ISSN 2409-2665
Journal of Logistics, Informatics and Service Science
Vol. 11 (2024) No. 11, pp. 1-15
DOI:10.33168/JLISS.2024.1101

Cognitive Trust, Commitment, and Agility in Korean Supply Chains: Enhancing Performance or Challenging Assumptions?

Soohyo Kim

Sogang Univ. Business Administration, South Korea
ksh7261@sogang.ac.kr

Abstract. This study investigates the relationships among cognitive trust, commitment, supply chain agility, and supply chain management (SCM) performance in Korean firms. Despite the recognized importance of these factors, their interrelationships and impact on performance remain understudied, particularly in the Asian context. Using structural equation modeling on data from 370 Korean companies across various industries, we found that cognitive trust positively influences both commitment and supply chain agility, and commitment significantly affects supply chain agility. Surprisingly, supply chain agility did not significantly impact SCM performance. These findings contribute to supply chain management theory by highlighting the crucial role of cognitive trust and commitment in fostering agility, while challenging assumptions about the universal benefits of agility for performance. The study provides insights for managers in Korean firms on prioritizing trust-building and commitment in supply chain relationships, while cautioning against overreliance on agility alone for performance improvement.

Keywords: cognitive trust, commitment, supply chain agility, SCM performance, supply chain management

1. Introduction

In contemporary business environments, supply chains are increasingly beset by numerous disruptions, leading to inefficiencies and vulnerabilities that significantly impact business operations. Factors such as global economic fluctuations, geopolitical tensions, wars, and technological advancements have exacerbated the fragility of modern supply chains. Given these challenges, firms recognize the necessity of reconstructing their supply chain networks to enhance agility, resilience, and sustainability (Farahani et al., 2014). Establishing robust supply chains is critical for mitigating risks, responding swiftly to dynamic business conditions, and maintaining competitive advantage. Additionally, Lambert and Cooper (2000) argued that interdepartmental integration is essential for successful supply chain management, highlighting the importance of supply chains for companies across various industries. Thus, companies aiming to succeed in the increasingly complex and dynamic global market must invest in and fortify their supply chains (Adnani et al., 2023).

While researchers propose a range of factors contingent on their research objectives to develop long-term and resilient supply chains, trust and commitment are consistently emphasized as critical components (Lee and Kim, 2023; Morgan and Hunt, 1994). It is well-established across multiple disciplines, including supply chain management, that trust and commitment are crucial elements (Anderson and Narus, 1990; Ghemawat, 1991; Ivory and Brooks, 2018). Specifically, trust is a fundamental capability that firms must cultivate to enhance cooperation and commitment among supply chain partners, ultimately improving firm performance (Mukhsin and Suryanto, 2021). Numerous studies assert that mutual commitment is essential for enhancing supply chain agility and performance (Ajmal et al., 2020; Balfour and Wechsler, 1991). Commitment, grounded in trust, fosters enduring relationships between suppliers and buyers, thus playing a pivotal role in constructing robust supply chains. In today's globalized business environment, commitment is indispensable for fostering long-term relationships with trading partners, serving as a cornerstone for successful supply chain management. Lee and Kim (2023) noted that low levels of commitment between trading partners weaken relational bonds, potentially leading to unethical behaviors and negatively impacting end consumers.

Synthesizing these insights, it is evident that enhancing trust and commitment among supply chain partners leads to improved cooperation, information sharing, and performance, underscoring their critical role in supply chain management. Consequently, this study examines trust, commitment, and supply chain agility as essential elements for enhancing supply chain performance. While numerous prior studies have identified these factors as crucial for elevating SCM performance, this research aims to empirically investigate their actual impact on performance outcomes. Previous studies have examined these factors individually, but there has been a paucity of research investigating the structural relationships among them, particularly in the context of South Korea. Therefore, this study aims to bridge the research gap by conducting an in-depth analysis of the relationships among these factors in Korean companies with established supply chains. Through this, it is anticipated that the study will provide insights for companies to maintain competitiveness and achieve growth, offering significant academic and practical implications.

The objectives of this study are as follows:

- To identify the importance of trust and commitment in the supply chain field.
- To verify the necessity of supply chain agility in an uncertain business environment.
- To assess the impact of cognitive trust, commitment, and supply chain agility on improving SCM performance.

2. Theoretical Background

In the current business landscape, forging effective and sustainable relationships among companies is

essential. Drawing from this background, this study investigates cognitive trust, commitment, supply chain agility, and SCM performance. Specifically, through an examination of prior research, the study compiles relevant arguments related to these concepts and evaluates various measurement techniques.

2.1. Cognitive Trust

Trust has been extensively studied across various social science disciplines, including psychology, sociology, and economics. From an economic perspective, trust is viewed as behavior developed through repeated interactions over time. In psychology, it is examined based on human attributes. In management, trust extends beyond interpersonal relationships to encompass inter-organizational relationships. Trust is recognized as a crucial element that facilitates interactions among individuals, within organizations, and across society, which has led to its extensive research. But why do many researchers consider trust so important? McKnight et al. (1998) defined trust as a belief formed through interactive experiences in relationships. Mayer et al. (1995) suggested that trust between transaction partners can minimize opportunistic behavior. Ballou et al. (2000) explored trust from a supply chain perspective, highlighting it as essential for collaboration with partners, especially in the early stages of a transaction. Prior research on trust often categorizes its dimensions into ability, expertise, competence, and benevolence. Trust, being a multidimensional concept, is divided into two dimensions based on research objectives: the first dimension is belief in the counterpart's competence, an objective fact-based trust, and the second is belief in goodwill, an emotional state-based trust (Barber, 1983).

