OPERATIONS AND SUPPLY CHAIN MANAGEMENT
Vol. 16, No. 1, 2023, pp. 17-25
ISSN 1979-3561 | EISSN 2759-9363

Impact of Information Sharing on Trust and Commitment Level in the Supply Chain: Focus on Korea's Three New Core Industries

Changjoon Lee
Sogang University, South Korea
Email: cjlee0825@daum.net

Soohyo Kim
Sogang University, South Korea
Email: ksh7261@gmail.com (*Corresponding Author*)

ABSTRACT

Today's business environment can be considered a competition of supply chains, not individual enterprise competition. Accordingly, companies have made great efforts to build efficient supply chains to improve competitiveness and secure competitive advantage. Based on this background, this study examined the impact of information sharing, which is an important factor in supply chain management, on two types of trust (cognitive trust and emotional trust) and commitment level. Specifically, this study suggested information sharing as an antecedent factor of cognitive trust and emotional trust and examined the relationship between the two types of trust and commitment level. Data were collected through a survey targeting workers in supply chain-related departments in three major new industries in Korea (automobiles, bio-health, and semiconductors); a total of 214 responses were used for the empirical analysis. By employing a structural equation model for the research model, information sharing was found to positively affect cognitive trust and emotional trust. Furthermore, the two types of trust had a positive impact on the commitment level of companies in the supply chain. Therefore, it is important to build mutual trust to create a sustainable relationship with another party in the supply chain and, for this, it is necessary to understand the importance of information sharing.

Keywords: *cognitive trust, commitment level, emotional trust, information sharing, supply chain management*

1. INTRODUCTION

The current business environment can be considered a competition among supply chains rather than individual enterprise competition. This is because consumers continuously want new products at low prices, but companies have limitations in individually improving their efficiency to meet these consumer needs. In the era of globalization, the market has been completely opened, and companies can survive only by cooperating with each other. For these reasons, many companies now realize the importance of supply chains and are building them (Srivastava *et al.*, 2022).

Meanwhile, information sharing is an important factor required to build an effective supply chain. Specifically, information sharing should be the basis for cooperation between companies in the supply chain because it is necessary to share accurate information on time for a smooth flow (Childerhouse and Towill, 2003). There have been numerous studies on this topic; Sahin and Robinson (2002) confirmed that information sharing enables rapid responses to changing customer needs, which increases the efficiency of the entire supply chain. Jarrell (1998) empirically found that information sharing between companies reduced inventory costs and improved product release speed. Therefore, information sharing is essential to sustain competitiveness in the globalized environment.

Several studies have argued that trust in the other party is necessary for smooth information sharing (Ebrahim-Khanjari *et al.*, 2012; Khan *et al.*, 2018). Here, trust means a mindset in which one relies on and believes in others; Mayer *et al.* (1995) argued that ability, benevolence, and integrity are required for building trust. Specifically, ability refers to having the skills or capabilities to carry out work in a specific field, and benevolence is the desire that the other party would be selfless and act for mutual benefits. Integrity can be interpreted as the degree of adherence to principles acceptable to the other party. Taken together, building trust can be regarded as creating an environment in which people can work for common interests.

As mentioned earlier, trust in the other party in a supply chain is important for efficient cooperation, like information sharing. This is because if a relationship is not built based on trust between companies, there is no choice but to fear the other party's potential opportunistic behavior. However, this study considers the issue in the opposite way: if information sharing is performed well, trust in the other party can be improved. There is a lack of research examining trust as a factor following information sharing in the relationship between companies. Therefore, this study examines the impact of information sharing on two types of trust and commitment level for office workers in supply chain-related departments in three new key industries in Korea: automobiles, bio-health, and semiconductors. This is because the Korean government announced in 2019 that it planned to become one of the world's top four manufacturing powerhouses by 2030 by fostering these three industries, which are expected to create new markets and grow. Therefore, by focusing on these three new key industries in

Korea, this study aims to identify the impact of information sharing on trust and commitment level, understand the importance of information sharing, and verify the necessity of information sharing as an antecedent factor of trust.

The structure of this article is as follows. Section 2 introduces the definitions and characteristics of each variable and discusses related previous studies. Section 3 presents the research model for inferring causal relationships between variables. In Section 4, an empirical analysis using the research model is conducted. Lastly, in Section 5, the results of the study are summarized, and implications and limitations are suggested.

