

Article

The Role of the Institutional Environment in the Relationship between CSR and Operational Performance: An Empirical Study in Korean Manufacturing Industries

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Abstract: Few studies have been conducted to explore the role of the institutional environment on the relationship between corporate social responsibility (CSR) and operational performance in Korea's manufacturing industry. Therefore, this study investigates the moderating effects of four institutional uncertainties—law enforcement, regulatory uncertainty, market turbulence and competition intensity—on the relationship between CSR and operational performance. Empirical survey data from 209 Korean manufacturers was collected online and then analyzed through moderated multiple regression analyses. The results show that CSR can significantly affect operational performance, positively moderated by law enforcement and competition intensity, but not by regulatory uncertainty and market turbulence. These results advise that the different institutional environments in which CSR is implemented are particularly important to consider for optimal business operations.

Keywords: corporate social responsibility; institutional environment; operational performance; Korea

1. Introduction

Korea has one of the world's leading export economies, as the 6th largest exporter and the 7th largest importer in 2012, amassing over US \$548 billion from the shipbuilding, automobile, and electronics industries. Korean manufacturing firms, such as Yuhan-Kimberly, Samsung Electronics and POSCO, are major players in adopting corporate social responsibility (CSR). Though manufacturers strive to perform well in the area of environmental substantiality (such as energy, waste, water management, and biodiversity) [1], there are still lingering questions on issues of employee protection and corporate governance, which can significantly affect employee retention and therefore firms' organizational performance [2]. For example, Korean employees reported that corporations lack sustainable engagement beyond economic and legal duties and that this engagement supported the government's supremacy. They were also found to live highly stressful lives with a poor work–life balance and with little trust and confidence in their companies' management [3].

CSR is defined as “the continuing commitment by businesses to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large” [4] (p. 18). CSR requires a significant commitment from companies to support sustainability initiatives, stakeholder interests, and the enrichment of societal

conditions [5,6]. Based on the human and social capital theory, employees are important resources, reflecting the extent of social contacts within the organization and contributing to the company's economic productivity and organizational performance [7,8]. That is, CSR offers long-term benefits and increased performance for firms, evidenced by, for example, a greater retention of highly skilled employees, interest from socially conscious investors, better support for suppliers, and a positive public image. [9,10]. Therefore, promoting CSR is necessary for Korean manufacturers who wish to achieve better operational performance.

In operational performance studies, institutional uncertainty can originate from “outside a company's direct areas of control including environment, government regulation, competitor behavior and macroeconomics issues and disasters” [11] (p. 4499). In this sense, institutional uncertainty was found to be a critical influencer, which may create organizational problems and increased complexities in the work environment [12,13]. In an uncertain environment, CSR helps companies develop social legitimacy from environmental stakeholders, including those in the larger community and potential employees [14]. Additionally, in a highly volatile environment, the labor market is so uncertain that employees require a solid corporate reputation to reduce the cost of selecting and monitoring the job market [15]. There are polarized findings regarding the effectiveness of CSR: some studies have found that CSR has a positive effect on performance [16], while others have indicated the opposite [17].

Because institutional uncertainty may influence managerial logistics and attention, and therefore the strategic actions of organizations [11], this raises the question of whether the relationship between CSR and organizational performance would be stronger or weaker within environments that are highly influenced by such uncertainties. As outcomes of organizational strategies are partially reliant on the market and institutional environment, the effectiveness of strategies such as CSR may change based on the market environment [18]. In this light, in manufacturing industries where high operational performance is required, the importance of CSR implementation in an uncertain and competitive market environment is highlighted. As scant studies have explored the environmental uncertainties, this study aims to investigate the influence of CSR on operational performance, and how the relationship of CSR and operational performance can be protected from institutional uncertainty or fluctuations in the institutional environment. Given that CSR has become important in any industry, this study can provide better insight into how CSR can have a positive influence on operational performance despite different types of environmental uncertainties.

2. Literature Review

To examine how the institutional environment affects the impact of CSR on operational performance, we developed a model as shown in Figure 1.

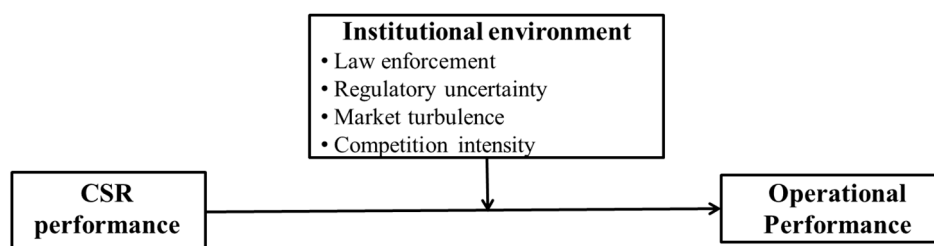


Figure 1. Research model.

