The Effect of Strategic Supplier Partnership on Supply Chain Integration, Supply Chain Performance and Farmers Performance

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Abstract

This research was conducted to examine the effect of strategic supplier partnerships on the supply chain integration, supply chain performance and farmers performance. This research is an explanatory research with a quantitative approach. The data was collected using questionnaires. The sampling method was multistage proportional random sampling of 200 respondents. Data analysis in this study used path analysis method with help by SPSS. The results of this study indicate that strategic supplier partnerships have no significant effect on supply chain integration, supply chain performance and farmers performance. The supply chain integration has a significant positive effect toward supply chain performance and farmers performance. While the supply chain performance has a significant positive effect toward farmers performance.

Keyword: Strategic Supplier Partnership, Supply Chain Integration, Supply Chain Performance, Enterprise Performance, Farmers Performance

INTRODUCTION

Supply chain management is a method for managing supply chain while supply chain can be defined as a set of activities (in the form of entities/facilities) involved in the process of transformation and distribution of goods from the earliest raw materials from nature to finished products to end consumers [1]. Supply chain management in manufacturing and supply chain management in the field of play has a different pattern. The difference is caused by agricultural commodities being perishable / damaged; the process of production, breeding, planting and harvesting depends on climate and season; the amount of harvest has different shapes and sizes; Horticultural agriculture products are soft so it is difficult to handle. All of these factors must be considered in managing supply chain management in horticultural agriculture products to obtain an effective and efficient supply chain system.

Effective management of shallot supply chain is supported by the creation of good supply chain practice activities. One of the supply chain practice activities is the strategic supplier partnership [2]. The shallot supply chain management practice activities should be able to build integration, coordination, and cooperation between business actors and all parties involved in the supply chain. Studies conducted by [3]. This strategic relationship with suppliers will improve organizational capabilities [4] and integration and collaboration among trading partners in the supply chain [5]. The practice of strategic supplier partnership in the long-term allows an organization to have strong integration and collaboration to achieve sustainable performance [6].

Many researchers also suggest using supply chain integration mechanisms to increase the flow of goods and information in the supply chain [7] [8] [9]. This shows that, supply chain integration is one method that allows to increase the competitiveness of business activities. Similarly, these efforts can improve supply chain performance. Optimization at the supply chain level maximizes existing supply chain performance to be shared by all supply chain partners [10].
Strategies that strengthen the competitive position of the supply chain function to improve the performance of the supply chain directly, which in time will have a positive impact on farm performance.

In Indonesia, the agricultural sector is a strategic sector that provides an important role in the national economy, meeting community needs and its contribution to Gross Domestic Product (GDP). One of the agricultural subsectors that contributes to national income is the horticulture sub-sector. Shallot is also a horticultural commodity that has high economic value so that it feels sufficient to have great business potential. The large business potential can be an opportunity for the provision of food, community income sources, absorption of national labor, poverty reduction, can support and improve the welfare of farmers and can also be a trigger to create a climate conducive to growth in other sectors.

The high production of shallot has not yet been able to solve the fundamental problems of shallot business activities such as does not automatically create farmer’s welfare. Shallot have the high fluctuations in prices because shallot is a seasonal commodity, supply increases at the harvest time while demands tends to remain. This make shallot the second largest contributor to inflation after chili by 0.16%. The high disparity in prices of shallots from farmers to consumers still be a problems. The distribution of shallots from the central areas to other regions is still a problem in the shallot trading system. Profit imbalances also occur in the shallot business actors. Another issue retales to the supply chain of shallot in Indonesia is asymetri information and domination of rent seeker. Optimizing potential and overcoming problems in shallot trade can be overcome by implementing good supply chain management.

Regarding to these issue the study try to examine the effect of strategic supplier partnerships on the the supply chain integration, supply chain performance and farms performance.

**Literature Review**

Supply chain are all parts that are related both directly and indirectly in fulfilling consumer desires [11]. Supply chain are a network of companies that jointly work to create and deliver a product to the end user [12]. A method, tool, approach to managing the supply chain is called supply chain management (SCM). Supply chain management is an integrated approach that provides information system support to management in terms of procurement of goods and services for the company while managing relationships between partners to maintain the level of availability of products and services needed by the company optimally [1].

