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EXPLORING THE ROLE OF SOCIAL CAPITAL IN IMPLEMENTING A COLLABORATIVE SCM SYSTEM

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ABSTRACT

In recently years, since uncertainty increases in business environment and market competition intensifies, the importance of collaborative supply chain management (SCM) is increasing. Companies need to collaborate with partner Firms within the supply chain from the perspective of strategy and system to respond quickly to dynamic market changes. Therefore, this study was conducted with the aim to seek ways to implement the collaborative supply management system of manufacturing Firms from the perspective of social capital. To achieve the purpose of this study, the author examined the concept and dimensions of social capital and supply chain collaboration through literature review and empirically verified the influencing relationship between the social capital, collaborative supply chain management system, and supply chain performance of manufacturing Firms. This study is meaningful in that the author confirmed the importance of social capital formation and collaborative SCM system establishment for enhancing the competitiveness of manufacturing Firms, and suggested the strategic directions of the supply chain management that can contribute to improving supply chain performance.

Keywords: *Supply Chain Management (SCM), SCM Systems, Social Capital, Supply Chain Collaboration, Supply Chain Performance, Small And Medium-Sized Enterprises (SMes)*

1. INTRODUCTION

In today's hypercompetitive market, since the company individual capabilities alone are not sufficient enough to achieve better quality and cost savings and remain flexible, and thus the need for supply chain collaboration with partner Firms with complementary assets within the supply chain with is increasing [39].

A supply chain is a network between organizations involved in delivering products or services from suppliers to producers and to customers. Organizations in the network exchange information to coordinate the production and distribution of goods and services. However, as information exchanged between supply chains is incomplete, inaccurate, distorted, or delayed, which leads various problems such as poor and uncoordinated decisions, stockpiling and shortages of inventory, long product life cycles, and system inefficiencies. Therefore, effective supply chain management (SCM) is required to solve these problems and to improve the performance of the entire network [5].

The SCM system is a key driver of effective SCM. The SCM system allows it to share and exchange information between organizations within the supply chain network, supporting the organization's strategy, operations and decision making. Through this SCM system, organizations can minimize a bullwhip effect, maximize efficiency of activities, reduce inventory, shorten cycle time and achieve acceptable quality levels [13] [33].

Inter-company collaboration is not just simple transactional coordination but the interaction between Firms focused on collaboration in terms of strategy and system. System collaboration serves as a common platform for sharing and coordinating information between Firms, forecasting demand and managing activities in an effective manner. Strategic collaboration, on the other hand, reflects actual business activities to achieve shared goals with partner Firms and to form long-term partnerships [26]. In other words, the supply chain collaboration means that supply chain members share information, resources, and risks to achieve shared goals and form a long-term partnership. Firms can reduce uncertainty in the supply chain and improve the utilization of resources by integrating resources and sharing risks, which ultimately leads profit increase, cost reduction and operational flexibility improvement [43] [4] [44]

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[39]. In addition, the sustainable SCM (sustainable SCM), which has become a conversational topic, suggests that Firms can create new values by and achieving social, economic and environmental sustainability with external stakeholders rather than attempting to acquire corporate value only within the supply chain [38] [2] [21].

These new perspectives, ranging from SCM to supply chain collaboration and sustainable SCM, are being introduced in various concepts, but it can be said that these perspectives ultimately focus on with who Firms can acquire and utilize resources in response to a rapidly changing business environment. In response to this trend, in recent studies on the supply chain, academic interest has been increasingly focused on strategies to efficiently manage relationships between organizations participating in the supply chain [23] [25]. The shift of the social capital to the inter-organization domain, which was explained only at the individual level of organization members in the organizational theory in the past, is also based on these changes. However, since social capital, a set of resources depending on social relations, has different attributes and manifests itself in various phenomena [23], it is not difficult to precisely define the substance in the inter-organizational relationship, and furthermore, there are not many exploratory and empirical studies conducted on the formation and role of social capital.

Therefore, this study is intended to examine the role of social capital in implementing the collaborative supply chain management system in the supply chain environment. The main objectives of this study are as follows. First, the author will examine the role of social capital in the supply chain through literature review and confirm the types and structural relationship of social capital. Second, the author will examine whether social capital acts as a driver of the collaborative SCM by measuring the effect of social capital accumulated on the collaborative SCM between the organizations within the supply chain. Third, the author will confirm the effect of collaborative SCM on the supply chain performance and provide the theoretical and practical implications for manufacturing Firms to contribute to the improvement of the supply chain performance.

