Effect Of Supply Flexibility On Supply Chain Performance

Moh. Mukhsin*, HER Taufik, Asep Ridwan and Najmudin Najmudin

Universitas Sultan Ageng Tirtayasa, Indonesia

E-mail address: moh.mukhsin@untirta.ac.id

Abstract **- This study aims to examine the direct effect of supply flexibility on supply chain performance, the effect of supplier flexibility on supply chain performance, and supply network flexibility on supply chain performance. The research sample consisted of 100 respondents who were broilers in the district / city in Banten Province. The statistical tool used is the SmartPLS 3.0 application. The results of this study indicate that (1) supplier flexibility has a significant effect on supply chain performance, (2) supply network flexibility has an effect on supply chain performance. The results of this study provide very important implications for the role of management in safeguarding supply chain performance in relationship with flexibility of supply.**

Keywords **: supplier flexibility, supply network flexibility, supply chain performance**

1. INTRODUCTION

Poultry business (broilers) in Indonesia has become an Poultry business (broilers) in Indonesia has become an industrywhich has complete components from upstream to downstream wherethe development of this business makes a real contribution to development agriculture and has a strategic value, especially in fulfillment effortsneed of animal protein in the country and has a role in take advantage of job opportunities. an integrated approach. Specifically for broilers, the development and growth of broiler chickens can be seen from two sides, namely the supply side and the demand or consumption side. Broiler chickens are chickens cultivated by technology. Broiler chickens are a type of chicken that experiences fast growth, has more meat, is economical in feed, and has a faster harvest age of chickens, namely 21 to 35 days.

Poultry commodities have very good market prospects because they are supported by the characteristics of poultry products that are acceptable to the people of Indonesia, prices are relatively cheap and easy to obtain because they are public goods. This commodity is the main driver for the provision of national animal protein, so that this good prospect must be utilized to empower rural breeders through optimal resource utilization. The poultry industry in Indonesia is developing in line with the progress of global poultry, which is aimed at achieving an optimal level of business efficiency, so that it can compete with poultry products from abroad. The development of the poultry industry faces global challenges that include the readiness of poultry product competitiveness, especially when it is related to the weak performance of the supply of raw materials for feed, which is 60-70% of the production cost because most of it is still very dependent on imports.

Efforts to increase the competitiveness of poultry products must be carried out simultaneously by realizing cross-departmental policy harmonization. This is done with due

observance of internal factors such as implementing business efficiency, improving product quality, ensuring continuity of supply and in accordance with market demand.

Local chicken livestock can be a sufficient alternativepromising with a certain market share. This is inseparable fromthe fact that the local chicken farm business is sufficientprofitable and reliable as a source of family income.The business profile in the primary sector shows that the businessbroiler breeding provides sufficient business opportunitieswell, as long as maintenance management follows procedures andapplicable statutes.

In general, animal husbandry in Banten Province is directed to create conditions advanced, efficiency and resilient farms. This condition is characterized by levelability to meet community needs, ability to adaptproduction patterns and structures with market demand and the ability toregional development, providing employment, income and improvement opportunities standard of living and play a role in economic growth. Efforts to increaselivestock business opportunities, especially chicken poultry businesssupport for regional and national policies in a comprehensive manner that canencourage increased productivity, flexibility, product quality and market competitiveness. broiler farm business dynamic scale these are quite varied and scattered in regencies / cities in the province of Banten.

Supply chain flexibility is a strategic initiative that allows companies to respond quickly to changes in the market, including actual and unexpected disruptions in the supply chain. Uncertainty and disruption presents various operational risks, including factors from natural or man-made events or disasters, loss of important suppliers or customers, and other socio-economic and political factors that affect global sourcing, prices, and logistics.(Dixit & Prakash, 2018).(Liao, Hong, & Rao, 2010), divides flexibility into two parts, namely flexibility of resources and flexibility of coordination. Resource flexibility is the company's responsiveness through the use of specific company management knowledge and physical assets. It is the nature and design of a resource that limits the ways in which companies can use it. However, not all resources flow to well-resourced companies. Therefore the concept of flexibility coordination was developed. (Hong, Liao,

Zhang, & Yu, 2019), divide the concept of flexibility into parts, namely supplier flexibility and supply network flexibility

Supplier flexibility refers to a supplier's ability to manage production resources and uncertainty to increase flexibility in meeting buyer demands (Chu, Chang, & Huang, 2012). Supplier flexibility means responsiveness through the use of the capabilities of suppliers.(De Angelis, Howard, & Miemczyk, 2018). Some companies have emphasized the linkage of existing resources in the company with performance, so as to produce relationships between partners well. Therefore the company combines specific internal company resources with supporting resources outside the company to build competitive advantage. Competitive advantage can be built by combining the internal resources of the organization with resources from outside the organization to create its own uniqueness (Suhartati & Rosietta, 2012).