Some components of supply chain management practices include supplier partnerships, information sharing, process flow and outsourcing [3]. This strategic supplier partnership is defined as a long-term relationship between business actors and their suppliers [13] [14]. This component is designed to utilize the strategic and operational capabilities of participating organizations or business actors to help achieve goals on an ongoing basis [15].

Supply chain integration is defined as the extent to which all activities in an organization and the activities of suppliers, customers and other members of the supply chain are integrated [3]. An integration supply chain is an integration strategy of both internal and external organizations and measures the extent to which partners involved in the supply chain work together to obtain mutually beneficial results [16].

Supply chain performance is a systematic process of measuring the effectiveness and efficiency of supply chain activities [3]. Supply chain performance is a set of parameters used to determine the efficiency and effectiveness of existing supply chain systems or to be compared with other systems [17]. Define supply chain performance as an increasing operational measure for each member of the supply chain, as well as for the entire supply chain, as a result of their participation in the supply chain.

Farmers can enhance their performance by providing the facilitation of collective production activities, training service, managing common property resource, marketing service and financial service [18]. Entrepreneurship performance can be measured through the profitability index and growth index of the venture business [19]. In line with that, entrepreneurial performance can also be interpreted as a business performance of a business organization. The performance of business organizations emphasizes three specific areas, that a financial performance [20].
Supply chain management practice activities carried out effectively can improve supply chain management effectively [2]. The study conducted by [3] examined how strategic supplier partnership can influence supply chains integration. This relationship strategy with suppliers will improve organizational capabilities [4] and integration and collaboration among trading partners in the supply chain [5]. The strategic characteristic of supply chain management activities, one of which is strategic supplier partnership, is to explain the two objectives of supply chain management, that are: to improve the performance of business actors themselves and to improve supply chain performance [21]. Based on the description above, the following hypotheses can be formulated:

H₁: Strategic supplier partnership affect the supply chain integration.

H₂: Strategic supplier partnership affect supply chain performance.

H₃: Strategic supplier partnership affect farmers performance.

Supply chain integration are a major topic among organizations that seek to harness the potential of the supply chain to build sustainable value. Integrated business activities and collaboration between actors will improve the performance of the supply chain [22]. Research [5] shows that there is a significant positive relationship between integrative supply chains and enterprise performance. Integration and collaboration between members of the supply chain will improve farmers enterprise performance [11]. Based on the description above, the following hypotheses can be formulated:

H₄: Supply chains integration affect supply chain performance.

H₅: Supply chain integration influences farmers performance.

Supply chain optimization will maximize supply chain performance to be shared by all supply chain partners. The strategy strengthens the competitive position of the supply chain which functions to directly improve supply chain performance, which in time will have a positive impact on performance in the organization [4]. Based on the description above, the following hypotheses can be formulated:


MATERIAL AND METHOD

The type of research in this study was explanatory research with a quantitative approach. Explanatory research was a type of research that emphasizes causality or causality between two or more variables that influence each other. This study used primary data types. Data collection techniques in this study used a survey. Data collection techniques with surveys were conducted used a questionnaire method which is a list or series of questions systematically arranged to get respondent’s opinions.

This study is explanatory study because the aims of to the study is find out the causality between variables under studied. Data was collected through survey on shallot farmers in East Java Province i.e Malang, Kediri, Nganjuk and Probolinggo. The sampling method in this study used multistage proportional random sampling. The sample is 200 respondents. In the study using the 5-point linkert scale. Instrument tested the validity and reliability. Validity is measured from r ≥ 0.30. The basis for decision making is whether a measurement is reliable or not is alpha crobach, if the alpha crobach value is ≥ 0.6 it can be called reliable. Table 1 shows the results of reliable tests in this study.

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strategic supplier partnership</td>
<td>0.778</td>
</tr>
<tr>
<td>2</td>
<td>Supply Chain Integration</td>
<td>0.604</td>
</tr>
<tr>
<td>3</td>
<td>Supply Chain Performance</td>
<td>0.773</td>
</tr>
<tr>
<td>4</td>
<td>Farmers Performance</td>
<td>0.886</td>
</tr>
</tbody>
</table>

*p ≥ 0.60
Source: Primary Data Processed by SPSS, 2018

RESULT AND DISCUSSION

The study found effect of strategic supplier partnerships on the the supply chain integration, supply chain performance and farm performance that presented in the following table.

