

The Impact of Long-Term Relationships, Information Sharing, Agile, and Supply Chain Collaboration Towards Performance on Culinary Sectors

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Abstract— The development of the Indonesian economy cannot be separated from the role of micro, small, and medium enterprises (MSMEs) in various regions spread across Indonesia. Each city or district is a potential and developing area when viewed from the MSME business unit supported by the tourism industry in each of these areas. The MSMEs business unit in the culinary field faces many challenges such as increasingly tight competition, difficulty in obtaining funding or capital, inadequate marketing, lack of superior resources in the culinary field, lack of access to suppliers, and the emergence of new competitors. This problem relates to supply chain activities. The purpose of this study was to determine the effect of long-term relationships, information sharing, agile, supply chain capabilities, and supply chain applications on supply chain performance. This study used a sample of 150 respondents who had filled in the research instrument form, where the data collected were analyzed using SmartPLS. The results of this study indicate that all independent variables in this study have a positive and significant effect on the dependent variable, namely supply chain performance in the culinary sector in Indonesia. The Novelty, of the concept of this research is that the agile variable in previous studies is the dependent variable, but in this study the agile variable becomes the independent variable.

Keywords— Long-Term Relationship, Information Sharing, Agile, Supply Chain Capability, Supply Chain Application, Culinary Sector.

1. Introduction

The trend of business activities in Indonesia continues to grow. Therefore, there will be intense competition in business activities. The conditions of intense competition between entrepreneurs, competitive advantage can be achieved by

involving between companies and continuous improvement must be done together. Therefore, it is very necessary that the roles of various parties ranging from suppliers, manufacturers who produce finished goods, distribution networks that will send products to distributors, retailers, agents to the relationship between product providers and end consumers. The goal of supply chain management is to provide goods appropriately, what is meant by quantity, quality, place, time, condition, customer, and cost [1],[2]. Effective and efficient supply chain management will be able to increase the competitive advantage in the company through company efficiency through the efficiency of production and distribution costs and the accuracy of products to the final consumer [3]. [4] argues that the goal of supply chain management is to connect all components of a supply chain, so that market demand can be carried out efficiently. From a world perspective, it is recognized that micro, small and medium enterprises (MSMEs) are a very vital sector in economic development and growth. Based on data from the office of cooperatives and micro, small and medium enterprises (MSMEs) in East Java, which also refers to BPS in 2019, there are 414.000 micro, small and medium enterprises (MSMEs) are growing in East Java and this micro, small and medium enterprises contribute 57.52 percent to East Java's PDRB. Head of the office of cooperatives and micro, small and medium enterprises of East Java Province, Mas Purnomo, said that in 2020 we will continue to encourage the growth of micro, small and medium enterprises (MSMEs), not only in numbers but also so that they upgrade to class. Several programs have also been prepared in 2020 for micro, small and medium enterprises (MSMEs) entrepreneurs in East Java to graduate from the Millennial Job Center (MJC), East Java Super Corridor (ESJC), and also One

Pesantren One Product (OPOP). Supply chain management capability is one of the factors that affect company performance. The ability of companies to fully cooperate between companies for the process of supply chain activities [5]. Supply chain capability refers to the process of interaction or collaboration between suppliers, manufacturers, and customers to achieve common goals for effective SCM so that innovation is needed simultaneously from the aspects of customer service and efficiency of company operations, especially in the supply chain.

Supply chain management is an interdisciplinary topic and correlates to aspects of the market and marketing, production management, purchasing, information systems management, and functions as an absolute system by the process of coordination [6]. Supply chain management is a method used to integrate between vendors or suppliers, raw material warehouses, production parts, and efficient distributors so that it will be easier to get goods, on time, production processes run smoothly, channels are distributed on time, and can minimize operational costs, to provide better service to consumers or users [7],[8]

The importance of strategic orientation in the organization, so that companies can implement organizational goals to achieve and improve supply chain performance, thus requiring good understanding and commitment between supply chain partners [9]. This phenomenon is both a challenge and an opportunity for improvement because the supply chain always encounters uncertainty about the demand from customers and the availability of raw materials from suppliers [10]. The relationship between suppliers, companies, and customers must be managed and continuously improved so that there is continuity in the relationship which will become a long-term relationship and can increase company revenue [11].

2. Literature Review and Hypothesis

2.1. Supply Chain Performance (SCP)

The organizations which aim to enhance the performance of the supplier should focus on the relationship of buyer and supplier performance [12],[13], including information sharing, synergy,

and trust [14]. Supply chain performance as part of supply chain performance to be increased or supply chain performance to be more effective and efficient [9]. Although the definitions of SCP are not precisely the same, they support each other. Based on this definition, SCP is seen as a benchmark to ensure that the product delivery process runs smoothly according to an effective and efficient plan [9]. Supply chain performance is one of the references for various organizational performance measures that are developed to measure the ability of the supply chain both for the short and long term goals of the organization [15]. According to [16],[17],[18], SCP is the effective management among vendors or suppliers, materials demand, and distributors until users in a supply chain.

Supply chain performance is a performance related to the quality of activities related to the flow and movement of goods starting from raw materials that have not been finished until they are distributed to consumers of final finished goods [19], with an indicator are: product quality, responsive, and efficient [20],[21],[22],[23].

2.2. Long-Term Relationship (LTR)

Long-term relationship (LTR) is the relationship between companies and consumers both in the context of products or relationships with each other because they have an interdependent relationship and will provide long-term benefits [24]. According to [25], a long-term relationship can be formed with a continuous relationship between all parties involved in the supply chain. The success of implementing the supply chain is the existence of a long-term collaborative relationship that aims to achieve the targets and goals of a company. With a long-term, sustainable relationship, it can improve the performance of the supply chain that has been designed by the company [19]. [20] States that long term relationships have a positive effect on supply chain management performance.

