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The Impact of the Buyer Participation in CSR Activities on a Supply Chain*

Jin-Hee Ma**, Young-Hyo Ahn***, Seok-Beom Choi****

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Abstract

Purpose - This study aims to investigate whether the buyer's participation in CSR activities can affect the informal cooperation and relationship beyond formal cooperation and relationship.

Research design, data, and methodology - We defined the research model and selected variables (monitoring and contracts by the buyer, formal cooperation & relationship, and informal cooperation & relationship). After completing the questionnaire, we analyzed 319 manufacturing companies. Prior to the hypothesis testing, Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to check for discriminant validity and convergent validity.

Results - The stronger the buyer monitoring on the company's CSR activities, the more positive it affects the formal business cooperation. On the other hand, strong buyer monitoring did not affect formal business relationships. Therefore, even if buyers' monitoring of CSR activities is strong, it does not mean that the formal business relationship is improved, but it means that it is possible to improve the formal business cooperation.

Conclusions - This study shows that the stronger the buyer monitoring on the supplier's CSR activities, the more positive it affects formal cooperation. It also demonstrates that formal business cooperation between the supplier and the buyer, that is, sharing goals and works for CSR activities, has a positive effect on relationships based on emotional exchange and commitment.

Keywords: CSR, Cooperation, Relationship, Buyer Participation, Supply Chain.

JEL Classifications: C12, C42, D21.

1. Introduction

Companies are increasingly interested and participating in Corporate Social Responsibility (CSR) whose activities are becoming global standards for evaluating themselves (Shen et al., 2013; Carroll, 1979). In the past, CSR activities were autonomous responsibilities but now they have become a corporate culture pursued by companies and related stakeholders (Russo et al., 2010; Dawkins, 2003). Therefore, for corporations, in order to achieve sustainable economic performance, CSR, an activity that distributes profits to the

society, must be preceded. CSR is basically defined as a company's positive impact on the society and the environment, through its operations, products or services, and through its interaction with key stakeholders such as employees, customers, investors, communities, and suppliers (Dahlsrud, 2008; Randy, 2010; Van Marrewijk, 2003). Until now, many researchers and practitioners have done research on various CSR-related topics such as vendor's opportunism in the collaboration between buyer and vendor (Hwang & Suh, 2017), leadership, followership, trust and group efficacy in the franchise system (Yang & Ju, 2011), comparison analysis of CSR (Hahn et al., 2016), the Impact of blood groups on group participation (Asgari, 2015), the role of dealers' non-mediated power in fostering SME manufacturers' cooperation (Chinomona, 2012), etc.

Business activities are starting to be more and more global as many firms extend their operations to overseas markets. For example, in view of supply chain or logistics, many companies are breaking the borders and providing goods and services to wholesalers, retailers, and consumers in conjunction with raw material suppliers, primary suppliers,

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** First Author, Ph.D Candidate, Division of International Trade, Incheon National University, Korea.

*** Co-Author, Professor, Division of International Trade, Incheon National University, Korea.

**** Corresponding Author, Professor, Department of China Economics and Trade, Cheju Halla University, Korea.
Tel: +82-64-741-7683, E-mail: sbchoi@chu.ac.kr

and secondary suppliers all over the world. Therefore, the concept of CSR also has to be extended with the scopes of supply chain management(SCM). CSR is not just an internal issue within an organization but also an entire issue for the supply chain. Hence, it is necessary to expand CSR activities to supply chain partners as the impacts of CSR extend to the partners of the supply chain(Ashby et al., 2012). To achieve the ultimate goal and create a synergy effect of CSR, companies need to share CSR implementation strategies and processes(Hietbrink et al., 2010) and also to collaborate with organically tied partners. However, Boyd et al.(2007) argued that higher levels of monitoring will not necessarily increase compliance and may even damage buyer-supplier relationships. In the meantime, Brito et al.(2014) argued that cooperation with buyers affects mostly firm growth whereas cooperation with suppliers affects firm profitability. An excellent cooperative relationship not only enhances communication quality and speed, which enables resource sharing for the parties that are conducting business together, but also creates sustainable competitive advantages. In this sense, the sustainable supply chain management(SSCM) is getting more and more important (Svensson, 2010).

