

The Impact of Supply Chain Management Practices and Supply Chain Integration on Company Performance Mediated by Competitive Advantage (Empirical Study on Cabbage Agribusiness in Bandungrejo Village, Magelang, Indonesia)

— *Review of* —
**Integrative
Business &
Economics**
— *Research* —

Siti Nursyamsiah*
Universitas Islam Indonesia

Nur Fikriya Syah
Universitas Islam Indonesia

ABSTRACT

This study aims to determine the effect of supply chain management practices (SCM) and supply chain integration (SC) on company performance mediated by competitive advantage. The population in this study is cabbage commodity agribusiness in Bandungrejo Village, Magelang, Indonesia. The sample in this study covers 114 respondents. By using purposive sampling technique, researchers determine the sample criteria in order to gather information from specific targets with certain requirements as samples in the study. The hypothesis is tested using the analysis of Structural Equation Modeling (SEM). The results found that there were positive influence between 1) SCM practices on SC integration, 2) SCM practices on competitive advantage, 3) SC integration on competitive advantage, 4) SCM practices on company performance mediated by competitive advantage, 5) SC integration on company performance mediated by competitive advantage, 6) SCM practices on company performance, 7) SC integration on company performance, and 8) competitive advantage on company performance. The findings from this study contribute to cabbage agribusiness that when supply chain management is practiced optimally it will affect the supply chain integration between lines both internally and externally to become a competitive advantage in facing competition from the horticulture market, especially cabbage. Further, optimum supply management will influence the company's performance, both harvest quality and finance.

Keywords : Supply Chain Management Practices, Supply Chain Integration, Competitive Advantage, Company Performance

1. Introduction

Horticulture is an agricultural product with lower endurance compared to others. Therefore, in order to fulfill high needs, government must import as a solution. However, current agribusiness actors experience major obstacles in meeting horticulture demand in terms of both quantity and quality assurance. As shown by the Central Bureau of Statistics (BPS) in 2015, about horticultural crop exchange rates, there was a decrease in Farmer Exchange Rates (NTP) from 101.95 to 101.34. This is due to the decline in selling prices of several commodities and accompanied by rising prices of household needs (rural inflation) as well as increase in with production costs. Along with population growth and purchasing power, people's needs for vegetables will continue to increase, so that if there is a decrease in the level of production, it will not only relate to meeting domestic needs, but also related to exports. The development of the horticulture industry will also contribute to increasing supply security related to food stock fulfillment in Indonesia.

At present, supply chain management has developed into value chain management driven by consumer needs, pursuing increased efficiency, and efforts to capture consumer value as a source of differentiation and competitiveness (Godsell and Harrison, 2002; Christopher, 2005; Womack dan Jones, 2005). In this situation, not only products, but also the entire chain of business activities ranging from raw materials to endpoints of consumption must be managed effectively in a sustainable manner to provide added value to end consumers.

The practice of supply chain management is an effort to increase competitive advantage and the effectiveness of a business's performance. Performance here is a result obtained from a production process in the form of goods or services as an effort to reduce the production burden and stakeholder satisfaction. (Hertz, 2007). Competitive advantage helps companies to maintain an increasingly competitive market hegemony, so cost minimization is very important to be used as an innovative weapon in competitive market competition. Supply chain management needs to take a strategic approach to relations and capacity building if they want to remain competitive in what is now a dynamic global market (Ketchen and Hult, 2007).

One of Indonesia's horticultural commodities is the commodity of cabbage, especially in Central Java Province, where in 2017, the average export volume of Indonesian cabbage commodities for several ASEAN countries such as Singapore and Malaysia have reached 715 tons per month where the Province Central Java contributes 178.464 tons or around 24.96%, which shows that there is a decline in the average

volume of exports each year compared to 2013 which reached 4,380 tons (Ministry of Agriculture, 2017). This phenomenon indicates a decline in national production levels every year. Therefore, research related to the implementation of supply chain management in the field of horticulture crop agribusiness is urgently needed in Indonesia today. This can be seen from the role of this industry for the Indonesian economic sector, especially in the export sector.