2. THEORITICAL BACKGROUND

This study starts from the recognition of the importance of efficient relationships between companies in the supply chain, and accordingly, information sharing, trust, and commitment levels are examined. Additionally, through a literature review, related arguments are organized and measurement methods are examined. The arguments and measurement items for each variable are considered through previous studies on information sharing, trust, and commitment level.

2.1 Information Sharing

Information sharing refers to the formal or unofficial sharing of necessary information between companies at an appropriate time. The necessary information here includes various elements such as inventory, order, delivery, and consumer needs. Meanwhile, smooth information sharing is essential for effective cooperation between companies in the supply chain. This is because information sharing not only reduces conflicts that may occur within the buyer–supplier relationship but also improves mutual understanding (Kumar *et al*., 2016). Specifically, as information sharing can be seen as an act of sharing and communicating ideas between companies, it enables clear communication which, in turn, improves the performance of buyers and suppliers in the supply chain (Sahin and Topal, 2019).

Nonetheless, some companies are reluctant to share information because they are concerned about the potential risks of information misuse and leakage. As a result, they are hesitant to share information or provide only minimal information, but such actions inevitably have adverse effects on the entire supply chain. For example, if relevant information is not shared between companies, it is not only difficult to identify consumer preferences, but also impossible to lower costs, which is one of companies' fundamental goals (Azadegan *et al*., 2008). If companies do not pay attention to the process of sharing information, they may suffer from the bullwhip effect, a chronic problem that can easily occur within the supply chain. The bullwhip effect refers to a phenomenon in which changes in demand that started downstream of the supply chain are gradually distorted as they move upstream (Ouyang and Li, 2010). Dominguez *et al*. (2015) pointed out that information sharing is one of the factors that significantly influences the bullwhip effect (Shee and Kaswi, 2016). Therefore, according to these studies, the entire supply chain can lose its competitiveness if information is not shared among companies within the supply chain or if companies are not careful with information sharing.

This study measures information sharing based on previous studies with these focuses: information sharing related to problems; information sharing related to strategies and policies; information sharing related to sales; information sharing related to consumer preference; and sharing of know-how among organizations (Lin *et al*., 2002; Sheu *et al*., 2006).

2.2 Trust

Trust has been explored as an important concept throughout the social sciences. From an economic perspective, trust has been studied in connection with human habits, and from a psychological point of view, it has been examined by focusing on human attributes. From a business perspective, its importance has been examined in the relationships between individuals and between companies (Batwa and Norrman, 2021). This trust is expressed in various ways, such as faith and belief; Mayer *et al*. (1995) defined trust as the will to be vulnerable to another person's behavior based on belief. Meanwhile, trust has been explored from various perspectives in supply-chain-related studies, as it is essential for building effective and productive partnerships (Wilson and Vlosky, 1998).

Trust that promotes favorable behavior in relationships between companies has been studied as a concept with multidimensional properties rather than a single dimension. First, some scholars have examined trust in an emotional sense, based on individual feelings. Specifically, Mayer *et al.* (1995) argued that kindness to other people is emotional trust. Johnston et al. (2004) defined trust as believing that the other party in a transactional relationship will do its best to create profits. In other words, they explained trust as an emotional state that can be formed in relationships between individuals. Trust, meanwhile, has been explored as a belief formed based on perceptible evaluations instead of personal feelings. Nyaga *et al*. (2010) defined this as cognitive trust, which is trust formed based on another person's expertise, skills, and capabilities. Lewis and Weigert (1985) argued that the decision to trust the other person should be based on rational reasons. Therefore, cognitive trust can be considered the result of the process of trusting the other person based on objective data or knowledge.

As such, trust can be largely divided into emotional trust and cognitive trust, although some scholars argue that it is not correct to examine them in parallel. Specifically, McAllister (1995) argued that emotional trust can occur only when cognitive trust is created. For instance, when one first builds a relationship with others, one can develop trust based on the results of understanding and evaluating the other person's behavior. If the relationship with the other person is maintained over time, then another type of trust is formed based on a deep understanding of each other (Lewicki and Tomlinson, 2003). Contrary to previous studies, Twyman *et al.* (2008) empirically found that trust based on emotion acts as a predictor of trust based on calculation. Overall, taking previous studies together, the relationship between emotional trust and cognitive trust is mutual rather than causal in a specific direction. In other words, as emotional trust and cognitive trust have a significant influence in both directions, this study examines them in parallel. Additionally, emotional trust is measured by "openness," "honesty," "respect," and "positive thinking," while

cognitive trust is measured by "trust in job competency,"' "trust in know-how and expertise," "trust in unrivaled knowledge," and "accept expert opinions" (Ha *et al*., 2011; Johnson and Grayson, 2005).

