

CONFERENCE PROCEEDING

2017 International Multidisciplinary Conferences on Productivity and Sustainability Jakarta, 5-7 December 2017

Enabling Factors to Supply Chain Collaboration and Firm Performance: a Theoretical Framework

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Manufacturing Enterprises play significant roles to the development of economic in Indonesia. Since the announcement of ASEAN Economic Community in 2015, the challenges for increasing their competitiveness through efficient and effective supply chain collaboration is in demand. This study aims to identify enabling factors that influence supply chain collaborative relationship, and the impact of such collaboration on firm's performance. Literature studies show that dependence, commitment, trust and communication play certain roles on supply chain collaboration. Moreover, the effect of supply chain collaboration on firm's performance is also conceptualized.

Keywords: *enabling factors, supply chain collaboration, firm performance*

1. Introduction

Manufacturing Enterprises play significant roles to the stability of Indonesian economic. By 2016, manufacturing sector has dominantly contributed to the development of Indonesian Gross National Product. However, many challenges have to be addressed. Since the announcement of the ASEAN Economic Community (AEC) in 2015, the challenges for increasing manufacturing competitiveness through efficient and effective supply chain collaboration is mandatory. Nevertheless, the existence of AEC will contribute to the creation of opportunities, especially to small and medium enterprises, by creating bigger market size. These opportunities might take effect to foster the wealth of small and medium enterprise (SMEs) if the lack of access and the limitation of distribution channels, which are the most intriguing problems for most of SMEs in Indonesia, can be solved¹. By collaborating with appropriate supply chain partners, better access to information and raw material can also be achieved. Partnering process can be defined as interaction between commitment, trust, and collaboration among enterprises². Collaboration is developed based on the fact that a single enterprise will not succeed without interacting with other enterprises³, and it is believed as the main enabler to effective supply chain collaboration⁴. The higher the collaboration level between supplier and customer, the higher will be the improvement of overall enterprise performance⁵.

The lack of access and the limitation of distribution channels, which are the most intriguing problems for most of SMEs in Indonesia, mostly lead to less enterprises competitiveness¹. Strengthening resource sharing through supply chain collaboration practice amongst supply chain members can be an alternative solution. Supply chain collaboration can be constructed through three main components: behavior (team work), culture (sharing culture), and interaction (partnering process)⁴. Each component connects to each other through behavioral processes. Behavioral process describes how each of personal, situational, and social factors affect individual cognitive, motivation, and behavior from any social group⁶. The exploration to the behavioral factors is expected to provide a better understanding on which factors play the enabling role to supply chain collaboration, so that the implementation of collaboration strategy can be effectively designed. In other words, the behavior process is a tested and successful approach to strengthening people collaborations, and therefore, is expected to be able to support firm performance. Thus, this study tries to conceptualize certain enabling factors that play a significant role to supply chain collaboration process, in relation to firm performance.

2. Literature Review and Hypotheses

2.1. Dependency

Dependency comprises of two components: the essence of certain relationship and the difficulty of replacing certain supply chain partner. ‘Dependence’ which is mutually exclusive will become ‘interdependence’, and it connects stakeholders in creating collaborative relationship¹⁰. ‘Interdependence’ is a prediction to contract commitment between organizations⁷. The more dependent each member to other members, the more it will commit to the relationship^{2,11}. The first set of hypotheses can be developed as follows:

H1a: Higher dependency amongst supply chain partners will lead to higher supply chain collaboration.

H1b: Higher dependency amongst supply chain partners will lead to higher commitment of supply chain partners.

2.2. Commitment

Long term relationship requires commitment from any supply chain partners^{4,12,13}. Establishing commitment amongst supply chain partners will leverage the working activities and facilitate informative transactions² and helps to avoid conflicts between supply chain partners¹⁴. The second hypothesis can be proposed as follows:

H2: Higher commitment amongst supply chain partners will lead to higher supply chain collaboration.

2.3. Trust

When trust exists, supply chain members will likely to overcome their differences to the betterment of all members¹⁵. In other words, supply chain management is constructed based on trust¹³. Lack of trust amongst supply chain members is fatal, it leads to the disruption of supply chain partnership¹⁴. Trust is considered as the main factor of supply chain collaboration amongst members^{2,10}. Moreover, trust is also important in developing commitment. Organizations who believe on their partners’ commitment and integrity will likely to extend their partnership with their current partners^{2,12,16}. The following hypothesis can be developed as:

H3: Higher trust amongst supply chain partners will lead to higher supply chain collaboration.

2.4. Communication

Through communication, partners of supply chain network are enabled to maintain their relationship from time to time and reduce the uncertainty level of their relationship¹⁰. Communication is believed to be the main element in successful partnership¹⁴. Communication is evidenced as a facilitating aspect of trust^{2,12,16}. The following hypotheses can be developed as follows:

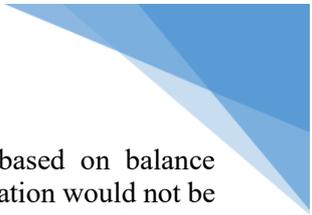
H4a: Higher communication amongst supply chain partners will lead to higher supply chain collaboration.