<table>
<thead>
<tr>
<th>H</th>
<th>B</th>
<th>T</th>
<th>p-value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>0.120</td>
<td>1.702</td>
<td>0.090</td>
<td>Not-significant</td>
</tr>
<tr>
<td>H₂</td>
<td>0.123</td>
<td>1.838</td>
<td>0.068</td>
<td>Not-significant</td>
</tr>
<tr>
<td>H₃</td>
<td>0.057</td>
<td>1.004</td>
<td>0.317</td>
<td>Not-significant</td>
</tr>
<tr>
<td>H₄</td>
<td>0.316</td>
<td>4.699</td>
<td>0.000</td>
<td>Significant</td>
</tr>
</tbody>
</table>
The Effect of Strategic Supplier Partnership (Sedyaningrum, et al.)

<table>
<thead>
<tr>
<th>H</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Total Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&lt;sub&gt;3&lt;/sub&gt;</td>
<td>0.550</td>
<td>9.195</td>
<td>0.000</td>
</tr>
<tr>
<td>H&lt;sub&gt;4&lt;/sub&gt;</td>
<td>0.161</td>
<td>2.669</td>
<td>0.008</td>
</tr>
</tbody>
</table>

*p value<0.05 is significant

Source: Primary Data Processed by SPSS, 2018

Based on table 2, it can be seen that strategic supplier partnership have not-significant effect on supply chain integration (0.09>0.05). Strategic supplier partnership have not-significant effect on supply chain performance (0.06>0.05). Strategic supplier partnership have not-significant effect on farmers performance (0.31>0.05). Supply chain integration have a significant effect on supply chain performance (0.00<0.05). Supply chain integration have a significant effect on farmers performance (0.00<0.05). Supply chain performance have a significant effect on farmers performance (0.00<0.05).

The diagram of the path analysis results on table 2 has the following equation:
Sub Structure I : Y<sub>1</sub> = 0.0120X
Sub Structure II : Y<sub>2</sub> = 0.123X + 0.316 Y<sub>1</sub>
Sub Structure III : Y<sub>3</sub> = 0.057X + 0.550Y<sub>1</sub> + 0.161Y<sub>2</sub>

Table 3. Direct and Indirect Effects

<table>
<thead>
<tr>
<th>H</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Total Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&lt;sub&gt;1&lt;/sub&gt;</td>
<td>0.120</td>
<td>-</td>
<td>0.120</td>
</tr>
<tr>
<td>H&lt;sub&gt;2&lt;/sub&gt;</td>
<td>0.123</td>
<td>0.120 x 0.316 = 0.037</td>
<td>0.157</td>
</tr>
<tr>
<td>H&lt;sub&gt;3&lt;/sub&gt;</td>
<td>0.057</td>
<td>0.120 x 0.316 x 0.161 = 0.006</td>
<td>0.063</td>
</tr>
<tr>
<td>H&lt;sub&gt;4&lt;/sub&gt;</td>
<td>0.316</td>
<td>-</td>
<td>0.316</td>
</tr>
<tr>
<td>H&lt;sub&gt;5&lt;/sub&gt;</td>
<td>0.550</td>
<td>0.316 x 0.161 = 0.050</td>
<td>0.600</td>
</tr>
<tr>
<td>H&lt;sub&gt;6&lt;/sub&gt;</td>
<td>0.161</td>
<td>-</td>
<td>0.161</td>
</tr>
</tbody>
</table>

Source: Primary Data Processed by SPSS, 2018

From the results seen in table 3, it can be found the influence of all variables in this study both directly, indirectly and the influence of the total relationship. The direct effect of strategic supplier partnership (X) on the supply chain integration (Y<sub>1</sub>) is 0.120. The direct influence between strategic supplier partnership (X) on supply chain performance (Y<sub>2</sub>) is 0.123. While the indirect effect is 0.037 and the total effect is 0.157. The direct effect of the strategic supplier partnership variable (X) on farmers performance (Y<sub>3</sub>) is 0.057, while the indirect effect is 0.006 and the total effect is 0.063. The direct effect of the supply chain integration variable (Y<sub>1</sub>) on supply chain performance (Y<sub>2</sub>) is 0.316. The direct effect of the supply chain integration variable (Y<sub>1</sub>) on farmers performance (Y<sub>3</sub>) is 0.550 while the indirect effect is 0.050 and the total effect is 0.600. The direct effect of supply chain performance variable (Y<sub>2</sub>) on farmers performance (Y<sub>3</sub>) is 0.161.