Based on data obtained from the Department of Agriculture, Plantation and Forestry of Magelang Regency, the volume of cabbage production in Ngablak sub-district is the second highest after Pakis sub-district with production volume reaching 12,089 tons in 2015 with 683 ha of harvest land. This data shows a high level of productivity from Ngablak Subdistrict, as seen from the comparison of land area harvested with production volumes, especially Bandungrejo Village where 90% of the population are farmers. As one of the regions with high levels of horticultural productivity, especially cabbage commodities, in order to compete and meet increasing market needs, planning and supply chain management practices are needed. Planning and supply chain management will create integration between chains and improve value chains at each stage so that they can have competitive advantage, not only in terms of price, but also in terms of quality of vegetables where there are longer product flow. Based on this background, this study attempts to empirically examine the effect of supply chain management practices and supply chain integration on company performance mediated by the competitive advantage of Cabbage Agribusiness in Bandungrejo Village, Magelang Regency.

2. Literature Review

2.1 Supply Chain Management Practices and Supply Chain Integration

Mentzer et al. (2001) distinguish between supply chains and supply chain management. Supply chain is a business phenomenon, where each company is related to the flow of commodities with other companies, or often referred to as the distribution flow. While supply chain management is described as an open management effort by organizations in the supply chain.

According to Maree Storer et al. (2014) all efforts made by companies to collaborate with other companies are part of supply chain management activities. These efforts make companies integrated with each other and collaborate as achieving common goals into a cohesive entity, or often referred to as supply chain integration. Thus, supply chain management shows the limits of supply

chain management not only includes the flow of goods, but also all other functions within the company and between companies in the supply chain to create customer value and satisfaction. In other words, supply chain management encourages members of the supply chain to have an orientation towards creating synergistic and systematic integration. This research also shows a positive relationship between supply chain management practices towards supply chain integration within the company. Based on the findings above, the hypothesis is proposed as follows :

H1 : There is a Positive Effect of Supply Chain Management Practices on Supply Chain Integration.

2.2 Supply Chain Management Practices and Competitive Advantages

Mentzer et al. (2001) explain supply chain management as an entity consisting of several related companies and establish cooperative cooperation in order to achieve a synergy of distribution of both goods, information and cash flow. Companies that manage supply chains realize that the company's internal excellence is not enough to achieve its strategic goals, it also requires external advantages in the supply chain to achieve the company's strategic and competitive goals (Lambert and Cooper, 2000), this understanding is the basis of the supply chain management philosophy.

Supply chain management oriented to the value chain, driven by consumers where the needs and ins and outs of consumer value become a source of differentiation and competitive advantage for companies (Godsell and Harrison, 2002). In this situation, not only products, but also the entire chain of business activities from raw materials to end consumers must be managed effectively on an ongoing basis to add competitive value. This indicates a positive influence on supply chain management practices on the company's competitive advantage, so the hypothesis is proposed as follows :

H2 : There is a Positive Effect of Supply Chain Management Practices on Competitive Advantage.

2.3 Supply Chain Integration and Competitive Advantage

Philosophically, supply chain management uses a systematic approach to view the supply chain as an integrated entity, not as a collection of fragments operating independently (Mentzer et al., 2001). In other words, the philosophy of supply

chain management extends the concept of multi-company integration to manage the total flow of goods from suppliers to key customers. Accordingly, supply chain integration is a set of beliefs that every company in the supply chain directly or indirectly affects the performance of all other supply chain members, and ultimately affects supply chain performance as a whole. (Mentzer, et al., 2001). Through collaborative communication, information between members of the supply chain is transformed into knowledge by developing interpretations and joint actions that will lead companies to achieve relationship-based competitive advantage (Patararechachai, V., & Imsuwan, T., 2017)

Mentzer et al., (2001), concluded that the peak of supply chain management is customer value through the integration of supply chain activities. According to Hitt et. al. (2001), competition or competitiveness is a condition of rapidly increasing competition based on quality price positions, competition for creating or attacking existing geographic products or markets, and competition based on the size of funds and creating bigger financial alliances through supply chain integration involved in the business processes of a company. Therefore, the hypothesis is proposed as follows :

H3 : There is a Positive Effect of Supply Chain Integration on Competitive Advantage.

2.4 Supply Chain Management Practices, Competitive Advantages, and Company Performance

According to Hertz in (2007), the concept of supply chain management is a new concept that sees all company activities as an integrated part. In a sense, company integration is in the upstream part in providing raw materials and downstream integration as a distribution process. and product marketing.