Therefore every company in establishing and fostering long-term relationships with parties in the supply chain from suppliers to end-level consumers is to increase the company's profitability through collaborative relationships that are continuous in the long term and improve supply chain performance. management [26]. Under these circumstances, a sustainable, consistent, and

beneficial long-term relationship (LTR) will be created for all parties involved. Therefore, this study hypothesizes:

H1: Long-term relationship has a positive impact on supply chain performance.

2.3. Information Sharing (IS).

Information sharing (IS) is a continuous flow of information between partners, both formal and informal, which is accessed continuously [27] and tactical data such as economical inventory, demand forecasts, sales promotions, production schedules, marketing strategies, including the supply chain [28]. Transparent information sharing can accelerate the process of supply chain activities from suppliers to consumers [25],[29],[21]. IS can also include logistics, customers, quality, timing, market changes, design, or uncertainty and besides that, IS has conducted investigations in various industries and regions and revealed that IS has a major contribution to improve operational performance [30],[31]. Therefore, the need for IS as a platform for supply chain collaboration [32],[33]. The purpose of IS is to increase efficiency and effectiveness across the organization's network and improve supply chain performance [33],[35]. This information sharing can increase the response of the supply chain process, make it more dynamic, and can reduce costs for storing raw materials and finished goods [36], [37].

Several researchers found that IS positive affects performance in many ways such as improved service levels, customer responsiveness, reduced costs, and reduced levels of complexity [38],[39],[33]. Therefore, this study hypothesis:

H2: Information sharing has a positive impact on supply chain performance.

2.4. Agile (AG)

Agile is the ability to provide information throughout the supply chain to be able to share knowledge about plans, requirements, and status that can improve supply chain performance for supply chain partners [19]. [4] if the supply chain is agile, then it will use a supply chain strategy that is responsive or flexible to customer needs. Agile refers to the company's ability to respond quickly to

competitive markets and constant changes [40]. Agile as an important factor in supply chain innovation [41],[42],[43]. Also, in today's competitive world, agility is highlighted as the most critical success factor because of its role in helping to market needs [44], [45]. Previous literature has shown that agility can improve performance [46],[47],[48],[34]. Based on several previous studies, it is stated that agile has a positive effect on supply chain performance [49],[50]. Therefore, this study hypothesis:

H3: Agile has a positive impact on supply chain performance.

2.5. Supply Chain Application (SCA).

Applications as software that can directly perform calculation processes and interact with other more basic applications (such as operating systems and programming). Supply chain application (SCA) refers to a network that connects information technology partners, to facilitate information sharing [51]. According to [52], SCM enables systematic coordination, strategic importance, and collaboration with the business within a particular or the entire business-related supply chain processes to improve cooperation for the long term and the performance of the supply chain. In an increasingly globalized and the role of an increasingly globalized economy resulting in a competitive advantage, so that the application of SCM information technology is very supportive. Therefore, SCA is not only a facilitator but strongly encourages increased sharing of resources: such as aspects of information technology and markets. Also, it can increase integration more effectively and efficiently, so that it occurs such as supply chain agility, timely, easy, and fast communication [52]. [14] SCA has the potential for companies to develop new products, because of their capabilities related to product design, product innovation knowledge, system integration & innovation, and increasing the efficiency of new product development. Then the SCA application can forecast market trends so that it can help risk the company's operating costs and increase the efficiency of information system management [51]. Thus, all vendors or suppliers would be better off sharing information in a timely and appropriate manner, so that the information systems of each vendor or supplier can work which is controlled based on the system. Also, the type of industry or

company size will affect the need for information technology applications to supply chain capabilities, the cause is different resources and information technology capabilities [54],[55]. Therefore, this study hypothesis:

H4: Supply chain application has a positive impact on supply chain performance

H5: Supply chain application has a positive impact on supply chain capability

2.6. Supply Chain Capability (SCC)

SCC is a company's ability to identify needs, implement concepts, integrate activities, and facilitate resources, and information both internal and external throughout the supply chain process [56],[52]. In the case of studies, supply chain capabilities are very important. Next, explained the three most essential parts of the supply chain capability according to [57]. First, logistic management in the supply: in the logistics aspect, the integration of processes, tasks, organization, methods, and systems becomes essential.

Therefore, cooperation or collaboration between companies or organizations is needed and the entire process of activities starting from material suppliers, production processes to finished goods including logistics, warehousing, distributors and users [7]. Second, the role of information and information management system in SCM: management of systematic and timely information so that supply chain partners can improve decision making with accuracy, expected speed, quality of information, and other aspects of collaboration [7]. Third, the role of management in supply chain management: this section focuses more on increasing mutual trust between partners and

creating competitive advantages for each partner, very important to achieve success [7]. [58] Provide information that the data-based supply chain has a significant positive effect on the supply chain capability, and besides that, it also has a positive and significant impact on financial performance. Therefore, this study hypothesis:

H6: Supply chain capability has a positive impact on supply chain performance

3. Research Methods

3.1. Population and Sample

In this study, the population in the study were micro, small, and medium enterprises (MSMEs) in East Java. The sampling method as a respondent used a simple random sampling technique with a sample size of 150 respondents (micro, small and medium enterprises) in the culinary sector.

3.2. Validity and Reliability Test of Instrument

In this study, the researcher used the instrument and before conducting the research, the instrument had to be tested for validity and reliability [59] For the first, the aim of testing the validity and reliability was to ensure that the instrument must be declared valid and reliable [60],[61].

3.2.1. Validity Testing

The purpose and objective of validity testing are to test whether the instrument is valid or not before the research is used, so it must be ensured that the instrument is valid for all indicators Table 1.

