

Research Article

## Macroeconomic Factors as Moderators: SCM Impact on Shipping Industry Performance

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**Abstract:** Building and development in the maritime aspect become one of the agendas in Indonesia which are known as Nawa Cita. Furthermore, Ministry Regulation number 80, 2015 has supported the increased number of inter-island sea transportation which cause higher competition among cruise companies. In line with that, every company is forced to give more value than the competitor through the right choice of strategy. Therefore, the study aimed to examine and analyze the effect of supply chain management on competitive advantage and a firm's performance; the effect of competitive advantage on a firm's performance, and the role of macro-economics as moderating variable. Moreover, the study was explanatory research that discussed the relationship between variables through hypothesis tests. The data collection technique used saturated sampling (census). Additionally, there were 15 companies with 7 years of observation (2013-2019) as the sample. In total, 105 financial statements were observed. In addition, the data analysis technique used Partial Least Square (PLS). As a result, supply chain management affected the competitive advantage of cruise companies. However, both supply chain management and competitive advantage did not affect the performance of cruise companies. On the other hand, external factors of macro-economics could support the implementation of supply chain management in increasing the competitive advantage of cruise companies. Besides, they could also back up the implementation of supply chain management as well as a competitive advantage in increasing the performance of cruise companies.

**Keywords:** Cruise Companies; Supply Chain Management; Macro-economics; Competitive Advantage; Firm's Performance.

### 1. Introduction

Indonesia is referred to as a maritime country, which has a majority of its territory consisting of waters and islands. Indonesia's territory is dominated by 70% water areas, and its archipelagic region consists of 17,504 islands spread from west to east. These seventeen thousand islands across the archipelago are united by the sea. Ships, as connecting bridges, play a key role in enhancing inter-island connectivity. As an archipelagic country, three-quarters of its territory is sea with immense natural resource wealth and environmental services, making the marine economy a comparative advantage that can be transformed into competitive advantage and a new source of economic growth for the country.

As the Global Maritime Axis (GMA), Indonesia is expected to be advanced, prosperous, and sovereign, based on the maritime economy, defense and security, and maritime culture. Furthermore, Indonesia is expected to become a reference for other nations in various maritime fields, ranging from economy, science and technology, defense and security to the way of managing maritime development (ocean governance). In the short to medium term (2015 - 2020), maritime economic sectors are required to be able to solve their internal sectoral problems and can simultaneously contribute significantly to addressing a number of national issues. While in 2014 Indonesia had the status of a lower-middle-income country with an average per capita GNP of 4,200 US dollars, by 2020 it is targeted to move up to an

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upper-middle-income country with a per capita GNP of around 7,000 US dollars (Kompasiana, 2020).

The existence of these potential advantages is something that should not be wasted, so the development and advancement of maritime aspects have been made one of Indonesia's development agendas, which is proclaimed under the name Nawa Cita. This is outlined in the annex of the Presidential Regulation of the Republic of Indonesia No. 60 of 2015 concerning the government work plan for 2016 in the second dimension in the explanation of the four dimensions of development (Bappenas, 2016). The national shipping sector from 2020 to 2021 faced severe challenges along with the outbreak of the COVID-19 pandemic, so there was little that could be done by national shipping companies other than hoping for stimuli from the government to ensure that national shipping companies remain operational. The COVID-19 pandemic has currently posed new problems and challenges for shipping companies.

First, there is a decline in cargo volume, both for import and export as well as domestic cargo. For imports and exports to China, it decreased by up to 20 percent, while for domestic cargo, especially cargo supporting import-export and national distribution, it decreased by up to 10 percent. Second, the clearance process at ports takes longer due to ship disinfection spraying, health checks of the ship crew, and inspection of the ship's travel history (IMO procedures). Consequently, these conditions lead to increased ship operational costs. Third, the policies of physical distancing and work from home (WFH) have affected the performance of services in government agencies related to ship certification and port authority matters, as well as challenges in ship docking, mainly due to several shipyards reducing the number of on-site workers. As a result, the maintenance work on ships that are currently docking is hindered in its completion, while other ships have to wait longer in line to dock. In addition, ship spare parts imported from China also face obstacles, causing longer delivery times and higher costs (Harijanto, 2020).