Storer, et.al, (2014), defined innovation as a process of equipping organizations with new capabilities, and increases in utility. Supply chain innovation often involves collaborative relationships and partners, especially in terms of utilizing innovations triggered by industry competition with each other and considered to be mutually beneficial, such as new technology and information systems. Developing supply chain competitiveness through the use of innovations often involves pooling capabilities and resources and reconfiguring to adjust and coordinate supply chain offerings in new and more satisfying ways for customers, creating flexibility and efficiency in supply chain operations (Storer and Hyland, 2011). Therefore, the hypothesis is proposed as follows :

H4 : There is a Positive Effect of Supply Chain Management Practices on Company Performance Through Competitive Advantage.

2.5 Supply Chain Integration, Competitive Advantage, and Company Performance

Supply chain integration is a reference for a company in integration and synergy between company lines both operational and strategic capability to be used as a competitive force and spur innovation in the context of competition for a broad market share (Mentzer et al., 2001).

By integrating tangible and intangible resources, supply chain ensures customers and suppliers share several aspects such as costs, risks, and benefits associated with innovation (Ketchen and Hult, 2007), especially when new or better products, processes and systems developed as a competitive strategy in an effort to meet fluctuating market demand (Hult et al., 2007). This research also shows the positive influence of supply chain integration on company performance which is mediated by competitive advantage. Based on the findings above, the following hypothesis is proposed :

H5 : There is a Positive Effect of Supply Chain Integration on Company Performance Through Competitive Advantage.

2.6 Supply Chain Management Practices and Company Performance

According to Heizer and Render (2014), supply chain management is the integration of material and service procurement activities, conversion into semi-finished goods and final products, and delivery to customers through a distribution system. The real impact of the implementation benefits or supply chain management practices is the circulation of information, goods, and finance that is increasingly smooth, or has a short lead time, so that the efficiency of raw materials, and inventory management is increasingly effective and the company's performance increases significantly. Supply chain management is done with the integrated and process-oriented approach to the design, management and control of the supply chain, with the aim of producing value for the end customer, by both improving customer service and lowering cost (Pavico, L., 2017)

The positive impact is a definite guarantee for companies that implement SCM practices, especially when new or better products, processes and systems are

developed as a strategy for efforts to meet fluctuating market demand (Hult et al., 2007). Supply chain that seeks to improve the results of innovation needs to have the ability to adopt and implement innovation in all supply chain lines to form an effective and efficient management system in order to optimize company performance, especially the quality of production (Storer et.al., 2014). Based on these findings, the following hypothesis is proposed :

H6 : There is a Positive Effect of Supply Chain Management Practices on Company Performance.

2.7 Supply Chain Integration and Company Performance

According to David Simchi-Levi (2003), supply chain integration synergizes a series of company and partner components, such as warehouses, suppliers, distributors, factories, and various other business units to create an effective distribution dynamic as a step in production cost efficiency and customer satisfaction.

Supply chain integration encourages companies and other supply chain members to work together in managing production, determining delivery schedules, market forecasts, pricing, promotion, sales distribution and marketing information with other supply chain members and simultaneously taking into account appropriate measures, integrated policies, as well as sharing information as an effort to increase distribution flexibility, quality assurance, and product flexibility (Storer, et.al., 2014) Therefore, researchers put forward the following hypothesis :

H7 : There is a Positive Effect of Supply Chain Integration on Company Performance.

2.8 Competitive Advantage and Company Performance

According to Godfrey and Hill (1995), stated that excellence is the ability of companies to utilize resources synergized with strategies to achieve the expected final goals. Capabilities that have the capacity to influence supply chains and industrial output are important (Keivan Zokaei et.al. 2007). Simply put, excellence is the strategic ability of supply chain in combining capabilities such as integrated information exchange, system level coordination, integration of inter-company activities and supply chains.

Competitive advantage is also a capability to attract superior attention compared to competitors who work on similar activities. This must be adjusted to the functions that exist within the company, such as production functions, marketing functions, manufacturing functions and human resource functions that must be synergized in an integrated and overall integrated manner to support the company's goals in winning market competition (Storer and Hyland, 2011). Then the hypothesis is proposed as follows:

H8 : There is a Positive Effect of Competitive Advantage on Company Performance.

