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Implementation of supply chain management through collaboration strategy to improve logistic capability and performance

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Abstract. This study examines the relationship of collaboration in improving the capability of the company which ultimately leads to improvement of the company's logistics performance. This research uses quantitative design through the spreading of questionnaires with Likert 5 approach. The population in this research is ALFI company in Badung regency, Bali Province, Indonesia which amounts to 22 units. From the population then determined the distribution of questionnaires to 44 managers and assistant managers as the unit of analysis. The research model was built using structural equation model and analyzed with smartPLS-3 software. The research findings reveal that collaboration has a significant effect on logistics capability, logistics capability has a significant effect on logistics performance. The results provide an overview of the importance of collaborative strategies in enhancing capability and logistics performance.

Keywords: Supply Chain, Logistic Capability, Logistic Performance, Collaboration

1. Introduction

Logistics conditions in Indonesia from year to year can be said to improve. This is evident from the logistics performance index periodically issued by the World Bank about the logistics index of 166 countries in the world known as logistics performance index (LPI). In 2014 Indonesia ranked 53rd, up sixth place from the year 2012 which is ranked 59th. The World Bank (2014) establishes six parameters in ranking the average logistics of a state that is (a) the efficiency of the clearance process (I;e speed, simplicity and predictability of formalities) by the competent authorities, including customs; (B) The quality of trade and transport related infrastructure (eg ports, railways, roads, information technology); (c) ease of delivery at competitive prices; (d) Competence and quality of logistics services (eg, transport operators, customs processes); (e) the ease of tracking the shipment; (f) On time delivery in accordance with the expected time Indonesia's logistics performance index is improving, but according to the Logistics and Forwarding Indonesia Association (ALFI) there are still some things that become logistical weaknesses in Indonesia such as the high cost of logistics and the delay in delivery of goods. The high cost of transportation and storage (storage) resulted in increased production costs, coupled with internal problems such as low company performance of human resources and leadership. For almost 30 years the company has been increasingly concerned with logistics activities (Tibben *et al.*, 2010). This means that logistics is an important part of supply chain network systems that should be a major concern in the evaluation of operational costs. Service and manufacturing industries are required

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to have competitive value, create value added, work more efficiently by applying integrated management concept so as to create sustainable competitive advantage.

The shipping business has grown so rapidly and is closely linked to the logistics and transport costs that contribute between 25 and 50 percent (Parego et al., 2010). This is because the process of transporting cargo and documents using ships and aircraft is very complicated and requires a relatively expensive cost. Logistics conditions nationally are closely related to the logistics performance of each company, especially companies engaged in logistics and supply chain. Logistics performance reflects the organization's performance in relation to the ability to deliver goods and services in the proper quantity and time as per customer demand.

Logistics distribution as a component of the dominant business activity in the field of logistics services requires efforts to improve its competitiveness. Increased competitiveness in the field of logistics services has been done by many business organizations through collaborative strategy, on the grounds that collaboration can increase market share, improve customer service, share and lower product development costs, reduce risk, improve product quality, improve skills and knowledge, , and others (Bititci, 2004). According to Vereecke and Muylle (2006), collaboration can result in improved performance in the supply chain. The company builds collaborative relationships with its supply chain partners to achieve sustainable efficiency, flexibility and competitive advantage (Nyaga et al., 2010) that ultimately lead to improved corporate performance. Collaboration aims to strengthen the partnership network by integrating their resources, strengthening the business network, and improving the competitiveness in delivering services. Nevertheless, contradictory values occur in realizing a partnership pattern that is a high risk of failure. Some of the obstacles in realizing the success of the partnership (collaboration) are, among others, caused by factors such as inter-firm rivalry, governance problems, inter-firm organizational differences, coordination costs, differences in knowledge spillover, differences in target services desired by each company, and organization rigidity (Park and Ungson, 2001).

From the description is necessary research to test the relationship of collaboration in improving corporate capabilities that ultimately leads to increased logistics performance in logistics companies. This research will be conducted on companies incorporated in ALFI (Logistics and Forwarding Association of Indonesia) of Badung Regency, especially in facing the competition of logistic business which is still a lot of complained about by customers, especially the high cost of logistics and the delay of cargo delivery. In addition, Indonesia is already incorporated in the MEA (ASEAN Economic Community) which allows more and more foreign logistics companies to enter Indonesia so that competition in the logistics business / supply chain is increasing. Therefore, in anticipation of such a large expansion, collaboration among logistic companies that is currently required to improve logistics capabilities, which leads to improved logistics performance.

