

A Study of the Impact of Perceived Corporate Social Responsibility on Employees' Green Innovation Behavior : A Mediating Effect Based on Organizational Culture

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Abstract. Economic development and environmental protection have always been an intractable conflict. In the process of enterprise development, motivating employees' green innovation behavior (GIB) becomes an important strategy for enterprises to realize green development and fulfill their social responsibility. This study takes the relationship between Perceived Corporate Social Responsibility (PCSR) and Employees' Green Innovation Behavior (GIB) as the research object to explore the mechanism of PCSR on Employees' GIB under the mediating effect of organizational culture. 407 corporate employees from various companies in China were surveyed using a questionnaire in this study. The study's findings indicate that the impact of employees' PCSR on their GIB is significant. At the same time, organizational culture serves as a mediator between employees' PCSR and GIB, in which development-oriented organizational culture exerts a significant influence on PCSR and employees' GIB, and economic-oriented organizational culture has no significant impact on PCSR and employees' GIB. This study's findings have significant theoretical and practical implications for comprehending the drivers of employees' GIB and for enhancing employees' GIB through building organizational culture.

Keywords: Perceived Corporate Social Responsibility; Employee Green Innovation Behavior; Organizational Culture.

1. Introduction

In the context of continuous innovation in various industries, innovation is an important way to help companies occupy the market to improve competitiveness and is also an important driving force for the sustainable development of enterprises. Green innovative development is increasingly becoming a core strategic many companies adopt due to the far-reaching impact of environmental issues on social development. But whether it is product technology innovation, institutional innovation or management innovation, it is inseparable from the innovation subject, that is, the employees of the enterprise. The positive or negative green innovation behavior (GIB) of employees has become a measure of the social responsibility of enterprises for sustainable development. Employees make a conscious effort to generate or bring new ideas to their workplace and apply them to product design, processes, production methods and other aspects to minimize environmental harm or attain ecologically mandated sustainable development objectives [1]. Corporate social responsibility (CSR) refers to creating value for the company while caring about the well-being of others and the environment [2]. It is reflected within the strategies and operational practices that companies build relationships with all important stakeholders and the natural environment, and take into account their impact on their well-being. However, whether companies have the ability to contribute to the well-being of all parties and meet their social obligations to stimulate employees' innovative motivation, thereby generating green innovative behaviors and achieving corporate leadership in the industry is a topic worthy of study in promoting companies to fulfill their social responsibilities.

An organization's culture is a collection of common values and behavioral norms that influence the interactions between employees and groups during the development of an enterprise [3]. The impact of different organizational culture atmospheres on employees' behavior and attitudes varies greatly. Chen et al. summarized the previous classification of corporate culture based on the behavioral

characteristics of enterprises in the distribution process and divided the corporate culture into those that focus on economics and those that focus on development [4]. Economic-oriented corporate culture focuses on performance-centered employee work evaluation, and employees in this environment focus on gaining absolute contribution and successful experience. Development-oriented corporate culture focuses on sustainable long-term development, and employees of this type of company will have a higher frequency of GIB under this corporate culture. Hur et al. detected that when employees perceive that the company fulfills its social responsibilities, it can effectively arouse employees' empathy, thereby affecting their intrinsic motivation for innovation and leading to innovative behavior [5]. The emergence of green behavior will be influenced by other factors such as the surrounding environment and individuals. When employees feel the company care for society, the environment, etc., the inclusive and open organizational culture will allow employees to have a high sense of identification with the organization, generate motivation for innovation and green behavior, and strengthen their integration into the company. In summary, this study conducted an empirical analysis using corporate employees as questionnaire survey subjects and deeply explored the impact mechanism of employees' perception of CSR on their GIB, as well as tested whether different organizational cultures act as a mediator between CSR perception and employees' GIB.

2. Theory and Hypotheses

2.1. Social Identity Theory

Tajfel and Turner believe that social identity is a term used to describe "An individual's self-image is formed by the group to which they perceive themselves as belonging, as well as the emotional and valuing experiences one gains as a member of the group" [6]. Employees' recognition and identification with CSR directly affect their GIB. The more employees identify with the CSR concept and values, the more they tend to participate in and support the company's green innovation activities. The organizational culture within a company can enhance or weaken employees' identification with CSR. Economic-oriented organizational culture emphasizes performance and efficiency, which may weaken employees' recognition of CSR. It emphasizes economic goals and pays less attention to social impact. This may reduce employees' enthusiasm for participating in GIB. In contrast, the development-oriented organizational culture focuses on employee development and learning and attaches importance to the long-term symbiotic development relationship between the enterprise and the community. Employees can be inspired by such a culture to identify with social responsibility and encourage employees to participate in innovation from a long-term sustainable development perspective. When the economic-oriented organizational culture is too strong, it needs to be adjusted by a development-oriented organizational culture to promote employees' social identification and participation in green innovation.

