

# THE IMPACT OF CORPORATE SOCIAL RESPONSIBILITY PRACTICES AND ENVIRONMENTAL FACTORS ON SUPPLY CHAIN PARTNERSHIP: AN EMPIRICAL EXAMINATION

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## ABSTRACT

*This study is intended to develop our understanding of the supply chain social responsibility governance mechanism with buyers' and sellers' perspectives to manufacturers for the supply chain partnership's persistence. As a research sample for the industrial enterprises, the structural equation model is applied to examine the impact of the seller and buyer's supply chain CSR governance mechanism on the SCP among them under the presence of market disturbance. The samples were collected from 199 Chinese manufacturing firms; PLS-SEM was constructed to test both the reliability and validity of measurement and the structural model. The results indicated that SCR is positively related to CSR and its influence on the participating firms' SCP and competitive advantage. The study suggested that the supply chain's core partners should strengthen the scope of (SRM) in the supply chain and create the value of social responsibility in the supply chain through integration and collaboration.*

**Keywords:** Corporate Social Responsibility (CSR), Supply Chain Management (SCM), Governance Mechanism, Supply Chain Partnership (SCP), Market Disturbance.

## INTRODUCTION

Corporate social responsibility and supply chain management have started in the 1990s (Asghari et al., 2018). The relationships and integration between corporate social responsibility and supply chain management have originated from sustainable supply chain management (Arora et al., 2016). The proliferation of changes in the environment (Ağan et al., 2016), the need for transparency, increased pollution, fluctuation in the energy prices and consumer behavior have certainly risen the importance of sustainable supply chain management (Asif et al., 2013). To exploit their working efficiency and productivity of supply chain, firms have turned to a resilient partnership and relationship with their vendor (Branco & Rodrigues, 2006). Similarly, in the last four decades, at this time, public considerations and customer pressure (Ayuso et al., 2013; Ağan et al., 2016), supervisory influence, manufacturing peer compression, market benefit, and standing issues (Atuahene-Gima et al., 2006; Arora et al., 2016) increases the realization of the firm's, ethical and social responsibilities.

Corporate social responsibility has related to policies, strategies, and performances (Barnett, 2007). It is clear from the CSR literature that it is a way of supervising relationships with stakeholders (Barnett, 2007; Arora et al., 2016). There is no firm division between the two concepts of gender stressed by stakeholders such as governments, NGOs, and consumers, supply

chain core firms (Baughn et al., 2007). Industries need to fulfill their social responsibilities and need to extend CSR or sustainability to upstream and downstream firms in the supply chain to maintain the entire supply (Carter & Jennings 2002). A firm-level CSR, which is supply chain socialresponsibility governance, carries out supply chain socialresponsibility governance effectively has received extensive attention from the academic community and the industry (Formentini & Taticchi 2016).

CSR management in the supply chain and sustainable supply chain management and supply chain socialresponsibility supported by the triple bottom line theory (Hodges, 2015). Mainly present in China, the environment and resources are excruciating to bear the burden of a non-sustainable economic development model, and there is a more imperative need to do good work in the supply chain socialresponsibility governance (Tachizawa et al., 2012; Ayuso et al., 2013; Atuahene-Gima et al., 2006).

### **Governance Mechanism**

The current research and literature have on supply chain socialresponsibility governance generally summaries of governance practices or mechanisms as evaluation and collaboration (Formentini & Taticchi, 2016; Tachizawa et al., 2012), but the governance practices or mechanisms examined in each literature are unpredictable, and similar governance practices or tools have measured (Sancha et al., 2016; Gimenez & Sierra, 2013). Moreover, empirical research on supply chain socialresponsibility governance is based on foreign firms, while the Chinese firms face different national conditions.

Over the last 40 years of developments and expansion, China has been in a state of continuous change in the structure, and the business environment has changed rapidly (Baughn et al., 2007). There is still a big gap between the for-mativeness and maturity of CSR management and enterprises in developed countries. It has managed to CSR established in the company's first managing plan (Dobers & Halme, 2009), and the current study has shown that CSR issues have increasingly day by day, which is an essential part of the plan for small and large firms (Cowling et al., 2015). Several studies have considered CSR at the organizational level and measured their relations with companies or business strategies (Lambert, 2008). The review of CSR and functional/ operational policies are much more common, and functional level strategies focus on making the best use of supply efficiency within related functions (e.g., operations and marketing) (Famiyeh, 2017; Carter & Jennings, 2002). More recently called supply management, procurement is considered one of the company's core functional strategies (Krause et al., 2000). This study has observed the relationship between business-to-supplier, business moral responsibility attitudes, policies and practices, and supply chain partnerships (Lambert, 2008).

The modern supply chain socialresponsibility governance, whether the theory applies to the Chinese scenario, lacks empirical testing. In addition, the existing supply chain socialresponsibility governance research is based on the buyer's perspective and ignores the seller's perspective (Gallear et al., 2012; Reuter et al., 2010), focusing on large-scale supply chain core enterprises (especially multinational companies) and neglecting small and medium-sized enterprises (Gimenez & Sierra 2013). Enterprises, whether it is a supply chain primary enterprise or a non-core enterprise, undertaking or expanding CSR, will incur a certain economic cost in the short term. There is some controversy about the relationship between CSR and corporate financial performance (Barnett, 2007). The likely reason is that the mechanism of CSR value creation is complicated, so it is necessary to combine supply chain socialresponsibility

governance research with the supply chain socialresponsibility value exploration, which can be implemented for relevant enterprises in the supply chain (Tachizawa et al., 2012).

CSR behavior provides a more theoretical basis, while the impact of CSR on corporate financial performance is unclear (Chen et al., 2011), whether the CSR has an impact on supply chain partnership (SCP) is worthy of attention, because SCP is an important factor in the supply chain value creation system (Ciliberti et al., 2008) if CSR improvement can stimulating the improvement of the SCP is very beneficial for tapping the value potential of the supply chain and reducing the resistance to social responsibility (Gallear et al., 2012; Geffen & Rothenberg, 2000). Based on the above theoretical and practical background, this study's objective is the following research questions: In the Chinese context, the social responsibility governance of the buyer's enterprise in the supply chain . (1) What is the impact of the mechanism on the CSR form of the seller's company? (2) Can the improvement of the seller's CSR improve the SCP of the buyer and the seller? (3) Does the market disturbances affect the SCP of the buyer and seller?

## LITERATURE REVIEW AND HYPOTHESIS

### Corporate Social Responsibility and Supply Chain Partnership

The concept of CSR has conversant with many evolutions that are linked to corporate human rights (Ciliberti et al., 2008), labor rights, environmental protection, (Ditlev-Simonsen, 2010) consumer protection, and anti-corruption issues; different explanations have emphases in these aspects (Asif et al., 2013). Since the 1990s, CSR and stakeholder theory have shown mutual, the trend of convergence provides a basis for explaining CSR content (Pérez, 2015). Freeman (2010) has been defined as the stakeholders

*"Realities that can influence an organization's goals, and it can be organized to achieve the impact of target development."*

Wood & Jones (1995) have to keen out that the stakeholder role is mainly through three ways: CSR is linked: (a) Stakeholder expectations have determined based on corporate performance standards. (b) Stakeholders have corporate behavior and output recipient. (c) Stakeholders have been assessed, how well the company meets the expectations or assessed, and how its behavior affects its environment and organization (Barnett, 2007; Mishra & Suar, 2010).

