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## An Empirical Study on the Vendor's Opportunism in the Collaboration between Buyer and Vendor

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### Abstract

**Purpose** – The main feature of this study is understanding of the vendor's opportunism on the collaboration context between buyer and vendor from the buyer's viewpoint with resource dependence theory. A number of studies on opportunism have focused on opportunistic definitions and its theoretical studies. Other researches emphasize the importance of governance in ways that reduce opportunism. We think that this research could be filled with the lack of previous studies.

**Research design, data, and methodology** – In order to accomplish research purpose, four hypotheses have been established based on the framework of resource dependence theory and previous studies. And we have used 599 survey data jointly collected by Korea Productivity Center and the Ministry of Trade, Industry and Energy. To verify these hypothesis, we have conducted multiple regression analysis with SPSS 23.0.

**Results** – The vendor's opportunism decreases as mutual trust with buyer becomes higher. However, as the degree of dependence of buyers on vendor resources increases, vendor's opportunism increases. And monitoring vendor's capacity has a moderating effect with buyer resource dependency to vendor's opportunism.

**Conclusions** – This study suggest there are two options to decrease vendor's opportunism. Increasing mutual trust or decrease dependence on vendor's resources. Also, monitoring supplier's capacity could be effective when vendor's resource dependence is high.

**Keywords:** Opportunism, Collaboration, Trust, Vendor.

**JEL Classifications:** C83, D30, L11, R12.

### 1. Introduction

Today, many companies are working with other organizations to effectively cope with the speed of increasingly accelerated technology to gain competitive advantage in the marketplace during shortened product life cycle (Grant & Baden-Fuller, 2004). This kind of collaboration is very attractive to the company which can't own all the resources to overcome the inefficient business environment (Kim & Song, 2013). Because that is able to for the firm effectively compensate the shortage in short time. However, this form of collaboration does not always produce good results. Rather, there are negative effects

such as using important information of cooperating companies in their own competitive resources or leaking their information to other competitors (Das & Rahman, 2010; Wathne & Heide, 2000). According to Williamson (1975), this kind of phenomenon is called opportunistic behavior. In other words, the self interest seeking with guile would be opportunism. These opportunistic behaviors are a part to be cautious in that they can lose the competitiveness of the opponent by breaking down the accomplishments achieved in a long time (Hardy & Magrath, 1989; Lee, Oh, & Kim, 2014).

Research on opportunism among collaborations has been conducted in many fields. First, the definition of the initial opportunistic tendencies and the theoretical studies on various dimensions of them (Griesinger, 1990; Jap & Anderson, 2003; Rindfleisch & Heide, 1997; Williamson, 1975). There are some papers on the causes of opportunism based on these studies, which suggests transaction specific assets, target discrepancies, and so on

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(Crosno & Dahlstrom, 2008; Das & Rahman, 2010). And, Brown, Dev, and Lee (2000) emphasized the importance of governance as a way to reduce the opportunism of the other party. In this case, it is necessary to absorb the opponent's organization and to exterminate the opportunism and to increase the asset specificity by inducing the investment in the assets that can be effective only in my own transaction. Finally, And to establish a trusting relationship by sharing. Stump and Heide (1996) also pointed out that it is important to select partners with no intention or motivation to express opportunism.

However, despite the fact that many previous studies have raised the understanding of opportunism and suggested practical implications, research on opportunism is still lacking in some areas (Kang & Jindal, 2015). In particular, there is still a lack of research on the opportunistic behavior in collaboration between buyer and vendor in Korea (Hong & Park, 2016). Many researches have suggested mutual goal disunity and pressure on the planned outcome as a cause of opportunism (Crosno & Dahlstrom, 2008; Das & Rahman, 2010). However, it is also true that such research is lacking in terms of collaboration between the two organizations in order to resolve scarce resources. As has been pointed out in many previous studies, the opportunism of the opponent is caused by various causes. The authors of this paper have begun to study from the view that they may arise from the structural problems that constitute the collaboration between buyer and vendor. Therefore, this study attempts to investigate the opportunism considering the basic assumptions and context of the buyer and vendor constituting collaboration. This study can be expected to make an academic contribution that can fill in a small part of the existing research and in practice it can provide an opportunity to acknowledge and accept the opportunism that arises from the characteristics of the collaboration. In this study, we can suggest a method to reduce opportunism through the verification of moderation variable. Based on many previous studies and theoretical background, this study considers that mutual trust and resource dependence affect vendor opportunism. In order to obtain proper analysis and accurate results, we considered environment uncertainties as industrial environment and competitive structure uncertainty that could affect vendor's opportunism (Kim, Eom, Kim, & Youn, 2015).