2.1. CSR and Operational Performance

CSR requires a long-term commitment from companies to contribute to sustainable development, stakeholder interests, and enhancement of overall societal conditions [4]. Previous studies found that an extensive commitment helps companies to examine CSR's long-term benefits, such as the retention of highly skilled employees, improved community standards for employees, the swaying of

public opinion against government intervention, interest from socially conscious investors, a repetitive customer base, increased creditworthiness in the financial market, confident supplier support, and an improved public image. [9–11].

Particularly in employee retention, the human capital theory suggests that, if employees with specific knowledge resign [19], this may incur costs to employers' knowledge base, which is defined as "productive wealth embodied in labor, skills and knowledge" [8]. That is, human capital involves any knowledge or developed characteristics a person possesses that subsidizes his or her economic efficiency and organizational performance [8,20]. Thus, turnover may inflate additional overhead costs related to the loss of human and social capital, and investment in employees, such as training and education to improve productivity, or both [21].

Based on the social capital theory, employee refers to social capital which creates social relations within the organization that strive to increase members' achievement of mutual goals and shared expectations [7] (p. 540). Reflected in the existence of close interpersonal relationships among individuals, social capital can be defined as an asset that is embedded in social relationships and networks [22,23]. Social capital may result when employees' affiliations transform in ways that derive instrumental accomplishment [24]. Thus, increasing rates in employee turnover can exhaust social capital, which may cause disruptions in business operations and overall functioning [25]. Previous research found that firms' implementation of CSR may engender employees' trust, because employees perceive CSR as an act of good faith and also demonstrative of a consideration for employees' interests and welfare [26]. Similarly, CSR could help employees to cultivate higher levels of trust, increased feelings of belonging, and higher quality relationships due to the influence of CSR on employees' perceptions of fairness and justice within the corporation [27].

In this sense, CSR may play an important role in nurturing human and social capital, which creates high levels of trust, positive social relationships, and a close-knit and cooperative work environment. To the extent that CSR can provide commitment toward providing support for employees, employees may also reciprocate by engaging in stronger commitments to the organization, organizational identification, and suspension of self-interest for the benefit of the company's organizational and social performance [28], which can reduce voluntary employee turnover [29,30] and turnover intention [31]. When companies retain knowledgeable employees, human and social capital can be accumulated to improve organizational effectiveness and efficiency [29]. This therefore helps maintain production capability and retain competent workers, which enhances product quality and reduces the amount of lost time due to job-related incidents, resulting in lower labor insurance costs [32]. More importantly, CSR can directly impact organizational performance by improving organizational commitment, and in-role job performance mediated by better psychological capital and goal congruence [7,20,33]. Thus, we propose H1.

Hypothesis 1 (H1). *CSR positively influences operational performance.*

2.2. Institutional Uncertainty in the Relationship between CSR and Operational Performance

Institutional uncertainty has been largely studied to find out how it affects operational performance. Institutional uncertainty is defined as the rate of change in an organizational environment due to circumstances such as market fluctuations, regulation, and technology [14,34]. Resulting from an inability to understand the impact of and proper response to these environmental changes, institutional uncertainty may create organizational problems and complexities within the corporate environment [12,13]. Yanes-Estevez et al. [35] propose that uncertainty results from a deficiency in information about the environmental forces surrounding the organization [36] and is caused by the level of dynamism and complexity of the environment [37,38]. Therefore, organizational environments may present as one of the major contingencies faced by a firm by influencing it to behave or not to behave in a socially responsible way that can result in a conscious managerial choice derived from complex internal decision-making processes [14].

Institutional uncertainty is generated by a host of forces at work in an environment, which can operate in a number of different environmental sectors [39]. For example, law enforcement becomes involved when “one party perceives that the court systems can (cannot) protect their company’s financial interest when doing business with another company” [40] (p. 865). In order to enforce regulatory intervention in markets, the degree of law enforcement required is an important consideration in determining which types of procedures should be implemented [41]. As the legal uncertainty they cause is comparatively muted, definitive enforcement processes are sponsored in policy circles as superior [41]. When there is a dearth of legal support for institutions, often firms’ only recourse is to rely on unofficial methods of policy enforcement, but reconcile differences through these channels to shield their business [42]. Consequently, legal agreements can be used to improve trust in the system and provide institutional enforcement for following the rules [43]. Previously, the adoption of CSR was a voluntary practice on the part of businesses.