This reality forces shipping company issuers to prepare effective and efficient strategies, both in the short and long term, to remain competitive in the national market (Veronica, 2017). Increasingly intense business competition among service company issuers compels business activities to choose the right strategies. The business strategy referred to here is positioning the company to place itself appropriately and adapt to the continuously changing economic environment.

## **2. Preliminaries or Related Work or Literature Review**

### **Resource-Based View Theory**

The interpretation of the Resource-Based View (RBV) according to the book entitled "Resource-Based Competitive Strategy Model for Small and Medium Enterprises" written by Suardhika (2021) explains that achieving a sustainable competitive advantage requires an active role of the Resource-Based View (RBV) which guides company management to control, develop, and identify strategic resources in order to generate optimal performance. The RBV conception is a theoretical framework widely used in management literature. RBV is used to examine the internal strengths and weaknesses of a company based on two assumptions: 1) A company can be considered as a collection of productive resources through different processes (resource heterogeneity); 2) Many resources are very difficult or costly to imitate or are inelastic in supply (resource immobility) (Suardhika, 2021: 13).

### **Supply Chain Management**

International literature authored by Lau et al. (2019) titled "Principles of Global Supply Chain Management" explains that supply chain management is the foundation of competitive strategy for many organizations and has evolved from operational to strategic levels. Traditional supply chains limit contact between members and result in interactions being very distant, but with the emergence of globalization, the supply chain has developed into a multiple contact model, thereby encouraging interactions among members involved in various logistics activities (Lau et al., 2019).

Another piece of international book literature written by Pryke (2020) entitled "Successful Construction Supply Chain Management: Concepts and Case Studies" explains that supply chain management can enhance the overall performance of the construction industry because companies begin to analyze business holistically and make decisions through a "systems lens," consolidating demand at the corporate level rather than focusing only on individual projects. Current business developments are indicated by rapid technological

advancements, short product life cycles, and intense inter-company competition. These conditions force companies to develop new ways to achieve competitive advantage.

### **Competitive Advantage**

According to the international book entitled "Organizational Behavior: Securing Competitive Advantage" written by Wagner & Hollenbeck (2020), it is generally explained that competitive success depends on the ability to produce certain products or services that are valued by specific groups of buyers and to do so in a way that cannot be easily imitated by others. A company that employs the best people and is able to retain them will enjoy a competitive advantage that is not easily replicated by other companies (Wagner & Hollenbeck, 2020). If a company has the knowledge to manage employees properly, this represents an advantage that can be maintained and strengthened over time.

Another international book on competitive advantage written by Godfrey et al. (2020), titled "Strategic Risk Management: New Tools for Competitive Advantage in an Uncertain Age," explains that strategic risks cannot be reduced to a series of probabilistic outcomes that incorporate and reflect the fundamental uncertainty of potential results. Operational risks create tactical difficulties and financial losses, but strategic risks encompass more than just financial losses. These risks affect a company's fundamental competitive advantage and its future survival (Godfrey et al., 2020).

### **Macroeconomics**

According to the international book "Macroeconomics, Second Edition" written by Ghosh & GHOSH (2021), neo-classical macroeconomics shows a stable capitalist economy. The mechanisms that operate automatically ensure full employment of all workers available for work and full utilization of all production capacity in the long-term economy. After the Second World War, Keynesian macroeconomic theory dominated macroeconomic thought in the capitalist world until the early 1970s (Ghosh & GHOSH, 2021).