Supply network flexibility means responsiveness through the use of collaborative capabilities to build supply networks efficiently and effectively. Supply network flexibility means responsiveness through the use of collaborative capabilities to form a supply network efficiently and effectively (Hong et al., 2019). The structure of the partner network will affect the flow of goods from upstream to downstream and from downstream to upstream so that it will be able to produce the best supply chain based on optimal resources (Skilton & Robinson, 2009).In the context of the supply chain, the network structure will strengthen internal resources in relation to the use of external resources.

In the supply chain, the success or failure of product distribution can be measured, namely by measuring the performance of the supply. Supply chain performance is the quality performance of activities related to the flow of goods from upstream to downstream, from raw materials to goods into the hands of consumers including related to funds and the flow of information (Aziz & Dwiyanto, 2017). (Hong et al., 2019),supply chain performance definitions refer to the results of the supply chain's ability to meet end consumer desires and convey consumer desires efficiently (Hong et al., 2019).Knowledge of supply chain performance can help improve the overall business capability of a company because it can increase understanding and cooperation between supply chain members ("Analysis of the Effect of Quality of Supplier Relationships with Companies on Supply Chain Performance (Em.Pirik Study on Raw Material Suppliers at Pt Jamu Jago)," 2015).

According to (De Angelis et al., 2018), supplier flexibility is one of the variables that affect supply chain performance in the face of rapid environmental changes. Flexible suppliers have the advantage of being easy to coordinate in conveying ideas, product designs, and collaboration well and profitably. In research (Hong et al., 2019),Supplier flexibility plays a very important role in serious environmental uncertainty. (Saputra, 2019), concluded that flexibility is indispensable capabilities that

help the company improve its performance, maintain resources and manage the market. customer-oriented fruit factories must have the ability to influence suppliers of flexibility to match dynamic customer demands.And based on the description above, a hypothesis can be formulated as follows:
H1: Supplier flexibility has a positive effect on supply

chain performance

According to (Hong et al., 2019),the flexibility of the supply network plays a very important role in serious environmental uncertainties. In research (Saputra, 2019), concluded that flexibility is indispensable capabilities that help the company improve its performance, maintain resources and manage the market. The supplier network needs to always be managed and improved, including managing the supply chain to maintain supplies in order to ensure the smooth operation of the process. Flexibility in the supply chain allows the company to achieve performance in several ways at once, for example speed or responsiveness and cost. This performance can be achieved, for example, through the use of new science and technology and reading market changes to create and deliver value to consumers. And based on the description above, a hypothesis can be formulated as follows:
H2: Supply network flexibility has a positive effect on supply chain performance

II. METHODOLOGY

In this study, there are three variables, namely; independent variable (supplier flexibility and supply network flexibility), and dependent variable (supply chain performance).Population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by the researcher to be studied and then draw conclusions.The population in this study are breeders of chicken farming which are scattered in Regencies / Cities in Banten Province..The sample in this study is Using purposive random sampling method, the researcher first determines the part used as a basis before making a random selection. In this research what is meant isAs many as 100 broilers, scattered in regencies / cities in Banten Province.

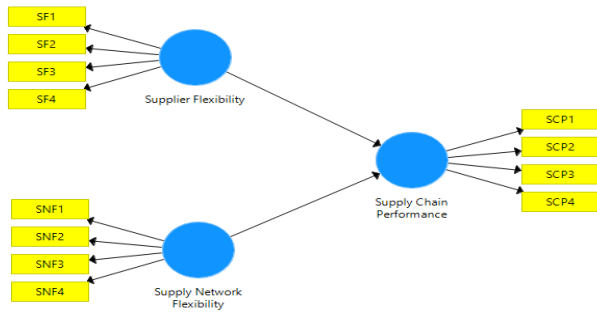Here is a model that is formed based on the formulation of the problem.

