



Perceived Corporate Social Responsibility Effect on Job Performance of Research and Development Staff in Industrial Companies: The Mediating Role of Affective Commitment, Dalian, China

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Abstract

As more and more people pay attention to corporate social responsibility (CSR), the research is also deepening. Perceived corporate social responsibility (PCSR) as a part of CSR has also received attention. However, PCSR of research and development (R&D) staff in industrial companies is still insufficient. The purpose of this paper is to study: (1) The relationship between each dimension of PCSR and each dimension of job performance; (2) The relationship between each dimension of PCSR and affective commitment; (3) The relationship between affective commitment and each dimension of job performance; Finally, it reveals the action mechanism of affective commitment between each dimension of PCSR and each dimension of job performance for R&D staff in industrial companies. This paper takes R&D staff of industrial companies in Dalian region of China as sample. Structural equation model (SEM) technology is conducted on 452 valid questionnaires. The findings are as follows: 1) Each dimension of PCSR plays a significantly positive role in predicting task performance; Employee, consumer, and environmental perception respectively has a significantly positive effect on contextual performance among R&D staff in industrial companies. 2) Each dimension of PCSR has a significantly positive effect on affective commitment. 3) Affective commitment of R&D staff in industrial companies plays a significantly positive role in predicting each dimension of job performance. 4) Affective commitment of R&D staff in industrial companies plays a significant mediating role between PCSR dimensions and job performance dimensions. However, there is heterogeneity in the mediating effect between different dimensions. From the conclusion of this paper, enterprises should pay more attention to the partner dimension of CSR implementation, and the good performance of partner responsibility perceived by employees will also directly affect employees' affective commitment to the organization.

Keywords: Industrial Company, R&D Staff, CSR, PCSR, Job Performance, Affective Commitment

Introduction

As the environment continues to deteriorate and resources become increasingly tight, industrial enterprises, which are high energy-consuming and polluting, are forced to transition to sustainable development (Moldavská, A., & Welo, T. (2019). The sustainability of the company is also directly determined by the performance of all employees. Among employees, R&D staff, as the main body that can fully promote the sustainable development of industrial enterprises, are indispensable in the process of transformation and upgrading of industrial enterprises (Xiao, J., et al. (2021). and the level of their work performance has a significant impact. It is undeniable that employees' performance levels are influenced by their perceptions, attitudes and behaviors (Fisher R. et al., 2010). However, few studies have been conducted on



the antecedents and mechanisms of job performance for R&D staff in industrial enterprises, who are one of the main drivers of sustainable economic development.

Sheldon O.(1924) is the first to introduce the concept of CSR in his book *The Philosophy of Management*. He believes that the goal of business is not only to produce products, but also to fulfill social responsibility, that is, to meet the various needs of people inside and outside the industry, including ethical factors, and community interest as a measure that is much higher than the company's profit. With the deepening of the research on CSR, some scholars have also paid attention to the impact of CSR on employee behavior. Only a few scholars (Yan A.M. et al., 2022; Zhou N.H. et al., 2021) have conducted from the perspective of PCSR, that is, employees' subjective feelings on the results of CSR activities. However, the mechanism of how different dimensions of CSR perceived by employees affect their job performance is not clear.

To sum up, this study needs to answer the following four questions:

Qs1: What are the predictive effects of each dimension of PCSR on each dimension of job performance for R&D staff in industrial companies?

Qs2: What are the predictive effects of each dimension of PCSR on affective commitment for R&D staff in industrial companies?

Qs3: What is the predictive effect of affective commitment on each dimension of job performance for R&D staff in industrial companies?

Qs4: What is the mediating mechanism of affective commitment between each dimension of PCSR and each dimension of job performance for R&D staff in industrial companies?

There are two main benefits of this study. First, most of the existing studies on PCSR are based on consumer perspective. This paper tries from the perspective of internal employees, and uses employees' perceptions to approach this issue, which is more in the nature of "cognitive - attitudinal - behavioral" research chain. Second, this study can enable managers of industrial enterprises to know PCSR of R&D staff how to affect their affective commitment. Understand how PCSR affects job performance. Learn how to develop which part of PCSR is the least cost to improve affective commitment and job performance, but the most effective.