2.3 Commitment Level

The commitment required to build a successful supply chain can be defined as the desire for maintaining the buyer–supplier relationship based on trust. Specifically, Allen and Meyer (1990) argued that commitment is characterized as a sacrifice for the other party and identifying oneself with the other party. Artz (1999) defined commitment as the desire to maintain long-term relationships between buyers and suppliers based on mutual trust within an increasingly competitive business environment. Why is such commitment so important in the supply chain? Anderson and Narus (1990) argued that commitment facilitates dynamic interactions between buyers and suppliers within the supply chain. Furthermore, Gundlach et al. (1995) explained that commitment can suppress the opportunistic behavior of the other party, which ultimately reduces the cost related to establishing new business relationships. In other words, if the commitment level is low, the current relationship may have low solidarity, which leads to selfish behavior and ultimately incurs additional costs. Meanwhile, if the commitment level is high, one can set and achieve long-term goals in addition to short-term ones with the other party, which can lead to long-term business relationships (Mohr and Spekman, 1994). Additionally, Lewin and Johnston (1997) empirically found that commitment between companies led to active participation in relationships, and Palmer (1995) concluded that commitment improved the quality of relationships. Therefore, it is important for companies in the supply chain to recognize the importance and necessity of commitment, so that the buyer–supplier relationship can be developed into a cooperative relationship rather than an adversarial or hostile one. Additionally, this study measures the commitment level by "commitment," "continuity," "close attachment," "advocacy," and "sense of belonging," based on previous studies (Dagger *et al*., 2011; De Wulf *et al*., 2001).

3. HYPOTHESIS ESTABLISHMENT AND RESEARCH MODEL

3.1 Information Sharing and Trust

The act of sharing information is one of the elements necessary to build an efficient supply chain. This is because by exchanging information such as technical data, long/short-term goals, and problems, it becomes possible to make decisions smoothly between companies in the supply chain (Lotfi *et al*., 2013). Lee and Kim (2000) argued for the necessity of information sharing in terms of supply chain integration and showed that information sharing capability is required to secure competitive advantage. Meanwhile, McEvily and Marcus (2005) claimed that information sharing and trust serve important roles in increasing corporate capabilities; specifically, they empirically found that information sharing between companies within the supply chain can improve trust. Panahifar et al. (2015) argued that, in a similar context, developing a safe method for sharing information can help build trust in the relationship between parties. Additionally, numerous studies examine the relationship between information sharing and trust; for example, Nyaga *et al*. (2010) clarified the association between information sharing and trust based on a two-way survey of buyers and suppliers in the supply chain. Taken together, information sharing is an important factor for smooth cooperation between companies in the supply chain, and in the case of appropriate and correct information sharing, relevant parties can trust each other. Therefore, this study establishes the following hypotheses.

Hypothesis 1*: Information sharing has a significantly positive impact on cognitive trust.*
Hypothesis 2*: Information sharing has a significantly positive impact on emotional trust.*

3.1 Trust and Commitment Level

Trust, also called belief and favor, is an important factor in reducing the uncertainty that may occur within a relationship with another party. McDonald (1981) argued that a lack of trust leads to distrust, which ultimately lowers the commitment level, and makes it difficult to build continuous relationships. Dwyer *et al*. (1987) empirically found that the formation of trust induces a high level of commitment, as trust can solve various problems. Morgan and Hunt (1994) suggested trust as an antecedent factor of commitment level. The social network theory can explain the relationship between trust and commitment level. The point of this theory is that a network of relationships can affect thoughts and behaviors (Granovetter, 1973). In other words, feeling an affinity with other people can cause emotional attachment, which leads to a higher commitment level. Hence, trust is a crucial factor in creating social exchange relationships, and it is difficult to sustain relationships without trust. Thus, this study establishes the following hypotheses.

Hypothesis 3*: Cognitive trust has a significantly positive impact on commitment level.*
Hypothesis 4*: Emotional trust has a significantly positive impact on commitment level.*

Based on the aforementioned discussion, the research model is shown in **Figure 1**.