2.2. Hypothesized Inferences

2.2.1. The Relationship Between PCSR and Employees' GIB

With the rapid development of innovation-driven production, environmental problems have become increasingly prominent, and related concepts such as CSR have emerged. Most scholars focus their research on external aspects of the enterprise, such as providing assistance to the community and carrying out projects related to protecting the environment. These macro-level issues significantly contribute to corporate strategic development and corporate value enhancement. These macro-level issues significantly contribute to corporate strategic development and corporate value enhancement. As relevant theories continue to evolve, more and more researchers have shifted their focus to the interior of the enterprise. As an indispensable internal stakeholder of the corporate employees, they are an important pillar for the normal operation of the enterprise.

Existing literature suggests that CSR has a positive impact on attitudes and habits during work. Maignan et al. stated that the relationship between CSR and employee commitment is favorable [7]. CSR is believed by these scholars to have an impact on employee commitment because employees

have a greater sense of pride in the organization and work activities are made more enjoyable by it. Understanding employee perceptions is crucial as it can have a significant impact on workplace attitudes, behaviors, and performance. In modern companies, employees' perception of CSR is becoming an important factor in driving their innovative behavior. Perceived Corporate Social Responsibility (PCSR) can be categorized into social and environmental dimensions. The social dimension mainly includes the company's contribution and responsibility to society, while the environmental dimension involves the company's environmental protection behavior and impact on the environment. Firstly, the perception of CSR can stimulate employees' sense of moral responsibility and social identity, thus prompting them to be more willing to innovate and come up with new ideas and programs. Secondly, the perception of corporate fulfillment of environmental responsibility can make employees pay more attention to environmental issues, which in turn will push them to carry out green innovation and find more environmentally friendly production methods and product designs.

According to social identity theory, when a company performs better in fulfilling its social responsibilities, employees will be more inclined to identify themselves with the organization's group. When employees perceive the company's positive image in society, their subsequent behaviors will be closer to that of the company. If employees realize that the company attaches importance to environmental protection and takes corresponding measures, they will be more inclined to participate in and support the company's measures such as energy conservation, emission reduction and clean production. This sense of environmental responsibility of employees will stimulate their inherent moral motivation and enable employees to actively propose more green innovation solutions that help achieve corporate environmental protection. Hypotheses are proposed based on the analysis mentioned above:

H1: PCSR positively influences employees' GIB.

2.2.2. The Mediating Role of Organizational Culture

Organizational culture refers to the behavioral norms and values followed by most members of an enterprise. It reflects the basic beliefs and common cognition of the enterprise's business management and can influence the behavior and attitudes of the enterprise's stakeholders. The organizational culture of an enterprise can make employees feel a sense of belonging. Social identity theory argues that the behavior and attitudes of individuals are influenced by the social group they identify with [8]. In the corporate environment, the influence of this social group on corporate employees can be understood as organizational culture. Harris and Mossholder stated that the organizational culture of an enterprise can affect the work attitudes of employees, such as commitment to the organization, morale and motivation [9], that is, organizational culture can affect the perception of enterprise members towards the enterprise.

First, economically oriented organizational culture emphasizes efficiency, competition, and profit maximization. According to social identity theory, in this cultural environment, employees' perception of CSR tends to focus on the social dimension, and employees may be more inclined to engage in innovative behaviors that can directly improve efficiency and economic benefits. However, that doesn't mean they ignore green innovation. Many green innovations, such as improving energy efficiency or reducing waste, can bring significant economic benefits.

Secondly, a development-oriented organizational culture emphasizes innovation, learning, and development. In this cultural environment, employees may be more inclined to engage in innovative behaviors that support the company's long-term growth. For example, They are capable of intentionally generating or introducing new ideas at work and use them in product design, processes, production methods, and other aspects to lower environmental burdens or attain sustainability goals stipulated by ecological regulations [2]. They may also propose green innovation plans for the company to help the company adapt to environmental regulations, meet consumers' green needs, and even open up new markets. Hypotheses are proposed based on the analysis mentioned above:

H2: Organizational culture mediates between PCSR and employees' GIB.

H2a: Economy-oriented organizational culture mediates between PCSR and employees' GIB.