Research Objective

- 1) The relationship between each dimension of PCSR and each dimension of job performance;
- 2) The relationship between each dimension of PCSR and affective commitment;
- 3) The relationship between affective commitment and each dimension of job performance

Literature Review

1 Concepts and Theories

1.1 R&D Staff. Drucker P.F. (2013) believes that knowledge workers are those who master and use symbols and concepts, and work with knowledge or information. Horibe (1999) argues that knowledge workers are those who use their brains to do their work, have their own ideas in the process, and bring more added value to the product through their unique ideas. R&D staff not only have the characteristics of knowledge workers stated by above scholars, but also have unique characteristics that distinguish them from knowledge workers. The core of their work lies in research and development, and innovation plays an irreplaceable role in their work. For the purpose of obtaining population size rigor, the definition of R&D personnel adopts the provisions of Announcement No. 40 of the State Administration of Taxation of the



People's Republic of China in 2017: Staff of R&D activities include researchers, technicians, and supporting staff.

1.2 PCSR. Although PCSR is born along with the in-depth development of CSR related research, PCSR is a construct at the individual level, not the same as CSR which is a concept at the enterprise level (Aguinis, H., & Glavas, A. (2012) Employees' PCSR refers to employees' subjective perception on enterprises' behavior of fulfilling CSR (Aguilera et al., 2007). Studies have shown that the impact of CSR on employees' attitudes and behaviors is mainly from their PCSR aspects, and their perceived degree of corporate fulfillment on CSR can directly affect employees' work attitudes or job performance (Turker, D. 2009). Some studies have even shown that employees' PCSR has a positive impact on employees' attitudes, such as employees' trust, affective commitment and job satisfaction (Jones, 2010; De Roeck & Delobbe, 2012; Mueller et al., 2012; Kim, H. R., et al (2010).. However, if employees find that an organization's CSR behavior is symbolic rather than real, it may trigger negative reactions from employees that can have a serious adverse impact on the organization (Afsar, B. et al., 2020). Many scholars (Brown, T. J., & Dacin, P. A. (1997).; Rupp et al., 2006) have conducted empirical studies on the impact of employees' PCSR on their attitudes and behaviors, but the results remain inconsistent and inconclusive. Du et al. (2015) and Suh (2016) conclude that PCSR has a positive effect on employees' job satisfaction, while Wisse et al. (2018) find a negative relationship between PCSR and job satisfaction. Therefore, the impact of employees' perceived CSR on attitudes and behaviors remains to be studied in depth.

Second, research results on employees' PCSR in the Chinese context have mostly focused on service industries such as hotels (Liu, Y., et al. (2021).; Kong et al., 2019), while few studies have been conducted on industrial enterprises. Therefore, this study selects industrial enterprises with a complete process of value creation to enrich the existing research on employees' PCSR in the Chinese context.

In addition, most of existing PCSR measurement scales are developed based on stakeholder theory and different dimensions of CSR (Turker, D 2009). However, CSR to be performed by industrial enterprises is special due to its long value creation chain, the wide range of stakeholders involved, and the complexity of production and operation. At the same time, R&D staff have obvious innovative work nature and characteristics of the times. Therefore, the general or traditional PCSR measurement scales are difficult to be applied to PCSR measurement of R&D staff in today's industrial enterprises. To this end, this study developed a four-dimensional PCSR measurement scale for R&D staff in industrial enterprises based on the stakeholder theory and the characteristics of industrial R&D staff through semi-structured interviews and grounded theory, including employee perception, consumer perception, environment perception and partner perception. The scale has good reliability and validity.

1.3 Job Performance. Job performance is often used to measure how effectively a job is performed. Performance is a combination of "behavior" and "outcome", which includes both the behavior and the results of the employee's work (Brumbrach, 1988). For the measurement of job performance, the construction of the two-dimensional job performance model of task performance and contextual performance (Borman & Motowidlo, 1993; Motowidlo & Van Scotter, 1994; Rotundo & Sackett, 2002), which laid down that job performance is a unified body of outcomes and behaviors, has strongly promoted the dimensional measurement scientific and normative development. Task performance is the result of work formed by an individual employee in response to, such as supervisory instructions, job standards, job descriptions, and other organizational requirements for formal roles, or the degree to which the employee accomplishes the tasks assigned by the organization (Motowidlo & Van Scotter,



1994). Contextual performance is similar to an extra-role behavior, such as prosocial behavior, and organizational citizenship behavior. It is a series of activities related to social, organizational and psychological environments that support the operation of core organizational skills. Although contextual performance does not directly have an effect on organizational performance, it facilitates the construction of cordial organizational relationships, the creation of a favorable organizational environment, and can contribute to the level of individual employee task performance and further achieve the overall effectiveness of the organization. The two-dimensional job performance model, consisting of task performance and contextual performance, is not only generally accepted in the academic. The reliability and validity of this structure have also been widely confirmed in the Chinese context (Liu, Y., et al. (2021).; Zhang et al., 2008).

1.4 Social Exchange Theory. When a company implements a certain degree of social responsibility to its stakeholders, the company gives them direct or indirect benefits to the employees, and after the employees feel these benefits, they will pay back the company with the same amount of effort, and then the employees will put more energy and time into their work and finish their work efficiently.