Fig. 2. Research Model
Source: Results of SmartPLS Processing

III. RESULTS

A. Validity and Reliability Test
a. Validity test

Testing the validity of the data in this study is by using the SmartPLS software with an Outer Model, namely Convergent validity as seen by the square root of average variance extracted (AVE) value of each construct where the value must be greater than 0.5. (Lin, 2017)

TABLE 1
DISCRIMINANT VALIDITY

Average Variance Extracted (AVE)

Construct	Original Sample	Sample Mean	Standard Deviation	T Statistic	P Values
Supplier Flexibility	0.801	0.802	0.050	16,092	0.000
Supply Chain Performance	0.792	0.795	0.046	17,325	0.000
Supply Network Flexibility	0.707	0.707	0041	17,370	0.000

Sources: Primary data is processed (2021)

Table 1 describes the values of the AVE and the AVE roots of the constructs Supplier Flexibility, Supply Network Flexibility and Supply Chain Performance. It can be seen that each construct (variable) has an AVE value above 0.7. This shows that each of these constructs has a good validity value from each indicator or the questionnaire used to find outvariable Supplier Flexibility, Supply Network Flexibility and Supply Chain Performancecan be said to be valid. Another way that can be used to assess the validity of a construct is to compare the square root of the AVE in Table 1 with the correlation of the latent variables in Table 2.

b. Reliability Test

Reliability test is intended to measure the internal consistency of a questionnaire which is an indicator of variables or constructs. A questionnaire is said to be reliable if a person's answer to a statement produces the same answer from time to time. Testing the reliability of the data in this study using SmartPLS software with the test criteria for Composite reliability. A data is said to be reliable if the composite reliability is greater than 0.7.

TABLE 2
COMPOSITE RELIABILITY

Composite Reliability

Construct	Original Sample	Sample Mean	Standard Deviation	T Statistic	P Values
Supplier Flexibility	0.923	0.922	0.023	40,088	0, 000
Supply Chain Performance	0.918	0.918	0.023	40,443	0,000
Supply Network Flexibility	0.904	0.903	0.018	49,028	0,000

Sources: Primary data is processed (2021)

From Table 2 it can be seen that the internal From Table 2 it can be seen that the internal consistency of the independent variables (Supplier Flexibility, and Supply Network Flexibility) with the dependent variable (Supply Chain Performance) has good reliability..

C. Assessing the Outer Model (Measurement Model)

Measurement model is used to test the relationship (loading value) between indicators and constructs (latent variables). In the following, it can be seen that the overall correlation of each variable in Figure 3 is the picture that states the influence of supplier felexibility, supply nework flexibility and supply chain performance.
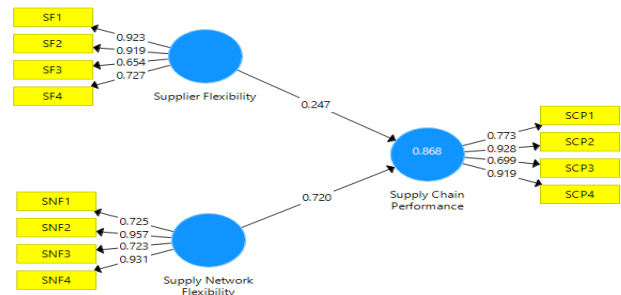
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Fig. 3. Full Model Structural Partial Least Square
Source: Primary data processed by SmartPLS (2017)

Information:
SF	= Supplier Flexibility
SNF	= Supply Network Flexibility
SCP	= Supply Chain Performance

In the following, it can be seen that the overall correlation of each variable in Figure 4 is a picture that states the effect of the independent variable (Supplier Flexibility, Supply Network Flexibility) and the dependent variable (Supply Chain Performance).
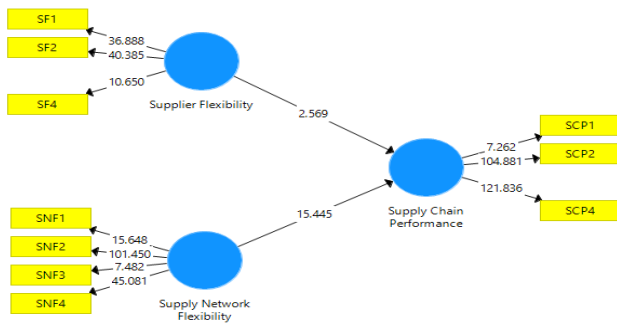
Fig. 4. OutputThe second measurement model
Source: Primary data processed by SmartPLS (2021)

D. Outer Model Variable

From figure 3 Full Model Structural Partial Least Square above each variable is explained the value Outer Loadings as in table 3 below;