To achieve the research objective, this study is designed and structured as a literature review and theoretical framework. This study is divided into five chapters. Chapter 1 introduces the thesis and its objectives, scope, and organization. Chapter 2 presents a research hypothesis based on a review of literature on major concepts and theories. Chapter 3 presents the sample, measure and analysis method of the study. Chapter 4 presents the data analyses and findings. Chapter 5 presents the summary and future research directions, based on the results of the test of the theoretical model.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1. Social Capital

Individuals and organizations form dynamic relationships within society and are germinated in social relationships [15]. Individuals and organizations involved in the germinated relationship acquire the social capital as a resource derived from the network [31]. In other words, the social capital is a set of social resources that are derived from the network as a core resource directly connected to the survival of the organization, thereby creating the competitive advantage of the organization [22]. As a result, the social capital, which was studied at the individual level, has expanded to the organizational dimension and drew attention as the concept of social capital or relational capital [12] [1] [23].

In the context of the buyer-supplier relationship in the supply chain, relational capital is based on the concept of social capital, meaning that the relationship between Firms is formed by interactions, leading to development from transactional relationship to collaborative relationship [12] [32] [23]. Nahapiet & Ghoshal (1998) defined the relational capital is a social unit between group members and the aggregate of the substantial and potential resources appearing through network activities. Kale et al. (2000) defined the relational capital as a level of trust and respect created through intimate interactions between Firms. And Griffith & Harvey (2004) defined the relational capital as the aggregate of substantial and potential resources that can be combined and induced in a network of individuals or societies. Looking at these definitions, the relational capital is a concept that was applied to the inter-company relationship in the supply chain based on the concept of social capital.

In the case of manufacturing Firms, the relational capital is the ability to derive effective collaboration with the transactional Firms in the production network, thereby becoming a source of new competitive advantage by sharing resources and capabilities through this ability. In addition, the relational capital accumulates from the formation and strengthening of relationship with stakeholders in the company, and is an important source of

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increasing corporate performance [40]. In other words, the buyer-supplier partnership removes the anxiety and risk factors from the uncertainty of buyers and suppliers, and provides an attractive motive for both parties to participate in the supply chain [30]. The partnership also reduces transactional costs [20], reduces the extent to which formal agreements are concluded [29], and resolves organizational conflicts [34]. In particular, the positive effects obtained by collaborative behaviors in forecasting inventory and demand have already been discussed in several studies [3].

2.2. Structural relationship of social capital

Since the social capital can manifest itself in various forms through the social network, it is difficult to find a congruence on the composition of social capital. According to the classification of Nahapiet & Ghoshal (1998), which is most commonly accepted in the previous studies on social capital, the author, in this study, categorized the types of social capital into structural capital, cognitive capital, relational capital, and then examined the structural relationship.

As a sub-dimension of social capital, structural capital is the capital value that appears in the connection pattern between the members forming the network [31], and is measured as the degree of interaction that signifies the closeness of the relationships or the strength of the network formed between members [41] [9] [6]. In other words, the structural capital is a relationship that can strengthen accessibility and combination between members. In this relationship, the necessary information and resources are shared through the network formed by members, and this interaction creates new knowledge, thereby strengthening the competitiveness of the organization [45].

The cognitive capital refers to the cognitive system shared by members within a social network, providing the resource that allows it to understand common meanings between network members and promote behavioral patterns through shared vision, goals and language, or semantic system [31]. In other words, the cognitive system in the organization is the basic mechanism that maintains the consistency of the behavior in the organization and preserves and develops the norms, values, and culture of the organization [19]. Sharing vision and value in an organization creates perceptions of the commonality that spread throughout the organization, provides consistency in various activities, which makes organizational members understand and collaborate with each other through shared visions and goals [36].

The relational capital refers to the inter-personal relationship formed by the interaction of the individuals constituting the network [31], and the relational capital refers to the trust, norms, obligations, or expectations that guarantees the social interaction in terms of the quality of inter-personal relationship between members [31] [10]. The trust between members of a social network contributes to organizational performance by promoting organizational activity, enabling collaborative behaviors between members, and reducing conflicts and transactional costs [35].