Based on different perspectives, CSR's conceptual framework has been unique content, which chances to be affected by differences in scales, such as SA8000 and ISO26000 packages (Geffen & Rothenberg, 2000). Turker (2009) has been distinct from CSR as corporate behavior aimed at positively influencing stakeholders and transcending their economic interests, combining the stakeholder theory with the Carroll model (Gaganis et al., 2019). CSR has the structure of social and non-social stakeholders (including society, natural environment, future generations, and NGOs), employees, customers, and governments have constructed the measurement of scales through the organization's scale development process (Ağan et al., 2016) developed it into one based on turker's research.

CSR has a five-dimensional structure, partnerships between employees, customer relationships and environment, and media with NGOs. This study has drawn on the CSR, considering the operability and scale (Ağan et al., 2016); the Chinese media's supervision of the society, especially enterprises, is not apparent, so delete the media dimension. We are also considering that stakeholder theory usually treats the suppliers as the importance of stakeholders.

The supplier dimension defined by Mishra & Suar (2010) finalized the five-dimensional structure of employees, customers, suppliers, the environment, and non-governmental organizations (NGOs). The CSR and SCP have also been known as the supplier-manufacturer relationship, vendor/supplier-buyer, and organization structure (Green & Peloza, 2011). Mohr & Spekman (1994) have defined partnerships as independent firms that share compatible goals, pursue common interests, and rely on a clear strategy of the relationship among goals. Maloni & Benton (1997) argue that SCP has two or more independent members within the supply chain, an organization's relationship made to ensure that a particular goal or benefit has been achieved. Mohr & Spekman (1994) believe that SCP has buyer and supplier commitments and agreements reached over a long period, including the benefits and risks of information sharing and partnerships.

The concept of partnerships have based on cooperation and trust (Morgan & Hunt, 1994; Lambert, 2008) proposed that partnerships have been based on mutual trust, openness, shared risk, and shared revenue. Promoting a tailored business relationship, the business performance of the two companies in obtaining this relationship is more than the business performance obtained without this relationship (Mithas et al., 2011). It is different from a joint venture and is also different from vertical integration. Gallear et al. (2012) pointed out that there are two main cooperative relationships between enterprises and their suppliers: contractual and non-contractual. This study accepts the partnership defined by (Lambert, 2008); the notion is given that compared to this study with the research theme currently, this study follows the measurement scale for SCP in this study.

### **Corporate Social Responsibility and Governance Mechanism of Supply Chain Socialresponsibility**

Researchers have been differently classified to CSR, the practice of supply chain socialresponsibility governance, to build a useful management framework (Ağan et al., 2016). One of the most popular methods it has been divided into two categories, evaluation and collaboration (Gimenez & Sierra, 2013; Large & Thomsen, 2011). Evaluation refers to the assessment and monitoring of supplier sustainability, and collaboration refers to working with suppliers to make; its progress in social responsibility includes many practices (Modi & Mabert, 2007). Moreover, (Lambert, 2008; Martela, 2005) scholars have also carried out their practice of supply chain socialresponsibility management. Martela (2005) has established that there have three main types of supply chain socialresponsibility management tools: (1) setting up the supplier social responsibility requirements; (2) for suppliers supervise and audit; (3) Help to the suppliers and build awareness of social responsibility, and provide appropriate training.

Ağan et al. (2016) green supplier the classification has been carried out in green supplier development activities, including supplier evaluation, supplier incentives, and direct participation. The term of supply chain socialresponsibility governance mechanism has been used in many papers, and the extended sustainability proposed (Gimenez & Sierra, 2013; Tachizawa et al., 2012). The term supply chain socialresponsibility governance (evaluation and collaboration) has been used directly in the supplier's integration and framework (Gimenez & Sierra, 2013). A sustainable supply chain governance mechanism has been defined as the practice or the supplier relationships to improve suppliers' sustainability performance (Hoejmose et al., 2014). Based on the existing literature, this study defined the supply chain socialresponsibility governance mechanism as the supply chain firms aim to improve their partners. The level of social responsibility and the practice of managing (Ciliberti et al., 2008)

the relationship between the two subdivide supply chain socialresponsibility governance mechanisms into supervision, (Ciliberti et al., 2009) evaluation, incentives and coordination help (Asghari et al., 2018). Where the concept of supervision and evaluation has closed to the evaluation in the literature, and the notion of motivation and assistance have been linked to the collaboration in the literature (Famiyeh, 2017).

There have some changes related to the management between supervision and evaluation; supervision has controlled in the matter, immediacy (Geffen & Rothenberg, 2000), and problems can be discovered on the spot (Large & Thomsen, 2011). All the cases are not healthy in the corporate credit system; supervision and evaluation may have different possessions (Silvius, 2016). At the same time, enticements and support have been qualitative differences from the incentives in the text mainly refer to feedback to the interests of the partners and its indirect effect on the improvement of CSR, support mainly refers to the human and material resources needed to improve the CSR (Atuahene-Gima et al., 2006). CSR's impact has straightforward for the small and medium-sized enterprises (SMSE) with limited strength and gives the partners the help of human and material resources (Ayuso et al., 2013; Tran & Jeppesen, 2016). The development of CSR has more readily accepted by managers than giving to benefits, and it has more in line with China's current stage of social change (Tran & Jeppesen, 2016; Chen et al., 2017). With the "*practicality*" and the "*quick success*" social culture, it can be seen that the subdivision of governance mechanisms have theoretically necessary, and in practice subdivision (Moir, 2001). The post-governance mechanism is more conducive to the exposure of management issues and proposes targeted management recommendations (Formentini & Taticchi, 2016).

## Theoretical Basis and Conceptual Model

This study is based on stakeholder theory, corporate reputation, and contingency theory (Barnett, 2007; Pérez, 2015; Atuahene-Gima, et al., 2006). Contingency theory has been established four constructs (i.e., the buyer's supply chain socialresponsibility governance mechanism, the seller's CSR fulfillment level, the SCP of both parties) (Hur et al., 2017; Atuahene-Gima et al., 2006). A conceptual model of the relationship between market and market disturbances. These three theories have applications in sustainable supply chain management research (Formentini & Taticchi, 2016; Hoejmose et al., 2014). The combination of stakeholder theory and CSR has relatively closed. It has defined the object of specific content and scope for CSR research and provides optional (Freeman, 2010), the scientific method of measuring CSR as described in the concept (Wood & Jones, 1995). Classification of the section, this study divided the CSR into members based on stakeholder theory and related research literature (Pérez, 2015). Five dimensions of industry, customers, suppliers, the environment, and non-governmental organizations (NGOs) (Wood & Jones, 1995). According to stakeholder theory, supply chain core companies need to respond to customers. The demands of stakeholders such as households and NGOs must not only undertake their CSR but also require and act on the supplier's CSR (Freeman, 2010). The supply chain socialresponsibility governance has positive governance behaviors corresponding to certain governance outcomes, so this study considers the buyer's social responsibility governance mechanism. The seller's CSR performance level has an impact (Famiyeh, 2017) defined the corporate reputation compared to other leading competitors, the firm's past behavior and its prospects for the future.