1.5 Social Identity Theory. Individuals will distinguish themselves from other individuals or organizations through the process of social comparison, comparing observed things or behaviors to the extent that they are similar to the self (McLeod, 2008). Then classify themselves into social groups with some of the same attributes or assigning themselves to a member of a social group, and the perceptions or judgments formed by social comparison will influence individual attitude choices.

1.6 Signaling theory. It usually means that the more informed party in the market transmits relevant information to the less informed party by means of signals, thus influencing or changing the choice intentions of the less informed party and bringing the market to equilibrium.

2 Related Research and Research Hypothesis

2.1 PCSR and Job Performance. Li et al. (2012) argue that, in order to adapt to the development of society and improve their own shortcomings, enterprises fulfill their responsibilities to their stakeholders by bringing them material and spiritual satisfaction through positive behaviors, so that they can feel a certain pressure of favor and in turn bring rewarding payments to the enterprise with their own behavioral activities. These behavioral activities include the benefit of employee performance improvement.

Furthermore, signaling theory asserts that individuals interpret observable organizational behaviors as signals of unobtrusive observable firm characteristics, thereby forming impressions of the organization (Goldberg & Allen, 2010). Employees continually attempt to grasp less obvious characteristics of the organization (e.g., the organization's willingness to give to its stakeholders) by observing observable signals (e.g., the organization fulfills its corporate responsibility to its stakeholders), which in turn shapes employees' evaluations of the organization and changes their attitudes and behaviors (McNamara et al., 2017). Good CSR performance sends a signal that employees are valued by the organization beyond the fact that they work for a living in such an organization. As a result, employees are willing to trust the organization and take on more responsibility to improve organizational performance (Rhoades et al., 2001). This trust also encourages employees to respond positively to the organization's call to put more effort in their work to improve their performance (Xiong, 2015). Therefore, the following hypotheses are formulated:

H1-1-a: Employee perception of PCSR positively affects task performance



- H1-1-b: Consumer perception of PCSR positively affect task performance
- H1-1-c: Environment perception of PCSR positively affects task performance
- H1-1-d: Partner perception of PCSR positively affects task performance
- H1-2-a: Employee perception of PCSR positively affects contextual performance
- H1-2-b: Consumer perception of PCSR positively affect contextual performance
- H1-2-c: Environment perception of PCSR positively affects contextual performance
- H1-2-d: Partner perception of PCSR positively affects contextual performance

2.2 PCSR and Affective Commitment. As one of the most direct stakeholders within the company, employees are able to intuitively perceive the decisions and actions of the company. Therefore, employees will analyze and judge the company's decisions or behaviors. If they perceive that the company's CSR behaviors are for the benefit of employees, society, environment and partners, and are positively evaluated by society, it will strengthen their pride and identification with the organization and deepen their self-concept as a member of the organization. Turker, D. (2009) argues that if an organization takes on external stakeholder social responsibility, such as sacrificing their own interests for the public collective good, it may enhance the external reputation of the organization, which may inspire employees to take pride in being a member of the organization thus leading to higher commitment to the organization. Pu (2011) also demonstrates through an empirical study that employees' PCSR has a direct impact on their organizational commitment.

Dögl, C., & Holtbrügge, D. (2014). According to signaling theory states that information asymmetry determines that the information employees know about the organization is usually incomplete, so they use signals to deconstruct the organization's intentions and behavior. The fulfillment of CSR as a signal helps to enhance the organization's position in the competitive environment and also enhances the perception of various stakeholders about the organization thus improving the corporate reputation. Related studies also confirm that organizational reputation has a high correlation with employees' commitment to the organization (Kim, H. R., et al (2010). Hofman & Newman (2014) find that improving the company's image or treating employees more fairly than other companies enhances employees' sense of responsibility and emotional attachment to the organization, that is, a good PCSR of employees promotes employees' sense of organizational fairness, which in turn can promote their emotional attachment (affective commitment) to the organization. Therefore, the following hypotheses are formulated:

- H2-a: Employee perception of PCSR positively affects affective commitment
- H2-b: Consumer perception of PCSR positively affect affective commitment
- H2-c: Environment perception of PCSR positively affects affective commitment
- H2-d: Partner perception of PCSR positively affects affective commitment