Table 1. Result of Validity Test of Instrument

Variables	Indicators	Pearson Correlation	Sig.	Remarks
Long Term Relationship	LTR1	0.964	0.000	valid
	LTR2	0.950	0.000	
	LTR3	0.946	0.000	
Information	IS1	0.922	0.000	valid

Sharing	IS2	0.923	0.000	
	IS3	0.891	0.000	
Agile	AG1	0.922	0.000	valid
	AG2	0.749	0.000	
	AG3	0.789	0.000	
Supply Chain Capability	SCC1	0.940	0.000	valid
	SCC2	0.807	0.000	
	SCC3	0.852	0.000	
	SCC4	0.940	0.000	
Supply Chain Application	SCA1	0.891	0.000	valid
	SCA2	0.902	0.000	
	SCA3	0.856	0.000	
Supply Chian Performance	SCP1	0.929	0.000	valid
	SCP2	0,836	0.000	
	SCP3	0.922	0.000	
	SCP4	0.862	0.000	

3.2.2. Reliability Testing

The instrument is not only tested for validity but

also reliability testing, the aim is to prove that the instrument has consistency so that each indicator can be declared reliable see Table 2.

Table 2. Result of Reliability Test of Instrument

Variables	Indicators	Cronbach's Alpha If Deleted	Cronbach's Alpha	Remarks
Long Term Relationship	LTR1	0.819	0.877	reliable
	LTR2	0.843		
	LTR3	0.828		
Information Sharing	IS1	0.814	0.866	reliable
	IS2	0.816		
	IS3	0.833		
Agile	AG1	0.741	0.835	reliable
	AG2	0.823		
	AG3	0.819		

Supply Chain Capability	SCC1	0.789	0.836	reliable
	SCC2	0.804		
	SCC3	0.801		
	SCC4	0.789		
Supply Chain Application	SCA1	0.813	0.857	reliable
	SCA2	0.804		
	SCA3	0.824		
Supply Chian Performance	SCP1	0.790	0.838	reliable
	SCP2	0.812		
	SCP3	0.780		
	SCP4	0.805		

3.3. Framework Research

In this study, it can be described in the form of a research framework in Figure 1.

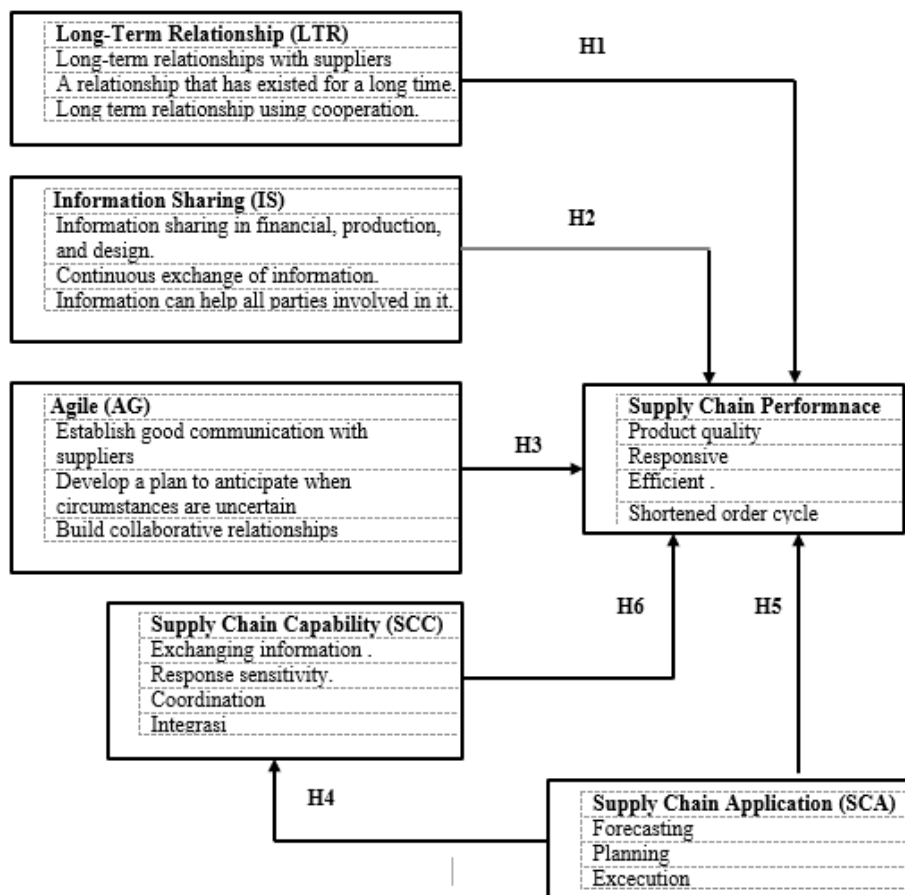


Figure 1. Framework research

4. Results and Discussions

4.1. Evaluation of Outer Model

Evaluation of the outer model in the partial least square analysis is a measurement model to assess the validity and reliability of a model. Evaluation

of the outer model in the partial least square measurement model is useful for testing validity and reliability through the estimation results of algorithmic literacy (Figure 2.)