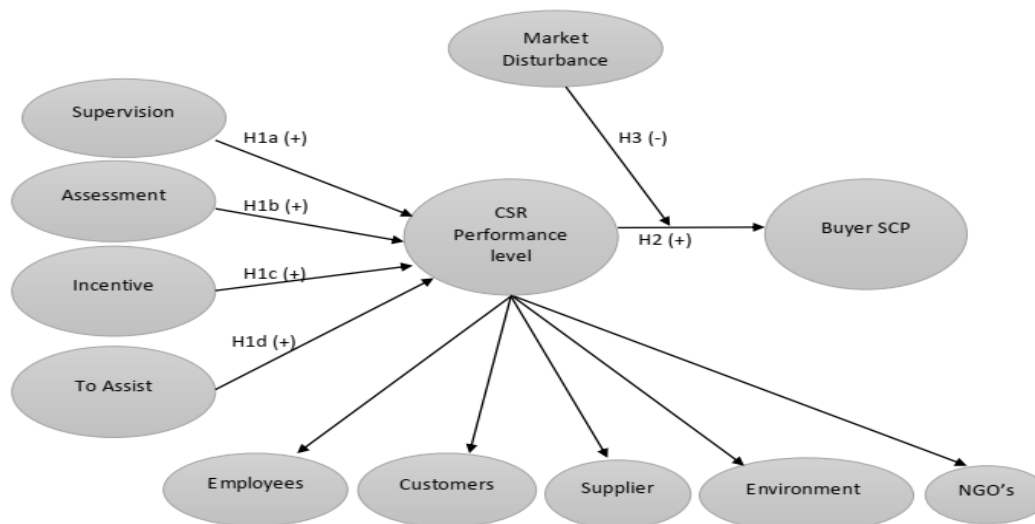
The overall appeal of stakeholders (Hodges, 2015), the company's good reputation, and the relationship between the company and its stakeholders can be mutually reinforcing. This

study has indicated that corporate CSR can enhance a company's reputation (Lahiri et al., 2012). According to the company's reputation theory, this improvement can strengthen the relationship between its partners' systems. Therefore, this study has believed that an enterprise's CSR fulfillment level can affect the partnership between the company and its customers (Pérez, 2015). The contingency theory points out that the matching of corporate strategy and business environment determines corporate performance. The value of corporate resources depends on the environment in which it is applied (Hoejmose et al., 2014).

Market disturbance has a crucial factor in the environment (Arora et al., 2016). The more complicated the market disturbance, it has to predict the market demand, which makes it difficult for managers to make plans (Nath et al., 2010). In addition, rapidly changing markets have a destructive effect on the company's existing cultural competencies (Hult et al., 2007). Enterprises have been forced by the pressure of market changes, the sound of suppliers CSR. The importance of reputation will have reduced, and attention turned to responsiveness. Therefore, it considers the relationship between market disruption and CSR performance level and SCP (Arora et al., 2016; Morgan et al., 2009).

### Conceptual Model

It has a regulating effect, based on the above analysis, the conceptual model shown in Figure 1.



**FIGURE 1**  
**CONCEPTUAL MODEL**

### Hypothesis

#### Supervision and CSR performance level

Supervision has discussed the CSR performance of its partners by companies in the supply chain. Supervision has a continued process to ensure that companies have enough to know what is happening in the supply chain and detect changes in the environment (Baughn et al., 2007). Supplier CSR performance has an indispensable part of supplier performance. The

buyer monitors the supplier's CSR policies and practices to ensure that supplier's CSR performance meets the requirements. The supervisory array has one of the most important forms of auditing, auditing refers to the actual implementation of supplier CSR through field visits to suppliers (Formentini & Taticchi 2016).

A multi-case study by Ciliberti et al. (2008) has found that the companies studied to monitoring the performance of supplier social responsibility and found that the supplier failed. Different firms have adopted different measures; when consultation with the minimum standards of social responsibility performance, some firms choose to dismiss partnerships with suppliers. These firms have been pointed out the supplier's social responsibility issues and work with the supplier to resolve the issue (Gallear et al., 2012). The study has established that the most recent has more abled to maintain long-term integration be a partnership, therefore, whether it is to maintain a long-term partnership with the buyer or to enhance the ability to perform social responsibility with the help of the buyer (Gallear et al., 2012; Rapp et al., 2010).

There is reason to believe that suppliers can improve their CSR performance under the pressure of supervision. The following assumptions are prepared:

*H1a: Supervision from the buyer has a positive effect on the seller's CSR performance level.*

### **Evaluation and CSR performance level**

The evaluation has referred to the supplies and evaluations of firms in the supply chain for their partners' CSR performance. Supplier evaluation has a prerequisite for effective knowledge transfer from customers to suppliers (Modi & Mabert, 2007), and current information exchange between partners of the supply chain result will increase the efficiency. For example, research by (Ciliberti et al., 2008; Ciliberti et al., 2009) found that by applying SA8000 certification requirements in the supply chain, core enterprises can reduce information irregularity, establish trust between partners of the supply chain, promote to coordination in the supply chain, and reduce operating costs. At the same time, it has originated that the certification of SA8000 has shown that firms will consider environmental and social issues, which positively affect the environmental and social performance of suppliers. Krause et al. (2000) identified that by evaluating the performance of suppliers, firms could compare the performance of different suppliers to provide supervision and help for suppliers to achieve performance goals. To stand out from the competition, suppliers had to improve their CSR performance and avoid being in a disadvantaged supplier position. Empirical research by (Gimenez & Sierra, 2013) also shows that supplier evaluation can improve the environmental performance of suppliers; however, empirical research by Sancha et al. (2016), evaluation has an insignificant relationship with the supplier's social performance.

*H1b: The evaluation from the buyer has a positive effect on the seller's CSR performance level.*

### **Incentive and CSR performance level**

Incentive means that the supply chain enterprises give certain benefits to their partners' CSR contributions, mainly referring to the incentives of interests. A study by Krause et al. (2000) has found that supplier incentives release a signal to suppliers that suppliers will expand more business by improving their performance. Future cooperation in the priority position so that suppliers continue to improve their performance (StachowiczStanusch, 2016). Similarly, the enterprise has based on the supplier's society, responsibility for performance rewards or

incentives such as adoption differentiated contracts can motivate suppliers to improve their social responsibility performance. Due to the various firms in the supply chain management (Modi & Mabert, 2007), the position of the industry has no equal, and the value creation and value distribution are not equal in extent relationship. The main interests are taken by prevailing enterprises, which fulfills the feeble enterprises. The keenness of social responsibility has a negative impact, and appropriate compensation for benefits has a positive impact on the level of social responsibility performance of susceptible enterprises (Gallear et al., 2012).