2. Literatur Review

Collaboration

According Wood and Gray (1991) describe collaboration as a process in which the parties involved view the different aspects of a problem and find solutions to the differences and limit their view of what can be done. One of the key words in supply chain management is the establishment of robust collaboration between parties in a supply chain. Collaboration improves the capabilities of the entire members. Collaboration is able to multiply the power of each other to produce results that can not be achieved by one party if they work alone. In collaboration there must be enough freedom to reach the goal, with some outside boundaries (Rowland, 2008). Collaboration is a partnership to achieve something more than one person or organization can do by yourself. Collaboration does the best in the group and helps each other to achieve a higher position.

From previous studies, there are some researchers who interpret the definition of collaboration. According to Huxham (1996), collaboration has been discussed as a way that organizations can do in situations where self-employment is not possible to achieve the organization's ultimate goals. It further said that collaboration implies a form of positive cooperation in relation to various parties. Collaboration can also be interpreted as a difference in organizational mode, a positive benefit for the purpose of relationships among organizations that maintain self-reliance, integrity, and identity differences and

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potentially for the benefit of cooperative relations (Huxham, 1996). According to Jordan and Michel (2000), collaboration is a number of companies linked to creating and supporting a service or product for life services, including final disposal. Collaboration focuses on collaboration in planning, coordination, and integration processes between suppliers, customers, and others in a supply chain involving collaborative decision-making strategies on partnership and network design. Simatupang et al. (2004) stated that collaboration is a cooperative strategy of partners in the supply chain with the goal of serving customers through integrated solutions to lower costs and increase revenue. Collaboration describes cooperation among independent firms, but related companies share resources and capabilities to meet the most unusual or dynamic changing needs of customers. Collaboration is also said to be the ability to work across organizational boundaries to build and manage unique value adding processes to meet customer needs. While Cao and Zhang (2011) define collaboration as a partnership process whereby two or more autonomous companies work together to plan and execute supply chain operations for mutual and mutual benefit purposes. Collaboration is done by gathering different parties with different interests to generate a shared vision, building agreement on an issue or issue, creating solutions to the problem, and putting forward shared values to produce decisions that benefit all parties (Simatupang & Sridharan, 2008). Supply chain collaboration connects two or more supply chain members in building commitment and maintaining a strategic relationship relationship process, whereby they use their core capabilities to address appropriate changes and challenges (Bowersox et al., 2003).

Some researchers connect internal or functional collaboration with external, implicate relationship development, process integration, and information sharing with suppliers and customers. Previous literature also demonstrates the benefits of collaboration. In a preliminary study, Lewis (1990) found that the company derives benefits from collaboration, especially in product quality improvement, economies of scale in business, and so on. And ultimately collaboration increases the company's market share. Collaboration will result in a faster product development process, reduced product development costs, improved technology, and / or improved product quality in dynamic market conditions (Walter, 2003). Another advantage of collaboration is the division and reduction of product development costs (McCarthy and Golicic, 2002). Collaboration also results in improved performance in supply chains (Vereecke and Muylle, 2006).

Matthew and Cheung (2008) point out some of the benefits of supply chain collaboration: first, collaboration improves profit sharing. Second, the ever-increasing collaboration can lower the company's expenses. Third, long-term partnership collaboration is the best solution to develop business processes, including lower cost and value addition for partners. Companies build collaborative relationships with their supply chain partners to achieve sustainable efficiency, flexibility and competitive advantage (Nyaga et al., 2010). Dyer and Singh (1998) argue that collaborating firms can generate relational rents through relation-specific assets, knowledge-sharing routines, complementary resource endowments, and effective governance.

Logistics capability

Capability is an important part of strategic planning to identify and predict the ability to maintain and enhance an organization's competitive position. Companies should seek solutions to competitive problems through core capabilities in providing an unlimited source of future customer value. Core capabilities are often used to gain access to a wide range of markets. The core capabilities must be closely linked to the benefits provided by the customer's value products or services. The core capabilities can provide an organization's competitive advantage. Another characteristic of the core capability is that such capabilities must be difficult to imitate. Continuous competitive advantage can not be achieved if provided by an imitable core capability. Logistics capability has internal and external aspects. Internally, logistics must work closely with other functions to plan, coordinate, and integrate cross-functional activities (Bowersox et al., 1999). From a strategic perspective, logistics has the ability to coordinate and integrate interdependent activities across key functional areas. Externally, through logistics development that includes customers and suppliers, logistics can generate profits, such as asset productivity, operational effectiveness, and customer value achievement. Logistics must have a unique capability to coordinate internal and external corporate resources, create and develop enterprise supply

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chain capabilities by connecting system and operational interfaces to reduce redundancy along with maintenance of operational synchronization (Mentzer et al., 2004).