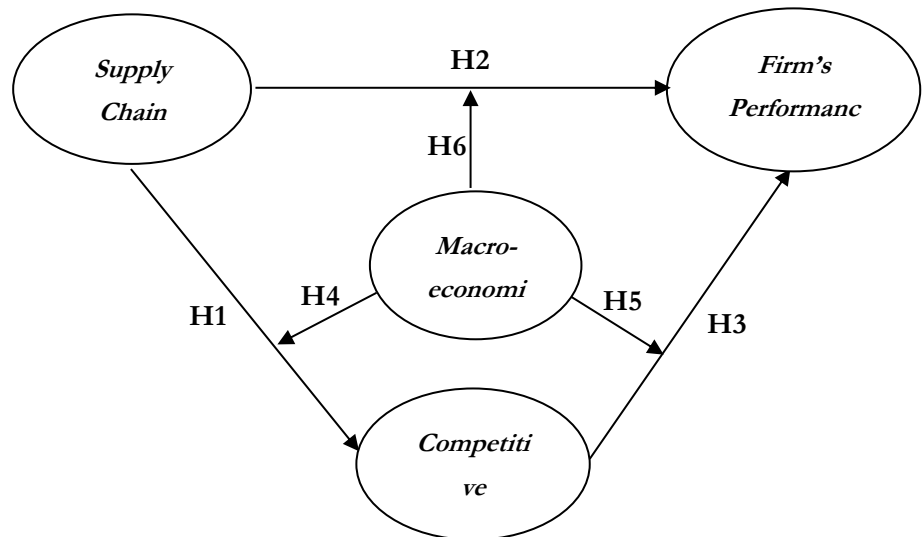
Another international book written by Sinha et al. (2021), titled 'Macro Economics – SBPD Publication,' explains that macroeconomics deals with the total consumption of the entire economy, the general price level, total employment, and national income. The main concern of macroeconomics is with the aggregate volume of economic output and the extent to which resources are utilized, measured through national income and the general price level (Sinha et al., 2021). Macroeconomics comes from the Greek prefix makro - meaning large, and the word 'economics.' Macroeconomics is a branch of economic science that deals with the performance, structure, behavior, and decision-making of the economy as a whole, including national, regional, and global economies (Leung, 2022). The terms macroeconomics and microeconomics were coined by Ragnar Frisch.

### **Firm's Performance**

Based on the international book titled "Corporate Governance, Ownership Structure and Firm Performance: Mediation Models and Dynamic Approaches" written by Pham & Islam (2022), it is explained that the intermediary and dynamic relationship between ownership structure and firm performance has been recognized as a new approach in corporate governance and corporate finance literature. This approach is very helpful for better understanding the nature of the relationship between ownership and firm performance, which is not limited by traditional approaches that treat ownership structure and company performance directly and simultaneously (Pham & Islam, 2022). To evaluate company performance and plan future corporate goals, measuring firm performance becomes one of the very important aspects for management.

Various information regarding company activities, both financial and non-financial information, is collected so that the work activities that have been carried out can be evaluated, accounted for, and in the future, can be more easily controlled to achieve efficiency and effectiveness in all company business processes. Financial information is obtained from budget preparation to control costs. Meanwhile, non-financial information is a key factor in determining the chosen strategy to achieve the established objectives. According to Rumapea et al., (Pham & Islam, 2022), performance is an illustration of the achievement of the implementation of an activity or program in realizing the vision, mission, goals, and objectives of the organization. Financial performance is the result or achievement that has been attained by company management in carrying out its function of managing the company's assets effectively during a certain period.

Financial performance is greatly needed by companies to understand and evaluate the level of the company's success based on the financial activities that have been carried out. To be able to assess the performance results of company management in the financial sector, various financial information generated from the company's accounting processes is used. The following is the conceptual framework of the research :



**Figure 1.** Conceptual Framework Picture.

### 3. Materials and Method

This study uses a quantitative approach with an explanatory research method because it aims to explain the relationships between variables through hypothesis testing and is also considered conclusive research (Stanley & Ie, 2019). In this study, hypothesis testing is carried out regarding the influence between the variables of Supply Chain Management, Competitive Advantage, and Firm's Performance, moderated by Macro-economic Variables, on shipping industry companies in Indonesia. The data used in this study are secondary data, time series data, which are values of a variable arranged sequentially over time (time series data) and will be collected in a cross-sectional manner obtained from Financial Statements and Company Reports that have been published, namely shipping industry companies listed on the Indonesia Stock Exchange from 2013 to 2019. The population in this study consists of shipping industry companies listed on the Indonesia Stock Exchange (IDX) from 2013 to 2019, totaling 23 companies. The sample was selected based on the criterion that the company publishes complete financial statements. After applying this criterion, the population that met the criteria consisted of 15 companies. The observation period is 7 years (2013 - 2019), so from these 15 companies there are 105 financial statements observed.