However, nowadays CSR is often subject to legal pressure and enforcement, not in the form of orthodox state regulations, but rather through indirect pressure and the use of private laws by private actors [44]. Matten and Moon [45] and Du et al. [46] stress that CSR can be stimulated by intermingling compulsory requirements of law enforcement with social norms, particularly in China. On the other hand, Lin and Wang [43] found that across cultures such as Western and Asian, the legal environment may have different influences on organizational performance. More specifically, Lin and Wang [43] found that legalism had a more positive impact on trust and performance with joint ventures operating in Western cultures.

Garcia-Sanchez et al. [47] argue that, in a law-enforcing society, governments tend to promote laws based on employee rights and stakeholder protections that induce a broad range of stakeholders (e.g., customers, employees, and non-government organizations) to have a legitimate interest in a firm’s CSR activities (see also [48]). This causes the stakeholders to be more concerned about, and have a greater influence on, the firm’s CSR behaviors and disclosures. In this case, the firm’s CSR behaviors become more important in enhancing its social legitimacy and commitment to operational performance. In fact, Zhao et al. [49] found that, in emerging markets when labor and environmental laws are enforced, manufacturers could face more CSR crisis-like labor strikes, affecting their operational efficiency. Legal enforcement also pressures firms into adopting more sustainable practices such as using renewable energy sources and conserving water [50], which in effect reduces production costs. Thus, we propose H2a.

Hypothesis 2a (H2a). *Law enforcement moderates the association between CSR and operational performance.*

Moreover, regulatory uncertainty refers to “the unpredictability of the actions of governmental agencies which create and enforce regulations, leading to difficulties for many companies in planning” [51,52]. Regarding a regulation, firms’ strategic responses may fuel external forces that may or may not hold to their agreements with policy makers [51]. A specific regulation that increases uncertainty may hinder firms’ compliance with this regulation, which prevents the regulation’s objectives from being met [53]. With the increasing popularity of CSR, the government strives to generate public policy that is designed and implemented with voluntary determinations from stakeholders [54]. Thus, policies may produce essential uncertainty, in regard to the substance of CSR, as well as the institutional uncertainty that is associated with change [54].

Adapting corporate policies to align with CSR might also conflict with current institutional frameworks (traditions, codes of conduct, etc.), as its execution requires a government that is willing to adopt new goals and guidelines and use mechanisms other than jurisdictional [55]. CSR can hinder an organization from meeting its current goals for institutional change, triggering many limitations from organizational delay to downcast overheads that cause unappealing restructurings, especially in the short term [56]. Chung et al. [57] also found that, if environmental regulations are too complex

to understand, a firm's proactive environmental practices will not be effective in improving its performance in areas such as product quality. Thus, H2b is suggested.

Hypothesis 2b (H2b). *Regulatory uncertainty moderates the association between CSR and operational performance.*

Another institutional uncertainty, market turbulence, refers to the extent to which an industrial environment is characterized as vigorous, multifaceted, and quickly shifting [58]. When government, market, and financial institutions are rapidly changing, a highly turbulent environment will result, which may cause difficulties in accurately anticipating customer demand or predicting responses to marketing strategies [59]. Within such environments, it is important to increase communication with customers and create market responsiveness that emerges from CSR practices [60]. Market turbulence accelerates the prominence of customer trust produced by CSR in building market competitiveness [61]. However, if consumers do not observe direct value in highly turbulent markets, it may be challenging to ascertain customer reaction to a firm's CSR. In other words, CSR may motivate employees, but it also may put firms in a position where it is challenging to predict customers' current and potential demands in turbulent markets [60]. Accordingly, Bai and Chang [60] found that market turbulence was positively moderated between CSR and marketing competence in Chinese manufacturing firms. On the other hand, by reviewing U.S.-based manufacturing firms, Fang et al. [61] found that the influence of market turbulence could be considerably different depending on the high-to-low conditions of the market. They argue that organizational performance noticeably increases in highly turbulent environments, while low or stable turbulence negatively impacts organizational performance. Thus, this study proposes H2c:

Hypothesis 2c (H2c). *Market turbulence moderates the association between CSR and operational performance.*

A firm's management decisions and performance is largely dependent on competitive intensity, which is defined as the extent to which an organization faces competition within its market [59]. For example, due to fierce rivalries, heavy advertising, and diverse product alternatives, competitive intensity may escalate, which forces firms to choose either to provide similar products at a lower price because of pressure caused by price wars, or to differentiate their products from those offered by competitors [62,63]. In competition-intensive environments, assimilating aspects of social responsibility into a corporate culture can help ensure differentiation and strengthen organizational performance [64]. This is because CSR can reinforce a firm's ability to increase customer value, which then stimulates brand-specific purchasing decisions when facing alternatives in a competitive market [60].