In his research, Morash et al. (1996) suggests that logistics capabilities use two disciplinary values (proximity to customers and operational excellence) to identify logistical capabilities. The value of discipline first emphasizes external customers, external customer relations, and external goals. The value of this discipline is demand-oriented or customer-oriented. Demand-oriented logistics capabilities are related to customer service and time-advantage, and responsiveness to the target market. The second value of discipline relates to supply-oriented operational capabilities and emphasizes product availability, total integrity and low total cost.

Logistics Performance

Performance can be defined as the ability of an object to produce results, either in a certain dimension in relation to the target to be achieved (Laitinen, 2002). Performance is measured to benchmark and evaluate the effectiveness and efficiency of each organization. Kaplan and Norton (1996) argue that organizations must have an effective performance measurement system capable of covering all aspects to achieve success and growth. Tummala et al. (2006) states that the performance measurement criteria made by the organization must be specific, measurable and can be evaluated periodically. Company performance shows how far the company can achieve its market-oriented goals along with the achievement of its financial goals (Yamin et al., 1999). The short-run goal of supply chain management is to increase productivity and reduce inventory and cycle time, while its long-term goal is to increase market share and profit for all members in the supply chain (Tan et al., 1998).

Mentzer and Konrad (1991) define logistics performance as the effectiveness and efficiency in carrying out logistical activities. Langley and Holcomb (1992) developed the definition by adding logistical differentiation as a key element of logistics performance because acceptance of customer value from logistics activities is also treated as an indicator of logistics performance. They assume that logistics can create value through efficiency, effectiveness, and differentiation. For example, values can be created through customer service elements such as product availability, timeliness and consistency of delivery, and ease of ordering. If logistics can create value through logistical activities that can not be replicated, a company may be able to differentiate from its competitors. Excellence in logistics performance requires superiority when compared to competitors (differentiation). Then Smith (2000) developed the opinion of Langley and Holcomb (1992) to define logistics performance as a second order construct consisting of efficiency, effectiveness, and logistic differentiation. Logistics performance is multi-dimensional and is defined as the level of efficiency, effectiveness, and differentiation associated with the completion of logistical activities (Bobbit, 2004).

According to Keebler and Plank (2009), there are at least three reasons why a company wants to measure its logistics performance. Companies can lower operating costs, use logistic performance measures to drive revenue growth, and further increase shareholder value. When operating costs are measured, firms can identify how, when, and where to make operational changes to control burdens, and, of course, the most important is to improve asset management. Companies can attract and retain valuable customers through increasing the value of the offered product price with reduced costs and service improvements. Finally, returns for shareholder investment and firm market value can be significantly influenced by improved logistics performance through a process that leads to stock prices and dividend policy.

Traditional logistics measurements measure "hard times" like services (order cycle times and fill rate), cost, return on assets, or return on investment (Morash et al., 1996), "soft measures" such as managers' perceptions of loyalty and customer satisfaction (Holmberg, 2000). Currently, measures of logistics performance are related to corporate strategy (Zacharia and Mentzer, 2004) and more explicitly incorporate customer perspectives (Brewer and Spech, 2000).
There are a number of empirical studies that test the measurement of logistics performance. Starting from Kearney (1978, 1984) that examines how logistics performance is tested and highlights the success of case studies. Byrne and Markham (1991) describe the activity of quality improvement and productivity within the company. Bowersox et al. (1989), and the Global Logistics Research Team at

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Michigan State (1995) documented extensive cross-business measurement practices and found that many measures of asset management and other investments are not available within the firm.