As shown above, the structural capital of the social capital is interconnected through the social relationship between social members [31], and the social interaction between members is strengthened as the social network is strengthened [23]. Network members can form shared values and group identity more quickly when the similarities in social exchange relationship are higher [17], and they can learn the organization's language, norms, and customs through social interactions [41]. The relational capital of social capital evolves and evolves by social interaction and socialization [11]. In other words, if the social relation between the members is strong, the members interact more often, thereby increasing the level of trust [23]. In this way, the formation of a social network encourages members to establish a trust relationship by sharing their vision and goals. Therefore, this study established hypotheses as follows:

H1-1: Structural capital will have a positive effect on cognitive capital.

H1-2: Structural capital will have a positive effect on relational capital.

2.3. Social Capital and Supply Chain Collaboration

In recent years, the collaboration in the studies of SCM has emerged as the most important factor to determine the source of corporate competitiveness. The supply chain collaboration means that more than two independent Firms form long-term relationships and tightly plan and execute supply chain activities towards common goals, thereby achieving more benefits than acting individually [43]. The supply chain collaboration is a process in which supply chain members form long-term partnership by sharing information, resources, and risks to achieve common goals, which enables Firms to reduce uncertainty, increase resource utilization by integrating resources and sharing risks, thereby leading to improved profit, cost reduction and operational flexibility

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improvement [14] [4]. Therefore, the formation of a long-term and friendly partnership based on the trust formed between the supply chain members can serves as a strategic plan for greater performance and sustainable competitive advantage [42].

For successful SCM operation, it is important for the partners within the supply chain to establish collaborative relationship and a trust relationship should be established to the extent that the partners can efficiently perform each role as one organization [12]. By establishing trust, organizations can share valuable information, invest time and resources on partner Firms, thereby achieving better results than outcomes obtained individually [23]. In other words, inter-company trust promotes collaborative activities between partners such as information sharing, system integration and provision of manpower and resources. In addition, sharing vision and goals plays a key role in the efficient operation of the supply chain by promoting the relational proximity and collaborative commitment between Firms. Therefore, this study established hypotheses as follows:

H2-1: Structural capital will have a positive effect on system collaboration.

H2-2: Cognitive capital will have a positive effect on system collaboration.

H2-3: Relational capital will have a positive effect on system collaboration.

H3-1: Structural capital will have a positive effect on strategic collaboration

H3-2: Cognitive capital will have a positive effect on strategic collaboration.

H3-3: Relational capital will have a positive effect on strategic collaboration.

2.4. Supply Chain Collaboration and Supply Chain Performance

In recent years, the collaboration in the studies of SCM The system collaboration in the supply chain refers to an effort to create mutually compatible communication system so that demand forecasts and plans can be shared as well as daily electronic transaction and information exchanges between Firms, and Firms in the supply chain can continue to collaborate effectively with their partners through the SCM system [26]. The strategic collaboration is a combination of demand forecasting and business planning between Firms, serving as a key factor to the supply chain performance of Firms [37]. In other words, first, the strategic collaboration can strengthen leaning and develop knowledge by promoting trust and commitment of supply chain members. Second, developing a strategic plan with supply chain partners enables them to understand their role and work efficiently. Third, the strategic collaboration motivates supply chain members to achieve common goals rather than seeking short-term opportunities individually. Fourth, the strategic collaboration helps reduce operational costs [26].

In this way, the strategic collaboration as supply chain collaboration is based on system collaboration. In other words, a mutually compatible system is required to share demand forecasts and plans between supply chain partners. Therefore, Firms need collaborative information systems to establish and institutionalize collaborative relationships with other partner Firms, and performing supply chain collaboration activities such as strategic planning and demand forecasting without system collaboration can be risky [26]. Therefore, this study established hypotheses as follows:

H4 : System collaboration will have a positive effect on strategic collaboration.

In addition, inter-company collaboration in the supply chain can increase the productivity and efficiency of Firms by adapting to rapid changes in the market and shortening the development period of new products [43] [4] [44] [39]. It also enables organizations to achieve various goals such as organizational competency, operational efficiency, customer satisfaction, and acquire competitive advantage [42]. Therefore, it is expected that supply chain collaboration will have a direct positive impact on financial performance and customer satisfaction and organizational capacity of the Firms participating in the supply chain participating by increasing the productivity and efficiency of the Firms. Therefore, this study established hypotheses as follows:

H5-1: System collaboration will have a positive effect on financial performance.