Conversely, in a less competitive environment, the effect of CSR may not be noticeable, as consumers may face fewer product alternatives. Therefore, in a highly competitive environment, Bai and Chang [60] found that, depending on diverse aspects of CSR, such as its benefits toward society, employees, and customers, its influence on market competence was divided, but overall it was found to positively influence market competence. In U.S. manufacturing industries, when service transition strategies were integrated into a core product, organizational performance can be cut in a slow-growth market [43]. However, previous literature argues that, when industries mature, and intense competition exists, differential competitive advantage (e.g., CSR) can be an important way to enhance operational performance [65]. Thus, H2d is also proposed.

Hypothesis 2d (H2d). *Competition intensity moderates the association between CSR and operational performance.*

3. Research Methodology

3.1. Sampling

Data was collected by an online survey method. The samples were drawn from firms in the automotive, electrical appliance, electronics, shipping, medical, and pharmaceutical industries in South Korea. We targeted these industries because, in spite of an export value of approximately over 180 billion in the year 2015 [66], they have been recently reported to have a number of ethical and social policy violations, such as the use of Oxy humidifier disinfectant [67], Samsung labor union violations [68], a massive product recall of unsafe Samsung Galaxy Note7 devices [69], Samsung LG toxic chemical releases [70], and the Novartis Korea rebate scandal [71]. Thus, studying CSR activities and operational performance in these industries was deemed appropriate for achieving the research objectives of this study.

The targeted respondents were managers with over five years' managerial experience in the industry. Additionally, these managers were expected experience in business operations related to CSR activities. To recruit respondents, we employed a market research company in Korea (i.e., Hankook Research, Inc: Seoul, Korea), which has performed similar studies [72]. The survey questionnaires were distributed online to the 6118 selected firms in the automotive, electronics, shipping, and medical industries, which currently face accusations of CSR violations in Korea [73–75], from which 209 effective responses were collected. This response rate is low but acceptable for conducting hypothesis analysis for empirical research [72]. On average, the respondents had over 5 years' work experience, so they were expected to be knowledgeable as to the business's operations. The sample profile is presented in Table 1.

Table 1. Demographic characteristics of the company (N = 209).

	N	Percentage
Type of industry		
Automotive	46	22.0
Electrical appliance	43	20.6
Electronics	74	35.4
Shipping	14	6.7
Medical	22	10.5
Pharmaceutical	10	4.8
Type of market		
Export oriented	71	34
Domestic oriented	138	66
Public or private company		
Publicly listed	101	48.3
Private	108	51.7
Chaebol listed		
Chaebol	76	36.4
Not Chaebol	133	63.6
Company size *		
Large	102	48.8
Medium	100	47.8
Small	7	3.3
Respondent position in the company		
Executive	6	2.6
Departmental management	63	27.0
Professional	54	23.2
Administrative	81	34.8
Others	5	2.1

* Company size information was provided by the data collection company, following the definitions of the Small and Medium Industry Basic Law of South Korea. In brief, companies were classified according to the number of employees, annual sales, total assets, ownership independence, and type of industry (Source: <http://www.mss.go.kr/>).

To assess the non-response bias, a comparison of early and late responses to the survey was conducted. It is assumed that late respondents are more likely to answer the survey more similarly to non-respondents than early respondents [76]. The average values found by the survey instruments

of the first 25 percent of early respondents were compared with those of the last 25 percent of late respondents respectively by using *t*-tests. The *t*-test results showed that there was no statistical significance between the two groups at *p*-values greater than 0.1, implying that the non-respondent bias may not be very severe.

3.2. Survey Instruments

This study developed survey questionnaires with items including CSR performance, institutional environment and operational performance (see Appendix A). First, items for CSR were adopted from Turker [77] and Lindgreen et al. [78] and measured six CSR dimensions: environmental management, shareholder relationships, employee management, consumer rights, supplier management, and community and philanthropic activities. We asked respondents to rate their perceptions of their firm's commitment on a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree). For institutional uncertainty, we measured perceptions of law enforcement, regulatory uncertainty, market turbulence, and competition intensity. The three items relating to law enforcement were adapted from Zhou and Poppo [40] such as, "There are frequent, significant, unpredictable shifts in market growth," and the seven-item scale of market turbulence and the four-item scale of competition intensity was adapted from Jaworski and Kohli [58]. For regulatory uncertainty, three items were modified from existing literature: Chung et al. [57] and Eberlein and Matten [79]. The institutional uncertainty construct was measured on a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree). Operational performance was measured by four items, adopted from Ahmad and Schroeder [80], Surroca et al. [81], and Melnyk et al. [82]'s studies. Items include "There are many new laws, regulations, and policies in our industry," and "There are many new voluntary standards and codes in our industry," measured on a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree).