Cognitive trust, which is established through the perceived ability of the counterpart, encompasses their competence and proficiency (Mayer et al., 1995). Specifically, Lewis and Weigert (2012) delineated cognitive trust as being grounded in rational knowledge concerning the counterpart’s consistency, expertise, and potential, thereby contributing to the predictability of their actions. Dowell et al. (2015) posited that cognitive trust emanates from accumulated knowledge, instilling a degree of confidence in the counterpart’s likelihood to fulfill their obligations. Recent scholarly investigations in the domain of supply chain management have increasingly examined cognitive trust, acknowledging its pivotal role in augmenting supply chain performance. For example, Kim and Kim (2024) highlighted the indispensability of cognitive trust among supply chain partners, describing it as embodying a high degree of rational and objective trust. In a similar vein, Daghar et al. (2023) posited that cognitive trust supersedes emotional trust in the context of inter-firm transactions. Collectively, these studies suggest that cognitive trust is an essential factor in the activities and relationships among supply chain entities.

2.2. Commitment

To establish a robust supply chain, commitment to the counterpart is essential, which can be explained as the desire to maintain a relationship based on trust between suppliers and buyers. Specifically, Morgan and Hunt (1994) identified commitment as a crucial factor for successfully establishing long-term relationships, while Anderson and Narus (1990) argued that commitment facilitates the dynamic interrelationship between buyers and suppliers within the supply chain. Commitment, in particular, can curb opportunistic behavior from the counterpart and ultimately reduce the costs associated with establishing new partnerships (Lee and Kim, 2023). In other words, a lack of commitment to the counterpart weakens relational bonds, leading to selfish behavior and additional costs. Commitment aids in maintaining valuable relationships with partners over the long term, yielding positive outcomes and a competitive advantage in buyer-supplier relationships (Tellefsen and Thomas, 2005). Moreover, Luzzini et al. (2015) asserted that commitment is indispensable for sustaining ongoing collaborative relationships within the supply chain, and Nammir et al. (2012) emphasized its role in strengthening partnerships. Additionally, Vohra and Bhardwaj (2019) demonstrated that commitment

enables active participation from the counterpart, and Čater and Čater (2010) empirically validated that commitment is vital for enhancing the quality of relationships among members. Therefore, recognizing the necessity and significance of commitment is crucial for transforming supply chain relationships from adversarial to collaborative.

2.3. Supply Chain Agility

In a globalized and rapidly changing market environment, it is imperative for companies to develop agile capabilities. Abdelilah et al. (2018) defined agility as the ability of firms to swiftly respond to diverse customer changes and demand fluctuations. Tsourveloudis and Valavanis (2002) further emphasized that agility is necessary for companies to generate sustained profits in the global market environment. Therefore, in uncertain business conditions, companies must build agile capabilities to effectively respond to unexpected situations and achieve competitive advantage.

Supply chain agility, on the other hand, focuses on the responsiveness of the entire supply chain (Gligor et al., 2019). Companies within a supply chain must develop agile capabilities, which are essential for creating sustainable value across the supply network (Kim and Lee, 2024). Specifically, Fayezi et al. (2017) described supply chain agility as the capability to rapidly adapt to unpredictable demand and supply changes among supply chain partners, while Shukor et al. (2021) highlighted it as the flexibility to swiftly manage a firm's tactics and operations. Supply chain agility has been extensively researched as a multidimensional construct. Ngai et al. (2011) identified flexibility, speed, and responsiveness as key elements of agility in uncertain situations. Similarly, Lin et al. (2006) categorized agility into sub-dimensions of capability, speed, and flexibility. Lastly, Braunscheidel and Suresh (2009) argued that supply chain agility is the ability of firms to quickly respond to market changes and disruptions from internal or external sources, including key suppliers. In summary, supply chain agility is a critical capability in today's rapidly evolving business environment, essential for maintaining collaborative and sustainable relationships with partners.

2.4. SCM Performance

In the early stages, supply chain management (SCM) lacked a standardized concept, which inherently complicated the measurement of supply chain performance (Mentzer et al., 2001). Over time, the concept of SCM performance has been refined through extensive research, leading to the development of various measurement tools, thereby bringing significant attention to supply chain performance metrics. Specifically, Gunasekaran et al. (2004) measured SCM performance in terms of inventory and production efficiency, reduction in product development cycles, lead time reduction, and customer service. Beamon (1999) defined SCM performance in high-performing firms as encompassing cost reduction, lead time reduction, increased inventory turnover, and decreased defect rates. Subsequent research has expanded the measurement of SCM performance to include both financial and non-financial metrics, often categorizing these into multidimensional constructs. Notably, Kaplan and Norton’s (1996) Balanced Scorecard (BSC) framework has been utilized to measure SCM performance across financial, customer, internal process, and learning and growth dimensions. Financial performance encompasses factors such as revenue, operating profit margin, and return on investment. Internal operational performance and customer satisfaction are related to supply chain efficiency, specifically measured by improvements in product/service quality, production efficiency, and inventory turnover. Customer satisfaction is assessed through metrics such as reductions in customer complaints, return rates, and lead times, as well as increases in satisfaction. Thus, the methodology for evaluating SCM performance can vary depending on the research objective. This study, accordingly, selected appropriate measurement items based on an extensive review of prior research.