H5-2: Strategic collaboration will have a positive effect on financial performance.

H6-1: System collaboration will have a positive effect on operation performance.

H6-2: Strategic collaboration will have a positive effect on operation performance.

3. RESEARCH METHOD

3.1. Sample

In this study, to examine the role of social capital for the implementation of collaborative supply chain management system in manufacturing

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Firms, the author collected the data from the small and medium sized manufacturing Firms in the metropolitan area of Korea and analyzed the data statistically. A questionnaire survey was conducted with a total of 350 firms. After eliminating the questionnaires with missing or inadequate answers, 329 cases were finally selected as valid samples. The samples of this study are summarized in Table 1.

Table 1: Sample Characteristics

Category and Items		Sample Size	Ratio (%)
Operating Years	Less than 5 yrs	47	14.0
	5 yrs ~ 10 yrs	106	31.5
	10 yrs ~ 20 yrs	95	28.3
	20 yrs ~ 30 yrs	50	14.9
	More than 30 yrs	38	11.3
Annual Sales	Less than $ 10 M	36	10.7
	$ 10 M ~ $ 30 M	106	31.5
	$ 30 M ~ $ 50 M	88	26.2
	$ 50M ~ $ 100 M	71	21.1
	More than $ 100 M	35	10.4
Industry	Textile / Clothing	44	13.1
	Machinery / Metal	45	13.4
	Chemicals / Energy	53	15.8
	Electric / Electronic /Communication	72	21.4
	Bio / Medical	91	27.1
	Etc.	31	9.2

3.2. Measure

To ensure the content validity of the measurement tool, this study used the measurement items verified in the existing literature by revising and supplementing them according to the purpose of this study. First, Social Capital (Structural Capital, Cognitive Capital, Relational Capital) was constructed into 4 items each in reference to the studies by Nahapiet & Ghoshal (1998), Chiu et al. (2006), Chen et al. (2008), Villena et al. (2011) and Yu et al. (2013), and were measured using 7-point Likert scale (Strongly disagree ~ Strongly agree). Also, Supply Chain Collaboration (System Collaboration, Strategic Collaboration) was constructed into 4 items each in reference to the studies by Kim & Lee (2010), Kim et al. (2010) and Singhry et al. (2015), and were measured using 7-point Likert scale. Supply Chain Performance (Financial Performance, Operation Performance) was constructed into 4 items each in reference to the studies by Flynn et al. (2010), Cao & Zhang (2011), Zhang & Huo (2013) and Chang et al. (2016), and were measured using 7-point Likert scale.

3.3. Analysis method

For the analysis method and measurement tool of structural equation models, this study analyzed the results and verified the hypothesis using Amos 24.0. For the analysis of the structural equation model, the measurement model was estimated first, and then it was analyzed using the two-step approach that estimates the structural model.

4. ANALYSIS AND RESULTS

4.1. Measurement Model

This study conducted confirmatory factor analysis to ensure the content validity of the measurement tool. For this, χ^2, standard $\chi^2(\chi^2/df)$,, RMSEA, TLI, CFI, and IFI were used to check goodness of fit. As a result, initial model did not exceed standard fitness threshold, so modified indices analysis were conducted [18], and measurement items that lowers unidimensionality were deleted (SC4, CC1, RC3, STG4, FP4, NFP3). As a result of confirmatory factor analysis of modified measurement model, χ^2 = 319.459 (P = .000), χ^2/df = 1.699, RMSEA = .046, TLI = .938, CFI = .966, IFI = .967, all indices suggested the measurement model used were fit. After verifying measurement model's fitness, reliability and validity were analyzed. For reliability, construct reliability should appear above 0.7, and average variance extract should be above 0.5. Additionally, for validity, two latent variables' AVE1 and AVE2 should bigger than squared value of its correlation. As a result of analysis, reliability and validity were verified and the detailed results are presented in Table 2 and Table 3.