2.3 Affective Commitment and Job Performance. Most of the existing studies on the relationship between affective commitment and job performance have examined affective commitment as a dimension in organizational commitment. In a study by Allen & Meyer (1990), employees with high levels of organizational commitment show more positive attitudes and enthusiasm for their work, which effectively improve their task performance. Jaralnillo et al. (2005) analyze a group of salespeople and present that organizational commitment is positively correlated with job performance, and that cultural differences also have different effects, groups with strong collectivism having more significant organizational commitment. Mercurio (2015) argues that affective commitment should be a core essence of organizational commitment. Affective, or attitudinal, commitment repeatedly correlated more strongly with consequences



such as turnover and performance as summarized by important meta-analyses of the research (Cooper-Hakim & Viswesvaran, 2005; Meyer et al., 2002; Riketta, 2005). Riketta (2002) shows that affective commitment and performance are highly correlated, but there is variation across worker groups, with white-collar workers having a higher degree of affective commitment than blue-collar workers. Luchak & Gellatly (2007) recognize that affective commitment tends to have a closer degree of influence on job performance than does continuance commitment. Solinger et al. (2008) confirm previous meta-analyses' findings that found affective commitment correlated more strongly with absence, performance, and organizational citizenship behaviors than continuance commitment and normative commitment.

From above studies on the relationship between affective commitment and job performance, it is clear that the higher degree of emotional attachment to the organization, the more strong bond with the organization employees will psychologically establish, and thus the more willing to give and dedicate themselves to the organization. Therefore, the following hypotheses are formulated:

- H3-1: Affective commitment positively affects task performance
- H3-2: Affective commitment positively affects contextual performance

2.4 The Mediating Role of Affective Commitment between PCSR and Job Performance. According to social identity theory, employees' perceptions of CSR can promote employees' affective attitudes (e.g., identification and commitment) toward the organization thereby contributing to improved job performance (Newman et al, 2015). Organizations develop their good reputation, unique and attractive image by actively fulfilling their responsibilities to various stakeholders. When these traits are perceived by employees, the process of social identification leads them to enhance their self-perception and recognition of the organization, which leads to a psychological emotional attachment to this organization, that is, affective commitment. Employees who are highly emotionally attached to the organization have a stronger sense of belonging to the organization and are more willing to make efforts and behaviors beyond the scope of work to achieve the organization's goals, thus achieving better job performance.

In addition, based on social exchange theory, all social behavior is the result of reciprocal exchange. When companies take social responsibility for their employees, employees feel benefited and thus develop positive emotional attachment to the organization and reward the organization with behaviors that benefit the organization and others in the organization. Blau (1964) points out that when making charitable donation, there is not only social exchange between the donor and the recipient, but also social exchange between the donor's own social organization. Therefore, regardless of whether the social responsibility fulfilled by the company has a direct stake in the employees, the employees will compare the relevant performance of other companies and develop a sense of pride. Eventually, employees emerge affective commitment and reward the material or spiritual benefits brought to them by the organization with high work performance output. Therefore, the following hypotheses are formulated:

H4-1-a: Affective commitment plays a partial mediating role between employee perception of PCSR and task performance

H4-1-b: Affective commitment plays a partial mediating role between consumer perception of PCSR and task performance

H4-1-c: Affective commitment plays a partial mediating role between environment perception of PCSR and task performance

H4-1-d: Affective commitment plays a partial mediating role between partner



perception of PSCR and task performance

H4-2-a: Affective commitment plays a partial mediating role between employee perception of PSCR and contextual performance

H4-2-b: Affective commitment plays a partial mediating role between consumer perception of PSCR and contextual performance

H4-2-c: Affective commitment plays a partial mediating role between environment perception of PSCR and contextual performance

H4-2-d: Affective commitment plays a partial mediating role between partner perception of PSCR and contextual performance

2.3 Conceptual Framework

The conceptual framework of this study is shown in Figure 1.