3. Hypothesis Setting and Research Model

3.1. Cognitive Trust and Commitment

Trust is a pivotal factor in reducing uncertainty within relationships. It embodies the belief among stakeholders that each party will fulfill their commitments, thereby diminishing transaction uncertainty and associated costs. Companies that cultivate such trust anticipate benevolent actions from their partners, ultimately enhancing performance outcomes (Anderson and Narus, 1990). Numerous prior studies have examined the relationship between cognitive trust and commitment within supply chains (Morgan and Hunt, 1994; Lee and Kim, 2023). Specifically, Morgan and Hunt (1994) argued that the enhancement of trust is instrumental in fostering attachment and identification with trading partners. Furthermore, Lee and Kim (2023) distinguished between emotional trust and cognitive trust in their investigation of the impact on commitment levels. They asserted that the absence of trust between firms leads to mistrust, which ultimately diminishes the level of commitment and impedes the establishment of enduring relationships. In a similar vein, Fischer et al. (2020) posited that trust facilitates mutual cooperation among stakeholders and significantly aids in sustaining long-term relationships. Numerous antecedent studies have investigated trust as a unidimensional construct. However, this research examines the influence of cognitive trust, which is predicated on the perceived expertise and competence of the counterpart, on commitment. In other words, the establishment of trust between supply chain entities denotes a conviction that each party will adhere to their respective responsibilities and obligations, thereby facilitating the longevity of their relationship. Consequently, this study has formulated the following hypotheses.

Hypothesis 1: Cognitive trust has a significant positive effect on commitment.

3.2. Cognitive Trust and Supply Chain Agility

Trust is a pivotal factor in reducing uncertainty within relational exchanges. Particularly, firms that establish trust with their trading partners can manage supply chain systems more effectively, thereby enhancing the accuracy, timeliness, and transparency of inter-organizational transactions (Lee and Whang, 2000). Numerous studies have examined the relationship between cognitive trust and supply chain agility (Chen, 2019; Mukhsin and Suryanto, 2021; Handfield and Bechtel, 2002). Specifically, Mukhsin and Suryanto (2021) investigated the mediating effect of supply chain agility on the relationship between trust and supply chain performance, while Chen (2019) conducted an empirical analysis on how the formation of trust among supply chain members impacts supply chain agility and innovation performance. In a similar vein, Nyamrunda and Freeman (2021) emphasized that mutual trust and agile capabilities are crucial for enhancing firm performance. Handfield and Bechtel (2002) asserted that building trust-based relationships with partners can safeguard both formal and informal contracts, thereby facilitating more expedient and flexible agreements. Furthermore, Lee and Kim (2023) posited that when supply chain partners trust each other’s competencies and expertise, there is a higher likelihood of sharing critical information, collaborating effectively, and coordinating actions seamlessly. Consequently, cognitive trust, grounded in these capabilities, enables supply chains to swiftly adapt to changes, manage disruptions efficiently, and respond agilely to market demands. The presence of robust cognitive trust among supply chain partners is therefore essential for enhancing overall supply chain agility. Based on these insights, the following hypotheses have been formulated for this study.

Hypothesis 2: Cognitive trust has a significant positive effect on supply chain agility.

3.3. Commitment and Supply Chain Agility

The commitment necessary for establishing a successful supply chain can be conceptualized as the aspiration to sustain a relationship with trading partners grounded in trust. Specifically, Ghemawat (1991) characterized commitment as a willingness to make sacrifices and identify with the partner's needs, while Artz (1999) defined it as the desire to maintain long-term relationships with partners amid today's uncertain and competitive business landscape. Such commitment is intrinsically linked to supply chain agility, and a substantial body of antecedent research has investigated the interrelationship between these constructs (Gligor, 2014; Narayanan et al., 2015). For example, Gligor (2014) posited that high levels of commitment facilitate rapid responses to fluctuating demand and supply disruptions through collaborative efforts with partners. He further asserted that mutual commitment is indispensable for cultivating agile capabilities within trading partnerships. Moreover, Ivory and Brooks (2018) underscored that commitment and agility are fundamental for sustainable growth, whereas Narayanan et al. (2015) emphasized that collaborative relationships enhance overall supply chain flexibility, enabling swifter responses to unforeseen contingencies. Thus, in the context of today's volatile business environment, commitment to trading partners is a pivotal factor for ensuring rapid and adaptive responses. Consequently, this study has formulated the following hypotheses.

Hypothesis 3: Commitment has a significant positive effect on supply chain agility.