In order to conduct CSR activities efficiently and effectively, an enterprise should also have cooperation and participation with its partner companies. Under this assumption, the research question of this study was to whether the participation of partner companies in CSR activities strengthens the level and scope of cooperation between the enterprises and whether this cooperative relationship between them produces environmentally and economically sustainable effects. In order to achieve the ultimate goal of CSR activities, the company requires its close relationship with its partners(Hietbrink et al., 2010). If a bond of cooperation between partner companies is established and maintained through CSR activities, it is expected that it will maximize the positive effect on CSR activities as well as the pursuit of profit. As companies basically continue their business activities to make and increase profits, they often use CSR activities as a means to pursue long-term profit(Van Marrewijk, 2003). Therefore, the purpose and direction of the CSR activities depends on according to not only the extent of social responsibility, but the degree of the cooperation with partners, which has an influence on creating profits. This indicates that the corporate social responsibility(CSR) is closely connected with supply chain management.

Therefore, this study focuses on the relationship and cooperation between interrelated companies in a supply chain, especially buyer companies, to maximize the positive effect of CSR, which is general business activities having a beneficial effect on the society and the environment. Instead of viewing corporate social responsibility as a negative perspective, many CEOs see it as an opportunity for differentiation(Van Marrewijk, 2003). That means CSR

activities are conducted to improve business performance as well as to have a positive impact on both the society and the environment. Jose M. Cruz(Cruz, 2008) mentioned that the participation with retailers in CSR activities have beneficial impacts on business performances such as maximizing the profit and minimizing the emission and risk.

In the meantime, Ring and Van de Ven(1994) defined formal cooperation as the result of efforts to achieve mutual goals and informal cooperation as the belief and trust beyond formal cooperation. According to the business dictionary(2017), informal relation is a personal tie developed on the basis of close connections. In an organization, informal relations are used to circumvent or expedite formal procedures.

In this study, an informal relationship is defined as a long-term cooperation and strategic partnership beyond simple business development such as contract and monitoring. Therefore, the informal relationship can be established under the deeply emotional bond which is created by maintaining formal relationship and cooperation consistently. Informal cooperation can be referred to as the unplanned, voluntary, and cooperative activity with the emotional bond and intimacy to achieve performance based on an informal relationship while an informal cooperation can be built after the informal relationship is established. It also reflects the concern for ongoing, future, and long-lasting partnership(Robert, 2006), as informal relationship and cooperation establish under emotional solidarity such as trust and commitment between the supplier and the buyer.

As mentioned above, the cooperation with the buyer affects the firm growth(Brito et al., 2014). Therefore, we concentrate on the buyer participation in CSR activities to find the most effective and efficient type of relation and cooperation to maximize the CSR effects and expected firm growth. Furthermore, in this study, we examine how the buyer participation in CSR activities affects the cooperation based on relational cohesion beyond the simple collaborative relationship between the supplier and the buyer. Therefore, we will analyze whether the buyer participation in CSR activities can affect informal cooperation and relationship beyond formal cooperation and relationship. In this study, the buyer includes all types of companies which receive materials or goods from suppliers. Therefore, the buyer can be assemblers, distributors, or retailers while the supplier means the manufacturer that supplies the products to the buyer.

2. A Conceptual Model and Hypotheses Development

This section defines selected variables(monitored and contracts by the buyer, formal cooperation & relationship, and informal cooperation & relationship) and discusses them

through literature review and formulates the hypotheses of this study.

2.1. A literature review for participation by buyer

Firms may engage in cooperative behaviors, such as collaboration on future projects, information sharing, and joint R&D productions, as well as engage in existing transaction behaviors (Brito et al., 2014). Cooperative behavior is a business customer's cordial attitude and respect or mutual collaborative behavior for a firm to achieve mutual benefits (Brito et al., 2014; Anderson et al., 1990). Combs and Ketchen (1999) identified that the effect of cooperation on performance is dependent on the relationship context. Buyers or customers can exert formal control on suppliers for practices such as GSCM (Green Supply Chain Management) implementation through contracts and monitoring (Van der Valk et al., 2011). The buyer has to take certain measures to ensure that the services are provided and the behavior of the subcontractors are appropriate. Studies considering CSR in supply chain coordination contracts have drawn attention to scholars and practitioners in recent years (Ni et al., 2010; Ni et al., 2012; Goering, 2012; Hsueh, 2014). As CSR is now a business imperative and not an optional add-on, specifics related to CSR activities need to be covered in the contract.