Based on an in-depth overview and conceptual framework, the research model is organized as follows :

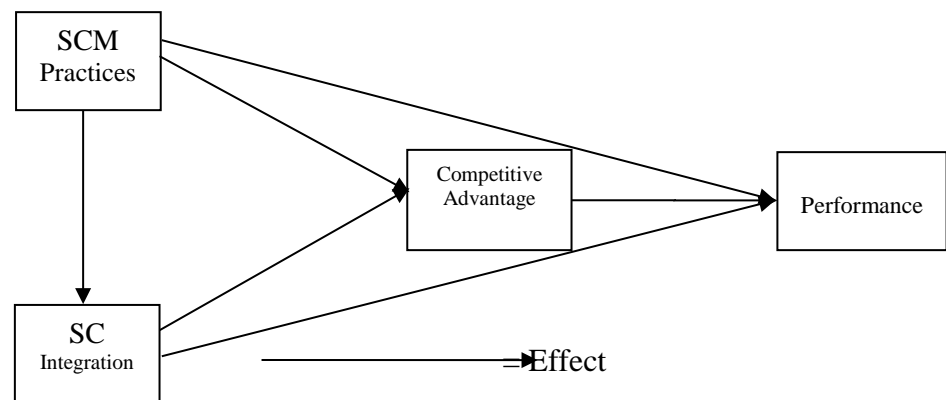


Figure 1 : Research Framework

3. Methodology

3.1 Sampling and Data Collection

The population in this study were all members of the Combined Farmers Group (Gapoktan) of Bandungrejo Village, which numbered 3 Gapoktan with a total of 160 members. Sampling in this study is purposive sampling technique. According to Sekaran and Bougie (2013) purposive sampling is a sampling design limited to

specific people who can provide the necessary information because only those who have information or meet the criteria set by the researcher. The purposive sampling method used in this study is Judgment Sampling, where the sample is chosen based on the judgment of the researcher that he is the best party to be used as his research sample (Sekaran, 2013).

In determining the number of samples in accordance with SEM analysis, as explained in Sekaran (2013), the Slovin formula was used to anticipate outliers and determined 114 samples. From the 114 companies studied, the types of companies in the agriculture sector were 84%, 7% nurseries, and 9% distribution. As for the type of ownership is as much as 88%, namely family business and 12% is joint venture business. For the implementation of supply chain management is as much as 89% have been implemented and 11% of companies have not implemented supply chain management. In the part of the number of employees surveyed as many as 98% of less than 100 employees and the remaining 2% of companies have more than 100 employees.

Based on the the number of suppliers, 78% of companies cooperate with less than 10 suppliers and for the remaining 22% companies cooperate with more than 10 suppliers. Data on the number of distributors shows that as many as 46% of companies collaborate with less than 10 distributors and more than 10 distributors as much as 54%.

Table 1 :
Characteristics of Respondents

Profile	Category	Percentage
The type of company	Agriculture	84%
	Nursery	7%
	Distribution	9%
	Others	-
The Type of Ownership	Family Business	88%
	Subsidiary business	-
	Joint Venture	12%
The Implementation of Supply Chain Management	Yes	89%
	No	11%
Number of Employees	≤ 100	98%
	≥ 100	2%
Number of Suppliers	≤ 10	78%
	≥ 10	22%

Number of Distributors	≤ 10	46%
	≥ 10	54%

Source: Primary data processed, 2018

3.2 Research Variables

According to Sekaran (2013), the research variable is an attribute to distinguish values. Values are also different in definition, which distinguishes an aspect based on the object and the time for which the thoughts are taken. The research variables in this study are as follows: The independent variables in this study are Supply Chain Management Practices (X1), and Supply Chain Integration (X2). The dependent variable in this study is Corporate Performance (Z). The intervening variable in this study is Competitive Advantage (Y). The measurement of the variables in this study adapted the research instruments used previously by Storer et. al. (2014).