More specifically, they identified 17 key cost sizes and only five were available and used in 99 percent of the companies surveyed. In a similar study, Novack et al. (1995) found that when these measures were used, logistic executives were generally unable to calculate the value of the logistics function for the firm. Caplice and Sheffi (1995) provide a foundation for selecting and maintaining a logistics performance measure of a system. Fawcett and Clinton (1996) what the impact of logistics performance in the company and found seven factors that have a provable impact on manufacturing companies. Keebler (2000) states that leading companies do not use the specific measures of logistics performance that are important to their customers. Rafele (2004) provides a framework for measuring logistics services in more than one supply chain perspective, rather than an individual company.

The construct of logistics performance reflects the performance of the organization in relation to the ability to deliver goods and services in the proper quantity and time as per customer demand. Andersson et al. (1989) states that in measuring logistical performance, a comprehensive strategy measurement is needed for successful planning, realization, and oversight of different activities comprising logistics business functions. Logistics performance is usually associated with delivery service, logistics cost, and tied up capital. The delivery service can be shared and measured as lead time and on-time delivery. The cost of logistics, for example, is transportation and supplies carried, while tied-up capital appears in many in the flow of materials as in raw materials and finished goods inventory (Stock and Lambert, 2001). Meanwhile Bowersox et al. (2000) provides performance metrics such as customer satisfaction, delivery speed, delivery dependability, and delivery flexibility.

A. Research Methodology and Hypotheses

Population and sample

The population of this study are all companies incorporated in ALFI (Association of Logistics and Forwarding Indonesia) Badung regency, which amounted to 22 companies. The sampling technique used in this study is non probability sampling, where the elements of the population do not have the same opportunity to be selected into the sample (Indriantoro and Supomo, 2002). While the sample unit of this research is 19 cargo companies which are also as forwarder and expedition. Sampling method in this research is purposive sampling, that is sampling method with certain consideration which is considered relevant or can represent the object under study (Effendi and Tukiran, 2012). Sample criteria selected are companies that have the following qualifications:

1) cargo which is also well as a forwarder and expedition (multipurpose organization)
2) long operation over 15 years,have agency abroad,
3) has service contract with several supporting companies such as shipping company, tracking, transportation, warehousing, and fellow forwarder, and
4) has a certificate of PPJK (Customs Service Implementing Company)

After the number of research sample is known then do the calculation of respondent research that manager and assistant manager. Respondents who are represented by managers and assistant managers are representatives of policy making in the organization mainly related to research variables such as collaboration and logistics performance. So the number of respondents is 38 respondents.

3. Results and Discussion

The accuracy of testing a hypothesis about the relationship of research variables depends on the quality of the data used in the test. The research data will not be useful if the measuring tool used to collect the data does not have high validity and reliability. According to Johnson et al. (2008), the validity indicates the extent to which a measuring instrument measures what is measured. Validity test is used to measure feasible or not a research instrument (questionnaire). A questionnaire is said to be valid if the statement on the questionnaire is capable of capturing something that will be measured by the questionnaire (Latan and Gozhali, 2012). Validity of instrument in this research is done by using correlation method between scores of item statement with tota score (indicator) in 95% significance level or alpha equal to 0,05. The statement item is valid if it has positive correlation and greater than 0.30 or correlation coefficient value (r)> 0.30.

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Outer model

Outer model or also called measurement model is a specification of the relationship between latent variables with indicators or variables manifestnya, or in other words measure how far the indicator can explain the latent variables. Therefore, validity and reliability must be tested. The validity test shows the extent to which the measuring instrument is able to measure what it wants to measure (Danim, 1997). The validity of the data is determined by the circumstances in which the respondent was interviewed (Umar, 2002). The validity test ensures that the measurements include a set of sufficient and representative items that reveal a concept (now, 2006). While the reliability test is a term used to indicate the extent to which a measurement result is relatively consistent if the measurement is repeated twice or more (Umar, 2002). If a measuring instrument (questionnaire) is used twice to measure the same symptoms and the measurement results are relatively consistent, then the measuring device is said to be reliable. Covergent validity of the measurement model with reflexive indica¬tor is assessed by correlation between item score / component score with construct score calculated by PLS. Individual reflexive sizes are said to be high if they correlate more than 0.70 with the constructs you want to measure. However, for the initial stage of development of measurement scale the loading values of 0.5 to 0.60 are considered sufficient (Chin, 1998).