Examples of such measures are contracts and monitoring activities after the contract has been signed (Van der Valk et al., 2011). Wallenburg and Schaffler (2014) demonstrated that a formal control from customers through contracts or monitoring can motivate the supplier, which is equivalent for manufacturer, to gain performance through practices such as GSCM.

Based on the literature, this study divides the participation of the buyer into contracts and monitoring of CSR activities. The relationship between a supplier and a buyer is contracted after consideration and review of the quality of the manufacturing goods, the manufacturing environment, and social ethics activities. Monitoring of the buyer and the fulfillment of the supplier are essential to maintain the relationship between the two partners.

In this study, the contract can be signed after confirming whether there is an intent to share the purpose of CSR activities and CSR implements or not. The contract includes institutionalized rules about CSR activities. Monitoring is the continuous evaluation of the CSR goals and implementation levels that the supplier pursues to maintain the contract between the supplier and the buyer. It is the duty of the buyer to strengthen the corporate social responsibility.

2.2. A literature review for formal relationship and cooperation

Formal cooperation between partners refers to the effort to achieve mutual benefits and information exchanges to

maintain the business relationship (Landeros et al., 1995). Also, formal relationship is defined as the relation between the firms to share the results of the performance and formal business process (Chung et al., 2005). Therefore, formal relationship and cooperation between companies can be simply defined as collaboration, which means the sharing of performance results or information to maintain basic business relations. Ring et al. (1994) defined formal cooperation as the result of efforts to achieve mutual goals while Henriksen (1995) mentioned that formal cooperation is the formalization of the firms' relations and the common interest in a joint project.

In this study, formal cooperation is defined as sharing the goals and information about the CSR activities of the companies and thus providing the necessary help to each other. Formal relationship refers to a business relationship that shares information, experience, costs, and benefits solely to address CSR-related issues.

2.3. A literature review for informal relationship and cooperation

Across multiple studies, trust and commitment are consistently identified as focal constructs of relationship marketing (Wu et al., 2015). For firms to maintain long-term business relationships, the parties must possess elements of trust and commitment (Cui et al., 2013; Jia et al., 2013; Shaman et al., 2013). Trust and commitment in buyer-supplier relationships can improve loyalty and cooperation and thus may be valuable for a company to improve its performance (Wu et al., 2015). Trust and commitment are considered as the key elements to promote communication, share information, strengthen relationship quality, maintain business transactions, and increase the willingness for cooperation (Anderson et al., 1990; Miquel-Romero et al., 2014). As a result, in a transaction relationship between firms, when parties have a certain degree of trust in their relationship, it can not only increase the parties' willingness to continue trading but also to manifest continuity in future transaction actions (Jia et al., 2013; Ganesan, 1994; Mukherjee et al., 2007). Doney and Cannon (1997) also noted that when business buyers recognize excellent relationship qualities in another supplier, the buyers' trust in their suppliers affects their business dealings and they are inclined to show loyalty to the supplier. Customer relational governance (CRG), which brings effect through informal relationships with customers or buyers such as trust and commitment, may be even more crucial to achieve win-win opportunities between buyers and suppliers (Zhu et al., 2016). Besides the formal control from the buyers, informal control of CRG, including cooperation and trust, is needed for companies to really implement GSCM-related practices and gain performance improvement (Chung et al., 2005).

<Table 1> Literature subjects and authors

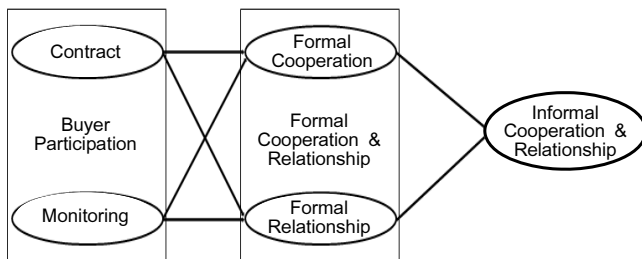
Subjects	Authors
Buyer's participation	Anderson et al.(1990), Combs & Ketchen (1999), Ni et al.(2010), Van der Valk et al. (2011), Van der Valk et al.(2011), Ni et al. (2012), Goering(2012), Brito et al.(2014), Brito et al.(2014), Hsueh(2014), Wallenburg & Schaffler(2014)
Formal relationship and cooperation	Ring et al.(1994), Landeros et al.(1995), Henriksen(1995), Chung et al.(2005)
Informal relationship and cooperation	Anderson et al.(1990), Ganesan(1994), Doney & Cannon(1997), Chung et al.(2005), Mukherjee et al.(2007), Cui et al.(2013), Jia et al.(2013), Shaman et al.(2013), Jia et al. (2013), Miquel-Romero et al.(2014), Wu et al.(2015), Wu et al.(2015), Zhu et al.(2016)

2.4. Formulating the hypothesis

In this study, we investigate whether the buyer's participation in CSR activities can affect the informal cooperation and relationship beyond formal cooperation and relationship.