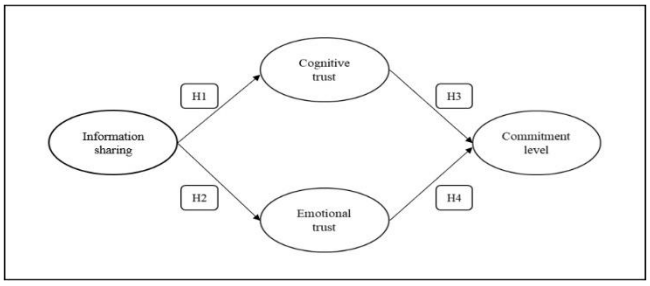

Figure 1 Research Model

4. RESEACRH METHOD

4.1 Data Collection and Sample Characteristics

For the empirical analysis, this study targeted office workers in supply chain-related departments in three new major industries in Korea. To confirm the validity of the content of the questionnaire, this study also targeted Ph.D. holders in business administration for a pre-test, in addition

to those workers, for 2 months from October 2021 to December 2021. The final questionnaire items were selected based on the aforementioned process. Each item was measured on a 7-point Likert scale, where 1 indicates "extremely negative or extremely low," 4 indicates "average," and 7 indicates "extremely positive or extremely high." A total of 4,082 copies of the questionnaire were distributed through a survey agency. Finally, 214 copies were used for statistical analysis and inappropriate questionnaires with insincere responses and non-responses were excluded. Although the return rate of significant responses may seem low, the survey was only conducted for people working in supply chain-related areas, which limited the return rate.

As for the sample characteristics, the main industries were found to be automobiles (36.4%), bio-health (33.2%), and semiconductors (30.4%), and the longest period of working in supply chain management-related departments was less than 10 years (71.4%). Furthermore, 73.6% accounted for the number of business partner suppliers less than 50, which represents a high rate, and more than half of the samples responded that the contract period with the suppliers was less than 10 years (68.7%). Lastly, when asked about the degree to which the COVID-19 pandemic had affected relationships with suppliers, nearly half of the sample said the relationships had deteriorated. Based on the abovementioned characteristics, the sample participants in this study may be deemed to be working at small and medium-sized companies if they have worked a relatively short period in departments related to supply chain management and are dealing with a relatively small number of suppliers. Furthermore, the fact that "less than 10 years" was the most frequent response for the contract period with suppliers may reflect today's highly competitive and intense business environment.

4.2 Measurement of Variables

The questionnaire in this study consisted of four parts to identify the characteristics of the sample in addition to demographic factors: information sharing, cognitive trust, emotional trust, and commitment level. Information sharing and commitment level consisted of five detailed survey items, while cognitive trust and emotional trust consisted of four detailed survey items. A 7-point Likert scale was used for each question. **Table 1** shows the operational definitions of the variables.

Table 1 Variable Definitions

Variables	Measurement variables	Operational definition	References
Information sharing	Information sharing related to problems	The extent to which information is shared with the other parties regarding issues that have occurred in the supply chain	Lin *et al*. (2002); Sheu *et al*. (2006)
	Information sharing related to strategies and policies	The extent to which strategy and policy-related information is shared with the other parties	
	Information sharing related to sales	The extent to which sales-related information is shared with the other parties	
	Information sharing related to consumer preference	The extent to which information regarding the demand and preferences of the end consumer is shared with the other parties	
	Sharing of know-how among organizations	The extent to which an organization's know-how is shared with the other parties	
Cognitive trust	Trust in job competency	The extent to which one has confidence in the ability of the other parties to perform their duties	Ha *et al*. (2011); Johnson and Grayson (2005)
	Trust in know-how and expertise	The extent to which one is satisfied with the other parties' know-how and expertise	
	Trust in unrivaled knowledge	The extent to which one believes that the other parties have unique knowledge and skills	
	Accept expert opinions	The extent to which the other person's professional	

Variables	Measurement variables	Operational definition	References
		opinion is accepted	
Emotional trust	Openness	The extent to which there is no hidden intention in a transaction with the other parties	Ha *et al.* (2011); Johnson and Grayson (2005)
	Honesty	The extent to which one assumes that the other parties are honest and engage in the task	
	Respect	The extent to which one respects and accepts the position or argument of the other parties	
	Positive thinking	The extent to which one regards the other parties positively	
Commitment level	Dedication	The extent of dedication to maintaining a relationship with the other parties	Dagger *et al*. (2011); De Wulf *et al*. (2001)
	Continuity	The extent to which one wants the relationship with the other parties to last for a long time	
	Close attachment	The extent to which one feels a strong attachment to the relationship with the other parties	
	Advocacy	The extent to which one wants to defend when people criticize the other parties	
	Sense of belonging	The extent to which one has a sense of belonging in the relationship with the other parties	