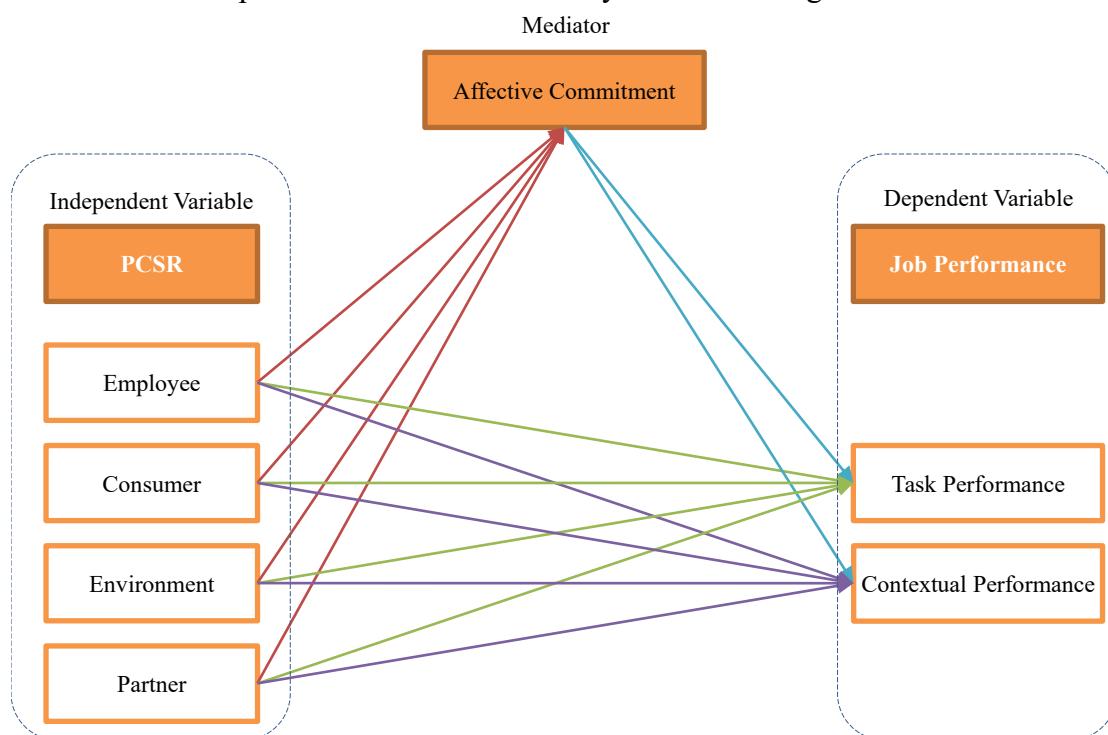


Figure 1 Conceptual framework

Research Methodology

1 Research Tools and Measurement Scales

The questionnaire used is divided into four sections with a total of 43 items. Items of scales are scored on a five-point Likert-type scale from strongly disagree (1) to strongly agree (5). The questionnaire presents sound in pretest. The statements are clear and accurate in description, and easy to understand. IOC is developed by five professors who specialize in human resource and organizational development of industrial companies' R&D staff. The result is calculated greater than 0.750. After pilot test with a small sample size, the reliability of the results are more than 0.7. Each scale meets two criteria which are used to assess the validity of the structure: KMO value more than 0.5; p-value of Bartlett's test of sphericity less than 0.05. Additionally, an exploratory factor analysis technique is used. The component load coefficients after rotation are all greater than 0.5 of each scale, and the construct validity of each scale is relatively good.



PCSR scale. Due to the obvious industrial characteristics of the PCSR of R&D staff in industrial companies, this study finally develops PCSR scale for R&D staff in industrial companies based on stakeholder theory, through semi-structured interviews with 20 experts in the field of industrial R&D, and grounded theory to collect and analysis data. The scale includes four dimensions of employee, consumer, environment, and partner perception, with a total of 19 items.

Job performance scale. The scale developed by Williams & Anderson (1991) is used for task performance. However, considering the length of the questionnaire, this study removes two reverse items (Wheeler et al., 2011), five items retained. Regarding contextual performance, the 7-item organizational citizenship behavior scale developed by Lee & Allen (2002) is used.

Affective commitment scale. This study adopts the affective commitment subscale designed by Allen & Meyer (1990), eight items with three reverse in the scale.

Control variables. Gender, age, education level, and years of work in the company of the questionnaire respondents.

2. Sample and Data Collection

This study takes R&D staff of industrial enterprises in Dalian region of China as population, and the population size is 36379 after consulting the statistical yearbook. Using the sample size calculation method developed by Yamane (1967), the sample size is 396 ($e = 5\%$). Random sampling method employed, 514 formal questionnaires are randomly distributed on the questionnaire platform, and 452 valid questionnaires are collected.

3. Data Analysis

In this study, formal questionnaires are collected for sample characteristics analysis of demographic variables, descriptive statistics and normality test, reliability and validity test. Finally, the structural model is tested for fitness and hypothesis testing is carried out using SEM.

Research Results

1 Description of Distribution of Sample Population Characteristics

This study makes frequent statistics on the gender, age, educational level and working years of the respondents in the basic data. The results are shown in Table 1. The gender is relatively balanced, with males accounting for 51.11% and females for 48.89%; The age was mainly 31-35 years old, accounting for 45.35%; The education level was mainly university, accounting for 77.21%; The working years are mainly 11-15 years, accounting for 38.05%.