Discriminant validity of the measurement model with reflexive indicators is assessed based on cross loading measurements with constructs. If the construct correlation with the measurement item is greater than the size of the other construct, then it indicates that the latent construct predicts the size on their block is better than the size of the other block. Another method of assessing discriminant validity is to compare the square root of average variance extracted (AVE) value of each construct with the correlation between the construct and the other constructs in the model. If the AVE square root value of each construct is greater than the correlation value between the construct and the other constructs in the model, it is said to have a good discriminant validity value (Fornell and Larcker, 1981). Fornnel and Larcker (1981) suggest that these measurements can be used to measure the reliability of latent variable component scores and the results are more conservative than composite reliability (pc). Recommended AVE value should be greater 0.50. Composite reliability indicator blocks that measure a construct can be evaluated with two sizes, namely internal consistency developed by Werts, Linn and Joreskog (1974) and Cronbach's Alpha. Compared with Cronbach Alpha, this measure does not assume equivalence between measurements assuming all indicators are weighted equally. So Cronbach alpha tends to lower bound estimate reliability, whereas PC is closer aPproximation assuming parameter estimation is accurate. PC as internal consistency measure can only be used for construct with reflexive indicator.

Reliability shows the accuracy and precision of the meter. A gauge is said to be reliable if the measurement results are accurate and consistent. Measurements are said to be consistent if multiple measurements on the same subject are obtained with no different results. The variable is considered reliable when the Alpha Cronbach coefficient> 0.6.

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Tabel 1 Outer Loadings Model

Outer Loadings

Matrix

	Collaboration	Logistic Perf.	Logistic cap.
x1.1	0.825		
x1.10	0.819		
x1.2	0.884		
x1.3	0.902		
x1.4	0.873		
x1.5	0.814		
x1.6	0.846		
x1.7	0.874		
x1.8	0.855		
x1.9	0.788		
y1.1			0.777
y1.2			0.869
y1.3			0.838
y1.4			0.732
y1.5			0.736
y1.6			0.667
y1.7			0.793
y2.1		0.921	
y2.2		0.835	
y2.3		0.908	
y2.4		0.915	
y2.5		0.895	

Individual reflexive sizes are said to be high if they correlate more than 0.70 with the constructs you want to measure. However, for the initial stage of development of measurement scale the loading values of 0.5 to 0.60 are considered sufficient (Chin, 1998). In table 5.9 above it can be said that the outer loading value is said to be high.

Tabel 2 Average Variance Extracted (EVA)

Average Variance Extracted (AVE) | Matrix

	Average Varian...
Collaboration	0.720
Logistic Perf.	0.801
Logistic cap.	0.602

Fornnel and Larcker (1981) suggest that these measurements can be used to measure the reliability of latent variable component scores and the results are more conservative than composite reliability (pc). Recommended AVE value should be greater 0.50. Table 5.10 shows that the AVE value of all variables is more than 0.50. After conducting an outer test the next step model is to evaluate the inner model by looking at the magnitude of its structural path coefficient, as well as its statistical t test value obtained

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by the bootstrapping method. In addition, also note R2 for the latent variable dependent. The value of R2 about 0.67 is said to be good, 0.33 is said to be moderate, while 0.19 is said to be weak. Changes R2 can be used to assess the effect of a particular latent variable on the latent independent variable whether it has substantive influence. This can be done by calculating f2. The value of f2 is equal to 0.02, 0.15 and 0.35 can be said that predictors of latent variables have a small, medium, and large influence on the structural model. The structural model is evaluated by using R-square for dependent constructs, Stone-Geisser Q-square test for predictive relevance and t-test as well as the significance of the structural path parameter coefficients. In assessing the model with PLS we start by looking at R-square for a dependent latent variable. The interpretation is the same as the interpretation of the regression. Changes in R-square values can be used to assess the effect of certain latent independent variables on latent dependent variables whether they have substantive effects. The effect of magnitude f^2 can be calculated by the following formula (Cohen, 1988),

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

Where R^2included and R^2excluded are R-squares of dependent latent variables when predictors of latent variables are used or excluded in structural equations. The f2 value equals 0.02, 0.15 and 0.35 can be interpreted that the predictors of latent variables have small, medium, and large effects on the structural level (Cohen, 1988). Besides looking at the R-square values, the PLS model is also evaluated by looking at Q-square predictive relevance for the construct model. Q-square measures how well the observation value is generated by the model and also its parameter estimation. The larger Q-square value 0 (zero) indicates that the model has a predictive relevance value, whereas a Q-square value less than 0 (zero) indicates that the model lacks predictive relevance. Godness of fit (GoF) is used to validate the model as a whole. GoF values range from 0 (zero) to 1 (one). The formula used to determine the value of Goodness of Fit (GoF). GoF value is getting closer to 0 (zero) shows the model the less good, and vice versa move away from 0 (zero) and the closer one (1) then the model the better.