In order to achieve this research objective, the composition of this paper is as follows. In the next section, based on the theoretical background, we examine vendors' opportunism, mutual trust, and resource dependency of buyers. In addition, the moderation variable that can affect relationship between these factors is presented and related hypotheses are derived. Next, we analyzed the characteristics of the data used to verify the proposed hypothesis and the various validity and reliability of the variables for statistical analysis. Based on this, multiple regression analysis are performed. Finally, the results and

analysis of the research, limitations, and academic contribution are described.

## 2. Theoretical Background

### 2.1. Buyer Resource Dependency and Vendor Opportunism

It is the dependence on the partner that is claimed to be one of the causes of the opportunism of the opponent (Williamson, 1975). This means not only the dependence of the power but also the dependency on the other party's resources. Resources include types of tangible one, but they also include intangible things such as intellectual monopolies as well as others' reputations (Eisenhardt & Schoonhoven, 1996). A good example is Walmart's joint venture with Cifra, Mexico's largest retailer, to effectively enter the Mexican market. Walmart has depended on Cifra's name value and retailer network. Most organizations would depend on other organizations for resources that they do not have or depend on resources from other organizations when it is more efficient to use other organizational resources than to own them (Heide, 1994), which is an important part of the discussion of resource dependence theory (Pfeffer & Salancik, 1978).

In collaborative relationship between the buyer and vendor, effective collaborations occur through various activities and adjustments to achieve a common goal between the buyer and the vendor (Dyer & Singh, 1998; Dyer, 2000; Dubois et al., 2004; Kim, 2014). The resource dependence between the buyer and the vendor constituting the collaboration varies greatly depending on the possibility of substitution for the other party (Pfeffer & Salancik, 1978), the possibility of valuable resources that can be provided to the other party (Blau, 1964). However, according to Provan (1982) and Skinner and Guiltinan (1986), buyers are more likely to rely on a major vendor than to rely on a particular single buyer in a collaborative relationship. Based on this conclusion, Williamson (1975) argues that if a buyer has a high dependency on a vendor, that is, if buyer changes a lot of costs and related processes by replacing a vendor, can be expected to increase. Therefore, the following hypothesis was established.

**<H1>** In the context of uncertainty-based collaboration, The higher the buyer's resource dependence on the vendor, the more likely the vendor's opportunism will increase.

### 2.2. Mutual Trust in Collaboration and Vendor Opportunism

Opportunism means seeking personal gain using deception (Williamson, 1985). Opportunistic behaviors come

in many forms. It also includes a series of actions, such as breaking the originally planned contract or providing the wrong information to the other party. A series of these behaviors are pointed out as a major reason for hindering the effectiveness of the transaction as well as the additional transaction costs to monitor the opponent's opportunistic tendencies (Morgan, Kaleka, & Gooneret, 2007; Tangpong, Hung, & Ro, 2010). However, some of these opportunistic behaviors can be inevitable because all members in collaboration are not all the same purpose (Liu, Li, & Zhao, 2009; Kim & Youn, 2015).

There have been many scholars' research on how to prevent or respond to these opportunism. Williamson (1985), who understands opportunism in terms of transaction costs, can prevent opponent's opportunistic behavior by writing a contract or relying on legal controls. However, it is almost impossible to specify all situations related to the transaction in the contract. It is very difficult to predict the number of cases that can occur in many transactions. In addition, it might be possible to control opponent's opportunistic behavior through the creation of a contract or a legal entity, but in the case of one of collaboration member with strong power, the influence of the superiority of the member is reflected in it, It is also pointed out that it is difficult to prevent behavior (Heide & John, 1990; Lusch & Brown, 1996). Therefore, it is trust that is presented as an alternative to the mechanism of control to overcome these limitations (Heide & John, 1992).