3.4. Supply Chain Agility and SCM Performance

Supply chain agility plays a crucial role in enhancing SCM performance. Supply chain agility refers to the ability of the supply chain to respond swiftly and efficiently to changing market conditions and unforeseen events. This agility can be achieved through flexible coordination, rapid decision-making, and adaptability among supply chain partners. Agile supply chains possess the capability to address various scenarios such as demand fluctuations, supply disruptions, and new market opportunities, thereby positively impacting overall SCM performance. Numerous studies have explored this aspect. For instance, Abdoli Bidhandi and Valmohammadi (2017) asserted that agile supply chains improve the accuracy of demand forecasting through real-time information and data analysis, optimizing inventory and reducing unnecessary costs. Similarly, Patel and Sambasivan (2022) found that supply chain agility enhances the speed and accuracy of order fulfillment, quickly meeting customer demands, which in turn elevates customer satisfaction and retention rates. Furthermore, Alzoubi et al. (2022) highlighted the importance of supply chain agility in maintaining or reducing lead times by improving response capabilities during unexpected disruptions or crises. Specifically, in the face of natural disasters, political instability, pandemics, and other unforeseen events, an agile supply chain ensures continuity through swift response and recovery. Hence, supply chain agility is a critical factor in improving SCM performance in terms of cost reduction, customer satisfaction, and risk management. Based on these prior studies, this research has formulated the following hypotheses.

Hypothesis 4: Supply chain agility has a significant positive effect on SCM performance.

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

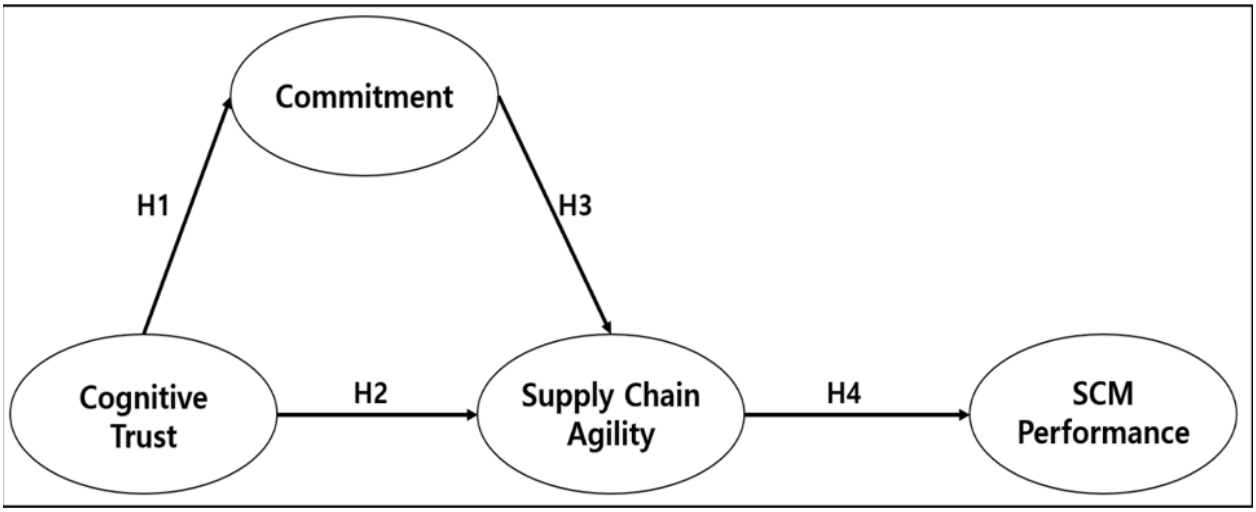

Fig. 1: Research Model

4. Research Methodology

4.1. Data Collection and Sample Characteristics

This study empirically analyzed the impact of cognitive trust on commitment, supply chain agility, and SCM performance in the context of relationships among firms within established supply chains. Additionally, it examined the influence of interactional fairness on commitment levels, agility, and SCM performance within supply chain relationships. Prior to distributing the survey, the validity of the research content was ensured by soliciting feedback on the survey items from professionals working in supply chain management departments. All items were measured using a 7-point Likert scale. The survey was conducted through the agency 'Entrust Survey' over the month of June 2024. A total of 2,500 questionnaires were distributed, and after excluding incomplete and insincere responses, 370 completed surveys were used for statistical analysis. Table 1 below presents the characteristics of the sample utilized in this study.

Table 1. Sample Characteristics

Tenure in SCM departments		
1-5 years	105	28.37%
6-10 years	119	32.16%
Over 11 years	146	39.46%
Core industry		
Manufacturing	196	52.97%
Semiconductor	83	22.43%
General machinery	55	14.86%
Others	36	9.73%
Total assets as of Q1 2024		
Less than 500 billion won	221	59.73%
500 billion won or more – Less than 10 trillion won	88	23.78%
10 trillion won or more	61	16.48%
Average number of employees as of 2024		
Less than 5000	235	63.51%
Less than 10000	105	28.38%
Less than 20000	30	8.11%
Number of countries included		
1-5 countries	211	57.03%
6-10 countries	110	29.73%
11 countries or more	49	13.24%

Meanwhile, this study tested the hypotheses using structural equation modeling (SEM). Recently, SEM has been extensively utilized not only in business administration but also across various social science disciplines. The salient feature of SEM is its capacity to include latent variables that cannot be

directly measured, and it offers various alternative methodologies to handle discrete data. Particularly, this study focuses on South Korean firms, allowing for the simultaneous analysis of specific cultural and economic contexts. Through this approach, cognitive trust, commitment, supply chain agility, and SCM performance can be comprehensively examined. The hypotheses were tested using SPSS 23.0 and AMOS 23.0.