H2b: Development-oriented organizational culture mediates between PCSR and employees' GIB.

3. Design of the Research

3.1. Model Framework

Figure 1 shows the theoretical model linking PCSR to employee GIB and organizational culture, as follows.

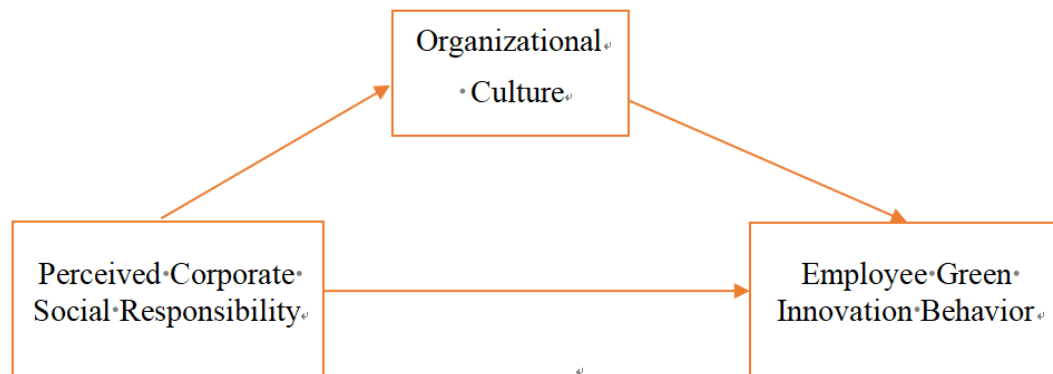


Figure 1. Theoretical Model Linking PCSR to Employee GIB and Organizational Culture

3.2. Research and Analysis Methods

This study uses the mediation effect model to conduct empirical analysis based on the results of the questionnaire. The questionnaire survey used the Corporate Social Responsibility Perception Scale developed by Glavas and Kelley in 2014 [10], and the Employee Green Innovation Behavior Scale developed by Zhang et al. in 2018 [11]. The organizational culture scale refers to the dimensional division of organizational culture by Mannix et al. and is based on the “54 items” developed by O'Reilly et al. to describe organizational culture [12,13]. Based on the research content, this study identified the characteristic items in the “54 items” that are consistent with the two dimensions of economic-oriented organizational culture and development-oriented organizational culture. All scales were measured using the Likert Five Points Scale.

The sample was collected by using the convenient sampling survey method. Online questionnaires were used to collect a total of 407 valid questionnaires. To verify the research hypotheses, a series of statistical and SPSS 29.0 was used to conduct regression analyses. At the same time, when verifying the mediation effect, the confidence interval of the mediation effect was estimated using Baron and Kenny's three-step method and bootstrap technique (Process program).

3.3. Result

3.3.1. Descriptive Statistical Analysis

A total of 407 questionnaires were collected. Regarding gender, 65.6% of the respondents were female and 34.4% were male. Regarding age, majority of the respondents were between 21 and 40 years old, accounting for 92.1% of the total, followed by those between 41 and 60 years old, accounting for 7.4%. In regards to respondents' highest level of education, there were 76.9% who obtained a bachelor's degree, 15% who obtained a master's degree or higher, and 8.1% who obtained a college degree or lower. In terms of the type of company the respondents worked for, 56.5% worked in private companies, 24.6% worked in state-owned enterprises, and 11.1% and 7.9% worked in foreign-funded enterprises and institutions, respectively.

3.3.2. Reliability and Validity Analysis

The reliability and validity of the three variable questionnaire scales were analyzed through SPSS software. It can be inferred that the measurement results of the three variable scales are reliable as the Cronbach's α values of 0.86, 0.76, and 0.79 are respective. The value of KMO are all above 0.7, and Bartlett's significance is less than 0.001, so it is suitable for factor analysis, as shown in table 1.

Table 1. Reliability and Validity Test Form

Scale	amount	Cronbach's α	KMO
Perceived Corporate Social Responsibility	8	0.86	0.90
Employee Green Innovation Behavior	4	0.76	0.77
Organizational Culture	11	0.79	0.86

3.3.3. Hypothesis Testing

Table 2. Correlation Coefficient Table between Variables

Variable	1	2	3	4	5	6
Gender	1					
Age	-0.01	1				
Education	-0.01	-0.15**	1			
Type of enterprise	0.02	-0.10*	0.00	1		
Perceived Corporate Social Responsibility	0.03	-0.02	0.01	-0.05	1	
Employee Green Innovation Behavior	-0.05	0.03	-0.03	-0.06	0.67**	1
Organizational Culture	-0.03	-0.03	0.09	-0.03	0.69**	0.53**

Note: * indicates that the correlation is significant at the significance level of 0.05, ** indicates that the correlation is significant at the significance level of 0.01

Pearson correlation analysis yielded a positive correlation between PCSR and employees' GIB ($r=0.67$, $p<0.01$), a positive correlation between PCSR and organizational culture ($r=0.69$, $p<0.01$), and a positive correlation between employees' GIB and organizational culture ($r=0.53$, $p<0.01$), as shown in table 2.