Table 1 Description of Distribution of Sample Population Characteristics

Variable	Option	Frequency	Percentage
Gender	Male	231	51.11%
	Female	221	48.89%
Age	21 to 25	2	0.44%
	26 to 30	51	11.28%
Age	31-35	205	45.35%
	36 and 40	152	33.63%
Education	41 and above	42	9.29%
	bachelor degree	349	77.21%
Education	master degree	93	20.58%
	doctor degree and above	10	2.21%
Work year	1-5 years	11	2.43%
	6-10 years	142	31.42%
Work year	11-15 years	172	38.05%
	more than 15 years	127	28.10%

2 Descriptive Statistics and Normality Tests

Descriptive statistical analysis is conducted for each item, each dimension and each variable. The mean scores of PCSR ($mean = 3.677, SD = 0.634$), job performance ($mean = 3.605, SD = 0.767$), and affective commitment ($mean = 3.766, SD = 0.765$) are between 3 and 4. The absolute values of skewness coefficient and kurtosis coefficients of each item in this study are less than 3 and 10, respectively.

3 Reliability and Validity

The results of reliability analysis are shown in Table 2. All of the Cronbach Alpha values are more than 0.8, and this means that the scales used in this study have good internal consistency and good reliability. The largest value of χ^2/df is 2.799 seemed excellent which is in the range of 1-3. All of RMSEA and SRMR are less than 0.05 and the vales of GFI, AGFI, IFI, TLE, and CFI are more than 0.9. So, the association between items and dimensions in the questionnaire is correct, and the degree of fit between the actual measured data and the theoretical framework is excellent.

Under the premise that the CFA model of each scale has a good fit, check AVE and CR of each dimension in each scale. AVE value of each dimension reaches above 0.5, and CR value reaches above 0.7, which indicates that each dimension has good convergent validity and composite reliability.

Table 2 Cronbach Alpha, AVE, CR, and Model Fit Test of Each Variable Scale

Variable	Dimension	Item	Cronbach Alpha	AVE	CR
PCSR	Employee	5	0.881	0.604	0.884
	Consumer	3	0.844	0.650	0.848
	Environment	4	0.853	0.601	0.857
	Partner	7	0.916	0.613	0.917
JP	AC	8	0.901	0.901	0.905
	Task performance	5	0.866	0.570	0.868
	Contextual performance	7	0.908	0.595	0.911

Model Fit Test:



PCSR: $\chi^2/df=1.703$, GFI=0.948, AGFI=0.932, RMSEA=0.039, SRMR=0.031, IFI=0.978, TLI=0.974, CFI=0.978

AC: $\chi^2/df=2.799$, GFI=0.968, AGFI=0.943, RMSEA=0.063, SRMR=0.026, IFI=0.980, TLI=0.972, CFI=0.980

JP: $\chi^2/df=1.840$, GFI=0.966, AGFI=0.950, RMSEA=0.043, SRMR=0.025, IFI=0.985, TLI=0.981, CFI=0.985

Note. Employee: employee perception; Consumer: consumer perception; Environment: environment perception; Partner: partner perception; AC: affective commitment; JP: job performance; TP: task performance; CP: contextual performance

4 Structural Equation Model Results

SEM is analyzed by considering the consistency of the empirical data in examining the relationships between PCSR, affective commitment, and job performance of R&D staff in industrial companies. The results of the model (Figure 2) exhibit an acceptable fit and standardized coefficient.

According to the analysis results in Table 3, in the path hypothesis relationship test of this study, employee perception significantly positively predicts task and contextual performance respectively ($\beta = 0.151, p < 0.001$; $\beta = 0.156, p < 0.001$), so Hypotheses H1-1-a and H1-2-a are supported. Consumer perception significantly positively predicts task and contextual performance respectively ($\beta = 0.191, p < 0.001$; $\beta = 0.194, p < 0.001$), so Hypotheses H1-1-b and H1-2-b are supported. Environment perception significantly positively predicts task and contextual performance ($\beta = 0.211, p < 0.001$; $\beta = 0.166, p < 0.001$), so Hypotheses H1-1-c and H1-2-c are supported. Partner perception significantly positively predicts task performance ($\beta = 0.194, p < 0.001$), so Hypothesis H1-1-d is supported. The predictive effect of partner perception on contextual performance is not significant ($\beta = 0.058, p > 0.05$), so Hypothesis H1-2-d is unsupported. Employee perception significantly positively predicts affective commitment ($\beta = 0.153, p < 0.01$), so H2-a is supported. Consumer perception significantly positively predicts affective commitment ($\beta = 0.164, p < 0.001$), so H2-b is supported. Environment perception significantly positively predicts affective commitment ($\beta = 0.248, p < 0.001$), so H2-c is supported. Partner perception significantly positively predicts affective commitment ($\beta = 0.308, p < 0.001$), so H2-d is supported. Affective commitment significantly positively predicts task performance ($\beta = 0.285, p < 0.001$), so H3-1 is supported. Affective commitment significantly positively predicts contextual performance ($\beta = 0.381, p < 0.001$), so H3-2 is supported.