4.2. Measurement of Variables

This study measured cognitive trust, commitment, supply chain agility, and SCM performance as four distinct variables. Table 2 below presents the measurement items used in this research.

Table 2. Measurement of variables

Latent variables	Operational definition	References
Cognitive trust	The degree of trust in each other's job performance capabilities	Johnson and Grayson, 2005; Lappeman et al., 2023
	The level of satisfaction with the expertise and know-how held by each party	
	The extent to which opinions on knowledge and experience are accepted mutually	
Commitment	The degree of commitment to maintaining the relationship with the trading partner	Kwon and Suh(2004); Kim and Lee(2024)
	The desire for the relationship with the trading partner to last a long time	
	The strength of attachment felt towards the trading partner	
	The sense of belonging in the relationship with the trading partner	
Supply chain agility	The promptness of the trading partner in delivering products/services	Fayezi et al.(2017); Aldhaheri and Ahmad.(2023)
	The responsiveness of the trading partner to requirements	
	The ability of the trading partner to appropriately respond to technological and market changes	
	The flexibility of the trading partner in adapting to production volumes, delivery dates, and order quantities	
SCM performance	Total costs	Arzu Akyuz and Erman Erkan(2010); Beamon(1999)
	Inventory turnover rate	
	Return rate	
	Quality satisfaction	
	Lead time	

4.3. Reliability and Validity Tests

In the social sciences, reliability is commonly assessed using Cronbach's alpha. A value of 0.7 or higher is generally considered indicative of acceptable reliability (Hair et al., 2010). The measurement variables utilized in this study also demonstrated high reliability, prompting an examination of both convergent and discriminant validity for each construct. Convergent validity was evaluated using Composite Reliability (CR) and Average Variance Extracted (AVE), with results showing values above the recommended thresholds of 0.7 and 0.5, respectively, thereby confirming the validity criteria (Hair et al., 2010). Table 3 below presents the results of the confirmatory factor analysis.

Table 3. Confirmatory factor analysis results

Latent variables	AVE	C.R.	Cronbach's alpha
Cognitive Trust	0.782	0.857	0.795
Commitment	0.635	0.894	0.816
Supply chain agility	0.591	0.907	0.862

SCM performance	0.708	0.839	0.903

The goodness-of-fit for the measurement model is presented in Table 4. The indices generally met the recommended thresholds proposed by Hair et al. (2010), confirming the acceptability of the research model. Subsequently, discriminant validity was examined to verify that the measured constructs are distinct from one another. The results indicated that the squared correlations between all factors were less than the AVE values, thus establishing discriminant validity. Table 5 below shows the results of the discriminant validity analysis.

Table 4. Measurement model fit

Fit index	X^2/DF	RMR	GFI	CFI	TLI	RMSEA
Research model	1.715	0.042	0.912	0.951	0.949	0.041

Table 5 Results of analyzing discriminant validity

	Cognitive trust	Commitment	Supply chain agility	SCM performance
Cognitive trust	0.782			
Commitment	0.469	0.635		
Supply chain agility	0.321	0.457	0.591	
SCM performance	0.407	0.268	0.454	0.708

The squared value of the correlation coefficient excluding the diagonal line

4.4. Empirical Analysis

To test the hypotheses presented in this study, a structural equation model (SEM) using Maximum Likelihood Estimation was employed. The goodness-of-fit indices for the research model largely met the recommended thresholds suggested by Hair et al. (2010). Consequently, the hypotheses were tested, and all were found to be supported. Table 6 below presents the fit indices for the structural model, and Table 7 shows the results of the hypothesis testing.

Table 6. Structural model fit

Fit index	X^2/DF	RMR	GFI	CFI	TLI	RMSEA
Research model	1.612	0.036	0.891	0.913	0.913	0.046

Table 7. Hypothesis testing results

Path	Standardized coefficient	S.E.	C.R.	p	Adoption/ Rejection
H1	0.487	0.075	6.265***	0.000	Accepted
H2	0.491	0.072	6.880***	0.000	Adoption
H3	0.372	0.132	2.512**	0.005	Adoption
H4	0.110	0.074	1.426	0.154	Rejection

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

Firstly, cognitive trust among supply chain partners demonstrated a significant influence on both commitment and supply chain agility. Moreover, commitment exhibited a significant positive effect

on supply chain agility. Nevertheless, it was found that supply chain agility did not significantly impact SCM performance.