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Table 2: Confirmatory factor analysis base on reliability

Construct	Measurement Item	Std. Loading	Std. Error	C.R.	Construct Reliability	Cronbach's α
Structural Capital	SC1	.755			.889	.833
	SC2	.813	.080	14.049		
	SC3	.810	.086	14.01		
Cognitive Capital	CC2	.701			.874	.769
	CC3	.744	.095	11.399		
	CC4	.733	.094	11.284		
Relational Capital	RC1	.732			.866	.774
	RC2	.718	.089	11.538		
	RC4	.744	.086	11.871		
System Collaboration	SYS1	.759			.928	.882
	SYS2	.779	.078	14.505		
	SYS3	.864	.078	16.227		
	SYS4	.833	.080	15.617		
Strategic Collaboration	STG1	.765			.909	.831
	STG2	.807	.077	14.126		
	STG3	.793	.072	13.931		
Financial Performance	FP1	.657			.894	.788
	FP2	.797	.137	11.532		
	FP3	.786	.125	11.443		
Operation Performance	OP1	.918			.931	.882
	OP2	.856	.048	19.984		
	OP4	.772	.049	17.275		

Table 3: Correlations between Constructs and Validity

Construct	1	2	3	4	5	6	7
1	**.727***						
2	.403	**.698***					
3	.401	.475	**.684***				
4	.383	.391	.453	**.765***			
5	.300	.449	.370	.421	**.770***		
6	.394	.317	.340	.423	.417	**.740***	
7	.154	.200	.208	.222	.200	.272	**.819***

*AVE (Average Variance Extract)

1 = Structural Capital, 2 = Cognitive Capital, 3 = Relational Capital, 4 = System Collaboration, 5 = Strategic Collaboration, 6 = Financial Performance, 7 = Operation Performance

4.2. Structural model

As measurement model's fitness, and reliability and validity of measurement items were verified, structural model analysis were conducted. As a result of structural model's fitness test, χ^2 = 382.367 (P = .000), χ^2 /df = 1.951 was above threshold 3, and RMSEA = .053 was below standard of 0.08. Moreover, GFI = .910, TLI = .944, CFI = .952, IFI = .953 all of indices appeared above recommended value of 0.9 and therefore, the structural model' goodness of fit of the research model was verified.

4.3. Hypotheses Test

After structural model's fitness was confirmed, research hypotheses were tested. As a result, first, for structural relationship of social capital, structural capital (C.R. = 8.885, = .000) have an effect on cognitive capital, thus, supporting H1-1. Also, structural capital (C.R. = 9.136, p = .000) have an effect on relational capital, thus, supporting H1-2. Second, for relationship between social capital and supply chain collaboration, structural capital (C.R. = 2.375, p = .018), cognitive capital (C.R. = 3.030, p = .000), and relational capital (C.R. = 4.531, p = .000) all had significant effects on system collaboration, thus, supporting H2-1, H2-2, and H2-3. Also, cognitive capital (C.R. = 4.085, p = .000) and relational capital (C.R. = 2.073, p = .000) had significant effects on strategic collaboration, while structural capital (C.R. = .400, p = .689) did not have a significant effect on strategic collaboration, thus H3-2 and 3-2 was supported while H3-1 was not supported. Third, for relationship between system collaboration and strategic collaboration, system collaboration (C.R. = 3.235, = .000) have an effect on strategic collaboration, thus, supporting H4. Lastly, for relationship between supply chain collaboration and supply chain performance, system collaboration (C.R. = 5.081, p = .000) and relational capital (C.R. = 4.970, p = .000) had effects on financial performance, thus, supporting H5-1 and H5-2. Also, system collaboration (C.R. = 3.950, p = .000) and relational capital (C.R. = 3.404, p = .000) had effects on operation performance, thus, supporting H6-1 and H6-2.

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Table 4: Validity of research hypothesis

Hypotheses	path coefficient	Std. Error	C.R(t)	Supported/Not
H1-1	.574	.065	8.885***	Supported
H1-2	.625	.068	9.136***	Supported
H2-1	.225	.095	2.375*	Supported
H2-2	.271	.089	3.030**	Supported
H2-3	.385	.085	4.531***	Supported
H3-1	.039	.099	.400	Not Supported
H3-2	.411	.101	4.085***	Supported
H3-3	.192	.093	2.073*	Supported
H4	.271	.084	3.235***	Supported
H5-1	.287	.056	5.081***	Supported
H5-2	.289	.058	4.970***	Supported
H6-1	.398	.101	3.950***	Supported
H6-2	.352	.103	3.404***	Supported

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

5. CONCLUSION

This study conducted confirmatory factor analysis to ensure the content validity of the measurement tool.