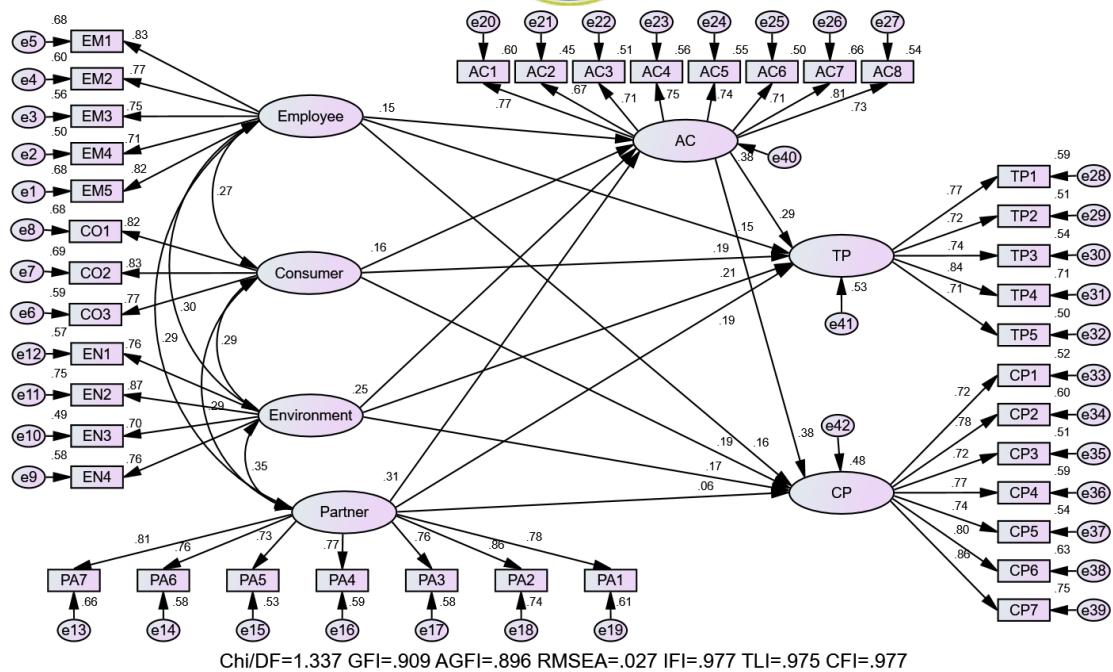


Figure 2 Result of SEM

Table 3 Test Results of Path Relationship Hypothesis of the SEM

	Path		Estimate	S.E.	C.R.	P
AC	<---	Employee	0.153	0.041	3.164	0.002
AC	<---	Consumer	0.164	0.059	3.305	* * *
AC	<---	Environment	0.248	0.052	4.808	* * *
AC	<---	Partner	0.308	0.048	6.122	* * *
TP	<---	Consumer	0.191	0.052	4.034	* * *
CP	<---	Consumer	0.194	0.048	4.089	* * *
TP	<---	Environment	0.211	0.046	4.261	* * *
TP	<---	Employee	0.151	0.036	3.316	* * *
CP	<---	Environment	0.166	0.042	3.399	* * *
CP	<---	Employee	0.156	0.034	3.414	* * *
TP	<---	Partner	0.194	0.043	4.005	* * *
CP	<---	Partner	0.058	0.039	1.236	0.217
CP	<---	AC	0.381	0.049	6.708	* * *
TP	<---	AC	0.285	0.051	5.225	* * *

SEM results of the hypothesis test of the mediating role path relationships between PCSR, affective commitment and job performance. This study tests the indirect effect, direct effect and total effect of the four dimensions in PCSR on the two dimensions in job performance through affective commitment. Using bootstrap method, the number of samples is set as 2000 and the 95% bias-corrected confidence level is used to test the mediating effect. If the bootstrap confidence interval does not contain 0, the corresponding indirect effect, direct effect, or total effect exists. The results in Table 4 show that each dimension of PCSR → Affective commitment → Task performance and first three dimensions of PCSR → Affective commitment → Contextual performance at 95% of bias-corrected confidence level do not contain 0, and the corresponding indirect effect, direct effect and total effect exist. Therefore,



hypotheses H4-1-a, H4-1-b, H4-1-c, H4-1-d, H4-2-a, H4-2-b, and H4-2-c are supported. In Partner perception → Affective commitment → Contextual performance, 0 is included at the 95% of bias-corrected confidence level, and the corresponding direct effect does not exist, while the corresponding indirect effect and total effect exist, and affective commitment in this case is fully mediated. Therefore, Hypothesis H4-2-d is unsupported.