5. Discussion

5.1. Conclusion

In the contemporary business landscape, a growing number of firms are increasingly prioritizing the development of robust supply chains, recognizing their critical importance. This prioritization stems from the significant impact that effective supply chains exert on both partner satisfaction and overall corporate performance. However, there remains a paucity of comprehensive research adopting an integrated perspective that encompasses trust-based commitment, agility, and performance. Thus, this study endeavors to empirically examine the interrelationships among cognitive trust, commitment, and supply chain agility, with the objective of enhancing SCM performance among supply chain partners. The results of this analysis are as follows:

First, cognitive trust was found to have a significant positive impact on commitment (β= 0.487, p= 0.000). This result aligns with numerous studies that have examined the relationship between cognitive trust and commitment (Anderson and Narus, 1990; Lee and Kim, 2024; Fischer et al., 2020). Specifically, Kwon and Suh (2004) empirically demonstrated that trust enhances commitment, asserting that it is challenging to engage in serious business with trading partners without a foundation of trust. Additionally, Lee and Kim (2023) conducted a study on the relationship between cognitive trust and commitment levels across three key industries in Korea, concluding that cognitive trust exerts a significant positive influence on commitment. Myhr (2000) similarly argued that trust is essential for maintaining long-term relationships with trading partners. These findings suggest that cognitive trust, grounded in capabilities, is necessary to elevate commitment with trading partners.

Second, cognitive trust was shown to significantly positively affect supply chain agility (β= 0.491, p= 0.000). These results can be interpreted to mean that cognitive trust, based on the counterpart's abilities, competence, and expertise, is a critical element for achieving agile capabilities among supply chain partners. Stank et al. (2001) argued that trust is necessary for cooperative relationships and long-term transactions among supply chain firms, while Lee and Whang (2000) emphasized that mutual trust is critical for flexible and responsive supply chain systems. Particularly, firms must possess agile capabilities to respond swiftly to rapidly changing demand and supply conditions. Therefore, in today's uncertain business environment, building agile capabilities to secure a competitive advantage is imperative, and cognitive trust is crucial in achieving this.

Third, commitment was found to have a significant positive impact on supply chain agility (β= 0.372, p= 0.005). This finding is consistent with previous studies that have examined the positive causal relationship between these variables (Narayanan et al., 2015; Gligor, 2014). Specifically, Ivory and Brooks (2018) asserted that building commitment and agile capabilities is essential for sustainable growth, while Narayanan et al. (2015) emphasized that cooperative relationships are necessary to respond promptly to unforeseen circumstances. Synthesizing the aforementioned findings, it can be concluded that in uncertain business environments, commitment to counterparts is an essential element for enhancing agile capabilities among supply chain firms.

Finally, supply chain agility did not significantly impact SCM performance (β= 0.110, p= 0.154). Furthermore, these results somewhat contrast with the findings of previous studies examining similar relationships (Alzoubi et al., 2022; Patel and Sambasivan, 2022). Specifically, this study conducted a survey targeting Korean companies with established supply chains. The business culture in Korea prioritizes stability and long-term relationships over rapid changes. Demographically, approximately 52.97% of the respondents are employed in the manufacturing sector, which tends to value stability and efficiency over agility. Given this background, the findings of this study can be seen as reflective of Korea's unique business culture and industrial structure. Future research would benefit from

investigating whether these results are attributable to Korea's distinctive context or if they are indicative of specific types of supply chains. This would provide valuable academic and practical insights.

5.2. Implications and Limitations

This study advances our understanding of the complex relationships among cognitive trust, commitment, supply chain agility, and SCM performance in Korean firms. Our findings reinforce the critical role of cognitive trust as a foundation for both commitment and agility in supply chains. However, the unexpected lack of significant impact of agility on performance challenges prevailing assumptions in supply chain management literature.

Firstly, this research empirically analyzed supply chain agility from a relational perspective, rather than focusing solely on internal capabilities. By identifying trust and commitment as influential factors for supply chain agility and empirically validating these relationships, the study demonstrates that supply chain agility generates synergistic effects when combined with external factors. However, given that the enhancement of agility capabilities did not have a significant impact on SCM performance improvement, assumptions regarding this relationship should be approached with caution. Consequently, firms can assess the levels of trust and commitment, identify deficiencies, and devise strategies to enhance these elements.

Secondly, the study delved into the relationship between cognitive trust and commitment among supply chain partners. Trust, as a fundamental belief in a trading partner’s reliability, facilitates smooth collaboration and high levels of communication. It also helps suppress opportunistic behaviors. The results indicate that trust and commitment are not merely independent variables but exhibit a mutually reinforcing relationship.

Thirdly, the study offers insights for companies aiming to establish cooperative partnerships. In the current business environment, individual firms can no longer secure competitive advantage on their own. Building supply chains necessitates the formation of collaborative partnerships. Companies should focus on enhancing trust-based commitment, information sharing, and joint goal setting with partners to improve overall supply chain flexibility and responsiveness. Thus, firms are encouraged to strengthen close cooperation with their partners.

Finally, this study offers implications for Korean manufacturing firms with established supply chains. Managers of Korean companies should focus on fostering cognitive trust and commitment to enhance supply chain agility. However, the absence of a significant relationship between agility and performance suggests that firms need to consider other factors to improve SCM performance. This can also be interpreted in light of Korea's cultural characteristics, as Korean companies tend to prefer a strong collectivist culture and relationship-centered working methods, emphasizing fairness. Therefore, Korean manufacturing firms should comprehensively consider these cultural characteristics and organizational factors when formulating strategies to enhance supply chain agility. Future research would be academically and practically significant if it examines the cultural factors that moderate the relationship between supply chain agility and SCM performance across different national contexts.