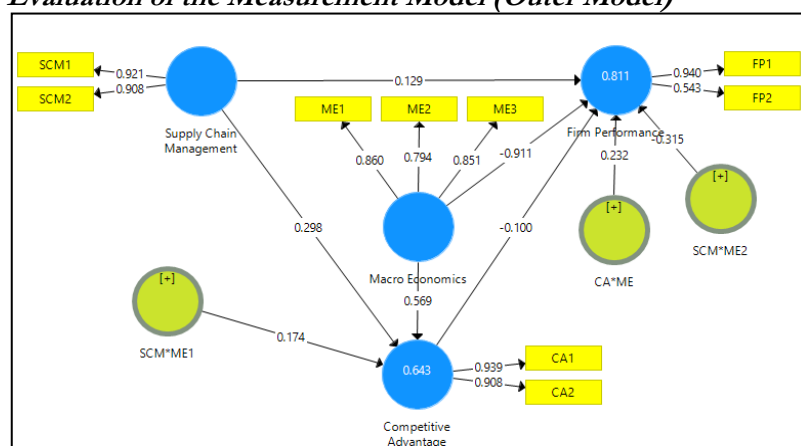
**Table 1.** Operational Definition of Research Variables.

No	Variable	Indicator	Formula	Suource	Measurement Scale
1	<i>Supply Chain Management (SCM)</i>	<i>Cash generation (SCM<sub>1</sub>)</i>	$SCM_1 = \text{Net Cash Inflow (Operation)} / \text{Total Revenue}$	(Ahmed <i>et al.</i> , 2019)	Ratio
		<i>Asset efficiency (SCM<sub>2</sub>)</i>	$SCM_2 = \text{Total Sales Revenue} / (\text{Total Asset} - \text{Current Liabilities})$		
2	<i>Macro-economics (ME)</i>	<i>Economic Growth (ME<sub>1</sub>)</i>	$ME_1 = \sum_{i=0}^n NTB_i$	(BPS,2022 a)	Ratio
		<i>Inflation (ME<sub>2</sub>)</i>	$ME_2 = [(IHK_n - IHK_{(n-1)}) / IHK_{(n-1)}] \times 100$	(BPS,2023)	
		<i>Exchange Rate (ME<sub>3</sub>)</i>	$ME_3 = (a+b)/2$	(BPS,2023 b)	
3	<i>Competitive Advantage (CA)</i>	<i>Asset Utilization Efficiency (CA<sub>1</sub>)</i>	$CA_1 = \text{Total Sales Revenue} / \text{Total Asset}$	(Yuliana <i>et al.</i> ,2021)	Ratio
		<i>Price Premium Capability (CA<sub>2</sub>)</i>	$CA_2 = \text{Gross Margin} / \text{Total Sales Revenue}$		
4	<i>Firm's Performance (FP)</i>	<i>Economic Value Added (FP<sub>1</sub>)</i>	$FP_1 = \text{NOPAT} - (\text{Invested Capital} \times \text{WACC})$	(Niken <i>et al.</i> ,2020)	Rasio
		<i>Market Value Added (FP<sub>2</sub>)</i>	$FP_2 = \text{Market Value} - \text{Invested Capital}$		

#### 4. Results and Discussion

##### Partial Least Square (PLS)

##### *Analysis Evaluation of the Measurement Model (Outer Model)*

**Figure 2.** Outer PLS Model.

## Validity Test

**Table 2.** of Validity Test Value.

Variable	Indicator	Outer Loading Value
<i>Supply Chain Management</i> (SCM)	SCM <sub>1</sub>	0,921
	SCM <sub>2</sub>	0,908
<i>Competitive Advantage</i> (CA)	CA <sub>1</sub>	0,939
	CA <sub>2</sub>	0,908
<i>Macro-economic</i> (ME)	ME <sub>1</sub>	0,860
	ME <sub>2</sub>	0,794
	ME <sub>3</sub>	0,851
<i>Firm's Performance</i> (FP)	FP <sub>1</sub>	0,940
	FP <sub>2</sub>	0,543

Source: Data processed by the researcher

The table above presents the cross-loading values of each indicator with its construct. The cross-loading value of each indicator on the construct it is intended to measure is much higher compared to other constructs, indicating that the measurement model has achieved good discriminant validity.