The accuracy of the hypothesis model from this research data is measured from the relationship of the coefficient of determination (R<sup>2</sup>) to the three equations. The model results are as follows:

R<sup>2</sup> model = 1 – (1 – R<sup>2</sup>1) (1 – R<sup>2</sup>2) (1 – R<sup>2</sup>3)

= 1 – (1 – 0.014) (1 – 0.124) (1 – 0.379)

= 1 – (0.986) (0.876) (0.621)

= 1 – 0.536

= 0.464 atau 46,40%

The results of the calculation of model accuracy of 46.40% explained that the contribution of the model to explain the structural relationship of the three variables studied was 46.40%. While the remainder of 53.60% is explained by other variables not found in this research model.

Effect of Strategic Supplier Partnership (X) on Supply Chains Integration (Y<sub>1</sub>)

The results of path analysis shows that the beta coefficient of 0.120 shows that the influence of strategic supplier partnership on supply chain integration has a positive direction, with t<sub>count</sub> of 1.702 and probability of 0.090 (p> 0.05), then the decision is the hypothesis is rejected. The results of this study do not support the research conducted by [3]. This relationship strategy with suppliers will enhance the ability of business actors [4] and improve integration and collaboration among partners in the supply chain [5]. In addition, effective supplier partnerships can also create opportunities to develop joint planning and joint problem-solving efforts among members in supply chains [22]. Farmers have built long-term relationships with suppliers who according to them are had good quality. However, in this study the strategic supplier partnership variables and supply chains integration have a not-significant effect here because farmers feel that the relationship with suppliers is limited to buying and selling transactions. There is no further monitoring process regarding the planting process to harvest so there is no integration, collaboration and good collaboration between farmers and suppliers. And
the influence of other variables not examined in this study.

**Effect of Strategic Supplier Partnership** (X) on **Supply Chain Performance** (Y$_2$)

The results of path analysis show that the beta coefficient of 0.123 shows that the influence of strategic supplier partnership on supply chain performance has a positive direction. With $t_{count}$ of 1.838 and probability of 0.068 ($p\leq0.05$) then the decision of the hypothesis is rejected. The results of this study do not support research conducted by [3] and [17].

The strategy characteristic of supply chain management practice activities, one of which is strategic supplier partnership, is to explain the two objectives of supply chain management, that are to improve the overall performance of the supply chain and improve the performance of the business actor itself [36]. In addition, effective supplier partnerships can also create opportunities to develop joint planning and joint problem-solving efforts among supply chain members [13].

The partnership strategy between shallot farmers and supplier partnership has a positive but not significant relationship. Because the relationship built did not have an impact on the shallot supply chain performance. Suppliers do not have many roles in the process of planting to harvest. Relationships with suppliers in fact cannot help reduce operational costs until distribution because the relationship with farmers is only limited to buying and selling transactions. Price disparities still occur, there are quite high price differences from farmers to end consumers. Its influence can also be influenced by other variables not examined in this study.

![Diagram Path](image.png)

**Effect of Strategic Supplier Partnership** (X) on **Farmers Performance** (Y$_3$)

The results of path analysis shows that the beta coefficient of 0.057 indicates that the influence of strategic supplier partnership on farmers performance has a positive effect, with $t_{count}$ of 1.004 and probability of 0.317 ($p>0.05$), the decision is the hypothesis is rejected. The results of this study support the research conducted by [24]. Effective implementation of strategic supplier partnership has an impact on several processes such as planning resources, monitoring supplier performance, supplier collaboration [25], joint planning and problem solving [13]. Good relationships between business actors and suppliers are considered to improve and enhance business performance. Pesticide suppliers help provide advice on handling and what farmers must do to deal with pests for problem solving. But the advice that suppliers and extension agents have conveyed is mostly not done well by farmers. Farmers prefer to use their instincts rather than advice from suppliers and extension agents. As result there is an inefficiency of existing resources. In addition, excessive use of pesticides will make soil phs not good for farming and pests are increasingly immune. This makes the quality of the shallot plant declining followed by a decrease in
quantity so that it has an adverse impact on farmer enterprise performance.