Despite the various implications presented by this study, several limitations must be acknowledged. Firstly, the study focused exclusively on cognitive trust, neglecting other dimensions such as emotional trust and competence-based trust. Considering the diverse elements of the business environment, future research could yield additional insights by examining these other dimensions of trust. Secondly, the study was conducted through surveys targeting professionals in supply chain-related departments within South Korea. Given the increasing length and global nature of supply chains, future research involving multinational or international firms could provide broader insights from a more global perspective.

References

Abdelilah, B., El Korchi, A., & Balambo, M. A. (2018). Flexibility and agility: evolution and relationship. *Journal of Manufacturing Technology Management, 29*(7), 1138-1162.

Abdoli Bidhandi, R., & Valmohammadi, C. (2017). Effects of supply chain agility on profitability. *Business Process Management Journal, 23*(5), 1064-1082.

Ajmal, M., Isha, A. S. N., Nordin, S. M., Kanwal, N., Al-Mekhlafi, A. B. A., & Naji, G. M. A. (2020). A conceptual framework for the determinants of organizational agility: does safety commitment matters. Solid State Technol, 63(6), 4112-4119.

Aldhaheri, R. T., & Ahmad, S. Z. (2023). Factors affecting organisations' supply chain agility and competitive capability. *Business Process Management Journal, 29*(2), 505-527.

Alzoubi, H. M., Elrehail, H., Hanaysha, J. R., Al-Gasaymeh, A., & Al-Adaileh, R. (2022). The role of supply chain integration and agile practices in improving lead time during the COVID-19 crisis. *International Journal of Service Science, Management, Engineering, and Technology (IJSSMET), 13*(1), 1-11.

Anderson, J. C., & Narus, J. A. (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Mmarketing, 54*(1), 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), 113-126.

Arzu Akyuz, G., & Erman Erkan, T. (2010). Supply chain performance measurement: a literature review. *International Journal of Production Rresearch, 48*(17), 5137-5155.

Balfour, D. L., & Wechsler, B. (1991). Commitment, performance, and productivity in public organizations. Public Productivity & Management Review, 355-367.

Ballou, R. H., Gilbert, S. M., & Mukherjee, A. (2000). New managerial challenges from supply chain opportunities. *Industrial Marketing Management, 29*(1), 7-18.

Barber, B. (1983). The logic and limits of trust. New Brunswick, NJ.

Beamon, B. M. (1999). Measuring supply chain performance. *International Journal of Operations & Production Management, 19*(3), 275-292.

Braunscheidel, M. J., & Suresh, N. C. (2009). The organizational antecedents of a firm's supply chain agility for risk mitigation and response. *Journal of Operations Management, 27*(2), 119-140.

Čater, T., & Čater, B. (2010). Product and relationship quality influence on customer commitment and loyalty in B2B manufacturing relationships. *Industrial Marketing Management, 39*(8), 1321-1333.

Chen, C. J. (2019). Developing a model for supply chain agility and innovativeness to enhance firms' competitive advantage. *Management Decision, 57*(7), 1511-1534.

Daghar, A., Alinaghian, L., & Turner, N. (2023). The role of cognitive capital in supply chain resilience: an investigation during the COVID-19 pandemic. *Supply Chain Management: An International Journal, 28*(3), 576-597.

Dowell, D., Morrison, M., & Heffernan, T. (2015). The changing importance of affective trust and cognitive trust across the relationship lifecycle: A study of business-to-business relationships. *Industrial Marketing Management, 44*, 119-130.

Farahani, R. Z., Rezapour, S., Drezner, T., & Fallah, S. (2014). Competitive supply chain network design: An overview of classifications, models, solution techniques and applications. *Omega, 45*, 92-118.

Fayezi, S., Zutshi, A., & O'Loughlin, A. (2017). Understanding and development of supply chain agility and flexibility: a structured literature review. *International Journal of Management Reviews, 19*(4), 379-407.

Fischer, S., Hyder, S., & Walker, A. (2020). The effect of employee affective and cognitive trust in leadership on organisational citizenship behaviour and organisational commitment: Meta-analytic findings and implications for trust research. *Australian Journal of Management, 45*(4), 662-679.

Ghemawat, P. (1991). Commitment. Simon and Schuster.

Gligor, D., Gligor, N., Holcomb, M., & Bozkurt, S. (2019). Distinguishing between the concepts of supply chain agility and resilience: A multidisciplinary literature review. *The International Journal of Logistics Management, 30*(2), 467-487.

Gunasekaran, A., Patel, C., & McGaughey, R. E. (2004). A framework for supply chain performance measurement. *International Journal of Production Economics, 87*(3), 333-347.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis, Seventh edition. Pearson, New York.

Handfield, R. B., & Bechtel, C. (2002). The role of trust and relationship structure in improving supply chain responsiveness. *Industrial Marketing Management, 31*(4), 367-382.