## Reliability Test

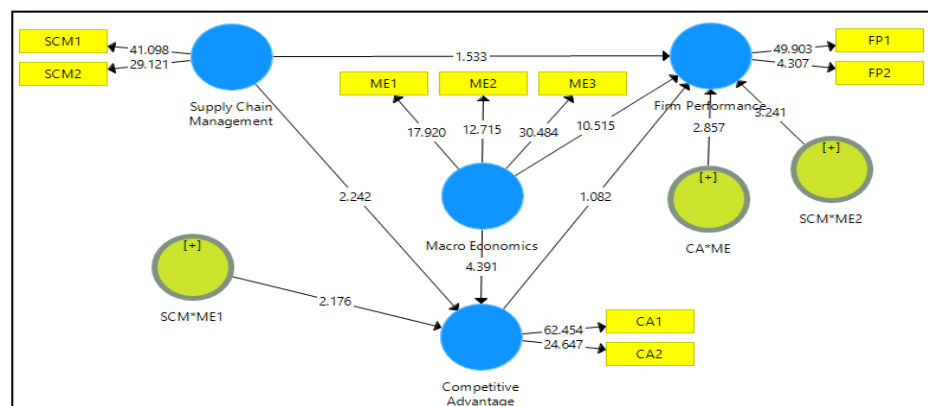
**Table 3.** Composite Reliability Values.

Variable	Composite Reliability
<b><i>Supply Chain Management</i> (SCM)</b>	<b>0,911</b>
<b><i>Competitive Advantage</i> (CA)</b>	<b>0,921</b>
<b><i>Macro-economics</i> (ME)</b>	<b>0,874</b>
<b><i>Firm's Performance</i> (FP)</b>	<b>0,728</b>

Source: Data processed by the researcher

The table above shows that the composite reliability values of each construct—supply chain management, competitive advantage, macro-economics, and firm's performance—are all above 0.7, indicating that the constructs are reliable. Based on the validity and reliability tests above, it can be concluded that the measurement model has met convergent validity, discriminant validity, and reliability, allowing for further evaluation of the inner model.

## Structural Model Evaluation (Inner Model)



**Figure 3.** Inner PLS Model.

### R-Square (R2) Value

The R-Square value is the coefficient of determination for the endogenous construct. An R-Square value of 0.67 is considered substantial, 0.33 is moderate, and 0.19 is weak. Below are the R2 values for the endogenous constructs.

**Table 4.** R-Square Values.

Konstruk	R <sup>2</sup>	Description
<i>Competitive Advantage</i>	0,643	Substansial
<i>Firm's Performance</i>	0,811	Substansial

Source: Data processed by the researcher

The R-Square value for the influence path of supply chain management and macro-economics on competitive advantage is 0.643, which means that supply chain management and macro-economics can explain and influence competitive advantage by 64.3 percent, while the remaining 35.7 percent is explained by other variables that were not studied. Therefore, in this structural model, it is known that the R-Square of the endogenous construct falls into the substantial category, meaning that supply chain management and macro-economics strongly influence competitive advantage.

Then, the R-Square value for the influence paths of supply chain management, macro-economics, and competitive advantage on firm's performance is 0.811, meaning that supply chain management, macro-economics, and competitive advantage are able to explain and affect firm's performance by 81.1 percent, while the remaining 18.9 percent is explained by other variables not studied. Thus, in this structural model, it is known that the R-Square for the endogenous construct falls into the substantial category, which means that supply chain management, macro-economics, and competitive advantage strongly influence firm's performance.

### Q-Square Value (Q2)

The Q-Square value is used to measure how well the observed values are produced by the model, and the parameter estimates can also use the Q2 predictive relevance or the total coefficient of determination. The calculation is as follows:

$$Q^2 = 1 - (1 - R_1^2)(1 - R_2^2)$$

$$Q^2 = 1 - (1 - 0,643)(1 - 0,811)$$

$$Q^2 = 1 - (0,357)(0,189) = 0,933$$

From the calculation above, a Q-Square (Q2) value of 0.933 > 0 (zero) was obtained, indicating that the model has accurate predictive relevance for the constructs of competitive advantage and firm's performance. Considering the R-Square and Q-Square values, it can be concluded that the structural model formed is robust, thus hypothesis testing can be conducted.