4. Results and Discussion

4.1. Descriptive Analysis

Based on Table 2 which explains the descriptive analysis of this study, from 114 respondents taken as samples, it is known that most respondents rated all indicators used as High / Agree (Mean 3.68). This shows that respondents in this study have a good rate of supply chain management practices and supply chain integration and their influence on competitive advantage and company performance

Table 2 :
Descriptive Analysis of All Variables

Variable	Total Mean Variable	Mean Variable	Category
Supply Chain Management Practices	33,61	3,73	High
Supply Chain Integration	27,37	3,43	High
Competitive advantage	22,84	3,81	High
Company performance	30,13	3,77	High
Average	15,60	3,68	High

Source: Primary data processed, 2018

4.2 Validity and Reliability Test Results

The researcher tested the validity of the instrument using the SPSS 22 program. For this validity test process, it was done by looking at the results of the SPSS output, which was a significant value for regression weight. The value of validity to be searched with a level of error (α) of 0.05 as in the previous study, which means that if $r_{\text{count}} > r_{\text{table}}$, the questionnaire used as a measuring instrument in the study has met the validity requirements. Validity testing was carried out by 114 respondents. The r_{table} value in the free degree $n-2$ of 114 is 0.154. While to test the reliability of each variable, the Cronbach alpha coefficient used in this study uses multipoint-scaled items to assess data. A data is considered reliable when Cronbach alpha shows the value of $\alpha \geq 0.60$, where the most reliable value is 1.0. The following are the results of the questionnaire validity and reliability test :

Table 3 :
Validity and Reliability Test Results

Indicator	r_{count}	α	Explanation	Cronbach's Alpha	Explanation
Supply Chain Management Practices					
PSCM 1	0,558	0,000	Valid	0,841	Reliable
PSCM 2	0,585	0,000	Valid		
PSCM 3	0,542	0,008	Valid		
PSCM 4	0,506	0,000	Valid		
PSCM 5	0,516	0,000	Valid		
PSCM 6	0,525	0,013	Valid		
PSCM 7	0,558	0,000	Valid		
PSCM 8	0,508	0,005	Valid		
PSCM 9	0,520	0,005	Valid		
Supply Chain Integration					
ISC 1	0,534	0,000	Valid	0,818	Reliable
ISC 2	0,541	0,012	Valid		
ISC 3	0,537	0,000	Valid		
ISC 4	0,536	0,008	Valid		
ISC 5	0,584	0,000	Valid		
ISC 6	0,517	0,003	Valid		
ISC 7	0,552	0,000	Valid		
ISC 8	0,597	0,000	Valid		
Competitive Advantage					
KK 1	0,531	0,000	Valid	0,783	Reliable
KK 2	0,698	0,012	Valid		

KK 3	0,544	0,000	<i>Valid</i>		
KK 4	0,578	0,000	<i>Valid</i>		
KK 5	0,622	0,000	<i>Valid</i>		
KK 6	0,642	0,000	<i>Valid</i>		
Company Performance					
KP 1	0,567	0,000	<i>Valid</i>	0,828	Reliable
KP 2	0,622	0,000	<i>Valid</i>		
KP 3	0,559	0,011	<i>Valid</i>		
KP 4	0,516	0,000	<i>Valid</i>		
KP 5	0,721	0,000	<i>Valid</i>		
KP 6	0,586	0,000	<i>Valid</i>		
KP 7	0,526	0,000	<i>Valid</i>		
KP 8	0,508	0,000	<i>Valid</i>		

Source: Primary data processed, 2018

4.3 Model Test Results

This study uses Structural Equation Model (SEM) as an analytical tool. This analysis tool is used to determine whether there is a positive influence between supply chain management practices on supply chain integration, supply chain management practices on competitive advantage, supply chain integration on competitive advantage, supply chain management practices on company performance mediated by competitive advantage, integration supply chain to company performance mediated by competitive advantage, supply chain management practices to company performance, supply chain integration to company performance, and competitive advantage to company performance.