This study also included a number of control variables, including type of industry, company size, whether it operated in an export or domestically oriented market, whether or not it was a publicly listed company, and whether it was Chaebol or not. The scale of the company was determined by controlling for company size, and potential economies and diseconomies [83]. Type of industry was controlled because firms in different industries might place different stakeholder emphasis on CSR activities and reporting [84], similar to the role of Chaebols on CSR programs [85]. Chaebols refer to large-scaled family-run conglomerates in South Korea [85]. Export-oriented or publicly listed companies would have different concerns about CSR activities as well [86].

The survey was first developed in English and then translated into Korean by the market research company. To verify the content validity and readability of the translation, two pilot studies were conducted. First, we interviewed three professors in operations, human resources, and financial management to verify the content and wording of the questionnaires. On average, each interview lasted an hour. Five graduate students were also involved to verify the wording of the questionnaires. The second pilot study was carried out by a convenience sample of 10 part-time MBA students with more than five years of supervisory experience in Korean industries. On average, the interviews lasted 30 min. They were asked to complete the questionnaire and comment on the readability, clarity, and appropriateness of the items.

3.3. Common Method Variance

Common method variance was managed in two stages [87]: in the first stage, the cover letter described the survey to reduce the respondent bias and social desirability factors. The measures were located in different parts of the questionnaire to achieve psychological and methodological separation. The respondents were anonymous to prevent evaluation apprehension. Existing measurement items from the literature were adopted using two pilot studies to reduce item ambiguity and to keep measurements precise. In the statistical stage, the Harman one-factor test [88] and a structural fit test comparing a one-factor model and the measurement model using AMOS 22.0 were conducted. The test results revealed multiple factors with an eigenvalue above 1, accounting for over 80% of the total

variance. A structural fit test comparing a one-factor model and the measurement model using AMOS 22.0 was also conducted. The results showed that the one-factor model ($\chi^2 = 3611.375$, d.f. = 1369) was statistically worse than the measurement model ($\chi^2 = 2044.066$, d.f. = 1314) at p -values less than 0.01. Both results suggest that common method bias may not significantly influence the results.

4. Results

4.1. Construct Reliability and Validity

This study used Cronbach's Alpha (α) to assess the scale reliability of each construct (see Appendix A) and the alpha of every construct was greater than 0.70, indicating a good statistical result [89]. Content validity was ensured by the expert judgement derived from the pilot studies and literature review. The convergent and discriminant validity was checked by confirmatory factor analysis (CFA) using AMOS 22 (see Appendix A). The overall fit of the CFA for the CSR (χ^2 /df: 1.57; CFI: 0.96; IFI: 0.98; NFI: 0.93), the moderators (χ^2 /df: 2.44; CFI: 0.92; IFI: 0.92; NFI: 0.87), and the dependent variable (χ^2 /df: 4.85; CFI: 0.99; IFI: 0.99; NFI: 0.99) as well as their standardized factor loadings having values over 0.5 indicated good convergent validity [90]. The modification indices in the CFA for omitted paths shows no significant cross-loading among the instruments (i.e., all results are below 0.85), indicating good discriminant validity [91]. These results support the overall validity of the proposed factor structure of the model. The discriminant validity was verified because the square root of the AVE of almost all of the constructs was larger than the corresponding correlations (Table 2) [92].

Table 2. Correlation table (N = 209).

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Environment management (1)	4.87	1.16	0.78										
Shareholder relationship (2)	4.96	1.19	0.61 **	0.88									
Employee management (3)	4.90	1.13	0.69 **	0.67 **	0.82								
Customer rights (4)	5.19	1.03	0.67 **	0.74 **	0.80 **	0.85							
Supplier management (5)	5.04	1.09	0.72 **	0.63 **	0.91 **	0.84 **	0.84						
Community & philanthropic activities (6)	4.58	1.35	0.59 **	0.48 **	0.68 **	0.61 **	0.71 **	0.85					
Market turbulence (7)	5.05	0.94	0.42 **	0.59 **	0.62 **	0.71 **	0.63 **	0.55 **	0.77				
Competition intensity (8)	5.15	0.96	0.22 **	0.44 **	0.43 **	0.48 **	0.42 **	0.33 **	0.60 **	0.71			
Regulatory uncertainty (9)	4.75	0.93	0.23 **	0.47 **	0.38 **	0.43 **	0.35 **	0.37 **	0.47 **	0.49 **	0.74		
Law enforcement (10)	4.30	1.25	0.32 **	0.38 **	0.44 **	0.39 **	0.41 **	0.44 **	0.44 **	0.21 **	0.40 **	0.85	
Operational performance (11)	4.88	0.97	0.49 **	0.41 **	0.59 **	0.57 **	0.60 **	0.52 **	0.59 **	0.38 **	0.38 **	0.46 **	0.88

Note: Correlations are below the diagonal when the square root of the AVE is above the diagonal. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

The high correlations among the variables of CSR may be understandable and marginally acceptable because they are theoretically and practically combined into a single construct to be tested in this study [93]. Following the existing literature, these six social responsibility variables were combined as a second-order factor. In this factor structure, each of the variables had factor loadings over 0.5 at a p -value < 0.01 and thus the overall factor model was fit [90], so they were combined as a single factor to be analyzed in regression modeling. Moreover, multicollinearity using tolerance and the variation inflation factor (VIF) was evaluated [94]. All constructs of variables revealed tolerance values above 0.10, and the VIF values were less than 5, suggesting that there is no potential problem with multicollinearity in our data analysis. Overall, the validity of the research constructs was supported enough to proceed to further study.