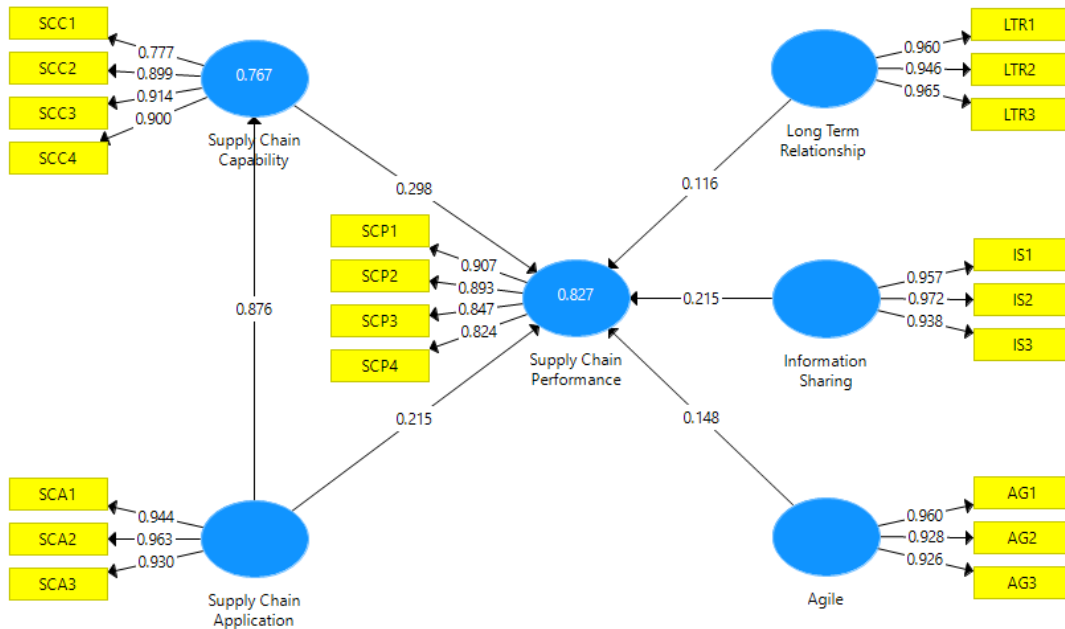


Figure 2. Evaluation of Outer Model

The evaluation carried out in the outer model includes testing for convergent validity, discriminant validity, and composite reliability, the results are as follows.

4.1.1. Convergent Validity

The measurement of convergent validity is evaluated using the outer loading value with the limit that the minimum outer loading value is greater than the rule of thumb of 0.7. The following is the outer loading and average variance extracted value for each research variable in the structural model (Table 3.).

Table 3. Value of Outer Loading, T-Statistics, and AVE

Indicator	Outer Loading	T-Statistics	Average Variance Extracted
LTR1	0.960	95.239	0.916
LTR2	0.946	70.401	
LTR3	0.965	128.939	
IS1	0.967	91.922	0.913
IS2	0.972	123.350	
IS3	0.938	82.344	
AG1	0.960	99.742	0.880

AG2	0.928	43.689	
AG3	0.926	58.180	
SCC1	0.777	16.903	
SCC2	0.899	52.677	0.764
SCC3	0.914	57.559	
SCC4	0.900	54.725	
SCP1	0.907	49.810	0.757
SCP2	0.893	44.413	
SCP3	0.847	38.942	
SCP4	0.824	30.402	
SCA1	0.944	102.946	0.895
SCA2	0.963	108.337	
SCA3	0.930	85.620	

Based on Table 3, it is known that the outer loading value of each question indicator for all variables that compose the structural model already has a value greater than 0.7, so it can be said that the question indicators in the structural model have met convergent validity. Another evaluation on the average variance extracted value for each variable all also had a value greater than 0.50, which also concluded that the measurement of the research

variables in the model had met the convergent validity.

4.1.2. Discriminant Validity

After evaluating convergent validity, the next step is evaluating discriminant validity using cross-loading and Fornell-larcker value evaluations as a measure. The results are as follows (Table.4).

Table 4. Value of Cross Loading

	Long Term Relationship	Information Sharing	Agile	Supply Chain Application	Supply Chain Capability	Supply Chain Performance
LTR1	0.960	0.734	0.621	0.760	0.729	0.740
LTR2	0.946	0.736	0.585	0.727	0.725	0.726
LTR3	0.965	0.711	0.601	0.736	0.698	0.722
IS1	0.721	0.957	0.673	0.826	0.764	0.798
IS2	0.745	0.972	0.700	0.840	0.793	0.821
IS3	0.712	0.938	0.699	0.822	0.770	0.785
AG1	0.636	0.703	0.960	0.743	0.742	0.740

AG2	0.548	0.647	0.928	0.702	0.696	0.715
AG3	0.585	0.684	0.926	0.700	0.774	0.724
SCA1	0.731	0.830	0.697	0.944	0.838	0.801
SCA2	0.743	0.846	0.720	0.963	0.837	0.836
SCA3	0.723	0.786	0.746	0.930	0.809	0.819
SCC1	0.542	0.605	0.692	0.660	0.777	0.663
SCC2	0.695	0.767	0.722	0.810	0.899	0.788
SCC3	0.704	0.743	0.681	0.799	0.914	0.786
SCC4	0.667	0.712	0.661	0.783	0.900	0.777
SCP1	0.653	0.718	0.644	0.757	0.762	0.907
SCP2	0.644	0.698	0.648	0.748	0.734	0.893
SCP3	0.656	0.715	0.571	0.710	0.688	0.847
SCP4	0.688	0.772	0.806	0.780	0.805	0.824

Based on Table 4., the evaluation of discriminant validity by using cross-loading, it is known that the largest outer loading value has been generated by each indicator item for each variable that is

measured conceptually so that referring to these results shows that the evaluation of discriminant validity with cross-loading values can be fulfilled properly.

Table 5. Fornell-Larcker

	Long Term Relationship	Information Sharing	Agile	Supply Chain Application	Supply Chain Capability	Supply Chain Performance
Long Term Relationship	0.957					
Information Sharing	0.760	0.956				
Agile	0.629	0.723	0.938			
Supply Chain Application	0.774	0.868	0.762	0.946		
Supply Chain Capability	0.750	0.812	0.786	0.870	0.874	
Supply Chain Performance	0.762	0.839	0.775	0.865	0.864	0.868

Based on Table 5., the Fornell-Larcker evaluation, it is known that the AVE root value of each research variable shown on the diagonal line has a

greater value than the correlation between research variables. Referring to these results, the Fornell-Larcker evaluation concludes that the discriminant

validity of the research model analyzed by PLS can be fulfilled.

