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The Effect of Supply Chain Management on Company Performance with Competitive Advantage as a Mediator

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Abstract: This research aims to determine whether there is a significant effect between Supply Chain Management to competitive advantage and company performance. The Supply Chain Management variable is measured by 3 indicators, namely Strategic Supplier Partnership, Customer Relationship, and Information Sharing. The variable of competitive advantage is measured by 5 indicators, namely price, quality, delivery dependence, product innovation, and time to market. Meanwhile the company's performance variable is measured by 2 indicators, namely financial performance and operational performance. The data was collected through distributing questionnaires. The analytical method used in testing the hypothesis is Structural Equation Modeling (SEM) using Partial Least Square (PLS). This research can prove that there is a significant relationship between Supply Chain Management and competitive advantage, Supply Chain Management into Company Performance, as well as a Competitive Advantage to the Company's Performance. This study can prove the influence of Supply chain Management on Company Performance with Competitive Advantage as a mediator.

Keywords: Supply Chain Management, Competitive Advantage, Company Performance, PLS.

I. INTRODUCTION

To fill the changing market demands, industry players have always to be innovative in creating their products. If you want to keep survive in market competition, companies must have a competitive advantage, one of the ways is implementing strategies that have an impact on good company performance. Maximally the company will keep improving productivity, efficiency, speed, and ease of service, also create the latest innovations in their products so that the products can survive and become excel nor compete in the industrial world [1].

The term supply chain management emerged from logistics consultants who used the term in the 1980s, then in the 1990s an in-depth analysis was carried out by academics and the concept of supply chain management was born [2]. The supply chain is a network that covers the entire organization starting from suppliers to the hands of consumers, which contains flow, information, and finance [3]. One of the goals of supply chain management is to coordinate supply chain activities to maximize competitive advantage and benefits for the final consumers.

PT. KMI is one of the motorcycle manufacturing companies in Indonesia, makes the type of dirt bike and large machine capacity motorcycle as its flagship product. The company makes fast, punctual service and quality motorcycles by customer desires as a top priority for customer satisfaction. Based on the data obtained by the researcher, one of them is the data on the delivery of motorcycle units which still cannot be compatible with the dealer's request. It is serious to do problem solving for the continuity of the company's growth.

In the period January to October 2020, the delivery of motorcycle units to dealers is unable to fulfill the demand, this also impacts delay in the delivery of motorcycle units to dealers. end customers. This happens due to several reasons, including production capacity that does not accomplish the target and delays in the delivery of raw materials from suppliers.

In dealing with the above problems, supply chain management integration is needed starting from planning, manufacturing, marketing, and distribution. With the integration of supply chain management, it is expected that internal coordination and with suppliers to be efficient, can increase the value that will be generated by the company, and form a value chain that is able to encourage the realization of competitive advantage that impacts the company's performance on an ongoing basis.

The influence of supply chain management on company performance has been tested in the research [4]. This research will add a competitive advantage variable in testing its effect on supply chain management. Competitive advantage is a means to improve company performance. Previous research has shown that supply chain management affects competitive advantage [5]. Research on supply chain management performance analysis using a qualitative descriptive approach was also carried out by [6], [7], but no research has been found that quantitatively links the influence of supply chain strategy, competitive advantage, and company performance in a Structural Equation Model (SEM).

II. LITERATUR REVIEW

1. Supply Chain Management

Supply chain management as an activity of managing the parts involved in customer requests either directly or indirectly. Supply chain management is the sequence of organizations, facilities, functions, and activities from suppliers to final customers [8]. effective Supply chain management has benefits for companies, including efficient inventory and costs, increased productivity, faster processing and delivery, greater profits, and increased customer loyalty [9]. Supply chain management as a comprehenssive picture of supply chain activities starting from the supply of raw materials to end users [10]. Supply chain management Practices consist of Strategic Supplier Partnership, Customer Relationship, Information Sharing. Based on the theoretical basis above and previous research, the authors measure the Supply chain management variable using the dimensions of Strategic Supplier Partnership, Customer Relationship, Information Sharing [11]. Based on the theoretical basis above and previous research, the authors measure the SCM variable using the dimensions of Strategic Supplier Partnership, Customer Relationship, Information Sharing. Supply chain strategy according to [11], [12] also has a direct effect in improving company performance. An effective supply chain can increase the competitive advantage of a company [11]. Therefore, to verify the relationship the hypothesis is as follows:
H1 = Supply chain strategy has a positive effect on Competitive Advantage.