*H1c: Incentives from the buyer have a positive effect on the seller's CSR performance level.*

### **Assistance with CSR performance level**

The assistance means that companies in the supply chain provide some human and material assistance for their partners' to improve CSR activities (Mohr & Spekman, 1994). Collaboration in existing literature, direct participation, and assistance now are conceptually close. The study believes that the extension of collaboration is broader, such as incentives that should belong to the scope of collaboration (Gallear et al., 2012). Purview and the extension of direct participation have narrowed; SMEs often fail to do so because they lack sufficient resources and capabilities. The assistance of strength and factual resources can enhance suppliers' ability to solve their social responsibility issues, therefore stimulating the enthusiasm of suppliers. For instance, Geffen & Rothenberg (2000) had shown research on three US auto assembly plants and analyzed whether collaboration between auto assembly plants and suppliers has contributed to environmental performance. The results show that innovative technologies for improving automotive assembly plants' environmental performance require skills and capabilities from both automotive assembly plants and suppliers.

Technology can only be used most effectively based on the cooperation between automobile assembly plants and suppliers. The improvement of supplier environmental performance also needs to come from steam, the car assembly plant's collaboration. Sancha et al. (2016) empirical studies have shown that although supplier collaboration does not promote the buyer's social performance, it can be useful, improve the social performance of suppliers. Overall, the buyer's assistance can effectively enhance the supplier's ability to perform CSR, thereby enhancing its CSR performance level.

*H1d: Assistance from the buyer has a positive effect on the seller's CSR performance level.*

### **CSR Performance level and supply chain Partnership**

Establishing and implementing SCP, information exchange, market opportunity sharing, and risk sharing, while commitment and trust have the development and maintenance of cooperation (Morgan et al. 2009). In this case of asymmetric information, a dynamic change will be formed between the enterprise and the supplier that is on the other hand; the enterprise expects to obtain various resources and create a right operating environment from the supplier; another, the supplier does not know which company can trust.

To solve this problem of information irregularity, firms must pay a particular value to pass a positive sign to the supplier, indicating that they are trustworthy. Corporate social responsibility had such a gesture transmission mechanism; through this mechanism, suppliers' trust and support can be acquired (Hoejmose et al., 2014). Empirical research by Carter & Jennings (2002) shows that fulfilling the buyer's social responsibility in the procurement process



will increase its commitment to the relationship with the supplier and the trust in the supplier. At the same time, increased trust can further promote the cooperative relationship between enterprises and suppliers. When problems arise, enterprises are more willing to provide assistance to suppliers and solve problems together. Therefore, it has reason to believe that the improvement of the supplier's social responsibility performance can enhance the trust and commitment to promoting the partnership.

*H2: The seller's CSR performance level has a positive impact on its partnership with the buyer.*

### **Market disturbance**

Market disturbances have been described as common and unpredictable changes in product preferences and customer needs, production processes, and competitive business environment (Atuahene-Gima et al., 2006). Contingency theory believes that the matching of corporate strategy and business environment determines corporate performance, not just the plan (Arora et al., 2016). It has defaulted for firms in an unpredictable environment to effectively predict factors such as sales volume, demand fluctuations, and market trends, making the supply chain . Enterprises in China have been reluctant to share talents, information, and knowledge, which leads to a reduction in the level of supply chain cooperation (Arora et al., 2016; Ciliberti et al., 2008). In the intense environment in a market, companies must act faster than their competitors to respond to changes in their local markets.

While the cooperation between firms can better make certain survival in a rapidly changing market, the lower level of mutual trust makes it difficult to form, although the seller's performance. Social responsibilities will strengthen the trust and commitment of the buyer and thus promote the formation of partnerships. The uncertainty of the environment and demand makes it more difficult for core companies in the supply chain to control other node companies in the supply chain . The core enterprise plays a vital role in the formation of the SCP. However, whether this regulatory effect is large or small, it cannot change the relationship between CSR and SCP that is determined by the theoretical basis. The nature of the relationship with the SCP.

*H3: Market disturbance has a negative adjustment effect on the relationship between CSR performance level and SCP.*

## **MATERIAL AND METHODOLOGY**

### **Sample and Data Collection**

This study was conducted on pre-investigations and formal research. In the pre-investigation phase, with the support of the survey, the SMEs served by the department of the study's items. It took more than one month to distribute a total of 60 questionnaires; the recovery rate and efficiency were both 100%. During the pre-investigation phase, we were conducted in-depth interviewees, examined the questionnaire's reliability and validity based on the survey results, and concluded the questionnaire design was enhanced based on the feedback from the participants. Subsequently, to facilitate the respondents to fill out the questionnaire, an online survey was established on the Internet. The sample framework of the quality and technical supervision bureau of tangshan District, Hebei, Province Manufacturing enterprises under its authority.

The respondents' requirements were cleared at the time of sample work in the management positions of manufacturing enterprises in the Pearl River Delta region, familiar with for a company's supply chain management business; a company only fills out a questionnaire. In addition to the survey of friends, there was special staff to guide respondents on the web page, answer the questionnaires, and the research group's contact information will be left on the questionnaire to facilitate the consultation of the questions. The formal survey phase took more than four months. A total of 350 respondents for questionnaires were sent, and 218 questionnaires were received, blanks and missing data questionnaires were removed, questionnaires filled by non-middle-level and senior managers were rejected. Except for manufacturing firms, questionnaires were finally determined, 199 copies, the effective recovery rate was 56.1%. Among the 199 valid samples, the characteristics of the respondents and the interviewed enterprises were as follows: In terms of gender, 64.3% of the respondents were male and 35.7% female; in terms of positions, 54.8% of the respondents were middle managers, and 45.2% of the respondents were senior managers.

In terms of business types, private enterprises accounted for the most, accounting for 53.8%. Semi-foreign joint ventures, solely foreign-owned enterprises, state-owned enterprises and others accounted for 15.1%, 8.0%, 13.0%, and 10.1% respectively; in terms of the number of employees in the enterprise: 50 or less (19.6%), 51 to 100 (18.6 %), 101 to 500 people (24.1%), 501 to 1000 people (13.1%), 1001 to 2000 people (2. 5%), 2000 or more (22.1%); years of establishment: within 3 years (6%), 3 to 5 years (3%), 6 to 10 years (24.6%), 11-20 Years (32.2%), more than 20 years (34.2%); in terms of the industry to which the enterprise have its place, machinery manufacturing accounts for 34.2%, electronics and communication accounts for 7.5%, and textile accounts for 5.0%, biomedicine 4.0%, home appliances 6.5%, plastic products 11.6%, metal products 5.1%, petrochemicals.