Therefore, we examine first whether the buyer participation through contract and monitoring affects business cooperation and relationship in CSR activities and confirm whether simple business cooperation and relationship can develop into informal cooperation and relationship based on emotional bond and cohesion. The research model is shown in <Figure 1>.

The buyer has to take certain measures to ensure that the services are provided and the behavior of subcontractors are appropriate. Examples of such measures are the contracts and/or the Service Level Agreements(before the contract is signed), and monitoring activities(after the contract is signed)(Van der Valk et al., 2011). Previous studies demonstrated that formal control from buyers through contracts or monitoring can motivate suppliers to gain performance through practices such as GSCM(Wallenburg et al., 2014). Buyers can exert formal control on suppliers for practices such as GSCM implementation through contracts and monitoring(Van der Valk et al., 2011).



<Figure 1> Research Model

Also, formal relationship is the result from continuing to exchange information and engage in the joint project(Chung et al., 2005). Therefore, the participation with buyer companies, such as contract or monitoring, can establish basic business relations and activate exchanges(Landeros et al., 1995; Henriksen, 1995). Based on the above research, we hypothesize that the buyer participation, i.e., contract and monitoring, could have a positive impact on formal business relationships and cooperation. The resulting hypotheses are shown in <Table 2>.

<Table 2> Hypotheses

Hypothesis 1	The control of contract by buyers in CSR activity is positively associated with a formal cooperation & relationship.
1-1	The control of contract by buyers in CSR activity is positively associated with a formal cooperation.
1-2	The control of contract by buyers in CSR activity is positively associated with a formal relationship.
Hypothesis 2	The monitoring about CSR activity is positively associated with a formal cooperation & relationship.
2-1	The monitoring about CSR activity is positively associated with a formal cooperation.
2-2	The monitoring about CSR activity is positively associated with a formal relationship.

<Table 3> shows the hypotheses whether business relationships and simple cooperation between the supplier and the buyer can develop into a higher-level emotional cooperation and relationship. Informal relationship and cooperation are not distinguished from one another because informal cooperation can be achieved by establishing emotional bonds and solidarity between partners.

<Table 3> Hypotheses

Hypothesis 3	Formal cooperation & relationship between partners is positively associated with an informal cooperation and relationship.
3-1	The formal cooperation is positively associated with an informal cooperation.
3-2	The formal cooperation is positively associated with an informal relationship.

For firms to maintain long-term business relationships, the parties must possess elements of trust and commitment(Cui et al., 2013; Jia et al., 2013). As a result, trust and commitment are viewed as the key elements to promote communication, share information, strengthen relationship quality, maintain business transactions, and increase the willingness for cooperation(Anderson et al., 1990; Shaman et al., 2013). Relationship quality is considered as a bundle of intangible values that augment products and services and result in an expected interchange between the buyers and sellers. In the B2B field(business to business), trust and commitment are representatives of the relationship quality(Jia et al., 2013; Lohtia et al., 2009; Mukherjee et al., 2007; Rauyruen et al., 2007). In this line, the study explores

relationship channels between firms and uses trust and commitment to represent relationship quality(Morgan et al., 1994).

3. Analysis Method and Results

After completing the questionnaire based on the results of the preliminary survey, we analyzed 319 manufacturing companies during a month from April 1 to April 30, 2016. They are composed of Food(13), Textile(43), Paper(18), Refining(10), Chemical(23), Medicine(18), Ceramic(12), Metal (28), Machine(24), Electronic and Electrical(59), Transportation of vehicles(15), and the Others(58). The analysis was performed using SPSS 23.0 and Amos 23.0.