2. Competitive Advantage

Competitive advantage is an advantage over competitors, by offering buyers a higher value, by offering a lower price, or by offering a higher price but greater benefit [13]. Competitive advantage can be realized if the company can achieve strategic advantages, tactical advantages, and operational advantages [14]. Measures the dimensions of competitive advantage using the variables Delivery Dependability, Product Innovation, Time to Market [4]. Competitive advantage variables consist of Price / Cost, Quality, Delivery Dependability, Product Innovation [15]. Based on the theoretical basis above and previous research, the dimensions of measuring the competitive advantage variable that the author uses are Price, Quality, Delivery Dependability, Product Innovation, Time to Market. Competitive advantage has a positive effect in improving company performance [12], [16]. Therefore, to verify the relationship, the hypothesis is as follows:
H2 = Competitive Advantage has a positive effect on Company Performance.

3. Company Performance

Company performance can be interpreted as the ability of a company to handle challenges, customer satisfaction, order fulfillment, product innovation, inventory costs, market penetration, product costs, quality costs, profitability, productivity, quick response to consumer demand, timely delivery [17]. The results of this assessment become the value of the activities that have been prepared and implemented to identify the right company strategy or vice versa [18]. Company performance can be assessed from financial performance and non-financial performance [4]. Company performance can be measured from Financial Performance, Operational Performance, and Market Based Performance [19]. Referring to previous research and the above theory, the author uses the dimensions of financial performance and operational performance to measure the company's performance variables. Supply chain strategy is believed to boost companies to improve their performance [20], [21]. Therefore, to verify the relationship the hypothesis is as follows:
H3 = Supply Chain Strategy has a positive effect on company performance
Based on the background, theoretical basis, and previous studies, in this study the authors develop a research framework as shown in the following figure 1.

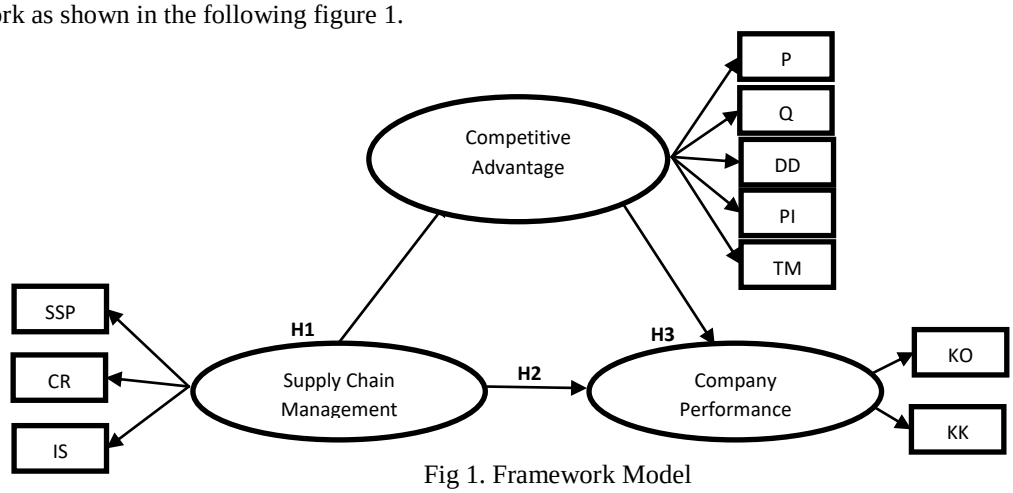


Fig 1. Framework Model

Based on the framework above, there are three variables that will be examined in this research, namely Supply Chain Management, Competitive Advantage and Company Performance. Supply Chain Management will be measured by indicators consisting of 3 (three) dimensions, namely Strategic Supplier Partner, Customer Relationship, and Information Sharing. Meanwhile, Competitive Advantage is measured through 5 (five) variables, namely Price, Quality, Delivery Dependability, Product Innovation, and Time to Market. And Company Performance is measured by 2 (two) variables, namely Financial Performance and Operational Performance.

III. RESEARCH METHODS

Sampling in this research is included in the category of non-probability sampling with purposive sampling technique. This research collected primary data by questionnaire. This research was conducted at PT. KMI with sample 170 employees of PT. KMI. Methods of data collection conducted using questionnaires. Analyzer used is Partial Least Square (PLS).