Table 3. Coefficients

	Model 1	Model 2	Model 3
	X \rightarrow Y	X \rightarrow M	X+M \rightarrow Y
Control Variables			
Gender	-0.10	-0.04	0.11
Age	0.10	0.00	-0.15
Education	-0.04	0.07	-0.09
Type of enterprise	-0.01	0.00	-0.08
Independent Variable			
Perceived Corporate Social Responsibility	0.72***	0.48***	0.62***
Mediator			
Organizational Culture			0.20***
R	0.67	0.69	0.68
R2	0.45	0.48	0.46
F	66.09	73.44	56.98

Table 4. Mediation Test

	Effect	SE	t	p	-1SD (-.95)	+1SD (+.95)
Total effect	0.72	0.04	18.03	0.00	0.64	0.80
Direct effect	0.62	0.05	11.40	0.00	0.51	0.73
Indirect effect	0.10	0.05	/	/	0.01	0.19

Model 1 in Table 3 shows that PCSR has a positive relationship ($\beta = 0.72, p < 0.001$) with employees' GIB, so H1 holds. To verify H2, it is necessary to follow three-step approach. The first step requires determining the relationship between PCSR and employees' GIB. Model 1 in Table 3 shows a significant positive correlation ($\beta = 0.72, p < 0.001$). The second step tested the relationship between PCSR and organizational culture. Model 2 in Table 3 shows that the relationship is significantly positive ($\beta = 0.48, p < 0.001$). The third step tests the relationship between organizational culture and employees' GIB. After adding the mediating variable of organizational culture, the relationship between PCSR and employees' GIB remained significant ($\beta = 0.62, p < 0.001$) as shown in Model 3 in Table 3. The mediation effect test table from Table 4 shows that the confidence interval of the indirect effect is [0.01, 0.19], which does not contain 0. Therefore, the indirect effect of organizational culture is significant and plays a mediating role in the effect of PCSR on employees' GIB. At the same time, the confidence interval of the direct effect is [0.51, 0.73] and also does not contain 0. The direct effect of PCSR on employees' GIB is significant, then organizational culture plays a partially mediating role. Therefore, H2 is verified.

The mediating effect was tested on the two dimensions of organizational culture: economic orientation and development orientation, as shown in table 4. Through linear regression analysis, it was found that economic-oriented organizational culture is not significant in the impact of PCSR on employees' GIB (adjusted $R^2 = 0.44, \beta = -0.45, p > 0.05$), and H2a was not verified. Development-oriented organizational culture is significant in the impact of PCSR on employees' GIB (adjusted $R^2 = 0.47, \beta = 0.24, p < 0.001$), and H2b is verified.

4. Conclusion

This paper explores research on GIB using a questionnaire survey of 407 employees, which is based on social identity theory. Accordingly, the following conclusions are drawn. First, the stronger CSR perceived by employees, the more it promotes their GIB, and the organizational culture plays a partial mediating role in both. Second, the development-oriented dimension of organizational culture can enhance this effect, but the economic-oriented dimension has no mediating effect on this effect. Specifically, a development-oriented organizational culture that encourages learning and progress can stimulate employees' sense of responsibility, which can be transformed into more GIB when employees feel that the company is fulfilling its social responsibilities. This suggests that in organizational environments that provide opportunities for learning and tolerance for failure, employees are more able to feel deeply about fulfilling their social responsibilities and their sense of social responsibility can be better developed. However, the economically oriented organizational culture that emphasizes effectiveness does not pay attention to the development of employees' sense of responsibility and did not have a significant impact on the path of this study.

Overall, fulfilling CSR and building a development-oriented organizational culture are important factors in promoting employees' GIB. Enterprises should focus on managing these two aspects at the same time, actively fulfill their corporate social responsibilities and reasonably guide employees' perception of corporate social responsibilities, attach importance to employees themselves and the long-term growth of the company. Truly achieve endogenous results to stimulate their GIB.

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