### Hypothesis Testing

**Table 5.** Path Coefficients and Spesific Indirect Effects.

Path	Koefisien	t-statistics	p-value
SCM -> CA	0,298	2,242	0,025
SCM -> FP	0,129	1,533	0,126
CA -> FP	-0,100	1,082	0,280
SCM * ME -> CA	0,174	2,176	0,030
CA * ME -> FP	0,232	2,857	0,004
SCM*ME -> FP	-0,315	3,241	0,001
ME -> CA	0,569	4,391	0,000
ME -> FP	-0,911	10,515	0,000

Source: Data processed by the researcher

Hypothesis 1. The path coefficient of supply chain management (SCM) has a positive and significant value on competitive advantage (CA), because the t-statistic value of 2.242 is greater than 1.96 and the p-value of 0.025 is less than 0.05, so the hypothesis stating that supply chain management has a significant effect on competitive advantage can be accepted.

Hypothesis 2. The path coefficient of supply chain management (SCM) has a positive but not significant value on firm's performance (FP), because the t-statistic value of 1.533 is less than 1.96 and the p-value of 0.126 is greater than 0.05, so the hypothesis stating that supply chain management has a significant effect on firm's performance is rejected.

Hypothesis 3. The path coefficient of competitive advantage (CA) is negative and not significant on firm's performance (FP), because the t-statistic value of 1.082 is less than 1.96 and the p-value of 0.280 > 0.05. Therefore, the hypothesis stating that competitive advantage has a significant effect on firm's performance is rejected.

Hypothesis 4. The path coefficient of supply chain management on competitive advantage with macro-economics moderation is positive and significant, because the t-statistic value of 2.176 is greater than 1.96 and the p-value of 0.030 < 0.05. Thus, the macro-economics moderator affects and strengthens the relationship between supply chain management and competitive advantage, so the hypothesis stating that macro-economics moderates the effect of supply chain management on competitive advantage can be accepted. The type of macro-economic moderation on the influence of supply chain management on competitive advantage is quasi moderation, because the influence path of the macro-economic variable on the competitive advantage variable is significant and the influence path of the interaction variable between supply chain management and macro-economics on the competitive advantage variable is significant.

Hypothesis 5 states that the path coefficient of competitive advantage on firm's performance with macro-economic moderation is positive and significant, because the t-statistic value of 2.857 is greater than 1.96 and the p-value of 0.004 is less than 0.05, thus the macro-economic moderator affects and strengthens the relationship between competitive advantage and firm's performance, so the hypothesis stating that macro-economics moderates the effect of competitive advantage on firm's performance can be accepted. The type of macro-economics moderation on the influence of competitive advantage on firm's performance is quasi moderation, because the effect path of the macro-economics variable on the firm's performance variable is significant, and the effect path of the interaction variable of competitive advantage and macro-economics on the firm's performance variable is significant.

Hypothesis 6: The path coefficient of supply chain management on firm's performance with macro-economics moderation is negative and significant because the t-statistic value of 3.241 is greater than 1.96 and the p-value of 0.001 < 0.05, thus the presence of this macro-economics moderator affects and weakens the relationship between supply chain management and firm's performance, so the hypothesis stating that macro-economics moderates the effect of supply chain management on firm's performance can be accepted. The type of macro-economics moderation on the influence of supply chain management on a firm's performance is pseudo-moderation (quasi moderation), because the effect path of the macro-economics variable on the firm's performance variable is significant, and the effect path of the interaction between supply chain management and macro-economics on the firm's performance variable is also significant.

Based on the results of the hypothesis test above, the moderation nature of the macro-economics variable falls into the type of pseudo-moderation or quasi-moderation because the macro-economics moderation variable interacts with the independent variables (supply chain management and competitive advantage) and is also significantly related to the dependent variable, the firm's performance.

## Discussion

### *Interpretation of Supply Chain Management has a significant influence on Competitive Advantage*

The analysis results show that, overall, the competitive advantage of the shipping industry company experienced a fluctuating decline from 2013 to 2019. This decline was also accompanied by the shipping industry company's supply chain management, which fluctuated and tended to decrease. This aligns with the hypothesis test results, which indicated that supply chain management has a significant effect on competitive advantage. The decreasing supply chain management ratio shows that the performance of the supply chain management strategy implemented by the shipping industry company has declined, impacting the decrease in the



company's competitive advantage strategy performance. According to the resource-based theory perspective, a company becomes more competitive in business competition by owning, controlling, and utilizing important strategic assets (both tangible and intangible assets). Companies need to continuously innovate to achieve competitive advantage.