This research collected primary data by questionnaire. Primary data is data obtained directly by researchers. The sample selection is based on consideration or subjective judgment and does not use probability theory and the sample is people who are related or involved in supply chain management activities. This is done with an understanding assumption of the people involved in the supply chain management process. Data were distributed using Google form, distributed in May, and received in full again in June 2021. Data analysis used Structural Equation Model (SEM), which was operated with Smart PLS.

Data validity testing used Confirmatory Factor Analysis (CFA) Test with Convergent Validity test. Reliability testing used construct reliability (CR) and variance extracted (VE). The evaluation criteria for the overall fit index for the entire model were obtained from the average communalities index multiplied by the R2 model. The GoF value ranges from 1-0 with the interpretation of this value being 0.1 (Small GoF), 0.25 (Moderate GoF), and 0.36 (Large GoF).

IV. RESULTS AND DISCUSSION

From the results of the questionnaire, data on the composition of respondents based on gender consisted of male (70%) and female (30%). From the age data of respondents, it shows that the majority of respondents aged25 to <30 years at 37.1%, then aged 30 to <35 years at 25.9%, 20 to <25 years at 25.9%. 19.4%,35 years old by 11.8% and < 20 years by 5.9%.Meanwhile, the characteristics according to position show that the majority of respondents who filled out the questionnaire had aSub Line Heads, where there are 74 employees (43.5%) respondents who served as Sub Line Head, followed by *Line Head* namely 46 people (27.1%), who served, *Supervisor* which is 13 people (7.6%), Assistant Manager is 13 people (7.6%) and respondents with positions *Manager* as many as 5 people (2.9%).Employees with departmental origin *procurement* 35 people (20.6%), 42 respondents from the PPC department (24.7%)50 people (29.4%) from the warehouse department, 37 people from the production department (21.8%), and 6 people (3.5%) from the sales and marketing department. This can indicate that the respondents in this study were dominated by respondents with respondents coming from the department warehouse. Table 4 shows that of the 170 research respondents, 11 employees with a tenure of less than 5 years (6.5%), who have a working period of 5-10 years amounted to 33 people (19.4%), respondents with a working period of 10-15 years amounted to 61 people (35.9%), respondents with a working period of 15-20 years amounted to 41 people (24.1%) and who had 20 years a total of 24 people (14.1%). This can indicate that the tenure of research respondents is dominated by respondents with a tenure of 10-15 years. Correspondents from the main office were 4.7%, 26.5% from Pulo Gadung, then 40.6% from Cibitung, and 28.2% from the Cikarang plan.

Convergent Validity from the measurement model with reflexive indicators assessed based on the correlation between item scores and construct scores calculated by PLS. In this test, the loading factor value of the indicator has met the validity test criteria, because the loading factor for each indicator (question item) is greater than 0.5. Research in the early stages of developing a measurement scale for loading values of 0.5 to 0.6 is considered sufficient [22].

Overall loading factor of the first order CFA shows that the model has met the convergent validity requirements because the loading factor value is more than 0.5 and the t statistics value is more than 1.96. The value of loading factor indicator X01_SSP (0.812), X02_SSP (0.753), X03_SSP (0.834), X04_SSP (0.875), X05_CR (0.920), X06_CR (0.851), X07_CR (0.870), X08_CR (0.918), X09_CR (0.863), X10_IS (0.946), X11_IS (0.935), X12_IS (0.908). This means that all indicators are valid as a measuring tool for their respective variables in the supply chain management variable. This shows that all indicators and dimensions can explain the SCM variable [22].

Overall loading factor of the first order CFA shows that the model has met the convergent validity requirements because the loading factor value is more than 0.5 and the t statistics value is more than 1.96. The

value of loading factor indicator Y01_P (0.893), Y02_P (0.925), Y03_P (0.834), Y04_Q (0.743), Y05_Q (0.930), Y06_Q (0.938), Y07_DD (0.955), Y08_DD (0.940), Y09_DD (0.891), Y10_PI (0.899), Y11_PI (0.743), Y12_PI (0.843), Y13_TM (0.552), Y14_TM (0.894), Y15_TM (0.843). This means that all indicators are valid as a measuring tool for their respective variables on the competitive advantage variable. This shows that all indicators and dimensions can explain the Competitive Advantage Variable [22].