## Measurement of Variables

This study to ensure reliability and validity, this study was first referred to the existing literature to measure variables. As follows, the scale of CSR has mainly derived from the literature, and the scale of supplier responsibility dimension comes from the literature; the scale of supervision dimension in the supply chain socialresponsibility governance mechanism comes from the literature, the scales of assessment, incentive, and assistance are adapted from the literature; the SCP scale was derived from the literature; the source of market disturbances in the literature. The above measurement items were all based on the five-point Likert scale method. Second, with experts in corporate social responsibility and senior executives of enterprises. Finally, the questionnaire was tested on a small scale, and the reliability and the validity factor loading is greater than 0.50 for the measurement question, and 39 items are finalized (as shown in Table 1).

<b>Table 1</b> <b>MEASUREMENT OF ITEMS AND SOURCES</b>			
<b>Name of Variables</b>	<b>Coding</b>	<b>Questionnaire items</b>	<b>References of Authors</b>
Responsibility of Employees	CE1	Our company encourages employees to develop their own professional skills continuously	(Ağan et al., 2016; Turker, 2009)
Responsibility of Employees	CE2	Our company implements flexible policies to balance employees' work and life.	(Ağan et al., 2016; Turker,

			2009)
Responsibility of Employees	CE3	Our company's management is particularly concerned with employee needs and needs	(Ağan et al., 2016; Turker, 2009)
Responsibility of Customers	CC1	Our company provides its customers with complete and accurate information about their products.	(Ağan et al., 2016; Turker, 2009)
Responsibility of Customers	CC2	Customer satisfaction is very important for our company.	(Ağan et al., 2016; Turker, 2009)
Responsibility to the environment	CEN1	Our company implements special programs to minimize the negative impact on the natural environment.	(Ağan et al., 2016; Turker, 2009)
Responsibility to the environment	CEN2	Our company participates in activities designed to protect and improve the quality of the natural environment.	(Ağan et al., 2016; Turker, 2009)
Responsibility to the environment	CEN3	Our company participates in activities to improve and improve environmental awareness.	(Ağan et al., 2016; Turker, 2009)
Responsibility to the environment	CEN4	Our company is concerned about the negative impact of products on the natural environment during the production process.	(Ağan et al., 2016; Turker, 2009)
Responsibility to NGOs	CN1	Our company encourages its employees to participate in volunteer activities.	(Ağan et al., 2016; Turker, 2009)
Responsibility to NGOs	CN2	The Institute supports non-governmental organizations working in problem areas.	(Ağan et al., 2016; Turker, 2009)
Responsibility to suppliers	CS1	Our company inspects the supplier's facilities for health, safety and environmental considerations	(Mishra & Suar, 2010)
	CS2	Our company's policy ensures that the procurement process is in accordance with the local ethical and friendly practices of the supplier.	(Mishra & Suar, 2010)
	CS3	Our company policy ensures that the company trades with suppliers at competitive market prices And pay on time	(Mishra & Suar, 2010)
	CS4	Our company's policy restricts suppliers from employing child labor, extracting employee sweat and human rights violations	(Mishra & Suar, 2010)
Supervisory Mechanism from the Buyer	MB1	Our company is regularly subject to an independent audit of the buyer's honesty in business and the environment.	(Gallear et al., 2012)
	MB2	Our company is supervised by the buyer in complying with ethical policies	(Gallear et al., 2012)
	MB3	Our company's potential production, office and other sensitive areas are inspected by the buyer's working group.	(Gallear et al., 2012)
Evaluation instrument from the buyer	EB1	Our company is subject to social responsibility performance evaluation from the buyer.	(Ağan et al., 2016)
	EB2	Our company receives feedback from the buyer's social responsibility performance assessment results.	(Ağan et al., 2016)
	EB3	Our company was asked by the buyer to set a social responsibility performance target.	(Ağan et al., 2016)

	EB4	Our company is certified by the buyer to obtain social responsibility standards.	(Ağan et al., 2016)
Incentives from the Buyer	IB1	The socially responsible project implemented by our company is financially supported by the buyer.	(Ağan et al., 2016)
	IB2	Our company's social responsibility performance is rewarded by the buyer	(Ağan et al., 2016)
	IB3	Our company's social responsibility performance directly affects the quality of contracts with buyers.	(Ağan et al., 2016)
Assistance mechanism from the buyer	AB1	Our company shares the knowledge and experience of the buyer's social responsibility governance.	(Ağan et al., 2016)
	AB2	Our company is trained by the social responsibility of the buyer.	(Ağan et al., 2016)
	AB3	Our company has the buyer's cooperation in solving social responsibility problems.	(Ağan et al., 2016)
	AB4	Our company is assisted by the buyer in the certification of social responsibility standards.	(Ağan et al., 2016)
Supply chain Partnership	SCP1	Our company shares the benefits of working with buyers to solve problems	(Gallear et al., 2012)
	SCP2	Our company often participates in the buyer's product development or business development.	(Gallear et al., 2012)
	SCP3	Our company is widely involved in the buyer's two-way communication of important information or technical information.	(Gallear et al., 2012)
	SCP4	Our company receives a long-term commitment from the buyer to achieve mutually acceptable results.	(Gallear et al., 2012)
	SCP5	Our company is seen by the buyer as a supplier of capabilities, not just a provider of products and services.	(Gallear et al., 2012)
Market Disturbance	MD1	In our business, customer product preferences change over time.	(Jaworski & Kohli, 1993)
	MD2	Our customers tend to constantly look for new products.	(Jaworski & Kohli, 1993)
	MD3	Our company requires that demand be created among customers who have never purchased our products.	(Jaworski & Kohli, 1993)
	MD4	Our new customers have different product requirements than existing customers.	(Jaworski & Kohli, 1993)
	MD5	We continue to meet many new customer needs.	(Jaworski & Kohli, 1993)

## RESULTS AND ANALYSIS

At present, there have used two types of methods for estimating the structural equation models, one based on covariance (CB-SEM) analysis methods (Hair Jr et al., 2010); the other based on the partial-Logical method of least squares (PLS-SEM) (Hair Jr et al., 2010; Hair Jr et al., 2014). Compared with CB-SEM, PLS-SEM has more requirements for sample data. In contrast, this study's sample size was just five times the number of items, but still small. Therefore, the sample data requirements have relatively loose; PLS-SEM has more suitable for this study. In this study, PLS-based Smart PLS3.0 was selected to test the model, including the measurement of model verification and analysis. In addition, much social responsibility literature has adopted this approach to verify different relationships (Byrne, 2005; Lambert, 2008).