4.1.3. Composite Reliability

The outer model is assessed by looking of value at the composite reliability, and cronbach alpha. The composite reliability values, and cronbach alpha for

all exogenous, endogenous, and moderating constructs are all very reliable because their values are greater than 0.7. The following is the composite reliability and Cronbach alpha value for each variable::

Table 6. Composite Reliability and Cronbach Alpha

Variable	Cronbach's Alpha	Composite Reliability
Long Term Relationship	0.954	0.970
Information Sharing	0.952	0.969
Agile	0.932	0.956
Supply Chain Performance	0.891	0.924
Supply Chain Capability	0.896	0.928
Supply Chain Application	0.941	0.962

Outer model can also be seen from the value of the composite reliability of the construct. The results of the composite reliability for each construct can be seen in Table 6. The composite reliability of each construct is very good, greater than 0.7. Besides, it can also be seen that all the cronback alpha values for each construct are greater than 0.7.

4.2. Evaluation of Inner Model

In this evaluation, a description of the R-square results and then bootstrapping process will be given with the following results (Figure 3).

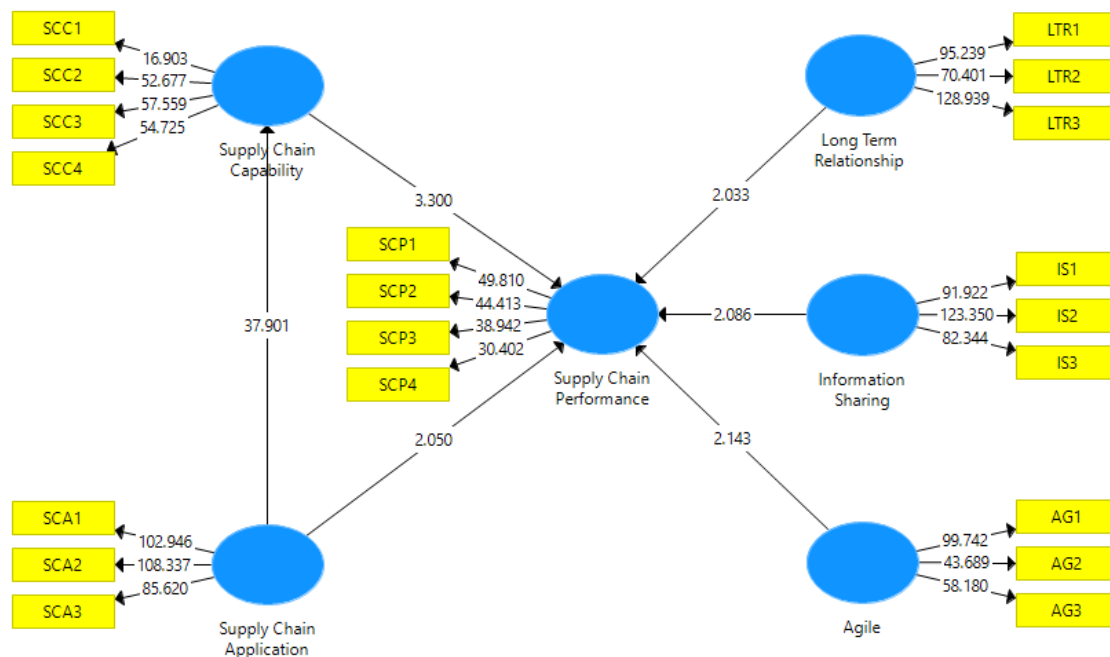


Figure 3. Evaluation of Inner Model

4.2.1. R-Square

The inner model wants to see the relationship between constructs and the significance value and R-square value as shown in (Table 7).

Table 7. R Square

	R Square
Supply Chain Capability	0.767
Supply Chain Performance	0.827

Referring to the results in Table 7., it can also be stated that the path of influence between supply chain application variables on supply chain capability is obtained by an R-square value of 0.767, this means that the percentage of the diversity of variable supply chain capability can be explained by the supply chain application variable of 76.7%. Whereas in the supply chain application path, supply chain capability, long term relationship, information sharing, and agile to supply chain performance. R-square is obtained of 0.827 which means that the percentage of the diversity of supply chain performance variables can be explained by supply chain application variables, supply chain, capability, long term relationship, information sharing, and agile amounting to 82.7%. For the total R2 value is calculated by the formula $R2\ total = 1 - (Pe12 \times Pe22)$ where R2 total is the

total coefficient of determination, the formula $Pei = (1 - Ri2) 0.5$. Based on the results of the analysis, it was obtained that $R12 = 0.767$ and the value of $R22 = 0.827$ so that the $Pe1$ and $Pe2$ values were obtained as follows:

$$Pe12 = (1 - 0.767) 0.5 = 0.233$$

$$Pe22 = (1 - 0.827) 0.5 = 0.173$$

The total coefficient of determination is obtained as follows:

$$R2\ total = 1 - (Pe12 \times Pe22)$$

$$R2\ total = 1 - (0.233 \times 0.173)$$

$$R2\ total = 1 - 0.040 = 0.960$$

Referring to the calculation results, the total coefficient of determination (R2 total) is 0.960, while there is diversity based on research data can be explained by the structural model compiled by 96%.

4.2.2. Evaluation of Direct Effect

Evaluation of direct effect is used to test the research hypotheses that have been formulated. The results of testing the research hypothesis based on the inner weight evaluation are as follows in (Table 8.).