4.2. Moderated Regression

To test our hypotheses, we conducted a series of regression analyses. As presented in Table 3, we specified four models; Model 1 included control variables such as industry, firm size, and so forth. As a result, industry type and being publicly listed were found as significant. In Model 2, CSR was added as a control variable. The result showed that CSR activity increased operational

performance ($\beta = 0.61$, p -value < 0.01), supporting H1. Model 3 added four moderating variables (i.e., law enforcement, regulation uncertainty, market turbulence, and competition intensity) to Model 2. The results reveal that legal enforcement ($\beta = 0.17$, p -value < 0.01) and market turbulence ($\beta = 0.25$, p -value < 0.01) positively affected operational performance. Model 4 tested the moderating effects of institutional uncertainty in the relationship between CSR and operational performance.

Table 3. Moderated regression results.

Model	Criterion Variables: Standardized Coefficients (p -values)			
	Operational Performance			
	Model 1	Model 2	Model 3	Model 4
Control Variables				
Type of industry (1)	−0.02–0.17 *	−0.06–0.12 +	−0.07–0.10	−0.05–0.08
Firm size	−0.11	0.02	−0.01	0.00
Publicly listed or not	−0.22 **	−0.09	−0.06	−0.07
Independent variables				
Corporate social responsibility (CSR)		0.61 **	0.33 **	0.36 **
Moderators				
Law enforcement (LE)			0.17 **	0.12 *
Regulation uncertainty (RU)			0.04	0.07
Market turbulence (MT)			0.26 **	0.26 **
Competition intensity (CI)			0.02	0.00
Interaction terms				
CSR * LE				0.12 +
CSR * RU				−0.01
CSR * MT				−0.10
CSR * CI				0.17 *
$F(\Delta F)$	2.43 *	16.87 ** (108.83 **)	15.05 ** (7.21 **)	12.26 ** (2.49 *)
$R^2 (\Delta R^2)$	0.08	0.40 (0.33)	0.48 (0.08)	0.51 (0.03)
Adjusted R^2	0.05	0.37	0.44	0.46

Note: (1) The variables were mean-centered to prevent correlated variables among direct and interaction terms. (2) Five dummy variables were created to represent the types of industry. ** Significant at the p -value < 0.01 . * Significant at the p -value < 0.05 . + Significant at the p -value < 0.1 . The Chaebol and export-oriented control variables were excluded in this final regression model as they were not statistically significant to the operational performance. The addition of those variables did not change the results presented here.

We found two significantly positive moderating effects: law enforcement ($\beta = 0.119$, p -value < 0.1) and competition intensity, ($\beta = 0.167$, p -value < 0.05) in support of H2a and H2d. The results of the moderated regression analysis are presented in Table 3.

5. Discussions and Implications

Given that Korea's manufacturing industry significantly contributes to its economy, this study investigated how CSR influences operational performance in uncertain institutional environments. Since employees are one of the most important resources that can directly impact organizational performance, this study specifically examined the implementation of CSR in organizations and the resulting outcomes in operational performance from the employees' perspective.

Using employees from Korean manufacturing industries as a sample framework, this study found that CSR plays an important role in enhancing operations in manufacturing industries. The result of our analysis supports the human and social capital theories which posit that, when employees work in organizations that pursue CSR, operational performance improves, particularly where employees' cooperation and participation in manufacturing industries is required [24]. This implies that human and social capital can be enhanced through CSR, resulting in organizational effectiveness and efficiency as well as sustaining competent workers to enhance product quality [29,32]. Likewise, CSR can create a synergistic effect between employees and organizational performance, particularly in operational aspects of performance among manufacturing industries.

More importantly, as the rate of environmental changes can rapidly fluctuate due to changes in market, regulation, and technology [34], this study is one of the few to evaluate the moderating effect

of four conditions that emerge as environmental uncertainties influencing the relationship between CSR and operational performance. Previous literature suggests that, within fiercely competitive environments, CSR may increase organizational performance, as its presence can help to differentiate companies from their rivals in consumers' minds [60,63]. Thus, this study found that competition intensity positively moderates the relationship between CSR and operational performance. Moreover, Bai and Chang [60] argue that there are different aspects of CSR, but overall CSR improves market competence as well as organizational performance. Our results align with previous findings showing that, within a highly competitive environment, CSR may play out as a differential competitive advantage to boost business operations in manufacturing industries.