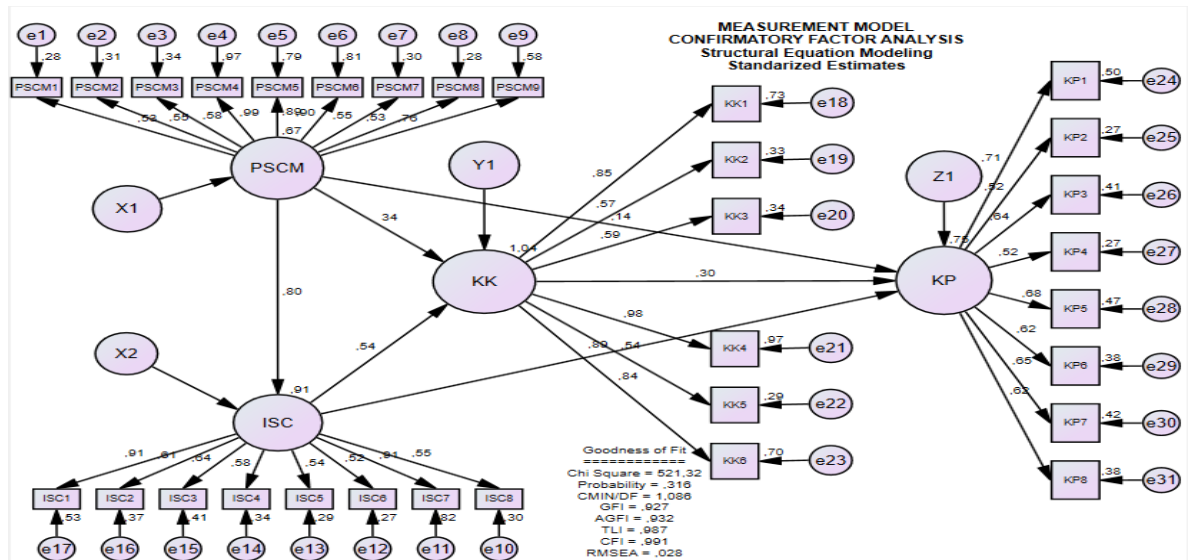
Table 4 :
Goodness of Fit Test Results

Model	<i>Default Model</i>	<i>Cut off Value</i>	Explanation
<i>Chi-Square (X²)</i>	52,132	-	Small significance is expected
<i>Probability Level (p)</i>	0,316	≥ 0,05	Good
CMIN/DF	1,086	≤ 2,00	Good
<i>Goodness of Fit Index (GFI)</i>	,927	≥ 0,90	Good
AGFI	,932	≥ 0,90	Good
TLI	,987	≥ 0,95	Good
<i>Comparative fit index (CFI)</i>	,991	≥ 0,95	Good

Root mean square error of approximation (RMSEA)	,028	≤ 0,08	Good
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Source: Primary data processed, 2018

The following are the test results of the index goodness of fit along with the cut-off value used in this study to test whether a model can be accepted or rejected. Based on table 4, it can be seen that all test results have met the required reference values, therefore it can be concluded that the structural equation model in this study is fit.



Source: Primary data processed, 2018

Figure 2 : Structural Equation Modeling

4.4 Hypotheses Test Results

Based on the results of the analysis using the AMOS 25 statistical program, the results show that the critical error value is not equal to zero, and the value of $p < 0.05$ so that there is a real relationship between the variables. Based on these results, it can be concluded that there is a positive influence between supply chain management practices on supply chain integration, supply chain management practices on competitive advantage, supply chain integration on competitive advantage, supply chain management practices on company performance, supply chain integration on company performance, and competitive advantage on company performance. This can be seen in table 5 as follows :

To test the hypothesis that there is a positive influence between supply chain management practices on company performance mediated by competitive advantage, and there is a positive influence between supply chain integration on company performance mediated by competitive advantage, Sobel Test is used to test whether intervening variables, competitive advantage, has a significant influence. The Sobel Test results show that the regression factor weights practice of SCM (0.363), competitive advantage (0.320) and standard error are (0.091) and (0.102) respectively, and there is a positive relationship with company performance. In this relationship competitive advantage mediates the relationship between the practice of SCM and company performance because the probability is 0.013 which is less than 0.05 so that ρ (0.013) < cut off value (0.05). Then the second Sobel Test results show that weights regression supply chain integration factor (0.586), competitive advantage (0.320) and standard error are (0.126) and (0.102) respectively, and there is a positive relationship with company performance. In this relationship, competitive advantage mediates the relationship between the practice of SCM and company performance because the probability is 0.009 which is less than 0.05 so that ρ (0.009) < cut off value (0.05). The fifth and sixth Sobel Test results can be seen in Figures 3 and 4 as follows :