Overall loading factor of the first order CFA shows that the model has met the convergent validity requirements because the loading factor value is more than 0.5 and the t statistics value is more than 1.96. The value of loading factor indicator Z01_KK (0.944), Z02_ KK (0.953), Z03_ KK (0.761), Z04_KO (0.826), Z05_KO (0.867), Z06_KO (0.881), Z07_KO (0.915). This means that all indicators are valid as a measuring tool for their respective variables on the company performance variable. This shows that all indicators and dimensions can explain the Company Performance Variables [22].

Next, the test will be carried out with *Average Variance Extracted* (AVE), the model has good convergent validity which can be seen from the AVE value, it is said to be valid if the AVE value is greater than 0.5. From the processed data obtained the following results:

Table 1: Average Variance Extracted (AVE)

Variable	(AVE)	Information
Supply Chain Management	0.767	Valid
Competitive Advantage	0.741	Valid
Company Performance	0.775	Valid

Source: Data processing results (2021)

Based on Table 5 above, all AVE values are > 0.5, this indicates that all latent variables in the estimated model meet the convergent validity (valid) criteria.

The reliability test is a test to measure the internal consistency of the indicators of a variable that shows the degree to which each indicator indicates a general variable [23]. There are two test methods that can be used, namely composite (construct) reliability (CR) and variance extrated (VE). The cut-off value of construct reliability is at least 0.70 while the variance extracted is at least 0.50 [22]. Here are the outputs of Composite Reliability and Cronbach's Alpha:

Table 2: Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability	Information
Supply Chain Management	0.972	0.975	Reliable
Competitive Advantage	0.974	0.977	Reliable
Company Performance	0.951	0.960	Reliable

Source: Data processing results (2021)

The results of the construct reliability test are as presented in Table 6 shows the value of Cronbach's Alpha Supply Chain Management (0.972), Competitive Advantage (0.974), Company Performance (0.951) and Composite Reliability Supply Chain Management (0.975), Competitive Advantage (0.977), Company Performance (0.960). The results of all latent variables > 0.70. So that all manifest variables in measuring the latent variables in the estimated model are declared reliable. Thus, the testing of the structural model (inner model) can be continued.

The evaluation criteria for the overall fit index for the entire model were obtained from the average communalities index multiplied by the R2 model. The GoF value ranges from 1-0 with the interpretation of this value being 0.1 (Small GoF), 0.25 (Moderate GoF), and 0.36 (Large GoF), in which the formula for the GoF Index is:

$$GoF = \sqrt{\overline{Com}\, x \overline{R^2}}$$

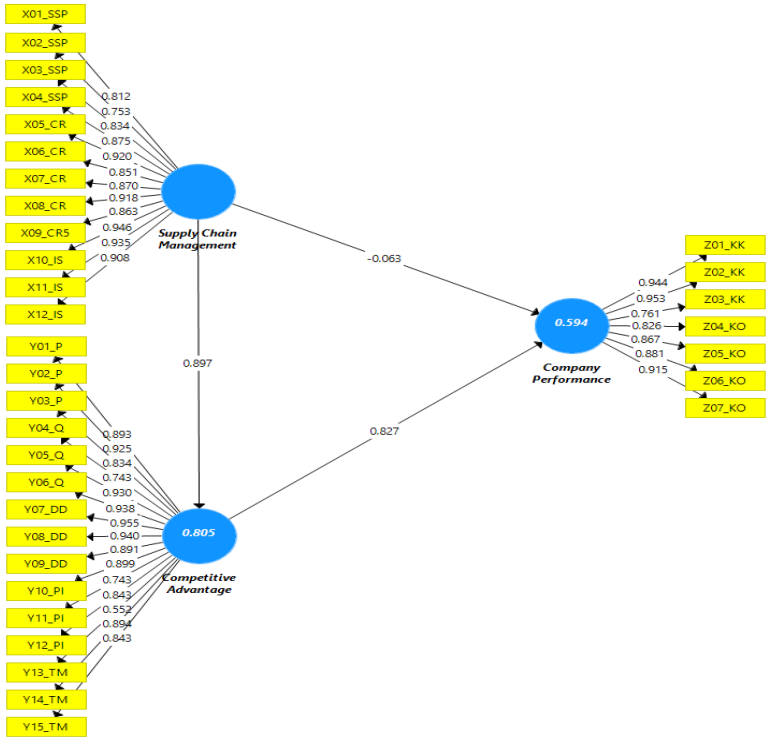
Table 3: Effect Size

Variable	(AVE)	R Square
Supply Chain Management	0.767	0.805
Competitive Advantage	0.741	0.594
Company Performance	0.775	-
Average	**0.761**	**0.699**
GoF Value (According to Formula)	**0.730**	
Conclusion	**Large GoF value (Model Fit)**	

Source: Data processing results (2021)

In Table 3 it can be seen that the overall suitability of the model shows a value of 0.730. This shows that the model formed in this study as a whole has strong predictive power or in other words that the model meets the goodness of fit criteria.So, it can be concluded that the whole model is considered feasible and hypothesis testing can proceed to find out how much the effect between variables in the model. The complete structure has been modified and declared fit, then a complete model is made as shown in Figure 2.