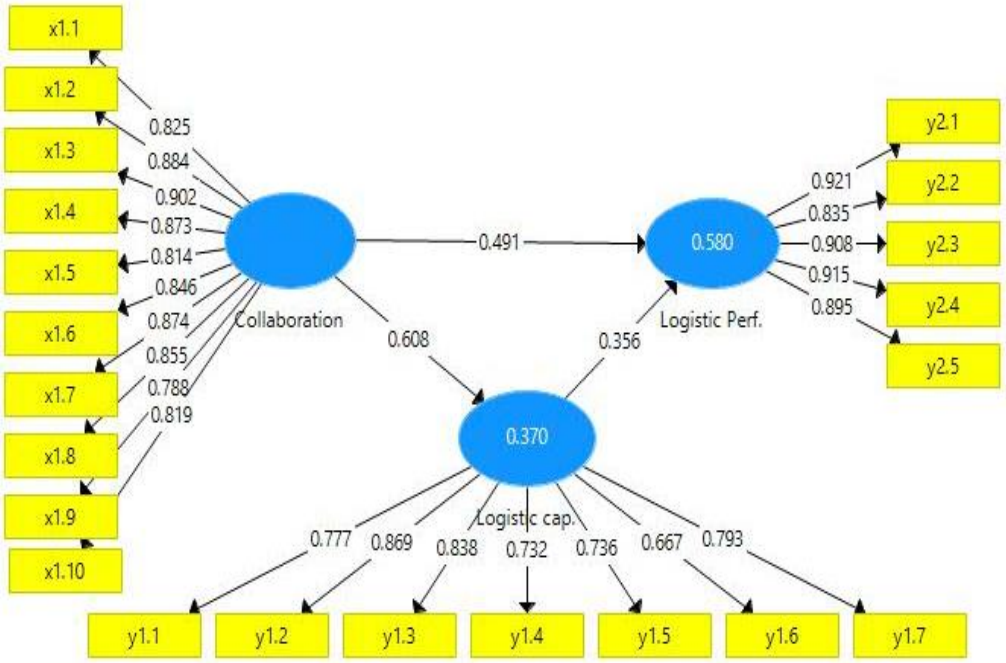

Figure 1. Output Analysis

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In Figure 5.1 above shows the results of the analysis test with the help of SmartPLS 3.0 and the relationship between variables.

Table 3 Path Coefficient

Matrix | Path Coefficients

	Collaboration	Logistic Perf.	Logistic cap.
Collaboration		0.491	0.608
Logistic Perf.			
Logistic cap.		0.356	

In the table above described the coefficient value of the relationship path between each research variable. The value of the coefficient of the path of collaboration strategy with logistics capability is 0.608> 1.96 which means significant (hypothesis 1 accepted). The logistics capability coefficient and logistics performance are 0.356> 1.96, which means significant (hypothesis 2 is accepted). While the relationship of collaboration strategy and logistics performance of path coefficient is 0,491> 1,96 meaning significant (hypothesis 3 accepted).

Table 4 Direct and Indirect Effect

Indirect Effects

Matrix

	Collaboration	Logistic Perf.	Logistic cap.
Collaboration	1.000	0.216	
Logistic Perf.		1.000	
Logistic cap.			1.000

Total Effects

Matrix

	Collaboration	Logistic Perf.	Logistic cap.
Collaboration	1.000	0.707	0.608
Logistic Perf.		1.000	
Logistic cap.		0.356	1.000