Trust means the belief or expectation that the other party has good will and ability to me (Kumar, Scheer, & Steenkamp, 1995). In particular, trust between vendor and buyer in collaboration has been studied by many scholars as a good way to prevent opportunistic behavior of the other party. First, Morgan and Hunt (1994) argue that by sharing and understanding common goals through trust, they can pursue common interests rather than seeking selfish interests. And Verbeke and Greidanus (2009) argue that trust is effective in reducing opponent's opportunism because it facilitates mutual knowledge flow and helps to solve information asymmetry.

There have been many previous studies on the relationship between opportunism and mutual trust. As a representative study, there are studies that collaboration members who are in partnership with each other can play a role as a safeguard against opponent's opportunism by forming trust (Deeds & Hill, 1999). In addition, there is some research showing that if there is trust among collaboration members, even if good alternatives are offered in the short term, they are reluctant to replace the current partner (Hirschman, 1980; Seabright, Levinthal, & Fichman, 1992). Based on previous studies results, It is expected that if the trust among collaboration members is formed, the opportunism of vendor will be reduced. Therefore, the following hypothesis was established.

**<H2>** In the context of uncertainty-based collaboration, The higher the mutual trust between buyer and vendor, the more likely the vendor's opportunism will be decrease.

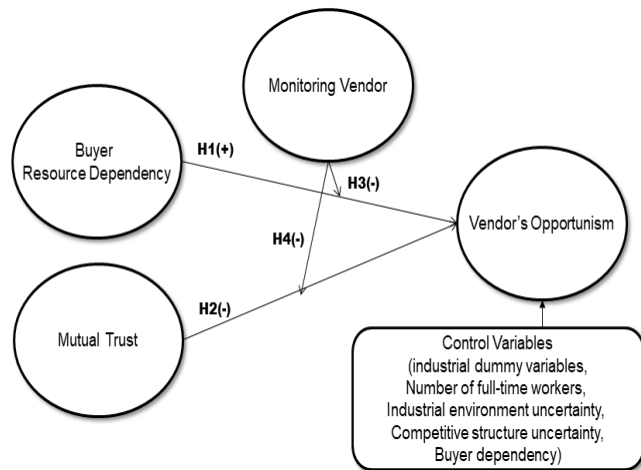
### 2.3. Moderating Effect on Vendor Opportunism: Monitoring

After the mutual agreement about contract between the buyer and the vendor, the buyer becomes less controllable about the vendor, and the monitoring remains the only official control ways (Kakouris, Polychronopoulos, & Binioris, 2006). In fact, from the buyer's point of view, the monitoring as proper control method is essential to achieve collaborative work with vendors (Ellram, Tate, & Billington, 2008; Choi & Kang, 2012). Monitoring in a partnership can reduce the information asymmetry that may occur between the buyer and the vendor (Stump & Heide, 1996). A lot of research on this kind of monitoring has been done. However, the effect on monitoring was not consistent. Jaworski, Stathakopoulos, and Krishnan (1993) suggested that there was no significant relationship between overall performance and monitoring due to increased monitoring costs. Also Heide, Wathne, and Rokkan (2007) found that buyer's monitoring vendors might reduce vendors' opportunism, but it could increase ongoing costs involved and, in some cases, need to review of collaboration itself. Although many studies have been conducted on the monitoring vendor's capability, there are few studies that considering buyer resource dependence and mutual trust at the same time. The purpose of this study is to investigate a monitoring vendor's capability as a moderating effects of vendors on opportunism when buyer resource dependency and mutual trust exist same time. And based on previous studies, The following monitoring hypotheses can be established to reflect the results of the reduction.

**<H3>** In the context of uncertainty-based collaboration, the interaction effect between buyer monitoring on vendor's capability and buyer's resource dependency will have a negative moderating effect on vendor's opportunism.

**<H4>** In the context of uncertainty-based collaboration, the interaction effect between buyer monitoring and mutual trust will have a negative moderating effect on vendor's opportunism.

Based on the aforementioned hypotheses, we present a research model as shown in <Figure 1>.