4.3 Reliability and Validity Tests

Before testing the hypotheses, this study examined the reliability and validity of the measurement variables. To test the reliability, this study calculated Cronbach's alpha values; in general, in the field of social science, if the value is higher than 0.7, reliability can be considered as secured (Nunnally, 1978). The variables presented in this study had the following outcomes: information sharing = 0.813, cognitive trust = 0.791, emotional trust = 0.806, and commitment level = 0.852. Therefore, the accuracy of the measurement tool was confirmed.

Meanwhile, to examine the validity of the causal relationships between information sharing, cognitive trust, emotional trust, and commitment level, a confirmatory factor analysis was performed. To this end, this study measured the fit index for the proposed research model. The following indexes satisfied the overall recommended level, assuming that the research model was judged acceptable: GFI = 0.923, RMR = 0.049, RMSEA = 0.045, AGFI = 0.903, NFI = 0.937, CFI = 0.912 (Hair et al., 2010). The results of the convergent validity analysis for the variables used in this study are shown in **Table 2**. The average variance extracted (AVE) of all variables was higher than 0.5, and the construct reliability (CR) was higher than 0.7. Furthermore, the path coefficient appeared significantly at the $p < 0.001$ level, and thus, all factors were adopted.

Table 2 Results of Convergent Validity Analysis

Path	Standardized coefficient	Non-standardized coefficient	S.E.	C.R.	AVE	CR
A1 <- Information sharing factor	0.605	1			0.584	0.834
A2 <- Information sharing factor	0.753	1.25	0.126	9.902***		
A3 <- Information sharing factor	0.744	1.308	0.133	9.83***		
A4 <- Information sharing factor	0.615	1.137	0.132	8.597***		
A5 <- Information sharing factor	0.715	1.341	0.14	9.576***		

Path	Standardized coefficient	Non-standardized coefficient	S.E.	C.R.	AVE	CR
B1 <- Cognitive trust factor	0.726	1			0.589	0.823
B2 <- Cognitive trust factor	0.723	1.008	0.088	11.484***		
B3 <- Cognitive trust factor	0.688	1.099	0.1	10.956***		
B4 <- Cognitive trust factor	0.661	0.887	0.084	10.545***		
C1 <- Emotional trust factor	0.627	1			0.621	0.856
C2 <- Emotional trust factor	0.787	1.217	0.113	10.732***		
C3 <- Emotional trust factor	0.666	0.915	0.096	9.507***		
C4 <- Emotional trust factor	0.795	1.12	0.104	10.795***		
D1 <- Commitment level factor	0.637	1			0.632	0.874
D2 <- Commitment level factor	0.689	1.166	0.118	9.867***		
D3 <- Commitment level factor	0.724	1.304	0.127	10.248***		
D4 <- Commitment level factor	0.693	1.223	0.124	9.904***		
D5 <- Commitment level factor	0.739	1.274	0.123	10.397***		

* p<0.05, ** p<0.01, *** p<0.001

Then, to analyze the discriminant validity, the AVE for each variable was measured and the correlation coefficient between the variables was obtained. The criterion for evaluating discriminant validity is that the squared value of the correlation coefficient between each variable should not exceed the AVE value. The results are shown in **Table 3**.

Table 3 Results of Discriminant Validity Analysis

	Information sharing	Cognitive trust	Emotional trust	Commitment level
Information sharing	0.584			
Cognitive trust	0.339	0.589		
Emotional trust	0.309	0.476	0.621	
Commitment level	0.292	0.356	0.280	0.632

4.4 Empirical Analysis

This study employed a structural equation model that uses the maximum likelihood method to test and analyze the causal and correlational relationships between information sharing, two types of trust (cognitive and emotional), and commitment level. Measurement variables that were used for evaluating the validity of the model were employed, as information sharing, two types of trust, and commitment level were measured using reflective measures. The results of the structural equation model for hypothesis verification in this study were as follows: GFI = 0.933, RMR = 0.024, RMSEA = 0.040, AGFI = 0.922, NFI = 0.927, and CFI = 0.923; most of these generally met the fit criteria suggested by Hair et al. (2010), demonstrating the model's fit for path analyses. The structural equation model was analyzed, and all hypotheses were adopted. The results are shown in **Table 4**.