H4b: Higher communication amongst supply chain partners will lead to higher trust amongst supply chain partners.

2.5. Supply Chain Collaboration and Firm Performance

Long term relationship amongst supply chain elements is developed from personal relations perspective. Supply chain relationship can be categorized into several perspectives: contractual, cooperation, collaboration, and coalition. Collaboration is one category of supply chain relationships which is able to foster commitment of organization, strategic vision, and higher level of trust⁷. Further, supply chain collaboration (SCC) can be measured from three interrelated dimensions: information sharing, decision synchronization, and incentive alignment⁸. Information sharing refers to how deep is each member of the supply chain shares personal information regarding operational activities from time to time. The main point of information sharing is how shared information is utilized to enhance better decisions⁹. Decision synchronization indicates that strategic planning and operations decisions are determined by multi-members of the organization. Incentive alignment signifies each member of the supply chain on their role to risk sharing, and cost and benefit portioning.

Supply chain collaboration has proven to be effectively increase firm performance^{2,13}. External collaboration would proliferate competitive performance of firms, by expanding their respond ability to



customers' demand¹⁸. It is predicted that 21% of firm performance will be built based on balance collaboration between supplier and customer, therefore, neglecting supply chain collaboration would not be wise¹⁹. Collaboration within supply chain can be determined to measure firm performance in an objective way²⁰. Thus, the following hypothesis can be suggested as follows:

H5: Higher supply chain collaboration will lead to higher firm performance.

3. Theoretical Framework

The proposed study is categorized as causality analysis, consists of antecedent variables, determinant variables, and consequent variables. Antecedents are variables prior to determinant variables, which are explained to provide more understanding on the relationship of determinant variables and resulting (consequent) variables. In this study, antecedent variables consist of: dependence, commitment, trust, and communication. Supply chain collaboration will become the determinant variable, while firm performance is identified as consequent variable. Figure 1 represents the theoretical framework between antecedent variables, determinant variable and consequent variable.

In the proposed framework, dependency, commitment, trust, and communication represent behavioral factors that might take significant roles to firm performance. However, the exchanges of trust, commitment, dependency, and communication quality should be first mediated by the reciprocal intention amongst the supply chain members of the firm, and therefore, the quality of collaboration will be improved and performance of the firm should be upgraded.

The theoretical underpinning of this study is that the collaboration of supply chain partners improves the likelihood of more economically action to achieve firm performance. Economically action means that any initiative taken by supply chain member should be in the most efficient manner. Behavior process is a process that logically consider as less investment approach in any organization. In this case, the behavioral process that the parties agreed upon makes sure that each of supply chain partner improves upon its own firm performance^{17,22}.

4. Conclusion and Future Research

The proposed model focuses on how dependency, commitment, trust, and communication contribute to supply chain collaboration. By enhancing dependency, commitment, trust, and communication amongst supply chain partners, supply chain collaboration is likely to be better. The betterment of collaboration amongst supply chain members is believed to be the main factor to improve firm performance. In short, managing each of enabling factors is credited to be a vital aspect of supply chain management initiatives.

Theoretical contribution of this study lies in the fact that previous studies mostly considered Supply Chain Collaboration as consequent variable as well as antecedent variable. This study explores how supply chain collaboration could position itself as mediating variable, a mandatory variable before any behavior process may affect firm performance. In practical view, this study shows how enterprises could focus on more economically supply chain collaboration amongst partners, by paying more attention to behavior interactions.

Previous related studies were conducted in retail industry¹¹, automotive¹⁰, high-tech¹⁶, and all were based in large scale enterprises. Studies concerning small and medium enterprises were hardly to find. One study² accomplished in general level, considering survey in general manufacturing, transportation, distribution, food, medicine, and others. Therefore, future research should put more emphasize in medium scale manufacturing enterprise in Indonesia, to accomodate the gap from previous studies.

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Figure Caption

Figure 1. Proposed theoretical framework

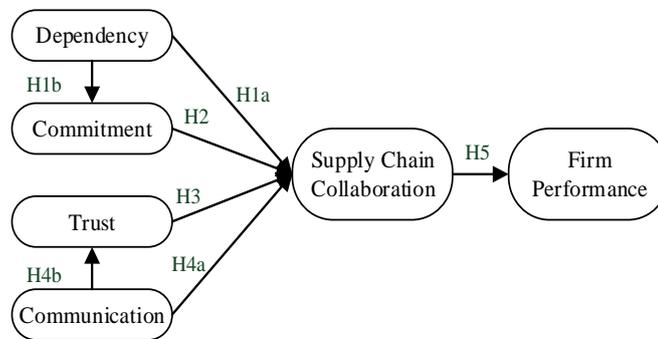


Figure 1. Stefany et al.