Ivory, S. B., & Brooks, S. B. (2018). Managing corporate sustainability with a paradoxical lens: Lessons from strategic agility. *Journal of Business Ethics, 148*, 347-361.

Jiang, W. J., Zhong, L., Ji, J., & Wu, Y. H. (2011). Research on the trust in supply chain dynamic collaboration based on MAS. *Advanced Materials Research, 282*, 470-473.

Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research, 58*(4), 500-507.

Kaplan, R. S. and Norton, D. P. (1996). Linking the balanced scorecard to strategy. *California Management Review, 39*(1), 53-79

Kim, S., & Kim, C. (2024). Enhancing Logistics Performance through Increased Trust and Collaboration in Supply Chain Risk Management: A Focus on the Distribution Network of Manufacturing Companies. *Systems, 12*(4), 141.

Kim, S., & Lee, C. (2024). Study Examines Role of Collaboration-Enhancing Factors in Supply Chain. *Operations and Supply Chain Management: An International Journal, 17*(1), 77-88.

Kwon, I. W. G., & Suh, T. (2004). Factors affecting the level of trust and commitment in supply chain relationships. *Journal of supply chain management, 40*(1), 4-14.

Kwon, I. W. G., & Suh, T. (2005). Trust, commitment and relationships in supply chain management: a path analysis. *Supply Chain Management: An International Journal, 10*(1), 26-33.

Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial Marketing Management, 29*(1), 65-83.

Lappeman, J., Marlie, S., Johnson, T., & Poggenpoel, S. (2023). Trust and digital privacy: willingness to disclose personal information to banking chatbot services. *Journal of Financial Services Marketing, 28*(2), 337.

Lee, C., & Kim, S. (2023). Impact of Information Sharing on Trust and Commitment Level in the Supply Chain: Focus on Korea's Three New Core Industries. *Operations and Supply Chain Management: An International Journal*, *16*(1), 17-24.

Lee, H. L., & Whang, S. (2000). Information sharing in a supply chain. *International Journal of Manufacturing Technology and Management*, *1*(1), 79-93.

Lewis, J. D., & Weigert, A. J. (2012). The social dynamics of trust: Theoretical and empirical research, 1985-2012. *Social forces*, *91*(1), 25-31.

Lin, C. T., Chiu, H., & Chu, P. Y. (2006). Agility index in the supply chain. *International Journal of production economics*, *100*(2), 285-299.

Luzzini, D., Brandon-Jones, E., Brandon-Jones, A., & Spina, G. (2015). From sustainability commitment to performance: The role of intra-and inter-firm collaborative capabilities in the upstream supply chain. International *Journal of Production Economics*, *165*, 51-63.

M. Gligor, D. (2014). The role of demand management in achieving supply chain agility. *Supply Chain Management: An International Journal*, *19*(5/6), 577-591.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review*, *20*(3), 709-734.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management review*, *23*(3), 473-490.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business Logistics*, *22*(2), 1-25.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of marketing*, *58*(3), 20-38.

Mukhsin, M., & Suryanto, T. (2021). The effect of supply agility mediation through the relationship between trust and commitment on supply chain performance. *Uncertain Supply Chain Management*, *9*(3), 555-562.

Nammir, D. S. S., Marane, B. M., & Ali, A. M. (2012). Determine the role of customer engagement on relationship quality and relationship performance. *European Journal of Business and Management*, *4*(11), 27-36.

Narayanan, S., Narasimhan, R., & Schoenherr, T. (2015). Assessing the contingent effects of collaboration on agility performance in buyer–supplier relationships. *Journal of Operations Management*, *33*, 140-154.

Ngai, E. W., Chau, D. C., & Chan, T. L. A. (2011). Information technology, operational, and management competencies for supply chain agility: Findings from case studies. *Journal of Strategic Information Systems*, *20*(3), 232-249.

Nyamrunda, F. C., & Freeman, S. (2021). Strategic agility, dynamic relational capability and trust among SMEs in transitional economies. J*ournal of World Business*, *56*(3), 101175.

Patel, B. S., & Sambasivan, M. (2022). A systematic review of the literature on supply chain agility. *Management Research Review*, *45*(2), 236-260.

Shukor, A. A. A., Newaz, M. S., Rahman, M. K., & Taha, A. Z. (2021). Supply chain integration and its impact on supply chain agility and organizational flexibility in manufacturing firms. International Journal of Emerging Markets, 16(8), 1721-1744.

Stank, T. P., Keller, S. B., & Daugherty, P. J. (2001). Supply chain collaboration and logistical service performance. *Journal of Business logistics, 22*(1), 29-48.

Tellefsen, T., & Thomas, G. P. (2005). The antecedents and consequences of organizational and personal commitment in business service relationships. *Industrial Marketing Management, 34*(1), 23-37.

Tsourveloudis, N. C., & Valavanis, K. P. (2002). On the measurement of enterprise agility. *Journal of Intelligent and Robotic Systems, 33*, 329-342.

Vohra, A., & Bhardwaj, N. (2019). From active participation to engagement in online communities: Analysing the mediating role of trust and commitment. *Journal of Marketing Communications, 25*(1), 89-114.