<Figure 1> Research Model

### 3. Methodology

#### 3.1. Sampling and Data Collection

The purpose of this paper is to investigate the relationship between buyer's resource dependence and vendor's opportunism and to study the influence of moderating effect on this relationship. In order to achieve such research objectives, the Korea Productivity Center and the Ministry of trade, Industry and Energy jointly organized the Korea Manufacturing Panel Survey (hereafter referred to as the MPS), which collects data on 2,218 domestic manufacturing companies. This data set is currently open to all researchers. So, anyone can get the one at a webpage (<http://mps.kpc.or.kr>). The data was surveyed at automobile industry, shipbuilding industry, telecommunication industry and general machinery industry, which are the most representative manufacturing areas of Korea. Especially, instead of standard industrial classification(SIC) code, which is generally used for corporation registration, MPS has used companies apply realistic classification information reflecting the actual products they produce. So, the automobile industry is divided by automobile and trailer manufacturing industries, shipbuilding industry is divided by shipbuilding and boat construction industry, communication industry is divided by communication and broadcasting equipment manufacturing industry, and general machinery industry is divided by component parts such as bearings, internal combustion engine, heat exchanger. even though they are using same SIC. this kind of work could improve the realization of the industry classification.

From February to June 2013, about 5 months, 599 of the 2,218 companies responded and the response rate was about 27%. The respondents with the highest number of responses were the general machinery industry, with 205 respondents (34%). 165 automobile industries, 116 telecom

industries, and 113 shipbuilding industries. The number of full-time worker in the company was 55-99, accounting for 61% of the total. The characteristics of the sample are shown in <Table 1>.

<Table 1> Sample Characteristics

	Remarks	Frequency	Percentage(%)
Industry	auto industry	165	27.5
	shipbuilding industry	113	18.9
	communication industry	116	19.4
	general machine industry	205	34.2
	sub total	599	100
Number of full-time Workers	55-99	363	60.6
	100-299	184	30.8
	over 300	52	8.6
	sub total	599	100

Another feature of this survey is that respondents were divided into different categories in order to ensure the accuracy of survey responses. It divided into seven areas: production management, purchasing management, research and development, sales planning, planning management, personnel management, and financial management. <Table 2> shows the main survey contents of each field.

<Table 2> Major Survey Contents by Sectors

Remarks	Major Survey Contents
Operations Management	Process failure rate, raw material failure rate, raw material yield, equipment efficiency, lead time, production facility level, production process, quality control, process flexibility etc.
Procurement Management	Import inspection defective product, evaluation of relationship with vendors, vendor integration level, vendor evaluation, vendor competency, vendor's transaction retention etc.
R&D	Development process evaluation, development performance, product technology, process technology evaluation, development techniques and tools utilization, skill level, etc.
Sales Planning	The proportion of product sales from the past three years, customer return rate, relationship with customers, integration level of new product development, customer satisfaction management, etc.
Planning and Management	Labor productivity, facility investment efficiency, inventory turnover, investment performance, R & D investment, facility investment, information system level, process innovation activity, environmental management activity, industrial environment uncertainty, network area etc.
Human Resource Management	Status of workforce and education and training, work status by job category, evaluation of employee ability, salary and personnel, promotion and human resources, career development, etc.
Financial Management	Assets, Liabilities, Inventories, Fixed Assets, Financial Statements, Actual Investments, Annual Average Investment, etc.

\*Source : <http://mps.kpc.or.kr>

### 3.2. Measures and Control Variables

The measurement items of the MPS used in this study are shown in <Table 3>. In order to increase the reliability of the survey measurement, each item was used as much as possible for the items used in the previous studies. In this study, the buyers's resource dependency as an independent variable. Assessed whether it is time consuming or costly to change the existing vendor to new company, including possibility of substitution and importance. the questionnaire consists of three questions borrowed from Cox (2001). The mutual trust that is used as an other independent variable should be modified to reflect the contents of the trust part of Benton and Maloni (2004) and Hennig-Thurau, Langer, and Hansen (2001). The questionnaire consists of two questions asking whether Recognizing that the two companies are partnerships, they are working together and the contract was based on mutual benefit. Drawing from Rokkan, Heide, and Wathne (2003), vendor opportunism used as a dependent variable, to determine whether current vendors distort facts for their own interests, and whether they make promises that they can not keep. And monitoring vendor's capability as a moderator is composed of four questions that ask whether to monitor vendors' financial situation, production capacity, quality control capacity and manpower management capacity

used by Grover and Malhotra (2003).