Table 8. Path Coefficients Mean, STDEV, T-Statistics, P-Values

	Original Sample (O)	Sample Mean (M)	T Statistics ((O/STDEV))	P Values
Agile → Supply Chain Performance	0.148	0.151	2.143	0.033
Information Sharing → Supply Chain Performance	0.215	0.212	2.086	0.038
Long Term Relationship → Supply Chain Performance	0.116	0.116	2.033	0.043
Supply Chain Application → Supply Chain Capability	0.876	0.877	37.901	0.000
Supply Chain Application → Supply Chain Performance	0.215	0.211	2.050	0.041
Supply Chain Capability → Supply Chain Performance	0.298	0.303	3.300	0.001

As for the complete hypothesis, H1 to H5 is explained as follows:

H1: Hypothesis on the path of influence between long term relationship to supply chain performance

variable obtained the effect coefficient value of 0.116 with a T-Statistics value of 2.033. Referring to these results, it is known that the T-Statistics value is $2.033 > 1.96$, so it can be concluded that there are a positive and significant direct influence

between long term relationship variables on supply chain performance. The significant influence between long term relationship on supply chain performance has a positive direction, which means that if the long term relationship variable is getting better, the supply chain performance will also be better.

H2: The hypothesis on the path of influence between information sharing on the supply chain performance variable obtained the effect coefficient value of 0.215 with a T-Statistics value of 2.086. Referring to these results, it is known that the T-Statistics value is $2.086 > 1.$, so it can be concluded that there are a positive and significant direct influence between the information sharing variables on the supply chain performance. The significant influence between information sharing on supply chain performance has a positive direction, which means that if the informational sharing variable is getting better, the supply chain performance will also get better.

H3: The hypothesis on the path of influence between agile and supply chain performance variables is obtained by the coefficient of influence of 0.148 with a T-Statistics value of 2.143. Referring to these results, it is known that the T-Statistics value is $2.143 > 1.96$, so it can be concluded that there there are a positive and significant direct influence between agile variables on supply chain performance. The significant influence between agile on supply chain performance has a positive direction, which means that if the agile variables are getting better, the supply chain performance will also get better.

H4: The hypothesis on the path of influence between supply chain applications on supply chain capability obtained an effect value of 0.876 with a T-Statistics value of 37.901. Referring to these results, it is known that the T-Statistics value is $37.901 > 1.96$, so it can be concluded that there are a positive and significant direct influence between supply chain application variables on supply chain capability. The significant influence between supply chain applications on supply chain capability has a positive direction, which means that if the supply chain application variable is getting better, the supply chain capability will also get better.

H5: Hypothesis on the path of influence between supply chain applications on supply chain performance obtained an effect value of 0.215 with a T-Statistics value of 2.050. Referring to these results, it is known that the T-Statistics value is $2.050 > 1.96$, so it can be concluded that there are a positive and significant direct influence between supply chain application variables on supply chain performance. The significant influence between supply chain applications on supply chain performance has a positive direction, which means that if the supply chain application variable is getting better, the supply chain performance will also get better.

4.2.3. Evaluation of Indirect Effect

Table 9. Indirect Effect

	Original Sample (O)	T Statistics (O/STDEV)	P Values
Supply Chain Application → Supply Chain Capability → Supply Chain Performance	0.261	3.239	0.001

Based on Table 9., it's a summary of the evaluation indirect effect and the details as follows.

H6: The hypothesis on the path of indirect effect between supply chain applications on supply chain performance variables through supply chain capability mediation is that the effect coefficient value is 0.261 with a T-Statistics value of 3.329.. Referring to these results, it is known that the T-Statistics value is $3.329 > 1.96$, so it can be concluded that there there are a positive and significant indirect effect between supply chain application variables on supply chain performance through the mediation of supply chain capability and is partial. mediation. This is because the significant influence between supply chain applications on supply chain performance directly has also been concluded as significant.

5. Conclusions

Referring to the above discussion, the results of this study can be concluded that all independent

variables: long-term relationship, information sharing, agile, supply chain capability, and supply chain application, have a positive and significant effect on supply chain performance. If the independent variables that affect the dependent variable are sorted, namely supply chain application on supply chain capability, which has the highest effect, then followed by the effect of supply chain capability on supply chain performance. Meanwhile, the indirect effect, namely supply chain application on supply chain capability and then supply chain capability, affect supply chain performance, including the highest effect after the effect of supply chain capability on supply chain performance. Based on the evaluation of indirect effect, namely between supply chain applications on supply chain performance directly has also been concluded as significant. The latter affect supply chain performance, namely a long-term relationship, which is a relationship between the two parties to be mutually beneficial between members of the supply chain. The results of this study when compared with previous studies, first the novelty of the concept of this research is that the agile variable in previous studies is the dependent variable, but in this study the agile variable becomes the independent variable, secondly T statistics value, Agile variable when compared with other variables, namely Information Sharing and Long-Term Relationship, then the value is higher.