Specifically, information sharing has significant positive effects on cognitive trust and emotional trust. Additionally, the formation of cognitive trust and emotional trust has a significant positive impact on commitment level. The findings, therefore, suggest that information sharing and trust should be utilized as strategic tools to raise commitment levels among companies within a supply chain.

Table 4 Results of Hypothesis Verification

Path	Standardized coefficient	Non-standardized coefficient	S.E.	C.R.	P	Adoption/ Rejection
Hypothesis 1	0.838	0.928	0.107	8.667***	0.000	Adoption
Hypothesis 2	0.791	0.980	0.123	7.974***	0.000	Adoption
Hypothesis 3	0.401	0.362	0.080	4.541***	0.000	Adoption
Hypothesis 4	0.497	0.401	0.076	5.265***	0.000	Adoption

* p<0.05, ** p<0.01, *** p<0.001

5. CONCLUSIONS

5.1 Study Results

This study discussed how two types of trust can improve the commitment level in the relationship between companies in the supply chain, influenced by the antecedent factor of information sharing, and then empirically analyzed their relationship. The analysis results are summarized as follows. First, information sharing was found to have a positive effect on cognitive trust and emotional trust. These results are consistent with previous studies showing a

proportional relationship between information sharing and trust between companies (McEvily and Marcus, 2005; Panahifar *et al*., 2015). In other words, the more correct information is shared in the supply chain, the more cognitive and emotional trust one party has in the other party's capabilities. For instance, the bullwhip effect, which can be regarded as a chronic problem in supply chains, occurs because the information is not shared correctly. Therefore, companies in the supply chain must put a lot of effort into smooth information sharing to increase the efficiency of the entire supply chain.

Second, cognitive trust and emotional trust were shown to have positive effects on commitment level. This outcome is consistent with that of previous studies showing a positive causal relationship between them (Dwyer *et al*., 1987; Morgan and Hunt, 1994). This result indicates that trust plays a key role in improving the commitment level. Therefore, it is important for companies in the supply chain to recognize the importance of trust to cooperate at a higher level.

5.2 Implications and Limitations

With rapidly changing business environment and consumer needs, it is becoming more important for companies to establish and properly implement a supply chain. Therefore, this study examined the relationships between information sharing, trust, and commitment level. The implications of this study are as follows.

First, this study examined the impact of information sharing within the supply chain on trust and commitment levels. McEvily and Marcus (2005) argued that information sharing and trust play important roles in improving corporate capabilities, while McDonald (1981) empirically showed that commitment level can be improved through trust. In other words, prior research shows that a higher commitment level requires trust based on information sharing. Each variable used in this study has been explored in several previous studies. However, this study is meaningful in that it expanded the research scope by examining the relationships among the variables in three new key industries in Korea.

Second, by setting information sharing as an independent variable in supply chain-related research, the scope of the subject was expanded. Previous studies have considered information sharing as a factor constituting supply chain cooperation. Specifically, they explored variables that can reduce potential risks and transaction costs through relationship management, like trust, as antecedent factors of information sharing. However, this study reaffirmed that trust between parties can be created if the information is correctly shared, as shown in the results of Panahifar *et al*. (2015). Therefore, it is suggested that the concept of information sharing should be treated as an independent variable depending on the purpose or condition of the study.

Lastly, by examining the causal relationship between information sharing, trust, and commitment level, this study has implications for those working in the three new key industries designated by the Korean government. Since the government announced its prioritization of the three new industries in 2019, it has been helping them cope with challenges in the fierce business environment through investments in various fields. Employees should be aware of the importance of information sharing and two types of trust within the supply chain, as confirmed by this study.

Despite these suggested implications, this study also has a few limitations. First, the sample used in this study consisted only of workers in the three new key industries in Korea. As there are many other industries in Korea, it would be meaningful to broaden the scope of industry groups to examine the relationship between information sharing, trust, and commitment level. Furthermore, the academic significance of the study would be enhanced if the same research model were applied to cases of other developed countries and compared with Korea's case. Furthermore, it is necessary to subdivide commitment according to research backgrounds rather than considering it as a one-dimensional concept.

REFERENCES

Allen, N. J., and Meyer, J. P. (1990). The Measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organization. *Journal of Occupational Psychology* 63(1), pp. 1–18.