Finally, the control variables used in this study are as follows. The purpose of the control variable is to measure more accurately the influence of the independent variable on the dependent variable. Several papers related to existing opportunism have shown that uncertainty induces opportunism (Williamson, 1985). In this paper, the uncertainty of the industrial environment uncertainty and the competitive structure uncertainty are applied (Ho, 1996). First, the uncertainty of the industrial environment consists of three items including the rate of obsolescence of products, the rate of introduction of new products, and the rate of introduction of new production processes. The competition structure uncertainty is composed of 4 items such as intense competition between domestic and foreign markets, possibility of new products or vendors appearing, and speed of industrial technology change. In addition, the number of full time workers used in many studies was used a control variable by substituting the size of the firm because it was assumed that the possibility of opportunism would be affected by the size of the firm. In order to measure vendor's dependency of buyer in order to control the precise effect of the resource dependency felt by the buyer, the proportion of the buyer's transaction in the sales is used as the control variable.

<Table 3> Measurement Variables of Construct Components

Variables	Number	Questions (1 = not at all, 4 = normal, 7= extremely well)	Reference
Buyer Resource Dependency (BR)	How does changing your current vendor into a new company affect your company?		
	BR1	It takes a lot of time to change to a new company.	Cox (2001)
	BR2	The cost of changing to a new company is high.	
	BR3	We have to change our business processes a lot.	
Vendor's Opportunism (SO)	Please evaluate the opportunism of vendor. (Note: The lower the score, the better.)		
	SO1	The vendors that are currently trading often distort the facts for their own benefit.	Rokkan et al. (2003)
	SO2	Current vendors often make promises that are difficult to keep.	
	SO3	The vendors that are currently trading often hide important or necessary information.	
Mutual Trust (MT)	Please evaluate the level of mutual trust between your company and the vendor.		
	MT1	Recognizing that the two companies are partnerships, they are working together (including joint growth programs)	Benton & Maloni (2004), Hennig-Thurau et al. (2001)
	MT2	The contract is fairly written and operated with respect to mutual benefit.	
Monitoring vendor's Capability (MS)	MS1	Continuously check the vendor's financial situation.	Grover & Malhotra (2003)
	MS2	Continuously check vendor's production capacity.	
	MS3	Continually check the vendor's product quality control capability.	
	MS4	Continue to monitor the vendor's manpower management capabilities.	
Industrial Environment Uncertainty (EU)	EU1	In our industry, products are becoming obsolete quickly.	Villena et al. (2011)
	EU2	In our industry, the introduction of new products is fast.	
	EU3	In our industry, new processes (production processes) are being introduced quickly.	
Competitive Structure Uncertainty (CU)	CU1	Our industry is very competitive in domestic market.	Wernerfelt & Karnani (1987)
	CU2	Our industry is very competitive in overseas markets.	
	CU3	The industry to which our company belongs is likely to be brand new products or vendors.	
	CU4	In our industry, technology is changing rapidly.	

### 4. The Findings

#### 4.1. Unidimensionality, Reliability, and Validity

According to Koufteros, Cheng, and Lai (2007), the convergence of exploratory factor analysis into a single latent variable leads to a uni-dimensionality of the measured variables. <Table 4> shows the results of the exploratory factor analysis except for two of the items (CU3 and CU4) to measure the competitive structure uncertainty. All the measured variables have a high loading value over 0.7 on one latent variable. Therefore, it can be seen that the measurement items used in this study have been verified as a unidimensionality.

<Table 4> Results of Exploratory Analysis

	Component					
	1	2	3	4	5	6
Buyer Resource Dependency (BR)	.235	.044	-.015	.826	.104	.085
	.170	.037	.025	.874	.078	.077
	.107	.056	.135	.789	-.063	-.086
Mutual Trust (MT)	.186	-.097	.085	.079	.893	.020
	.224	-.100	.042	.017	.886	.055
Monitoring vendor Capability (MS)	.843	.035	.038	.171	.042	-.038
	.865	.036	.068	.110	.197	.028
	.833	.014	.111	.111	.220	.009
	.836	.069	.060	.181	.057	-.040
Industrial Environment Uncertainty (EU)	-.009	.035	.817	.084	.033	.057
	.132	-.026	.834	.004	.025	.221
	.120	-.014	.860	.053	.075	.093
Competitive Structure Uncertainty (CU)	-.037	-.030	.208	.030	.009	.829
	-.005	.000	.111	.024	.057	.873
Vendor Opportunism (SO)	.001	.920	-.040	.041	-.041	.016
	.071	.916	.005	.081	-.067	-.002
	.064	.929	.036	.015	-.093	-.050

\* Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

Reliability means that repeated measurements of the same concept are expected to yield the same measurement (Hair, Anderson, Babin, & Black, 2010). In this study, we used the Cronbach's alpha value to measure the reliability, which is higher than the recommended value of 0.6 (Hair et al., 2010). In addition, a confirmatory factor analysis was conducted to verify the validity according to the recommendation of Hair et al. (2010). In this study, we analyzed Lavaan package in R program. As a result of the analysis, it was found that the convergence validity was secured because the load of all factors was well over 0.5 (Hair et al., 2010). In addition, model fit was found to be appropriate with several model fit index, CFI = 0.958, TLI = 0.945, GFI = 0.891, AGFI = 0.882, and RMSEA = 0.059

(Hair et al., 2010).

<Table 5> Measure Convergent Validity, Statistical Value, and Reliability

Variables	Number	Loading value	Mean	S.D	Cronbach's alpa
Mutual Trust (MT)	MT1	.841	5.20	1.069	.616
	MT2	.853	5.30	1.022	
Buyer Resource Dependency (BR)	BR1	.825	4.82	1.311	.810
	BR2	.869	4.27	1.407	
	BR3	.618	3.94	1.195	
Monitoring vendor Capability (MS)	MS1	.757	4.14	1.357	.893
	MS2	.896	4.84	1.289	
	MS3	.867	5.07	1.272	
	MS4	.759	4.16	1.295	
Industrial Environment Uncertainty (EU)	EQ1	.659	4.10	1.195	.806
	EQ2	.840	4.40	1.263	
	EQ3	.816	4.26	1.117	
Competitive Structure Uncertainty (CU)	EQ4	.782	4.99	1.148	.692
	EQ5	.664	4.98	1.153	
Vendor Opportunism (SO)	SO1	.864	3.10	1.299	.917
	SO2	.883	3.11	1.302	
	SO3	.915	3.03	1.236	

\* all significant at p <0.001.

The method used to verify discriminant validity in this study was to compare the average variance extract (AVE) value and the square of the correlation coefficient between each factor proposed by Fornell and Laker (1981). Fornell and Laker (1981) argued that there is no problem in discriminant validity if the average variance extraction value is higher than any square value of the respective urinary correlation coefficients. <Table 6> shows the average variance extraction value and the correlation coefficients. As shown in <Table 6>, the values displayed on the diagonal line are the average variance extraction coefficients. It was confirmed that the average variance extraction values are larger than the square value of any correlation coefficient. Therefore, it can be seen that the validity of discrimination is secured in this study.

<Table 6> Correlation Coefficient and Average Variance Extraction (AVE)

Factors	BR	MT	MS	EU	CU	SO
BR	.606					
MT	.185	.717				
MS	.410**	.439	.676			
EU	.140	.181*	.230**	.602		
CU	.099	.114	-.001	.430**	.526	
SO	.170*	-.187	.089	-.003	-.049	.789

\*\*\* p < .01, \*\* p < .05, \* p < .1

One of the most important features of the data used in this study is that the related experts respond to the questionnaires in each field. This was intentionally method to block the common method bias. However, Harman's one factor analysis was conducted to investigate whether the same method was more reliable. As a result, all items were not converged to one factor, and the variance explained in total dispersion was 78.3%. It is confirmed that the most explanatory factor accounts for only 24.8% of the total variance. Therefore, it can be said that the common method bias is not significantly influenced in this study (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

#### 4.2. Analysis

In order to verify hypotheses based on previous studies and theoretical background, SPSS 23.0 was used in this study. Buyer resource dependence and mutual trust are used as an independent variables. vendor opportunism is used as a dependent variable. and monitoring vendor's capability is used as a moderator. Industrial environment uncertainty and competitive structure uncertainty are used as a control variables. In addition, the number of full-time worker was added as a control variable, under the judgment that the size of the firm might affect the dependent variable, and the industry-specific characteristics may also affect the dependent variable. So three industry - specific dummy variables based on telecommunication devices were created