This study was intended to determine the role of social capital in implementing the supply chain management system. To achieve the purpose of this study, the author examined the role of social capital in implementing a collaborative supply chain management system of manufacturing Firms through literature review, empirically verified the influencing relationship with the supply chain performance and derived the significant results as follows: First, the structural capital as a social capital has a positive effect on the cognitive and relational capital. The stronger the inter-company social relationship, more often they interact and the trust level increases [23]. Therefore, it was confirmed that the formation of the social network of the manufacturing company positively affected the formation of common values, goals, and trust between partner Firms. Second, it was found that that structural the structural capital, cognitive capital, and relationship capital as social capital had a positive effect on system collaboration, and the cognitive capital and relational capital had a positive effect on strategic collaboration. For successful SCM operation, it is important to establish a collaborative relationship between partners within the supply chain, and a trust relationship should be established so that they can efficiently perform each role as one organization [28] [35]. Therefore, it was confirmed that the formation of a social network of manufacturing Firms, the sharing of vision and values with partner Firms through this, and the formation of trust relationship promoted collaborative activities such as information sharing, system integration, and manpower and resources support, thereby contributing to the organizational performance. Third, the system collaboration as a supply chain integration was found to have a positive effect on strategic collaboration, indicating that the Firms in the supply chain can collaborate with partners through various levels of SCM system continuously and effectively [26]. Fourth, in the relationship between supply chain collaboration and performance, system collaboration positively affected financial performance and operational performance, and strategic collaboration positively affected financial performance and operational performance. The supply chain collaboration improves the productivity and efficiency of Firms by adapting to rapid changes in the market and shortening the technology development period of new products [43] [4] [44]. In addition, it helps to achieve various objectives such as organizational competence, operational efficiency, and customer satisfaction and to gain competitive advantage [26] [42] [39]. Therefore, it was confirmed that supply chain collaboration not only directly affected the financial performance by increasing the productivity and efficiency of the company, but also positively affected the partnership, customer satisfaction and organizational competency.

The implications derived from this study can be summarized as follows. In this study, the author examined the role of social capital and supply chain collaboration and verified it empirically, proving its theoretical expansion. Through literature review, the author suggested the social capital as a predisposing factor of the supply chain collaboration between manufacturing Firms, and confirmed the structural relationship between social capital dimension and the influencing relationship between social capital and supply chain collaboration. In addition, the author suggested the supply chain collaboration as a predisposing factor of the supply chain performance of the manufacturing Firms, the structural relationship between supply chain collaboration dimension and dimension, and the influencing relationship between supply chain collaboration and performance.

This study also allows room for future research. Social capital and supply chain collaboration could be organized in differently, leading to differences in the success and benefits provides. The social capital and its relationship to a firm's supply chain collaboration and supply chain performance would be a useful object of future research.

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Appendix. Measurement Items

Dimensions		Items	Factor Loading
Social Capital	Structural Capital	The frequency of contacts with partners (official)	.735
		The frequency of contacts with partners (informal)	.786
		Communication with partners	.743
		Interaction with partners	.684
	Cognitive Capital	Goals shared with partners	.531
		Shared vision with partners	.704
		The similarity of the organizational culture and values	.762
		Efforts to achieve common goals	.665
	Relational Capital	Trust with partners	.714
		Respect for the partners	.679
		Reciprocity with partners	.713
		friendship with partners	.745
Supply Chain collaboration	System Collaboration	Accomplishing by electronic communication	.646
		Sharing an information system throughout the collaboration	.790
		Working together the information control system	.780
		Using the data provided IT tools when making managerial decisions	.708
	Strategic Collaboration	Establishment and prediction of a joint plan is an important/reflected	.693
		Working together strategic issues and policies	.736
		Working together planning and executing budget and investment	.759
		The performance evaluation and monitoring together.	.777
Supply Chain Performance	Financial Performance	Increased in sales	.737
		Increased in profit	.716
		Reduced production costs	.634
		Reduced inventory maintenance costs	.767
	Operation Performance	Product quality improvement	.844
		Meet customer requirements	.849
		Increased customer satisfaction	.799
		Improved work efficiency	.748