The results of this study are in line with the conception of Liu et al. (2018), who argued that a well-managed supply chain (SC) is one of the sustainable resources for enhancing a company's competitive strength. Determining how to reduce inventory levels, decrease lead times, improve SC efficiency, and increase profits is a significant challenge faced by many managers. Supply chain resilience (SCR) is one of the most important aspects of supply chain management (SCM), with the theoretical construction of SCR consisting of risk management culture, agility, integration, and supply chain redesign. Das & Hassan (2022) show that supply chain management has a positive impact on competitive advantage and operational performance. Therefore, hotels play an active role in managing all aspects of supply chain management. The above review is also supported by other studies stating that supply chain practices have a positive effect on competitive advantage (Khaddam et al., 2020; Sundari & Zahra, 2020; Novitasari & Agustia, 2021; Rachbini, 2019; Pintuma et al., 2020; Utami et al., 2019; Widyanesti & Masyithah, 2018; Yun & Kurniawan, 2017).

### ***Interpretation of Supply Chain Management has an Insignificant Effect on Firm's Performance***

The analysis results indicate that the performance of shipping industry companies has actually improved, but this has not been accompanied by an increase in supply chain management, which instead fluctuates and tends to decline. This aligns with the hypothesis test results, which show that supply chain management has an insignificant effect on company performance. The declining supply chain management strategy ratio indicates that the performance of the supply chain management strategies implemented by shipping industry companies has decreased; however, company performance continues to improve. Therefore, the decline or improvement in the performance of the company's supply chain management strategies does not impact its performance. According to the resource-based theory perspective, the importance of key supply chain management resources as intangible assets plays a role in enhancing superior performance in companies.

The results of this study are in line with several previous studies, including research by Shobayo (Thunberg et al., 2017) which aimed to examine the influence of supply chain management on the operational performance of companies in Nigerian manufacturing firms, with a particular interest in supply chain strategy and flexibility. The study results indicate that supply chain management does not have a significant overall impact on company performance, with a correlation of 7.6% for all company samples, which is considered low. This statement is supported by several other researchers who found that supply chain management practices have no effect on firm performance (Kariuki, 2018). However, different statements have been put forward by other researchers, suggesting that company performance is significantly influenced by the presence of supply chain management (Novitasari & Agustia, 2021; Widyanesti & Masyithah, 2018).

### ***Interpretation of Competitive Advantage Does Not Significantly Affect Firm's Performance***

The analysis results indicate that the performance of shipping industry companies has actually improved, but this has not been accompanied by an increase in competitive advantage, which rather fluctuates and tends to decline. These results are consistent with the hypothesis test results, which show that competitive advantage has an insignificant effect on company performance. The declining competitive advantage strategy ratio indicates that the performance of the competitive advantage strategy implemented by shipping industry companies is decreasing, but the company's performance continues to improve, so the decline or increase in the company's competitive advantage strategy performance does not impact its performance. Based on the resource-based view theory, companies need to utilize their resources in the form of intangible assets, namely competitive advantage strategies, to improve performance.

The results of this study are consistent with the findings of Tresna & Raharja (Thunberg et al., 2017), who concluded that competitive advantage does not significantly affect business performance. A different statement was expressed by Zhang (Kariuki, 2018), who stated that choosing the right strategy will create superior performance for an organization, a view also expressed by other researchers (Jamaludin, 2021; Novitasari & Agustia, 2021; Ploenhad et al., 2019).

### ***Interpretation of Macro economics Moderates the Effect of Supply Chain Management on Competitive Advantage***

The analysis results indicate that the competitive advantage of shipping companies has declined, accompanied by supply chain management that fluctuates and tends to decrease. Macro-economics, as an external factor, has experienced upward fluctuations; however, the company's competitive advantage has decreased, which means that macro-economic factors can influence the implementation of supply chain management strategies in enhancing the company's competitive advantage. This aligns with the hypothesis test results, which show that macro-economic moderation affects the relationship between supply chain management and competitive advantage. The declining supply chain management ratio indicates that the performance of the supply chain management strategies implemented by the shipping industry companies has decreased. Supply chain management strategies are within the company's internal scope, and if supported by the company's external environment, namely macro-economics, they are likely to impact the optimal implementation of the strategic.