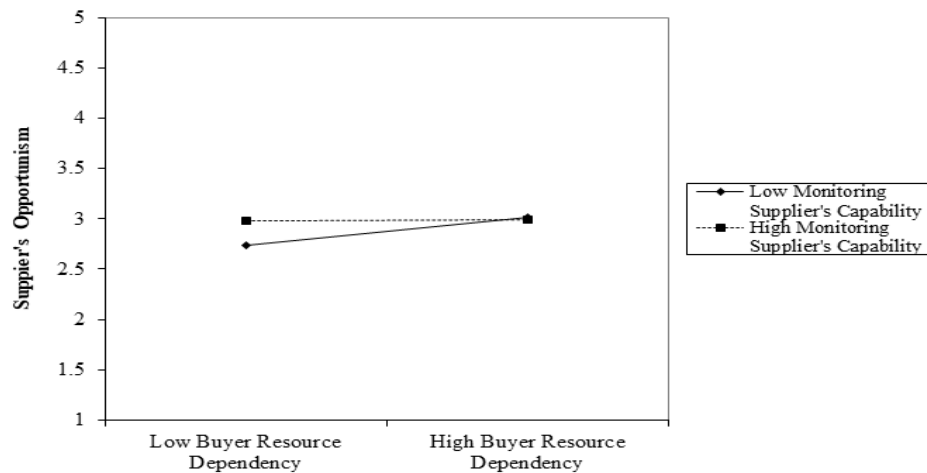
and utilized. Specifically, In order to measure the moderation effects accurately, both independent variables and moderator were used in the multiple regression equation after mean centering according to the recommendations of Aiken and West (1991). The results of the regression analysis are summarized in <Table 7>. Model 1 is the result before the moderator is applied, and the result after the moderator is shown in the model 2.

The analysis results are as follows. First, the buyer resource dependence has a positive effect on vendor's opportunism (beta = .100, p = .020). Therefore, <H1> can be supported that the more the buyer's resource dependence, the greater vendor's opportunism. Second, mutual trust was found to have a negative impact on vendor opportunism (beta = -.119, p = .045). Therefore, <H2> was supported that the higher the mutual trust between buyer and vendor, the lower vendor's opportunism. As a moderation effect, buyer's resource dependence and monitoring vendor's capability showed a statistically significant interaction effect (beta = -0.068, p = .019). Therefore, <H3> could be supported that buyer could reduce vendor's opportunism by monitoring vendor's capability when buyer depend on vendor's resources. Finally, buyer's resource dependence and mutual trust did not show statistically significant results (beta = .061, p = .164). The statistically supported <H3> can be expressed as in <Figure 2>, following the recommendations of Aiken and West (1991).

<Table 7> Results of Regression Analysis

Remarks			DV : Vendor Opportunism	
			Model 1	Model 2
Control Variables	Industrial Control Variables	Auto Industry	.169	.171
		General Machinery Industry	.227	.227
		Ship Building Industry	.115	.105
		Number of Full-time Workers	-.052	-.058
		Industrial Environment Uncertainty	.020	.001
		Competitive Structure Uncertainty	-.027	-.017
		vendor's Buyer Dependency	-.038	-.032
Independent Variables		Buyer Resource Dependency <H1>	.105** (supported)	-.108*
		Mutual Trust <H2>	-.108* (supported)	.071
Moderators		Monitoring vendor's Capability		.056
		Buyer Resource Dependency X Monitoring Vendor's Capability <H3>		-.066** (supported)
		Mutual Trust X Monitoring Vendor's Capability <H4>		.057 (not supported)
	R <sup>2</sup>	.028	.046	
	Adjusted R <sup>2</sup>	.013	.026	
	F	1.839	2.281	
	p-value	<0.05	<0.01	

\*\*\* p < .01, \*\* p < .05, \* p < .1



<Figure 2> Interaction effects of buyer resource dependence and monitoring vendor's capability.

According to Aiken and West (1991), the fact that the slopes of two lines are not the same means that the moderation effect is statistically significant. As shown in <Figure 2>, the slope of two lines are not the same. this is verified that moderation effect is significant. In addition, the dotted line indicates that the level of monitoring vendor's capability is high, and when the buyer's resource dependency is high also, the vendor's opportunism decreases. this result indicated that monitoring vendor's capability affect the relationship negatively between buyer's resource dependency and vendor's opportunism.