**Effect of Supply Chain Integration (Y₁) on Supply Chain Performance (Y₂)**

Path analysis shows that the result are the beta coefficient of 0.316 shows that the influence of the supply chain integration on supply chain performance has a positive effect, with a t_count of 4.699 and a probability of 0.000 (p <0.05), then the decision is accepted hypothesis. The results of this study support the research conducted by [3]. As stated by [22] that integrated business activities and collaborating between actors will improve the performance of the supply chain. The mechanism of implementing integrative supply chains will increase the flow of goods and information in the supply chain [7] [8] [9]. This shows that, integration supply chain is one method that allows to increase the value and competitiveness of business activities. Integration with all members of the shallot supply chain can create information flow. The existence of good integration from upstream to downstream trade in shallot makes it possible to reduce operating costs, labor costs, shipping costs and other costs so as to be able to reduce the difference margin between the prices of shallots from farmers to the relatively high prices of shallots.

**Effect of Supply Chain Integration (Y₁) on Farmers Performance (Y₃)**

The results of path analysis shows that the beta coefficient of 0.550 indicates that the influence of the supply chain integration on farmers performance has a positive direction, with a t_count of 9.195 and a probability of 0.000 (p <0.05), then the decision is an accepted hypothesis. The results of this study support the research conducted by [4] and [15]. [21] suggest achieving superior excellence and at the same time achieving sustainable profitability requires supply chain management that is closely related to internal and external integration. Integration and collaboration will improve performance [11]. Collaborative relations between farmers and trading partners and working partners formed will increase the amount of crop yields and the quality of the crop. Usually farmers borrow a number of funds to traders for planting shallots. This can increase farmer’s profits after cooperating with trading partners because traders also monitor the planting process until harvest.

**Effect of Supply Chain Performance (Y₂) on Farmers Performance (Y₃)**

Path analysis shows that the result are beta coefficient of 0.161 shows that the influence of supply chain performance on farmers performance has a positive effect, with t_count of 2.669 and probability of 0.008 (p <0.05), then the decision is accepted hypothesis. The results of this study support the research conducted by [10] and [17].

Supply chain optimization will maximize supply chain performance to be shared by all supply chain partners [11]. The strategy is to strengthen the competitive position of the supply chain which functions to directly improve supply chain performance, which in time will have a positive impact on enterprise performance. The shallot business actor must pay attention to the supply chain to regulate its business processes in order to increase the effectiveness and efficiency of its business in other words business performance can increase if the supply chain implementation runs well. Effective supply chain performance will reduce costs in the shallot trading system, both operational costs and distribution costs. Emphasis on these costs will have a direct impact on farmer’s profits so that their business performance can be increased when viewed on their financial performance. On the other side the efficiency of supply chain performance emphasizes the use of production inputs, as well as optimizing the production process. Planting with environmentally friendly processes using organic fertilizers and pesticides can increase product competitiveness through increasing product quality and quantity, continuity of product availability, and processing during post-harvest.

**CONCLUSION**

The results show that the conclusion that the strategic supplier partnership has a positive and not significant effect on the integration supply chain, strategic supplier partnership have a positive and not significant effect on supply chain performance, strategic supplier partnership have a positive and not significant effect on farmers performance, supply chains integration have a
positive and significant effect towards supply chain performance, supply chains integration have a positive and significant effect on farmers performance, and supply chain performance has a positive and significant effect on farmers performance.

There are some suggestions that are expected to be useful for various parties. For shallot trade actors, it is expected to better implement supply chain management, and optimize supply chain management by practicing supply chain management activities. For onion trade actors, it is expected to pay attention to their integration with all members of the supply chain to create collaboration and good cooperation between all stakeholders. The limitation in this study are the respondens still do not understand the statement in the questionnaire, the variable only use one of six activities of supply chain management practice, object is only focused on shallot farmers not on all members of supply chain. For further research, it is expected to add other variables that are included in the component of supply chain management practice activities and can add samples and choose different research locations for the diversity of research.

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