Table 5 :
Estimated Parameter Regression Weight

		Estimate	S.E.	C.R.	P	Label
ISC <---	PSCM	,818	,173	4,733	***	par_33
KK <---	ISC	,586	,126	4,651	,023	par_23
KK <---	PSCM	,363	,091	4,110	***	par_24
KP <---	KK	,320	,102	3,140	***	par_30
KP <---	ISC	,914	,184	5,110	,004	par_31
KP <---	PSCM	,235	,077	3,052	,003	par_32

Source: Primary data processed, 2018

Figure 3 :
Mediation Test of the Fourth Hypothesis

Input:		Test statistic:	Std. Error:	p -value:
a	363	Sobel test: 2.46597023	47105.1916034	0.01366427
b	320	Aroian test: 2.41944634	48010.9841598	0.01554415
s_a	091	Goodman test: 2.51528548	46181.6365236	0.0118936
s_b	102	Reset all	Calculate	

Source: Primary data processed, 2018

Figure 4 :
Mediation Test of the Fifth Hypothesis

Input:		Test statistic:	Std. Error:	p -value:
a	586	Sobel test: 2.60083608	72099.8917058	0.00929969
b	320	Aroian test: 2.56047587	73236.3863663	0.01045289
s_a	126	Goodman test: 2.64316708	70945.1934947	0.00821345
s_b	102	Reset all	Calculate	

Source: Primary data processed, 2018

5. Conclusions and Recommendations

Based on the results of this study, it was found that there were positive influence between 1) supply chain management practices on supply chain integration, 2) supply chain management practices on competitive advantage, 3) supply chain integration on competitive advantage, 4) supply chain management practices on company performance mediated by competitive advantage, 5) supply chain integration towards company performance mediated by competitive advantage, 6) supply chain management practices on company performance, 7) supply chain integration on company performance, and 8) competitive advantage on company performance. This indicates that there is a need for implementation, management, and supervision related to supply chain management practices, as well as supply chain integration in all aspects of cabbage commodity agribusiness to create competitive advantages. Supply chain management and supply chain integration will improve both effectiveness and production cost efficiency, so as to improve company performance, financially as well as post-harvest quality, considering the nature of horticulture plants, especially cabbage which is easily decayed. If were the supply chain is not managed optimally, it will cause post-harvest losses or greater post-harvest loss.

This study provides several guidelines for owners, or managers involved in cabbage agribusiness in order to improve company performance. **First**, cabbage agribusinesses should continue to improve the system in supply chain management in every line of the company starting from pre-production in terms of providing raw materials, to post-harvest such as product distribution, especially in terms of integration with company partners such as suppliers and distributors to minimize post-harvest losses caused by the nature of horticultural plants that do not last long. In addition, management is needed in terms of networking with supply chain partners, providing and receiving information from consumers and developing information technology and storage, because technology has benefits to improve and maintain the quality of vegetables and in integrating suppliers, producers, distributors, consumers, and internal parties within the company. **Second**, cabbage agribusinesses should continue to work together in terms of managing production, determining delivery schedules, market forecasts, pricing, promotion, sales distribution and marketing information with other supply chain members and at the same time must consider according to the steps, integrated policies, mutually information sharing is mainly related to excellence in distribution, quality assurance, and product flexibility.

Third, cabbage agribusinesses should always develop capabilities in terms of synergy, improvement in quality, capability of the company, and transformation of knowledge and ideas in the context of developing new varieties to become their own excellence in horticulture so as to encourage farmer groups and other agricultural centers to increase agricultural innovation .

To success, participation and active role among all parties are needed from the local government, both the Magelang District Agriculture Office, and the Ngablak Subdistrict apparatus, to facilitate horticulture crop agribusiness, especially cabbage in terms of counseling and training and formalization of supply chain management in local farmer groups. All of these efforts are directed to increase farmer productivity and ensure the availability of raw materials and distribution and marketing channels, because horticulture crops, especially cabbage, have great potential to become the main income of the area.

ACKNOWLEDGEMENTS

The authors are thankful to Universitas Islam Indonesia, Yogyakarta, for supporting this research and providing the necessary facilities. The authors also is grateful to all those who have been involved in the completion of this research.

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