conclusions

The objective of this study was to examine the relationship between CSRDA and CR as well as CP. The primary finding of this research is the presence of both direct and indirect, statistically significant, and positive associations between CSRDA and CP. Additionally, CR was identified as a comprehensive mediator between CSRDA and CP. This implies that the influence of CSRDA on CP is mediated through its effect on CR. By enhancing the transparency and innovation in CSR report disclosures, organizations have the potential to elevate their CR, which, in turn, can have a positive impact on their CP, particularly in terms of market performance.

The implications of this research are twofold, encompassing both theoretical and practical dimensions. From a theoretical perspective, this study contributes to the academic understanding of the multifaceted consequences of CSRDA on CR and CP. It reveals not only direct positive associations between CSRDA, CR, and CP but also indirect relationships, with CR acting as a complete mediator. Furthermore, the research underscores that the influence of CSRDA on CP is more prominent in terms of market performance compared to accounting performance. This nuanced analysis enriches the comprehension of the CSRDA–CR–CP relationship and its implications.

On a practical note, the findings suggest that organizations should prioritize effective CSR disclosure practices. Elements such as content balance, information comparability, reporting innovation, credibility, transparency, regularity, accessibility, and information delivery effectiveness within CSR reports are crucial for delivering value. The study provides actionable insights that can guide policymakers, data analysts, and reporting professionals in adopting more effective and transparent CSR reporting methods and techniques. By doing so, companies can ensure that their CSR information reaches a broader audience, ultimately building a positive image and enhancing their CP, particularly concerning market performance.

Limitations and Future Research

This study is not without its limitations. The primary constraint relates to the sample, which exclusively comprised Chinese listed enterprises. This choice was made under the assumption that listed companies are more likely to engage in CSR activities. For future investigations, it would be advantageous to consider including small and medium enterprises (SMEs) to provide a more comprehensive perspective.Another limitation concerns the research methodology. In this study, various dimensions of CSRDA were not delved into further details. Future research could explore these different dimensions of CSRDA to gain a more nuanced understanding of their impact on CR and CP.

Considering the temporal aspects of signal transmission and CR development, future studies could undertake cross-cultural research with a longitudinal approach in diverse countries. Such research would enable the examination of differences or similarities in CSR disclosure approaches and their subsequent effects on corporate reputation and performance. This approach would be especially valuable for organizations operating in various cultural contexts, helping them refine their CSR reporting and transparency strategies.Additionally, future research endeavors could incorporate additional dimensions, such as CSR strategy, to investigate the direct and indirect relationships between CSR strategy, CR, and CP, further enhancing the comprehensiveness of our understanding in this area.

Acknowledgment

This study is supported by the open Foundation of Anhui Engineering Research Center of Intelligent Perception and Elderly Care, ChuZhou University, under Grant No. 2022OPB06 and received a financial grant from the Provincial Anhui for Higher Education Outstanding Talents, the People's Republic of China during the major projects “The relationship between corporate social responsibility and corporate financial performance and mediated by corporate reputation” under Grant No. gxyqZD2021037, and “Study on the Synergistic Promotion

Path of Industrial Revitalization and Ecological Revitalization in Fengyang County under the Strategy of Rural Revitalization" under Grant No. 2022AH051062.

This paper is also supported by the Program for Science and Technology Innovative Research Team of Chuzhou University (Digital Finance and Industrial Innovation Research Team) and 2024 Anhui University Teacher Training Action Project, No: gxgwfx2024.

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The article has been reviewed.

Received in July 2023; accepted in November 2023.