In addition, this study found that legal enforcement positively strengthens the relationship between CSR and operational performance. As legal enforcement provides more protection for organizations to enforce rules and even help remedy the inherent risks of trust [43], an organizations' CSR can enhance their operational performance. This implies that, in an environment of stricter legal enforcement, CSR can promise more efficiency and effectiveness in business operations. According to Lin and Wang [43], the impact of legal enforcement can differ across cultures. They argue that legal enforcement is more influential on organizational performance in Western cultures than in Asian cultures. However, the results of our study found that legal enforcement strengthened operational performance. This finding points to an important consideration for implementing CSR in manufacturing industries or countries with strict legal enforcement.

On the other hand, this study found that neither regulatory uncertainty nor competition intensity moderated the relationship between CSR and operational performance. The results of our study found that regulatory uncertainty was not a moderating factor between CSR and operational performance. This implies that CSR plays an important role in operational performance regardless of the presence of regulatory uncertainties in the environment. This might be because the Korean government maintains close contacts with many private firms, so they are able to authorize firms' business developments and enable economic support from banks [95]. Under government protections, firms enjoy various advantages including credit allocations, tax breaks, and protection from imports and foreign direct investments [95]. Besides, previous literature [58] argues that CSR may be more effectual in competition-intensive environments and that CSR may not even manifest in less competitive environments. The results of our study found that, even when competition affected operational performance, it did not necessarily affect CSR. This might be because of Korea's unique and differentiated institutional environment that gives Chaebols significant advantages in the manufacturing industry.

Due to the exploratory nature of this study, there are some limitations. First, this study was designed to investigate the relationship between CSR and operational performance, particularly in the context of manufacturing industries in Korea. This study therefore primarily provides guidelines for best practices to consider in implementing CSR to improve operations in manufacturing industries in Korea and other Asian countries. However, future research can explore how CSR in manufacturing industries can result in improved relationships with buyers and suppliers in developed countries. Thus, CSR can be considered as a way not only to improve operational performance but also to enrich its holistic aspects through both objective and subjective performance measures across the whole supply chain. Moreover, future research can explore how the influence of institutional uncertainty affects manufacturing industries in other developed regions such as Europe and the U.S., as these may have different legal enforcements, regulatory uncertainties, and degrees of market turbulence. This study is also limited due to concerns about the questionnaire's length and the target number of survey responses. Further studies may include additional control variables and other moderators for study validation.

Second, this study investigated manufacturing industries' performance from the employees' perspective. Since employees' perceptions can help to more precisely understand the CSR practices of organizations [23], collecting data from employees was therefore appropriate for our study.

Additionally, to prevent common method variance from inflating or deflating the results, Harman's single-factor method was used for assessment. On the other hand, a previous study by Li and Wu [96] found that sustainable management decreased operational performance in China, which is opposite from what we found in our study. Thus, for further clarification, future research can be designed to collect objective measures of operational performance from managers and from employees to learn methods of CSR implementation in organizations. Moreover, using different types of anchors can circumvent common method variance and bias errors in organizational studies.

Third, similar to other empirical surveys, this study uses a single-key informant, a cross-sectional and subjective measure for data collection. This approach limits the study to testing casual relationships among the research constructs. While the reliability and validity tests in this study support construct validity, the potential problems of respondent bias and content validity require further studies. Thus, future studies may collect objective CSR data derived from multiple sources of evidence such as CSR reporting, financial reports, and other company records [97–100]. Similarly, objective data on operational performance may be available from financial reports published by publicly listed companies [101]. While they can help improve the common method variance issues, scholars may find it difficult to collect those data from a large number of private companies, which our study did by covering both publicly listed and private companies in Korea.

6. Conclusions

In summary, the effect of CSR is far more important and effective in influencing operational performance in environments that present with intensive competition and with a high degree of legal enforcement. Nonetheless, many firms in Korea may not implicitly or explicitly be involved in the expansion of social responsibility investments due to a dearth of transparency and the lack of a universal CSR reporting system [95]. Due to the unique institutional environment in Korea, CSR's influence on operational performance was noticeably significant despite market turbulence and assisted by legal enforcement. This implies that any industry where the environment has similar characteristics or requires a special skillset from employees may discreetly consider implementing CSR in their businesses. In this way, the synergistic effect can be heightened through the interaction between CSR and employees, resulting in an improvement in overall performance in operations.