TABLE 3
OUTER LOADINGS VALUES

Outer Loadings

Construct	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Value
SCP1 <- Supply Chain Performance	0.732	0.725	0.101	7,262	0.000
SCP2 <- Supply Chain Performance	0.958	0.960	0.009	104,881	0.000
SCP4 <- Supply Chain Performance	0.961	0.963	0.008	121,836	0.000
SF1 <- Supplier Flexibility	0.933	0.932	0.025	36,888	0.000
SF2 <- Supplier Flexibility	0.928	0.931	0.023	40,385	0.000
SF4 <- Supplier Flexibility	0.818	0814	0.077	10,650	0.000
SNF1 <- Supply Network Flexibility	0.710	0.710	0.045	15,648	0.000
SNF2 <- Supply Network Flexibility	0.960	0.960	0.009	101,450	0.000
SNF3 <- Supply Network Flexibility	0.725	0.713	0.097	7,482	0.000
SNF4 <- Supply Network Flexibility	0.936	0.938	0.021	45,081	0.000

Source: Primary data processed by SmartPLS (2021)

a. Outer Model Variable Supplier Flexibility

The results of processing using Smart PLS can be seen in Table 3, where the value of the outer loadings of the variable indicator Supplier Flexibilitythere is a value less than 0.7, namely SF3. This can also be seen in Table 3, where the t-statistical value of the indicators SF1, SF2, and SF4 has a greater value than the t-table (with sig level = 1.96 and n samples = 100). So that it can be concluded that the variable supplier flexibility has met the requirements of the model adequacy.

b. Outer Model Supply Network flexibility
The results of processing using Smart PLS can be seen in Table 3, where the value of the outer loadings of the variable indicator Supply Network FlexibilityThere is no value less than 0.7 and it shows that the outer model value or the correlation with the variables as a whole has met convergent validity. This can also be seen in Table 3, where the t-statistical value of the SNF to SNF4 indicator is greater than the t-table (with sig = 1.96 and n samples = 100). So that it can be concluded that supply nework flexibility has met the requirements of the model adequacy or discriminant validity.

c. Outer ModelVariable Supply Chain Performance

The results of processing using Smart PLS can be seen in Table 4 where the value of the outer loadings of the supply chain performance variable indicator is less than 0.7, namely SF3. in Table 3 where the t-statistical value of the indicators SCP1, SCP2, and SCP4 is greater than the T-table (with sig = 1.96 and n samples = 100). So that the variable supply chain performance has qualified from the adequacy of the model.

IV. DISCUSSION

A. Hypothesis Testing through the Inner Model

Inner model according to(Lin, 2017)is a description of the relationship between latent variables based on the substantive theory. Inner model which is sometimes called the inner relation, structural model and substantive theory. Testing of the inner model or structural model is carried out to see the relationship between the constructs, the significance value and the R-square of the research model. The inner model in this study is as follows:

TABLE 4
RESULT FOR INNER WEIGHT

Path Coefficient

Construct	Original Sample	Sample Mean	Standard Deviation	T Statistic	P Values
Supplier Flexibility->Supply Chain Performance	0.151	0.153	0.059	2,569	0, 010
Supply Network Flexibility ->Supply Chain Performance	0.151	0.153	0.059	2,569	0, 010

Sources: Primary data is processed (2021)

Based on Table 4, it can be seen that the relationship between SF and SCP is positive at the coefficient = 0.151 with t count = 2.569 and (Pvalue; = 0.010) at t = 1.96. shows that SF has a positive and significant effect on SCP. The relationship between SNF and SCP is positive at the coefficient = 0.813 with t count =15,445and (Pvalue; = 0,000) at t = 1.96. indicates that SNF has a

positive and significant effect on SCP. In assessing the model with PLS, it starts by looking at the R-Square for each dependent latent variable shown in Table 5..

TABLE 5
5R-SQUARE TABLE

Path Coefficient Construct	*Original Sample*	*Sample Mean*	*Standard Deviation*	*T Statistic*	*P Values*
Supply Chain Performance	0.875	0.883	0.019	45,640	0.000

Sources: Primary data is processed (2021)

Table 5 shows the R-square value of Supply Chain Performance 0.875 and supply chain management 0.541. The higher the R-square, the greater the exogenous variables can explain the endogenous variables, so the better the structural equation.

V. CONCLUSION

Based on the findings obtained from the results of the analysis and the results of the discussion about the effect supplier flexibility and supply network flexibility to supply chain performanceon breeders of chicken farming which are scattered in Regencies / Cities in Banten Province, then we conclude as following; The higher the higher supplier flexibility among the members of the supply chain can push for the better supply network flexibility performance, supply network flexibilitythe good can lead to the better supply chain performance. The results of the influence analysis test show that supplier flexibility and supply network flexibility able to improve supply chain performance. This study can have an effect on the role of management to be able to maintainsupplier flexibility and supply network flexibility in supply chain performance. Mincreasing supply chain performance can be illustrated by the more flexibility the company has in meeting customer needs..

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