## Measurement of the Model

Measurement of the model to check the scale's reliability and validity, the reliability test by observing the coefficient of Cronbach's  $\alpha$ . The combination of composite reliability (CR) and average variance extracted (AVE) has used to the critic. This study had calculated three indicators by Smart PLS3.0 (the results are shown in Table 2), and the results showed that all indicators exceeded or moved toward the critical value. The AVE value of the variable is between 0.575, and 0.794, which had greater than the recommended threshold of 0.5 by Fornell et al. (Fornell and Larcker 1984). CR, values are greater than 0.8, and both exceed the critical value. Cronbach's  $\alpha$  values 0.7 is closed to or greater than 0.7, and the Cronbach's  $\alpha$  value of the variable for the buyer is slightly less than 0.7, but (0.65), within acceptable limits. They show that the measurement items' internal consistency is good, and the reliability is acceptable (Ab Hamid et al., 2017).

Table 2 FACTOR LOADING						
Measuring of variable	Measurement of items code	Outer Loading	AVE	CR	Cronbach's $\alpha$	Common factor variance
Responsibility of Employees	CE1	0.783				
	CE2	0.855	0.690	0.869	0.774	0.690
	CE3	0.849				
Responsibility of Customers	CC1	0.871	0.741	0.851	0.650	0.741
	CC2	0.850				
Responsibility to suppliers	CS1	0.797				
	CS2	0.815	0.612	0.863	0.787	0.612
	CS3	0.809				
	CS4	0.702				
Responsibility to the environment	CEN1	0.799				
	CEN2	0.888	0.701	0.903	0.857	0.701
	CEN3	0.845				
	CEN4	0.813				
Responsibility to NGOs	CN1	0.874	0.770	0.870	0.701	0.770
	CN2	0.881				
Supervisory Mechanism from the Buyer	MB1	0.902				
	MB2	0.883	0.749	0.899	0.832	0.749
	MB3	0.809				
Evaluation from the Buyer	EB1	0.858				
	EB2	0.888	0.740	0.919	0.883	0.740
	EB3	0.850				
	EB4	0.844				
Incentives from the Buyer	IB1	0.892				
	IB2	0.919	0.794	0.920	0.870	0.794
	IB3	0.861				
Assistance Mechanism from the Buyer	AB1	0.876				
	AB2	0.886	0.784	0.936	0.908	0.784
	AB3	0.887				
	AB4	0.893				
Supply chain Partnership	SCP1	0.837				
	SCP2	0.827				
	SCP3	0.831	0.693	0.918	0.889	0.693
	SCP4	0.880				
	SCP5	0.785				

Supervisory Mechanism from the Buyer	MT1	0. 692				
	MT2	0. 745				
	MT3	0. 750	0. 575	0. 871	0. 816	0. 575
	MT4	0. 839				
	MT5	0. 756				

Convergence validity and discriminant validity, convergence validity reflects the degree of correlation between theory and practice between variable measures. It had observed that based on CR, AVE, and factor loading. It is known from Table 2 that the CR value is greater than  $> = 0.7$ , the AVE value is greater than  $> = 0.5$ , and the factor loadings have been greater than  $> = 0.7$ , greater than the acceptable value of 0.5, which is indicating the convergence validity of each variable meets the requirements. Discriminant validity can be obtained by comparing the square root of the mean-variance extraction. The extent of the correlation coefficient between variables had evaluated. According to the standard of Fornell et al. (Fornell & Larcker, 1984), if the correlation coefficient between one variable and other variables is less than the regularity of the variable. When the mean squared extraction's square root is used, it indicates that the variable has good validity. The test of the difference validity is shown in Table 3, and the results show that the average of each concept. The square root of the variance extraction was greater than the correlation coefficient between the concept and other theories, indicating that the concepts' discriminant validity is good. More than the multi-collinearity test method, calculating the variance inflation factor (VIF), the results show that the VIF values had less than  $< 5$ , and the variables are not shown.

<b>Table 3</b> <b>DISCRIMINANT VALIDITY TEST, AVE SQUARE ROOT AND CORRELATION COEFFICIENT</b> <b>OF LATENT VARIABLES</b>											
Latent variable	CE	CC	CS	CEN	CN	MB	EB	IB	AB	SCP	MT
CE	1 <sup>(0.831)</sup>										
CC	0.544	1 <sup>(0.861)</sup>									
CS	0.626	0.673	1 <sup>(0.782)</sup>								
CEN	0.657	0.582	0.750	1 <sup>(0.837)</sup>							
CN	0.591	0.478	0.622	0.725	1 <sup>(0.877)</sup>						
MB	0.538	0.483	0.729	0.664	0.610	1 <sup>(0.866)</sup>					
EB	0.504	0.483	0.687	0.662	0.598	0.813	1 <sup>(0.860)</sup>				
IB	0.528	0.350	0.597	0.596	0.567	0.713	0.807	1 <sup>(0.81)</sup>			
AB	0.581	0.452	0.691	0.692	0.630	0.739	0.832	0.855	1 <sup>(0.885)</sup>		
SCP	0.662	0.573	0.612	0.605	0.636	0.631	0.634	0.608	0.659	1 <sup>(0.832)</sup>	
MT	0.561	0.441	0.480	0.480	0.519	0.446	0.454	0.425	0.446	0.663	1 <sup>(0.758)</sup>

Note: The diagonal numbers are the square root of the latent variable AVE, and the numbers below the diagonal are the correlation coefficients between the latent variables. Moreover, CE-responsibility to employees, CC-responsibility to customers, CS-supply Business responsibility, CEN-responsibility to the environment, CN-responsibility to non-governmental organizations, MB-supervision from the buyer, EB-assessment from the buyer, IB-incentive from the buyer, AB-agreement from the buyer Assistance, SCP-supply chain partnership, MT-market disruption.