References

- [1] Asad, M., & Siddiqui, D. A. Determinants of mutual funds performance in Pakistan. *International Journal of Social and Administrative Sciences*, 4(2), 85-107. 2019
- [2] Beske, P. Dynamic capabilities and sustainable supply chain management. *International Journal of Physical Distribution & Logistics Management*, 42(4), 372-387. 2012.
- [3] Zaroni. *Panduan eksekusi strategi logistics & supply chain konsep dasar logistik kontemporer-praktik terbaik*. Jakarta: Prasetiya Mulya Publishing. 2017
- [4] Assauri, S. *Operational strategic : Lean operation process*. Jakarta : Rajawali Pers. 2014
- [5] Day, M, Lichtenstein S, & Samouel P. Supply management capabilities, routine bundles and their impact on firm performance. *Int J Prod Eco*, 25, 1-49. 2015
- [6] Srinita. Sustainable supply chain management in the quantitative framework Developments, directions and economic analysis in Indonesia, *Int. J Sup. Chain. Mgt*, 7(5), 409-417.2018
- [7] Shafiei, M, & Tarmost, P. The impact of supply chain management processes on the competitive advantage of organizational performance. *Quan Stud Manag*, 5(2):105-124. 2014
- [8] Yulenkova, I.B & Natalin, A.A. Supply chain management as a resource for innovative development. supply chain management as a resource for innovative development. *International Journal of Supply Chain Management (IJSCM)*, 9(4), 972 – 980. 2020
- [9] Yusoft, Y.Bt M., Ashari, H.B., & Salleh, M., N., B. The impact of supply chain management as mediator between strategic orientations and supply chain performance. *Int. J.Sup.Chain.Mgt*, 5(2), 101- 107. 2016
- [10] Primiana, I., Azis, Y., Juanim, Yunani,A., & Aldrin Herwany, A. Improvement strategy for supply chain performance of the Garment Industry to decrease logistics costs and enhance competitiveness. *Journal of Industrial and Intelligent Information*, 4 (2), 121-124.2015
- [11] Rahmasari, L. Pengaruh supply chain management terhadap kinerja perusahaan dan keunggulan bersaing (Studi Kasus pada Industri Kreatif di Provinsi Jawa Tengah). *Majalah Ilmiah INFORMATIKA*. 2(3), 89 - 103. 2011
- [12] Zainurossalamia, S., & Hidayat, T. Supply chain agility, supplier synergy, cooperative norms and competitive advantage: Mediating role of supplier performance, *Int. International Journal of Supply Chain Management (IJSCM)*, 9 (4), 301- 309. 2020
- [13] Miguel, P. L. S., & Brito, L. A. L.. Supply chain management measurement and its influence on operational performance. *Journal of Operations and Supply Chain Management* 4 (2),56 – 70. 2011
- [14] Feng, T., Sun, L., Zhu, C.,& Sohal, A.S. Customer orientation for decreasing time-to-market of new products: IT implementation as a complementary asset. *Ind. Mark. Manag.* 41, 929–939. 2012
- [15] Deshpande, A.R. *Supply chain management dimensions, supply chain performance and organizational performance: An integrated framework*, *International Journal of Business and Management*, 7(8).2012.
- [16] Banomyong, R., & Supatn, N. Selecting logistics providers in Thailand: A shippers' perspective. *European Journal of Marketing* 45(3), 419-437. 2011
- [17] Johnson, M. & Templar, S. The Relationship between supply chain and firm performance. *International Journal of*

- Physical Distribution & Logistic Management*, 41(2), 88-103.2011
- [18] Ou, C. S., Liu, F.C., Hung Y.C &. Yen, D.C. A structural of supply chain management on firm performance. *International Journal of Operation & Production Management*, 30(5), 526- 545. 2010
- [19] Munir, M.,M., dan Dwiyanto, B.,M. Analisis faktor faktor yang mempengaruhi kinerja rantai pasokan pada bisnis usaha mikro, kecil, dan menengah bidang kuliner di Kabupaten Kendal. *Jurnal Studi Manajemen Organisasi*, 15 (1), 44 - 45. 2018
- [20] Ariani, D. & Dwiyanto, B.,M. Analisis pengaruh supply chain management terhadap kinerja perusahaan (Studi Pada Industri Kecil dan Menengah Olahan Khas Padang Sumatera Barat. *Jurnal Studi Manajemen dan Organisasi*. 10(2), 132- 141. 2013
- [21] Huo, B., Zhao, X., & Zhou, H. The effects of environment on supply chain information sharing and performance: An empirical study in China. *Prod. Oper. Manag.* 23, 552–569. 2014
- [22] Lim, M.K, Tseng, M.L., Tan, K.H., & Bui, T.D. Knowledge management in sustainable supply chain management: Improving performance through an interpretive structural modelling approach. *J. Clean. Prod.* 162, 806–816. 2017
- [23] Nyaga, G.N., Whipple, J.M. & Lynch, D.F. Examining supply chain relationships: Do buyer and supplier perspectives on collaborative relationships differ?. *J. Oper. Manag.* 28, 101–114. 2010
- [24] Majid , A., M., F., & Dwiyanto, B.,M. Pengaruh long term relationship ,information sharing, trust, dan process integration, terhadap kinerja supply chain management. *Diponegoro Journal of Management*, 6 (4), 1 -12.2017
- [25] Sa'diyah , P., H., & Zaini, A. Pengaruh information sharing, long term relationship dan cooperation terhadap kinerja supply chain management pada usaha kecil dan menengah di Kota Malang, *JAB Jurnal Aplikasi Bisnis*, 4 (1), 53- 58.2018
- [26] Triastyti, R. Customer relationship management: Upaya pencapaian profitabilitas jangka panjang. *Jurnal Ekonomi dan Kewirausahaan*,10(2), 139-151. 2010
- [27] Chiang, C. Y., Kocabasoglu-Hillmer, C. and Suresh, N. An empirical investigation of the impact of strategic sourcing and flexibility on firm's supply chain agility. *International Journal of Operations & Production Management*, 32(1), 49-78. 2012.
- [28] Cao, M., & Zhang, Q. *Supply chain collaboration: roles of interorganizational systems, trust, and collaborative culture* (1-221). London: Springer. 2013
- [29] Sengka. R. R. Identifikasi information sharing dalam supply chain management (Studi Pada Kerajinan Anyaman Bambu Di Kota Tomohon). Manado, Universitas Sam Ratulangi Manado. *Jurnal Emba*. 3(2), 205-212. 2015
- [30] Abdallah, A.B., Obeidat, B.Y., & Aqqad, N.O.. The impact of supply chain management practices on supply chain performance in Jordan: The moderating effect of competitive intensity. *International Business Research*, 7(3), 13-27. 2014
- [31] Effendi, F.S.R. .The Determinants of Logistics Efficiency in Malaysia. *Social Science Research Network*. Available. 2015
- [32] Christopher, M., Mena, C., Khan, O., & Yurt, O. Approaches to managing global sourcing risk. *Supply Chain Management: An International Journal*, 16(2), 67–81. 2011
- [33] Shahbaz, M.S., Kazi, A.G., Othman, B., Javaid, M., Hussain, K., & Rasi, R.Z.R.M. Identification, assessment and mitigation of environment side risks for Malaysian Manufacturing. *Engineering, Technology & Applied Science Research*, 9 (1), 3851-3857. 2019
- [34] Qrunfleh, S. & Tarafdar, M. Lean and agile supply chain strategies and supply chain responsiveness: the role of strategic supplier partnership and postponement”, *Supply Chain Management: An International Journal*, 18 (6),571-582. 2013
- [35] Eman, M. Analisis *information sharing* pada PT. Gojek Indonesia Cabang Manado. *Jurnal Emba*, 5 (2), 666 - 677. 2017
- [36] Kembro, J., & Selviaridis, K. Exploring information sharing in the extended supply chain: an interdependence perspective. *Supply Chain Management: An International Journal*, 20(4), 455–470. 2015
- [37] Haderi, S.M.A.Does the information processing requirements and supply chain practices effect the imperativeness of an agile supply chain strategy for the supply chain performance?, *International Journal of Supply Chain Management (IJSCM)*, 8(6), 225-233.2019
- [38] Flynn, B.B., Huo, B. & Zhao, X. The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management* 28(1),58-71. 2010
- [39] Majid, & Fian, A.M. Analisis pengaruh longterm relationship, information sharing, trust, dan proses integration terhadap kinerja supply chain management. *Diponegoro Journal of Management*. 6 (4), 46-57. 2017
- [40] Yauch, C. A. Measuring agility as a performance outcome”, *Journal of*