Anderson, J. C., and Narus, J. A. (1990). A Model of Distributor Firm and Manufacturer Firm Working Partnerships. *Journal of Marketing* 54(1), pp. 42–58.

Artz, K. W. (1999). Buyer–supplier Performance: The Role of Asset Specificity, Reciprocal Investments and Relational Exchange. *British Journal of Management* 10(2), pp. 113–126.

Azadegan, A., Dooley, K. J., Carter, P. L., and Carter, J. R. (2008). Supplier Innovativeness and the Role of Interorganizational Learning in Enhancing Manufacturer Capabilities. *Journal of Supply Chain Management* 44(4), pp. 14–35.

Batwa, A., and Norrman, A. (2021). Blockchain Technology and Trust in Supply Chain Management: A Literature Review and Research Agenda. *Operations and Supply Chain Management: An International Journal* 14(2), pp. 203-220.

Childerhouse, P., and Towill, D. R. (2003). Simplified Material Flow Holds the Key to Supply Chain Integration. *Omega* 31(1), pp. 17–27.

Dagger, T. S., David, M. E., and Ng, S. (2011). Do Relationship Benefits and Maintenance Drive Commitment and Loyalty? *Journal of Services Marketing* 25(4), pp. 273–281.

De Wulf, K., Odekerken-Schröder, G., and Iacobucci, D. (2001). Investments in Consumer Relationships: A Cross-country and Cross-industry Exploration. *Journal of Marketing* 65(4), pp. 33–50.

Dominguez, R., Cannella, S., and Framinan, J. M. (2015). The Impact of the Supply Chain Structure on Bullwhip Effect. *Applied Mathematical Modelling* 39(23–24), pp. 7309–7325.

Dwyer, F. R., Schurr, P. H., and Oh, S. (1987). Developing Buyer-Seller Relationships. *Journal of Marketing* 51(2), pp. 11–27.

Ebrahim-Khanjari, N., Hopp, W., and Iravani, S. M. (2012). Trust and Information Sharing in Supply Chains. *Production and Operations Management* 21(3), pp. 444–464.

Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology* 78(6), pp. 1360–1380.

Gundlach, G. T., Achrol, R. S., and Mentzer, J. T. (1995). The Structure of Commitment in Exchange. *Journal of Marketing* 59(1), pp. 78–92.

Ha, B. C., Park, Y. K., and Cho, S. (2011). Suppliers' Affective Trust and Trust in Competency in Buyers: Its Effect on Collaboration and Logistics Efficiency. *International Journal of Operations & Production Management* 31(1), pp. 56–77.

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010). *Multivariate data analysis*, Prentice Hall, Englewood Cliffs, NJ.

Jarrell, J. L. (1998). Supply Chain Economics: Supply chain Management and Competitive Advantage. *World Trade* 11, pp. 58–61.

Johnson, D., and Grayson, K. (2005). Cognitive and Affective Trust in Service Relationships. *Journal of Business Research* 58(4), pp. 500–507.

Johnston, D. A., McCutcheon, D. M., Stuart, F. I., and Kerwood, H. (2004). Effects of Supplier Trust on Performance of Cooperative Supplier Relationships. *Journal of Operations Management* 22(1), pp. 23–38.

Khan, M., Hussain, M., Papastathopoulos, A., and Manikas, I. (2018). Trust, Information Sharing and Uncertainty: An Empirical Investigation into Their Impact on Sustainability in Service Supply Chains in the United Arab Emirates. *Sustainable Development* 26(6), pp. 870–878.

Kumar, R., Singh, R. K., and Shankar, R. (2016). Study on Collaboration and Information Sharing Practices for SCM in Indian SMEs. *International Journal of Business Information Systems* 22(4), pp. 455–475.

Lee, Y. H., and Kim, S. H. (2000, December). Optimal Production-Distribution Planning in Supply Chain Management Using a Hybrid Simulation-analytic Approach. *2000 Winter Simulation Conference Proceedings* (Cat. No. 00CH37165) (Vol. 2), IEEE, pp. 1252–1259.

Lewicki, R. J., and Tomlinson, E. C. (2003). Trust and Tust Building. Beyond Intractability, in: Burgess, G., Burgess, H. (Eds.), *Conflict*, Research Consortium, University of Colorado, Boulder.

Lewin, J. E., and Johnston, W. J. (1997). Relationship Marketing Theory in Practice: A Case Study. *Journal of Business Research* 39(1), pp. 23–31.