3.1. Empirical analysis

3.1.1. Checking reliability and validity

Prior to the hypothesis testing, the measured items used in this study were validated to determine if they adequately describe the variables. Exploratory factor analysis(EFA) and confirmatory factor analysis(CFA) were conducted to check for discriminant validity and convergent validity.

First of all, the principal component analysis(PCA) was used to extract constituents of the measured variables by EFA and the orthogonal rotation method was adopted to simplify the factor loading.

As a result of the exploratory factor analysis, the item selection criterion in this study was based on an eigen value of 1.0 or more and a factor load value of 0.40 or more. Of the in total 21 items, 8 items were found to be loaded incorrectly in the theoretical structure, and the remaining 13 items were used for the analysis. All the factor loadings of the 13 items showed a value of 0.6 or higher, which indicates that the correlation between each variable and the factor is high. This means that the factors are appropriate to describe each variable. Commonality is the rate at which variables are explained by extracted factors. As a general criterion, a commonality of 0.4 or more is considered as significant. As a result of the analysis, the commonality of all variables is more than 0.5 so that the ratio of explaining the variables by the extracted factors is appropriate. Since the value of Kaiser-Meyer-Olkin(KMO), which indicates the degree to which the correlation between variables is well explained by other variables, is 0.792, also the selection of the variables for the factor analysis is appropriate. Cronbach's alpha is used for the reliability analysis, which indicates whether the concept of each variable is accurately and consistently measured from questionnaire respondents. Generally, if the Cronbach's α value is more than 0.6 in the social science field, it is considered to be reliable. In this study, the conceptual reliability(Cronbach's α) for measuring the internal consistency of the indicators showed a confidence level of 0.7 or higher in all constructs.

<Table 4> Results of exploratory factor analysis

Variables	No.	Contents	Cronbach's α	Factor Loading	Commonality	Cumulative %
Contract	a13_1	The buyer clearly specifies our CSR objectives through formal agreements with our company.	.787	.664	.597	24.961
	a13_2	The buyer enumerates specific CSR practices required through formal contracts.		.623	.559	
	a13_3	The buyer has an institutionalized CSR agreement with our company.		.823	.697	
	a13_4	CSR efforts of our company have a strong impact on contract renewal with buyers.		.818	.712	
Monitoring	a14_1	The buyer requests our company to submit yearly CSR report.	.709	.769	.680	43.208
	a14_2	The buyer asks our company to improve our CSR-related activities(improvement of treatment for employees, etc.).		.797	.689	
Formal Cooperation	a27_4	The buyer shares CSR goals with our company.	.822	.770	.713	56.916
	a27_5	The buyer shares CSR-related reports and achievements with our company.		.853	.760	
Formal Relationship	a29_2	Cooperation with the buyer and business development are strongly linked to our CSR efforts.	.775	.890	.811	69.614
	a29_3	We work with the buyer to solve CSR-related issues.		.893	.819	
Informal Cooperation & Relationship	a28_1	The buyer has a long-term partnership with our company	.778	.747	.670	61.862
	a28_2	Social activities often occur between the buyer and our company(after work dinning together, etc.).		.891	.809	
	a28_3	The buyer has established a strategic partnership with us.		.717	.532	

Prior to analyzing the hypothesis relation between constructive concepts, a confirmatory factor analysis was used to evaluate the single dimensionality of all latent variables and measurement variables in the research model defined in this study <Table 4>. The single dimensionality means that the indicators of each potential variable show an acceptable fit by the single factor model before grasping the hypothesis test. In this study, Chi Square, RMR, GFI, AGFI, CFI, NFI, IFI and RMSEA were used to test the fitness of data. Based on the Chi square value, the confirmatory factor analysis shows that the model is not appropriate. However, since CMIN/DF, RMR, GFI, AGFI, CFI, RMSEA, NFI, and IFI all fit the criterion of the fitness index, a single dimensionality of each measurement variable was confirmed (<Table 6>). Therefore, it can be concluded that the fit of the model in which the single dimensionality is confirmed is excellent.