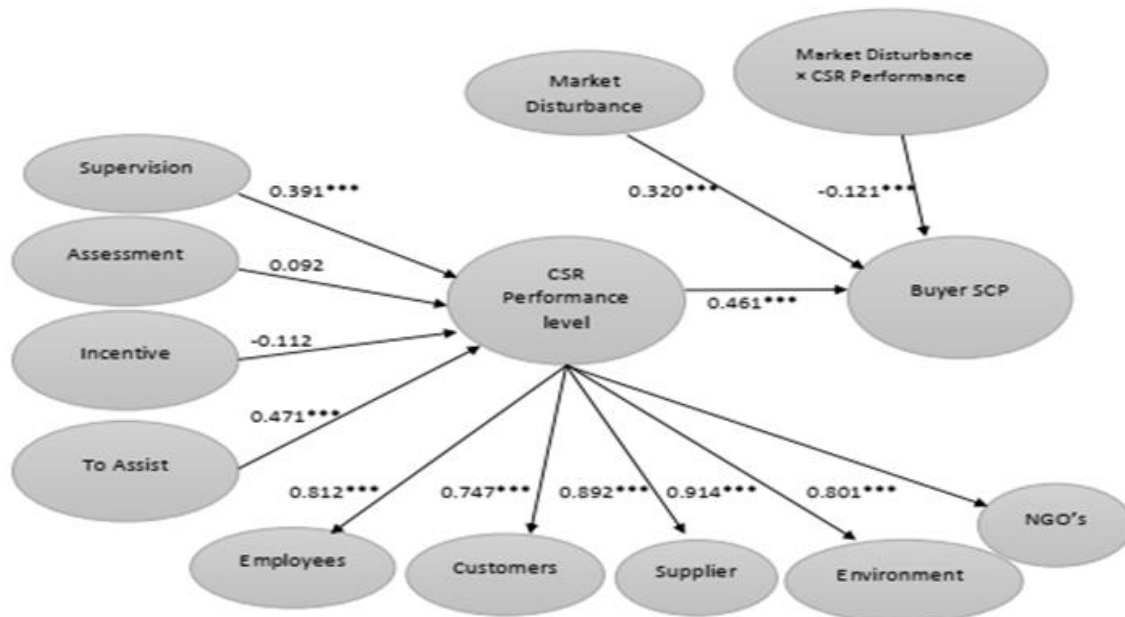
## Structural Model Validation

Based on the result's measurement, the structural model needs to be further evaluated (the results are shown in Table 4). In the relationships of the variance and explanation, the R<sup>2</sup> of the CSR satisfaction level is 0.630, and the R<sup>2</sup> of the SCP is 0.635. It had generally believed that the R<sup>2</sup> of the endogenous latent variable ranges 0.67. High, range 0.33 means adequate explanatory ability; the range of 0.19 means weak explanatory ability. It can be seen that the model has an excellent explanatory influence.

At the same time, Götz et al. (2010) collaborative exploration method had been used to evaluate the model's extrapolative power, and the Q<sup>2</sup> value had calculated by the Blindfolding Procedure. Test, Q<sup>2</sup> > 0 means that the model variables have predictive power for endogenous latent variables, and Q<sup>2</sup> < 0 means a lack of predictive power. The results show that CSR satisfaction level Q<sup>2</sup> with SCP is 0.288 and 0.407, respectively, indicating that the research model has good predictive power. In addition, this paper uses GoF (Goodness of fit), the overall goodness of fit of the indicator examination of the model, which is calculated by  $GoF = \sqrt{\text{communality} \times R^2}$ , where communality represents the latent variable.

The communality, according to the data listed in Table 2 and Table 4, the GoF value is 0.672, which is greater than 0.35, indicating that the model has a good fit

Table 4 R <sup>2</sup> AND Q <sup>2</sup> OF THE ENDOGENOUS LATENT VARIABLES IN THE STRUCTURAL MODEL		
Dependent Variables	R <sup>2</sup>	Q <sup>2</sup>
CSR	0.630	0.288
SCP	0.635	0.407



p<0.05\*\*, p<0.01\*\*\*

**FIGURE 2**  
**CSR PERFORMANCE LEVEL**

In this study, the path coefficients were calculated by Smart PLS3.0, and the significance of the coefficients of variance was calculated using the Bootstrapping method. This study sets each group again; the number of samples tested is equal to 199, and the number of samples is 500. In order to test the regulation effect of the market disturbances were constructed. The product of the field market disturbance and the CSR performance level (i.e., the interaction term, is added to the model (as shown in Figure 2). Model verification results show that supervision from the buyer ( $\beta = 0.391$ ,  $t = 5.143$ ) and assistance from the buyer ( $\beta = 0.471$ ,  $t = 5.835$ ) has a significant positive impact on the seller's CSR performance level, Figure 2.

Assuming H1a and hypothesis H1d are supported; evaluation from the buyer ( $\beta = 0.092$ ,  $t = 0.952$ ) and incentive ( $\beta = -0.112$ ,  $t = 1.261$ ) to the seller CSR. The fulfillment level's impact is not significant, assuming H1b and hypothesis H1c are not supported; the supplier CSR fulfills its level with the buyer SCP ( $\beta = 0.461$ ,  $t = 7.035$ ) has a significant positive impact, assuming H2 is supported.

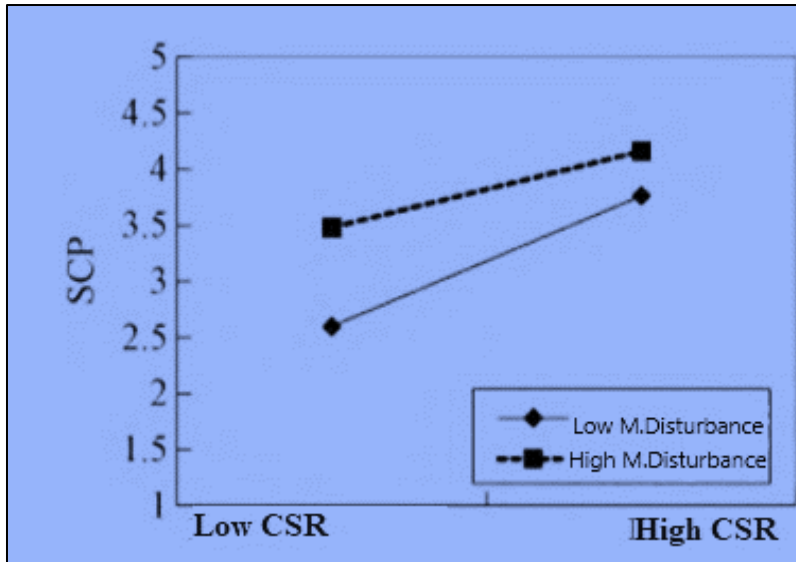
### Supply Chain Social Responsibility and Governance Mechanism

In terms of changes, the market disturbance is multiplied by the seller's CSR fulfillment level to obtain the interaction term and added to the model (this step is by Smart PLS3.0, the software automatically completes), selects the variable centralization processing method, and uses Bootstrapping to calculate the t-value of the adjustment function, if the regulation effect is significant. In the opposite case, it does not exist. It can be seen from figure 2 that the interaction between market disturbance and seller CSR performance level has a significant negative impact on SCP. ( $\beta = -0.121$ ,  $t = 3.046$ ), assuming H3 is supported (results are shown in Table 5).

Further analysis of market disturbances and seller CSR performance level. How horizontal interactions affect the buyer SCP, this study uses Aiken and West's method to map out different market disturbance levels, the seller CSR fulfills. The SCP's impact on the SCP (as shown in Figure 3) shows that as the market disturbance is low to high, the positive impact of the seller's CSR performance level on the SCP is weaker. Under the different market disturbance levels, the seller's CSR performance level positively impacts the SCP, further supporting the hypothesis H3.