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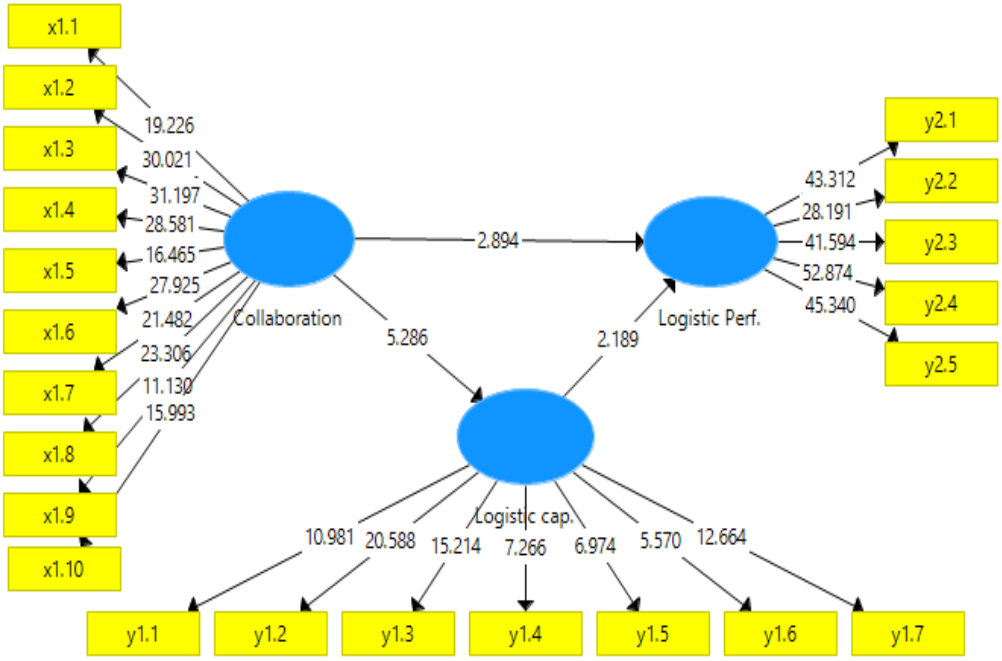

Figure 2 Bootstropping Model Analysis

Tabel 5 Path Coefficients

Path Coefficients

Mean, STDEV, T-Values,... | Confidence Intervals | Confidence Intervals B... | Samples | Export to clipboard: Co

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O...	P Values
Collaboration -> Logistic Perf.	0.491	0.474	0.170	2.894	0.004
Collaboration -> Logistic cap.	0.608	0.626	0.115	5.286	0.000
Logistic cap. -> Logistic Perf.	0.356	0.375	0.163	2.189	0.029

In table 5.13 above can be explained the relationship of each variable. The coefficient of direct link lane of collaboration strategy and logistic capability is 5,286> 1.96 meaning significant and hypothesis 1 accepted, while the coefficient of logistic capability relationship and logistics performance is 2,189> 1.96 meaning significant and hypothesis 2 accepted. The relationship of collaboration strategy with the logistics performance shown by the large coefficient is 2,894> 1.96 which means significant and hypothesis 3 accepted.

Tabel 6 Indirect Coefficients

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Indirect Effects

Mean, STDEV, T-Values,... | Confidence Intervals | Confidence Intervals B... | Samples | Export to clipboard:

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O...	P Values
Collaboration -> Logistic Perf.	0.216	0.235	0.119	1.816	0.070
Collaboration -> Logistic cap.					
Logistic cap. -> Logistic Perf.					

For the role of mediation variable logistics capability mediate the relationship of collaboration strategy and logistics performance obtained by T statistics 1.816> 1.96 which means that not significant and become important finding in this research.

The direct path coefficient of collaboration strategy and logistics capability is 5,286> 1.96 which means significant and hypothesis 1 is accepted. This study is in line with research conducted by (Rowland, 2008) who found that collaboration enhances the capabilities of the entire member. This study also supports research conducted Nyaga et al. (2010) and Simatupang and Sridharan (2002). Collaboration also results in improved performance in supply chains (Vereecke and Muylle, 2006). The coefficient of logistical capability relationship and logistics performance is 2,189> 1.96 which means significant and hypothesis 2 is accepted. This study is in line with research conducted by Morash et al. (1996) who found that the company's logistics performance was influenced by logistical capabilities. This is also in accordance with the findings about the resouce based view theory proposed by Barney (1991). The relationship of collaboration strategy with logistics performance is shown by the large coefficient is 2,894> 1.96 which means significant and hypothesis 3 accepted. This study is in line with research conducted by Kocoglu et al., 2011; Wu et al., 2014; Vereecke and Muylle, 2006) that logistics performance is influenced by collaboration either directly or indirectly.

Discussion

Collaborative strategies are vulnerable to risks so companies are expected to apply risk sharing patterns through well-regulated agreements that benefit both parties. To improve the logistics capability one way is to map and possibly consider opening a potential branch to reduce difficulties especially transportation and supplyer and improve lead time service.

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