Table 4 Mediating Effect Test Results

Path	Type of effect	Estimate	95% confidence interval		P
			Lower	Upper	
Employee - AC - TP	Indirect effect	0.044	0.017	0.084	0.001
	Direct effect	0.151	0.055	0.246	0.004
	Total effect	0.195	0.100	0.289	0.001
Consumer - AC - TP	Indirect effect	0.047	0.019	0.087	0.001
	Direct effect	0.191	0.096	0.284	0.001
	Total effect	0.238	0.145	0.333	0.001
Environment - AC - TP	Indirect effect	0.071	0.036	0.122	0.001
	Direct effect	0.211	0.112	0.316	0.001
	Total effect	0.281	0.179	0.390	0.001
Partner - AC - TP	Indirect effect	0.088	0.051	0.133	0.001
	Direct effect	0.194	0.091	0.290	0.001
	Total effect	0.281	0.180	0.371	0.001
Employee - AC - CP	Indirect effect	0.058	0.023	0.106	0.002
	Direct effect	0.156	0.063	0.248	0.001
	Total effect	0.214	0.114	0.311	0.001
Consumer - AC - CP	Indirect effect	0.062	0.024	0.111	0.001
	Direct effect	0.194	0.092	0.282	0.001
	Total effect	0.256	0.145	0.351	0.002
Environment - AC - CP	Indirect effect	0.094	0.050	0.148	0.001
	Direct effect	0.166	0.072	0.257	0.002
	Total effect	0.260	0.165	0.356	0.001
Partner - AC - CP	Indirect effect	0.117	0.078	0.170	0.001
	Direct effect	0.058	-0.034	0.163	0.199
	Total effect	0.176	0.085	0.280	0.001

Discussions

The four perception dimensions of PCSR for R&D staff in industrial enterprises have different effects on task performance and contextual performance, especially the mediating effect of partner perception dimension on contextual performance must be the same as affective commitment. The partner dimension in PCSR is necessary for contextual performance to work through the role of affective commitment. This research finding is rather surprising, yet understandable. After all, contextual performance is fundamentally different from task performance. Contextual performance is more likely to highlight employees' recognition of the organization, and the only way to produce better contextual performance is to emit passion from within. This finding also provides a strong guide for future management practice.

There are four conclusions: First, the most important dimension of PCSR that affects task performance is environment perception, while consumer, employee and partner perception also have important effects on task performance. Second, the most important dimension of



PCSR affecting contextual performance is consumer perception, while environmental and employee perception also have an important impact on contextual performance. Third, the most important dimension of PCCSR affecting affective commitment is partner perception, while partner perception can only affect contextual performance through affective commitment. Environmental, employee and consumer perception also have an important impact on affective commitment. Fourth, affective commitment plays a mediating role between dimensions of PCCSR and dimensions of job performance of R&D staff in industrial enterprises. But there is a clear difference in the mechanism of mediating action.

Recommendations

First recommendations on management practices. We should improve PCCSR and pay attention to the perception of R&D staff of industrial enterprises on different stakeholders. It can be seen that high CSR awareness means that enterprises consciously and spontaneously fulfill their responsibilities for the stakeholders, which not only cover the traditional stakeholders, employees, environment and consumers, but also partners. Partners include shareholders, creditors, suppliers, competitors, media and public opinion, government and community in each link of the value creation process of industrial enterprises. From the conclusion of this paper, enterprises should pay more attention to the partner dimension of CSR implementation, and the good performance of partner responsibility perceived by employees will also directly affect employees' affective commitment to the organization.

Second, actively use PCCSR to enhance the affective commitment of R&D staff in industrial enterprises. In the strategy of improving employees' affective towards enterprises, enterprises should not ignore the input of stakeholders in the partner dimension, especially suppliers, media and the public, because this paper finds that if the CSR of enterprises to stakeholders in the partner dimension is perceived by employees, the positive impact on employees' affective commitment is more obvious than that of other perception dimensions.

Third, suggestions for future theoretical research. This study mainly focuses on the PCCSR of R&D staff in industrial enterprises in Dalian region. In the future, R&D staff in industrial enterprises in the Yangtze River Delta Economic Belt and the Pearl River Delta Economic circle with more development power can be selected for research. And subsequent studies can moderately expand the research group, so as to compare the differences of the characteristics of different groups and enrich the related theories of PCCSR. PCCSR of R&D staff in industrial enterprises is not static. When their R&D requirements increase, their perceptual extension tends to expand. Therefore, it is necessary to further explore the dynamic evolution of PCCSR.

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