Table 5 HYPOTHESIS AND PATH ANALYSIS			
Hypothesis and Path	Standardized Coefficients	t-value	Supported
H1a MB→CSR	0.391***	5.154	Yes
H1b EB→CSR	-0.092	0.952	No
H1c IB→CSR	-0.112	1.261	No
H1d AB→CSR	0.471***	5.835	Yes
H2 CSR→SCP	0.461***	7.035	Yes
H3 MT×CSR→SCP	-0.121***	3.046	Yes





**FIGURE 3**  
**THE MODERATING EFFECT OF MARKET DISTURBANCE ON THE**  
**RELATIONSHIP BETWEEN CSR PERFORMANCE LEVEL AND SCP.**

### DISCUSSION

The study found that the subdivision of the supply chain socialresponsibility governance mechanism has different effects, from the buyer's supervision and assistance to the seller CSR to fulfill the level. There is a significant positive impact, and the assumptions are supported; assessments and incentives have no significant impact on the seller's CSR performance level, and the hypothesis is not supported. Although many studies have argued that supplier evaluation and collaboration have contributed to the environmental and social performance of suppliers (Tachizawa et al., 2012; Gimenez & Sierra, 2013), Sancha et al. (2016) on view, supplier evaluation (this assessment includes supervision) is not directly related to the supplier's social performance. However, this study finds assessment and supervision, incentives different from the effect of assistance. The possible reasons for the lack of support for the assessment and incentive assumptions are: (1) Most of the sample companies are small and medium-sized enterprises (accounting for 77.9% of the sample, the supply chain relationship of SMEs may be loose, and the rigor and standardization of the CSR assessment implemented by the buyer are lacking. The assessment is less direct than the seller's supervision, and the pressure is not so critical. At present, the integrity system of Chinese enterprises is not healthy. In the case of full and unmanageable management ethics, the seller may take a formal response rather than a substantial change; (3) human and material assistance are more profitable than reed has a more direct effect on promoting the seller's CSR. The buyer is influenced by the current “*rationality*” and “*quick success*” social culture. Pay attention to human and material assistance, and ignore the incentives for benefits.

The study found that the seller's CSR performance level has a significant positive impact on the SCP. However, the market disturbance negatively affects the relationship between the two effects. This indicates that the improvement of the seller's CSR performance can promote SCP, but the market environment constrains this promotion and uncertainty in the market environment

with high product speed, fast product update, and ferocious market competition, and CSR in promoting the cooperation of enterprises has changed.

Small companies may reduce the emphasis on partner CSR based on the pressure of survival in the market. However, in a stable market environment, business cooperation, the partner's CSR pays more attention to it. Since the reform and opening-up, China's institutional environment and market environment have been undergoing rapid changes. After the WTO, competition from domestic and foreign markets was severe. In such an environment, CSR's indication role in promoting cooperation between the two parties was weakened. This is also reveals that domestic enterprises have a certain short-sighted understanding of supply chain socialresponsibility governance and cannot treat supply chain agencies with a consistent strategy. Will be responsible for governance, which may bring greater potential harm to the company, because supply chain partners are more likely to in the interests of the organization, *"squatting and taking risks."*

### **Management Inspiration**

For enterprises, they must focus on economic interests, but they must also undertake their own CSR and actively cooperate with partners to maintain a certain level. The supply chain socialresponsibility, which is increasingly becoming an international market access requirement. A serious social problem facing China today is one, some enterprises lack management ethics, and they use unscrupulous means to harm society for economic benefits. This kind of negative behavior is for the company itself and its partners. It has great lethality, the company is in the various supply chain s, and its own CSR impacts the social responsibility of the entire supply chain.

CSR can enhance its relationship with its partners and strengthen its position in the supply chain, while low CSR affects the entire supply chain performance, resulting in a loss. For the core enterprises in the supply chain , it is impossible to rely solely on the self-consciousness and self-reliance of the partners in improving the social responsibility of the entire supply chain . We also need to establish a standardized supply chain socialresponsibility governance mechanism and tap its value creativity. Supervision and assistance can improve as a partner CSR; we must pay attention to these two aspects' role. It is necessary to improve the assessment of supply chain socialresponsibility and strengthen its normativeness and seriousness. Cannot be in the form; Pay attention to supply chain cooperation, through the supply chain integration and collaboration to explore the value creation of supply chain socialresponsibility, make up for CSR

### **Theoretical Contribution**

First, as mentioned above, the current mainstream of supply chain socialresponsibility governance research literature divides governance mechanisms into evaluation and collaboration. There may be no problems under the national scenario because they have a standardized social integrity system and a high CSR awareness. However, in the Chinese scenario, maybe different effects have appeared, which have been explained in the previous section. This paper subdivides the evaluation into supervision and evaluation from management's meaning and subdivides the collaboration into incentives. With the help and the discovery that supervision and assistance, assessment, and incentives have different effects, this finding complements the existing literature.

Second, this article proposed and tested the positive impact of CSR performance level on SCP and the negative adjustment effect of market disturbance on this relationship; before that, there is no contribution to the literature. Finally, the sample companies in this paper are mainly small and medium-sized enterprises in the Pearl River Delta of China, which is different from the current multi-span; the research on the national company's supply chain is complementary to the existing literature in the field of theoretical application.

## **CONCLUSION**

Enterprises should pay attention to market disturbance's negative impact on the relationship between CSR and SCP, and supply chain socialresponsibility strategic planning. Its roots lie in the short-sightedness of corporate social responsibility in the supply chain and lack of long-term or strategic vision. If we want to weaken this negative disturbance of the market, the supply chain core enterprises must establish a consistent and long-term strategic strategy of supply chain socialresponsibility. Strategic planning to counter the short-sighted behavior that is easy to strain, and strengthen the confidence of partners in investing in CSR, so that even in a turbulent environment, the supply chain it can also maintain a good level of social responsibility, and companies are free from standing under the wall.

## **Limitations of the Study**

The limitations of this paper are: (1) Due to the difficulty of enterprise-level questionnaires, the ratio of the number of questionnaires to the number of questionnaire items, this study the sample size is less, and the sample sampling area is limited by the Pearl River Delta region, lacking extensiveness. (2) It does not reveal the supply chain socialresponsibility governance the influence factors of effective and ineffective mechanisms. Subsequent research will further empirically study Chinese companies' promotion, especially SMEs, in the supply chain . The main factors that restrict social responsibility expansion and the multi-level expansion of social responsibility in the supply chain .

## **Abbreviations are used in Them Above Manuscript**

1. Corporate social responsibility (CSR)
2. Supply chain management (SCM)
3. Supply chain responsibility (SCR)
4. Supply chain partnership (SCP)
5. Social Responsibility Management (SRM)
6. Sustainable Supply chain Management (SSCM)
7. SMSE ( Small and medium size enterprises)
8. GOF (Goodness of fit)
9. SEM (Structural Equational modelling)
10. Partial least square structural equation model (PLS-SEM)

## **Ethical Approval**

It is certified that all the authors have complied with ethical requirements.

## Consent to Participant

All the authors participated equally in the writing of the manuscript.

## Consent to Publish

This manuscript is neither submitted anywhere nor under consideration for publications elsewhere.

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## Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that appeared to influence the work reported in this manuscript.

## Availability of Data and Material

All data generated or analyzed during this study are included in this manuscript.

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