Lewis, J. D., and Weigert, A. (1985). Trust as a Social Reality. *Social Forces* 63(4), pp. 967–985.

Lin, F. R., Huang, S. H., and Lin, S. C. (2002). Effects of Information Sharing on Supply Chain Performance in Electronic Commerce. *IEEE Transactions on Engineering Management* 49(3), pp. 258–268.

Lotfi, Z., Mukhtar, M., Sahran, S., and Zadeh, A. T. (2013). Information Sharing in Supply Chain Management. *Procedia Technology* 11, pp. 298–304.

Mayer, R. C., Davis, J. H., and Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review* 20(3), pp. 709–734.

McAllister, D. J. (1995). Affect-and Cognition-based Trust as Foundations for Interpersonal Cooperation in Organizations. *Academy of Management Journal* 38(1), pp. 24–59.

McDonald, G. W. (1981). Structural Exchange and Marital Interaction. *Journal of Marriage and the Family* 43(4), pp. 825–839.

McEvily, B., and Marcus, A. (2005). Embedded Ties and The Acquisition of Competitive Capabilities. *Strategic Management Journal* 26(11), pp. 1033–1055.

Mohr, J., and Spekman, R. (1994). Characteristics of Partnership Success: Partnership Attributes, Communication Behavior, and Conflict Resolution Techniques. *Strategic Management Journal* 15(2), pp. 135–152.

Morgan, R. M., and Hunt, S. D. (1994). The Commitment-trust Theory of Relationship Marketing. *Journal of Marketing* 58(3), pp. 20–38.

Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.), McGraw-Hill, New York.

Nyaga, G. N., Whipple, J. M., and Lynch, D. F. (2010). Examining Supply Chain Relationships: Do Buyer and Supplier Perspectives on Collaborative Relationships Differ? *Journal of Operations Management* 28(2), pp. 101–114.

Ouyang, Y., and Li, X. (2010). The Bullwhip Effect in Supply Chain Networks. *European Journal of Operational Research* 201(3), pp. 799–810.

Palmer, A. (1995). Measuring and Managing Buyer-seller Relationship Life Cycles. *Management Research News* 18(12), pp. 25–31.

Panahifar, F., Byrne, P. J., and Heavey, C. (2015). A Hybrid Approach to the Study of CPFR Implementation Enablers. *Production Planning & Control* 26(13), pp. 1090–1109.

Sahin, F., and Robinson, E. P. (2002). Flow Coordination and Information Sharing in Supply Chains: Review, Implications, and Directions for Future Research. *Decision Sciences* 33(4), pp. 505–536.

Şahin, H., and Topal, B. (2019). Examination of Effect of Information Sharing on Businesses Performance in the Supply Chain Process. *International Journal of Production Research* 57(3), pp. 815–828.

Shee, H., and Kaswi, S. (2016). Behavioral Causes of the Bullwhip Effect: Multinational vs. Local Supermarket Retailers. *Operations and Supply Chain Management: An International Journal* 9(1), pp. 1−14.

Sheu, C., Yen, H. R., and Chae, B. (2006). Determinants of Supplier-retailer Collaboration: Evidence from an International Study. *International Journal of Operations & Production Management* 26(1), pp. 24–49.

Srivastava, A., Vyas, V., and Gurtu, A. (2022). Supply Chain Management and the United Nations Sustainable Development Goals. *Operations and Supply Chain Management: An International Journal* 15(4), pp. 505–515.

Twyman, M., Harvey, N., and Harries, C. (2008). Trust in Motives, Trust in Competence: Separate Factors Determining the Effectiveness of Risk Communication. *Judgment and Decision Making* 3(1), pp. 111–120.

Wilson, D. T., and Vlosky, R. P. (1998). Interorganizational Information System Technology and Buyer-seller Relationships. *Journal of Business & Industrial Marketing* 13(3), pp. 215–234.

Changjoon Lee holds a bachelor's degree in economics from Michigan State University. After that, he received a master's degree and Ph.D. from Sogang University, majoring in LSOM (Logistics, Service, Operations Management). Currently, he is an adjunct professor of business administration at Sogang University.

Soohyo Kim holds a bachelor's degree in business from Dong-A University, and a master's degree from Sogang University, majoring in LSOM. Currently, he is working on a doctorate in LSOM, at Sogang University. His areas of interest are in operations management, supply chain management and service management.