These results are in line with the conception of Ochieng & Victor (Jamaludin, 2021; Novitasari & Agustia, 2021; Ploenhad et al., 2019), who studied effective marketing strategies and superior performance and identified environmental demands as a key moderating factor, indicating that organizations must be able to understand diverse, interconnected, and often dialectical environmental aspects and align them with effective strategies. The analysis (Jamaludin, 2021; Novitasari & Agustia, 2021; Ploenhad et al., 2019) states that this competitive advantage is influenced by both internal and external factors of a company, thus requiring the appropriate strategy. Fauziah (2021) adds that one of the quite important external factors is the macroeconomic factor, including credit, interest rates, and taxes.

### ***Interpretation of Macroeconomics Moderates the Influence of Competitive Advantage on Firm Performance***

The analysis results show that overall, the performance of shipping industry companies during the period from 2013 to 2019 experienced fluctuations with a tendency to increase. This increase was followed by the competitive advantage of shipping industry companies, which fluctuated with a tendency to decline. The macroeconomic factors, which are external factors for the company, experienced upward fluctuations, and likewise, the company's performance also showed improvement, indicating that macroeconomic factors are capable of influencing the implementation of competitive advantage strategies in enhancing performance.

Previous research on the influence of competitive advantage on firm's performance with the moderation of macro-economics has been conducted by Mbithi et al., (Zhang, 2022). Their study concluded that the macro environment can act as a moderator on the impact of strategy and company performance, as stated by Bjornlund et al., (Zhang, 2022), who studied effective marketing strategies and superior performance and found environmental demands to be a key moderating factor, indicating that organizations must understand the diverse, interconnected, and often dialectical aspects of the environment and align them with effective strategies. The same conclusion was obtained in the research by Bjornlund et al., (2020).

### ***Interpretation of Macro-economics Moderates the Effect of Supply Chain Management on Firm's Performance***

In addition to moderating, researchers found findings regarding the direct and significant influence of macroeconomics on a firm's performance. This means that a firm's good performance also depends on external factors, namely macroeconomics. The economic condition of the country where the company is located can support the company to perform better or improve its performance due to a favorable macroeconomic condition. In this study, Indonesia, as an archipelagic country with thousands of islands, greatly supports the shipping industry as a form of sea transportation between islands as well as between countries. Better macroeconomic conditions in Indonesia can enhance the performance of shipping companies,

as it can provide added value due to the advantages of macroeconomic factors over other countries.

Research on the influence of supply chain management on firm performance with the moderation of macro-economics has been conducted by Mbiti et al. (2017). The study concluded that the macro environment can act as a moderator on the impact of strategy and company performance, as stated by Albab & Azis (2021), who explained the organization's capacity to deliberately create, expand, or modify its resource base based on the strategic choices adopted by the organization to achieve its goals. Therefore, it can be concluded that the four components of the company's macro environment manifest and influence the strategy-performance relationship at various levels, a conclusion similarly found in the research by Ochieng & Victor (2019).

## 5. Comparison

In general, the conclusion from this study is that supply chain management has a significant impact on a company's competitive advantage, particularly for companies operating in the shipping industry listed on the Indonesia Stock Exchange from 2013 to 2019, thus confirming the first hypothesis (H1). Supply chain management and competitive advantage have an insignificant effect on firm performance, hence the second hypothesis (H2) and third hypothesis (H3) are not supported. The macro-economic moderator is proven to influence the relationship between supply chain management and competitive advantage, as well as the relationship between competitive advantage and supply chain management with firm performance, thus hypotheses four (H4), five (H5), and six (H6) are confirmed..

## 6. Conclusion

Research results show that supply chain management can enhance competitive advantage. Therefore, every shipping company in the maritime transport industry must be able to manage its supply chain efficiently and effectively, from the receipt of goods, transportation, to the delivery of goods to the destination in the right quantity, without damage, and with fast delivery times to minimize costs while maintaining service satisfaction. Macroeconomics has been proven to be a very determining factor in the performance of the cargo shipping industry. In navigating uncertainties in macroeconomics, the appropriate SCM strategy for companies in this sector is the agile supply chain (responsive supply chain), as it emphasizes the effort to respond quickly to consumer demand, thereby anticipating frequently changing demands.

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