3.1.2. Hypothesis test and results

<Hypothesis 1-1> and <Hypothesis 1-2> were rejected. It can be seen that CSR is based on pure social responsibility of participating companies rather than forced by contract. The fact that <Hypothesis 2-1> is accepted shows that corporate activities that constantly monitor CSR activities have a positive effect on cooperation based on information sharing between companies. However, the result that

<Hypothesis 2-2> was rejected means that monitoring does not positively affect the relationship between members and implies that more emotional exchanges and close working cooperation should be based on the promotion of the relationship. <Hypothesis 3-1> was accepted, and it was found that if a formal cooperation that shares not only the CSR goals but also the process of activities and its results is preceded, it establishes a strategic partnership and positively affects the informal cooperation and relationship based on this. However, <Hypothesis 3-2> was rejected and it was found that formal relationship had a limit that it could not be connected to informal relationship based on emotional bond. This implies that a simple formal relationship does not affect emotional cohesion between companies on a supply chain.

As a result of the hypothesis test <Table 7>, the stronger the buyer monitoring on the company's CSR activities, the more positive it affects the formal business cooperation. On the other hand, strong buyer monitoring did not affect formal business relationships. Therefore, even if buyers' monitoring of CSR activities is strong, it does not mean that the formal business relationship is improved, but it means that it is possible to improve the formal business cooperation. One implication can be that monitoring of CSR activities can lead to the necessary cooperation to achieve business results, but excessive monitoring may exacerbate business relations.

<Table 5> Results of confirmatory factor analysis

Variables	No.	Unstandardized Coefficients	Standardized Coefficients	Standard Error	C.R	SMC	α
Control of Contract	a13_1	.936	.699	.096	10.005	.489	.787
	a13_2	.805	.683	.082	9.835	.466	
	a13_3	1.000*	.667			.445	
	a13_4	1.40	.738	100	10.363	.544	
Business Activity Monitoring	a14_1	1.000*	.749			.562	.709
	a14_2	.967	.733	.108	8.915	.537	
Cooperation	a27_4	.804	.804	.051	.051	.647	.822
	a27_5	1.000*	.875			.766	
Reciprocity	a29_2	1.000*	.779			.607	.775
	a29_3	.945	.817	.183	.183	.677	
Relationship & Trust	a28_1	1.240	.712	.115	.115	.507	.778
	a28_2	1.605	.779	.131	.131	.889	
	a28_3	1.000*	.817			.400	

<Table 6> Test of model fit

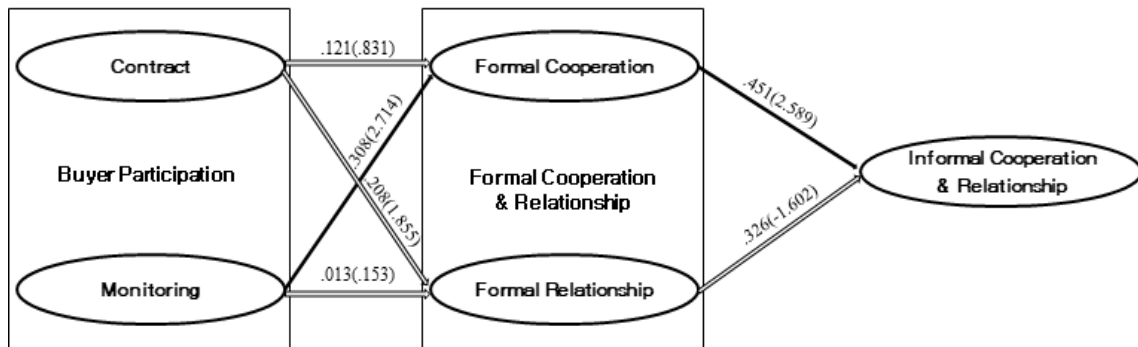
Classification	Obtained	Suggested	Results
CMIN/P	.000	p>0.05	Not Suggested
CMIN/DF	1.937	2 or less	Suggested
RMR	.038	0.05 or less	Suggested
GFI	.939	0.9 or more	Suggested
AGFI	.900	0.9 or more	Suggested
CFI	.956	0.9 or more	Suggested
NFI	.925	0.9 or more	Suggested
IFI	.956	0.9 or more	Suggested
RMSEA	.064	0.05 or less: Good 0.05 to less than 0.1: Suggested possibly	Suggested

<Table 7> Result of Hypothesis Test

	Path of Hypothesis	Estimate	C.R	P-value	Results
H 1-1	Contract → Formal Cooperation	.121	.831	.406	Rejected
H 1-2	Contract → Formal Relationship	.208	1.855	.064	Rejected
H 2-1	Monitoring → Formal Cooperation	.308	2.714	.007**	Accepted
H 2-2	Monitoring → Formal Relationship	.013	.158	.874	Rejected
H 3-1	Formal Cooperation → Informal Relationship & Cooperation	.451	2.589	.010*	Accepted
H 3-2	Formal relationship → Informal Relationship & Cooperation	-.326	-.602	.109	Rejected