## 5. Summary

### 5.1. Discussion of Research Results

The purpose of this study was to examine the main factors that influence vendor opportunism. In order to accomplish this research purpose, four hypotheses have been established based on the framework of resource dependence theory and previous studies. First, as the buyer's dependence on the vendor increases, the vendor's opportunism will increase. Second, the higher the mutual trust between buyer and vendor, the lower the vendor's opportunism. Third, the interactions between buyer's resource dependence on vendor with monitoring vendor's capability will have a negative moderation effect on vendor opportunism. Fourth, the interactions between buyer and vendor mutual trust and monitoring vendor's capability will have a negative moderation effect on vendor opportunism.

In order to verify the hypotheses established in this study, multiple regression analysis was conducted using the MPS data collected by the Ministry of trade, Industry and Energy and the Korea Productivity Center. As a result, the

hypothesis that the vendor's opportunism will increase as the buyer's resource dependency increases was statistically significant. and the hypothesis that the higher the mutual trust between the buyer and the vendor, the lower vendor's opportunism is supported statistically. These results are consistent with previous results (Deeds & Hill, 1999; Hirschman, 1980; Seabright et al., 1992).

In addition, the hypothesis that the interaction between buyer's resource dependency and monitoring vendor's capability has a negative moderation effect on vendor opportunism, and that interaction between buyer and vendor mutual trust and monitoring vendor's capability has a negative effect on vendor opportunism. Only a part was supported. The interactions of buyer's resource dependence and monitoring vendor's capability is statistically significant.

The results of this study provide the following some implications. First, if the buyer has a high resource dependency on the vendor, the vendor may show opportunistic behavior, so the special management should be needed. The high resource dependency means that there is a difficulty to replace the vendor, and the vendor will try to utilize it's superior position and strength based on this fact. Therefore, buyers should be careful not to build too high resource dependency on vendors. Second, when it is inevitable to increase the dependence of vendors on resources, it is needed to monitor vendor. In other words, it is important to keep track of vendors' financial situation, to check production capacity, and to obtain information on product quality and manpower management capabilities. It could help for buyer to prevent vendor's intention from distorting the facts for the sake of it's interests with guile in advance, to notice the vendor's intention to hide important information at an early stage. Third, to reduce vendor's opportunism, it is important to establish mutual trust between buyer and vendor. Mutual trust can prevent the other party from offering distorted information for it's own benefit (Heide



& John, 1992).

## 5.2. Academic Contribution, Implications, and Future Research Direction

The main feature of this study is the understanding of the vendor's opportunism on the collaboration context between buyer and vendor from the buyer's viewpoint with resource dependence theory. A number of studies on opportunism have focused on opportunistic definitions and its theoretical studies (Griesinger, 1990; Jap & Anderson, 2003; Rindfleisch & Heide, 1997; Williamson, 1975; Rahman, 2010). Other researches emphasize the importance of governance in ways that reduce opportunism (Brown et al., 2000). Considering this point, we think that this research could be filled with the lack of previous studies. In addition, as a result of this study, it is worth noting that the practical implication that monitoring vendor's capability could be effective method to reduce vendor's opportunism when buyer's resource dependence is inevitable (Rahman, 2010).

There are some limitations, even though this study has interesting implication and scholar contributions. First, we can point out that the size and direction of resource dependence between buyer and vendor are not taken into consideration. This study only assumes that the buyer

depends on the vendor's resources. This is based on the work of Provan (1982) and Skinner and Guiltinan (1986). In order to compensate this assumption, the vendor used the share of the buyer's sales as the control variable. However, these assumption and complementary method can not also completely explain the dependency situation. Therefore, in future research, it is necessary to consider the mutual dependence of resources. It is also necessary for the vendor's opportunism to understand the overall performance of the collaboration between buyer and vendor. It is argued that some of the previous studies have shown that buyer monitoring can reduce the opportunistic tendency of vendors, but it does not know whether the cost of monitoring increases the overall performance (Heide et al., 2007). If the cost of monitoring vendor's capability is too big, then we should reconsider the collaboration itself. Therefore, in the next study, it is necessary to take into account the overall performance of the collaboration, which reflects the objective measurement and calculation of actual monitoring costs. Finally, it is the limit of the study to fail to use various variables affecting the vendor's opportunism in the sample of this study. It is expected that future studies will add more diverse and new variables to provide a deeper understanding of vendor's opportunism.

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