- Manufacturing Technology Management*, 22(3), 384-404. 2011
- [41] Abdallah, A. B. & Nabass, I. H. Supply chain antecedents of agile manufacturing in a developing country context: An empirical investigation”, *Journal of Manufacturing Technology Management*, 29 (6), 1042-1064. 2018
- [42] DeGroot, S. E. & Marx, T. G. The impact of IT on supply chain agility and firm performance: an empirical investigation, *International Journal of Information Management*, 33 (6), 909-916. 2013
- [43] Samdantsoodol, A., Cang, S., Yu, H., Eardley, A. & Buyantsogt, A. Predicting the relationships between virtual enterprises and agility in supply chains”, *Expert Systems with Applications*, 84, 58-73.2017
- [44] Bidhandi, R. & Valmohammadi, C. Effects of supply chain agility on profitability”, *Business Process Management Journal*, 23(5), 1064-1082. 2017
- [45] Sudapet, I.N, Agus Sukoco, A. Setiawan, M.I. influence of supply chain integration, it practices and visibility on modular design and supply chain agility, supported maritime and tourism business in Indonesia. *International Journal of Supply Chain Management (IJSCM)*, 8(6), 420-227..2019
- [46] Blome, C., Schoenherr, T. & Rexhausen, D. Antecedents and enablers of supply chain agility and its effect on performance: a dynamic capabilities perspective”, *International Journal of Production Research*, 51(4), 1295-1318.2013
- [47] Chan, A. T., Ngai, E. W. & Moon, K. K. The effects of strategic and manufacturing flexibilities and supply chain agility on firm performance in the fashion industry”, *European Journal of Operational Research*, 259 (2), 486-499. 2017
- [48] Eckstein, D., Goellner, M., Blome, C. & Henke, M. The performance impact of supply chain agility and supply chain adaptability: the moderating effect of product complexity”, *International Journal of Production Research*, 53 (10), 3028-3046. 2015
- [49] Attia, A. Testing the effect of marketing strategy alignment and triple-A supply chain on performance in Egypt. *Euro Med Journal of Business*, 10(2), 163-180. 2015
- [50] Dwayne. Explaining entrepreneurial intentions in the Caribbean. *International Journal of Entrepreneurial Behaviour & Research*, 16 (2), 149- 171. 2011
- [51] Cheng, H.H., Chung, G.H., & Wang, I.F. Application of information technology for key performance indicators: Construction of a digitized performance evaluation platform. *J. Res. Educ. Sci.* 5, 27–63. 2014
- [52] Rajaguru, R., & Matanda, M.J. Effects of inter-organizational compatibility on supply chain capabilities: Exploring the mediating role of inter-organizational information systems (IOIS) integration. *Ind. Mark. Manag.*, 42, 620–632. 2013
- [53] Ngai, E.W., Chau, D.C., & Chan, T.L.A. Information technology, operational, and management competencies for supply chain agility: Findings from case studies. *J. Strategy. Inf. Syst.* 20, 232–249. 2011
- [54] Chen, C.D.; Fan, Y.W.; Farn, C.K. The study of the effects of market-oriented culture, relationship-specific investments and process integration capabilities on supply chain management performance: The moderating role of information technology competence. *Int. J. Commer. Strategy*, 3, 81–99. 2011
- [55] Rezaei, J. Ortt, R., & Trott, P. How SMEs can benefit from supply chain partnerships. *Int. J. Prod. Res.* 53, 1527–1543. 2015
- [56] Li, J, Chen, C.W., Wu, C.H., Hung, H.C., & Lin, C.T. How do partners benefit from IT use in supply-chain management: An empirical study of Taiwan’s Bicycle Industry. *Sustainability*. 12(2883), 2 -24. 2020
- [57] Bagher, A., N. The effect of supply chain capabilities on performance of food companies. *Fin Mark*.2(4),1-9. 2018
- [58] Roghanian, P, Rasli A, & Gheysari H. Productivity through effectiveness and efficiency in the banking industry. *Proc Sci Med*. 40, 550-556. 2012
- [59] Sri, R., F., Hartoyo, Sukandar, D., & Maulana, A. A model of service marketing in port service: Empirical study in PT Pelabuhan Indonesia II (Persero) Tanjung Priok Branch. *Asean Marketing Journal* 8 (1), 18 – 28. 2016
- [60] Ghazali, I. *Aplikasi analisis multivariete dengan program IBM SPSS 23* (Edisi 8). Cetakan ke VIII. Semarang : Badan Penerbit Universitas Diponegoro. 2016
- [61] Sugiyono. *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung : Alfabeta, CV. 2017