Note 1: $\chi^2=137.510$, $DF=57$, $\chi^2/DF=2.412$, $RMR=.053$, $GFI=.934$, $AGFI=.895$, $NFI=.918$, $IFI=.950$, $CFI=.950$, $RMSEA=.067$

Note 2: * $p<0.05$, ** $p<0.0$



<Figure 2> Result of hypothesis test

In addition, we could show that business cooperation between the company and the buyer, that is sharing goals and work regarding CSR activities, and collaborations have a positive effect on relationships based on emotional exchange and cooperation. It is suggested that formal cooperation can result in emotional bondage and cohesion, which can lead to informal relations and long-term cooperation.

From the fact that <Hypothesis 3-2> is rejected, it is obvious that the emotional exchange between the company and the buyer is impossible only by the formal relation. Business exchanges, even if they are simple, should be developed to deepen relationships and cooperation otherwise, if the business relationship is maintained without business exchanges, emotional ties cannot develop.

4. Concluding Remarks and Discussion

4.1. Conclusion

The fact that <Hypothesis 1-1> and <Hypothesis 1-2> were rejected shows that CSR should be based on pure social responsibility rather than forced contract. Accepted <Hypothesis 2-1> presents that monitoring CSR activities has a positive effect on cooperation based on information sharing. On the contrary, rejected <Hypothesis 2-2> implies

that more emotional exchanges and close working cooperation should be based on the promotion of the relationship. <Hypothesis 3-1> was accepted, and its result means that formal cooperation establishes a strategic partnership and positively affects the informal cooperation and relationship only if it shares CSR goals, the process of activities, and its results. Finally, <Hypothesis 3-2> was rejected and it was found that formal relationship could have a limitation without informal relationship based on emotional bond. This implies that formal relationship is not connected to emotional cohesion between partners.

This study shows that the stronger the buyer monitoring on the company's CSR activities, the more positive it affects formal cooperation. On the other hand, strong buyer monitoring does not affect business relationships. Therefore, this means that buyers' monitoring of CSR activities does not leads to an improvement of the formal business relationship but it leads to an improvement of the formal cooperation.

Monitoring CSR activities can result in the necessary cooperation to achieve business results, but it also suggests that excessive monitoring may exacerbate business relations. In addition, it was shown that formal business cooperation between the supplier and the buyer, that is sharing goals and works for CSR activities, has a positive effect on relationships based on emotional exchange and commitment.

Above all, if formal business cooperation continues, it can

turn to emotional bondage and cohesion and finally to informal relations and long-term cooperation. The suggestion that emotional exchange cannot be achieved only by business relationship can be verified from the fact that <hypothesis 3-2> is rejected. Continuous business exchanges, even simple ones, should be established so that they can develop into deepened relationships and cooperation. If the supplier and the buyer maintain formal business relations without business exchanges, there are no emotional bonds.

Therefore, in order to maintain emotional ties and bonds between the buyer and the supplier, maintain relationships and provide informal cooperation on CSR activities, monitoring of the buyer participation method, which continuously evaluates the CSR's goal and performance level, is effective.

In addition, if formal cooperation is first achieved, strategic partnerships and cooperation can be developed in long-term cooperation beyond simple business development. Therefore, in order to establish a long-term partnership between companies, basic efforts should be made for simple cooperation such as sharing information about work and exchanging results.

4.2. Discussion and limitation

This study is meaningful because it distinguishes the cooperation activities and relationship between the buyer and the supplier as formal and informal, and confirms factors affecting informal cooperation and relationship that are the basis of long-term partnership building. We confirmed that CSR activities would not be a mandatory activity and should be based on trust and commitment between partners on a supply chain. The research result that the monitoring of CSR activities enables formal cooperation but does not improve formal relationship means that in order to build and improve relationships between partners, something more than cooperative activities, that is, emotional exchanges covering trust and commitment, must be presented.

The limitation of this analysis is that the survey was conducted in a limited area. Different cultures and environments in different countries or regions may lead to different results. In the future, research on companies from all over the world will give us an opportunity to make comparisons by country or region.

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