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Appendix A. Confirmatory Factor Analysis

Items for Measuring the Independent and Moderating Variables	Standardized Loading *
Environmental management (CR: 0.92, AVE: 0.61, α: 0.92)	
Incorporate environmental concerns in our business decisions	0.78
Measure our organization's environmental performance	0.82
Invest in improving the ecological quality of our products/services	0.86
Take action to reduce pollution related to our activities (e.g., eco-design)	0.83
Contribute toward saving resources and energy (e.g., recycling, waste management)	0.76
Voluntarily exceed government-imposed environmental regulations	0.81

Items for Measuring the Independent and Moderating Variables	Standardized Loading *
Shareholder relationship (CR: 0.93, AVE: 0.78, α: 0.94)	
Inform our investors of changes in corporate policy	0.88
Provide our investors with full and accurate information about the organization	0.95
Incorporate the interests of our investors in business decisions	0.85
Seek the input of our major investors regarding strategic decisions	0.84
Employee management (CR: 0.93, AVE: 0.68, α: 0.91)	
Provide our employees with salaries that properly & fairly reward them for their work	0.84
Implement policies that improve the well-being of our employees at work	0.85
Treat our employees fairly and respectfully, regardless of gender/ethnic background	0.83
Provide our employees with funding to take education, training/advancement courses	0.83
Consumer rights (CR: 0.94, AVE: 0.73, α: 0.94)	
Adapt products or services to enhance the level of customer satisfaction	0.85
Provide customers with the information needed to make sound purchasing decisions	0.89
Address the complaints of our customers about products or services	0.86
Check the quality of products provided to customers	0.85
Design specific product features that prevent the product from harming consumers	0.86
Provide detailed product labels to educate consumers on how to properly use, consume, & dispose of the product	0.81
Supplier management (CR: 0.95, AVE: 0.71, α: 0.95)	
Treat suppliers, regardless of their size and location, fairly and respectfully	0.83
Inform our suppliers about organizational changes affecting our purchasing decisions	0.85
Have clear purchasing principles and sign contracts according to the law	0.83
Incorporate the interests of our suppliers in our business decisions	0.86
Ensure suppliers provide a healthy & safe working environment for our employees	0.87
Monitor our suppliers to ensure adherence to our social expectations	0.81
Use third parties to ensure that our suppliers adhere to our social expectations	0.86
Community and philanthropic activities (CR: 0.91, AVE: 0.73, α: 0.92)	
Donate to charities within the community	0.81
Integrate charitable contributions into our business activities	0.82
Encourage our employees to be advocates of specific charities	0.94
Encourage our employees to engage in activities for charities during company time	0.82
Fit indexes: χ^2 value: 747.28; d.f.: 475; χ^2 /df: 1.57; CFI: 0.96; IFI: 0.98; NFI: 0.93	
Items for measuring moderators	
Market turbulence (CR: 0.91, AVE: 0.59, α: 0.91)	
In our kind of business, customers' product preferences change quite a bit over time	0.75
Our customers look for new products all the time	0.75
We are witnessing demand for our products and services from customers who have never bought them before	0.79
New customers have product-related needs that are different from those of our existing customers	0.82
We cater to many of the same customers that we used to in the past	0.81
There is a steady progression of increasing/decreasing sales to a consistent set of consumers	0.78
There are frequent, significant, unpredictable shifts in market growth	0.67
Competition intensity (CR: 0.80, AVE: 0.50, α: 0.80)	
Competition in our industry is cutthroat	0.69
Anything that one competitor can offer, others can match readily	0.77
Price competition is a hallmark of our industry	0.72
Trends in industry growth are rapidly changing	0.66
Regulatory uncertainty (CR: 0.78, AVE: 0.55, α: 0.76)	
There are many new laws, regulations, and policies in our industry	0.83
There are many new voluntary standards and codes in our industry	0.84
New regulations resemble the old ones	0.52
Law enforcement (CR: 0.88, AVE: 0.72, α: 0.88)	
The Korean legal system protects our interests	0.75
The Korean legal system prevents us from being cheated	0.90
The Korean legal system regulates what customers pay	0.89
Fit indexes: χ^2 value: 268.54; d.f.: 110; χ^2 /df: 2.44; CFI: 0.92; IFI: 0.92; NFI: 0.87	
Items for measuring the dependent variable	
Operational performance (CR: 0.70, AVE: 0.78, α: 0.86)	
Consistency in the quality of products	0.59
On-time delivery performance	0.68
Flexibility to changes in volume	0.88
Speed of new product introduction	0.85
Fit indexes: χ^2 value: 4.85; d.f.: 1; χ^2 /df: 4.85; CFI: 0.99; IFI: 0.99; NFI: 0.99	

* All standardized regression weights are significant at p -value < 0.01, with t -value > 1.96 or < -1.96.

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