Figure 2: The Effect of Supply Chain Strategy on Company Performance through Competitive Advantage Model



The data were declared valid, reliable and the model was good fit, then the hypothesis test was performed. The results of hypothesis test about the effect between latent variables and the relationship of latent variables with their dimensions can be seen in Table 4.

Table 4: Hypothesis Test Output Results

	Original Sample	T Statistics	P Values	Information
Supply Chain Management -> Competitive Advantage	0.897	53,112	0.000	Significant
Supply Chain Management -> Company Performance	-0.063	0.600	0.549	Not significant
Competitive Advantage -> Company Performance	0.827	8,435	0.000	Significant

Source: Data processing results (2021)

The test results shown in Table 4.18 indicate the path coefficient value of 0.897, which is significant at t-statistic 53.112 > t-table 1.96 and at P-value 0.000 < 0.05 significance level. Thus, the hypothesis which states that there is a positive influence of supply chain management on competitive advantage can be accepted, or in other words there is a significant influence of supply chain management on competitive advantage. The results of this study support previous research, which states that there is a positive influence on competitive advantage so that it is the same as the research conducted now [4].

In the H2 hypothesis, the statistical test results produce a path coefficient of-0.063 shows the direct effect between supply chain management on company performance. The test results shown in table 4.20 show a path coefficient value of -0.063 which is significant at t-statistic 0.600 < t-table 1.96 and at P-value 0.549 > 0.05 significance level. Thus, the hypothesis which states that there is a positive influence of supply chain management on company performance could be rejected, or in other words, there is no positive (negative influence) that is not significant from supply chain management on company performance. The results of this research differ from previous research, that supply chain management practices have a positive influence on company performance [4].

In the H3 hypothesis, the statistical test results produce a path coefficient of 0.827 indicating a direct effect between competitive advantage on company performance. The test results in table 4.20 show the path coefficient value of 0.827, which is significant at t-statistic 8.435 > t-table 1.96 and at P-value 0.000 < 0.05 significance level. Thus the hypothesis which states that there is a positive influence of competitive advantage on company performance can be accepted, or in other words there is a significant positive effect of competitive advantage on company performance. The results of this study support previous research, which states that competitive advantage has a significant effect on company performance [12].

Supply chain strategy has no direct effect on company performance, but its effect is indirect on company performance through competitive advantage, this can be seen in (Table 5).

Table 9: Indirect Effect

X Variable	Mediator	Y Variable	Coefficient
Supply Chain Management	Competitive Advantage	Company Performance	0.742

Source: Data processing results (2021)

In Table 5, the test results show a path coefficient value of 0.742 which is significant at t-statistic 7.972 > t-table 1.96 and at P-value 0.000 < 0.05 significance level. Thus the hypothesis which states that there is a significant influence between supply chain management on company performance through competitive advantage can be accepted, in other words that competitive advantage mediates the effect of supply chain management on company performance. The results of this research support previous research, providing empirical evidence that supply chain management practices do not have a direct influence on company performance but are mediated by competitive advantage [4]. And based on the results of the influence of supply chain management through direct and indirect methods, it was found that supply chain management will have a greater influence if through competitive advantage or indirectly [4].

V. CONCLUSION

From the results of the analysis and hypothesis testing that have been carried out, the t-statistic value is 53,112 > t-table 1.96 and at the P-value 0.000 < 0.05 significance level, these results prove that there is a positive and significant effect of supply chain management on competitive advantages of PT. KMI.

From the results of the analysis and hypothesis testing that have been carried out, the t-statistic value is 0.600 < t-table 1.96 and at the P-value 0.549 > a significance level of 0.05, this result proves that there is no positive effect (there is a negative effect) and there is no positive effect. significant from supply chain management to the company performance of PT. KMI

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