

## **The Role of Supply Chain: Capability and Flexibility to Improve Performance (Study at PT. Sumber Djaja)**

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### **ABSTRACT**

The increase in the development of the expedition business from year to year requires companies to maintain competitive advantage in order to maintain product quality, relationship with partners, and improve company's performance. The object of this study is a trucking company named PT. Sumber Djaja, which was founded in 1970, where they saw a decline in performance as time goes by. This study aims to see the effect of supply chain capabilities and supply chain flexibility on the business performance of PT. Sumber Djaja. The method used in this research is quantitative, with a research sample of 45 respondents using purposive sampling method. Data collection was carried out using questionnaire and analyzed using Partial Least Squares method. The results of data analysis showed that supply chain capability and supply chain flexibility have a significant effect on business performance.

Keyword: supply chain capability, supply chain flexibility, business performance

## PRELIMINARY

Expedition is considered as a part of almost every business and plays an important role in the distribution chain. Many companies need expedition services, especially in logistics and cargo distribution. Expedition services can effectively facilitate the flow of goods quickly and accurately in import and export activities in national and international trade. In this case, the largest users of shipping services are the textile industry (37%); manufacturing industry that produces consumer goods (21%); car (17%); and natural gas (10%). Data from Badan Pusat Statistik Surabaya (2014) shows that the proportion of the transportation and communication sector increased from 5.85% in the second quarter of 2013 to 6.07% in the second quarter of 2014. The reason for this increase was an increase in the land, sea, and air transportation, as well as communication subsectors.

The growth of the transportation industry business shows the tight business competition in the shipping industry. This requires that every company participating in the expedition must have business performance to maintain its existence in an increasingly competitive transportation industry. Sustainable business performance is the result of formulating and implementing the right strategy (better fit) based on three dimensions of strategic management practice, namely the successful establishment of a competitive foundation, competitive methods, and management in the field of competitive advantage (Sutrisno, 2019). As a basis for competition, it will be rooted in the selection of the right assets, the use of appropriate capabilities and capabilities. Companies that have a highly competitive spirit will be at the forefront of business competition (Gligor, 2016). Once the strategic goals are achieved, another goal that should not be forgotten is to formulate a strategy to maintain a leading position in the market. This can be done by creating a grand strategy that includes a priority framework that focuses on developing a human resource (HR) strategy, marketing strategy, finance, operations, and business supply chain.

Supply chain in a business or what is known as supply chain management has a significant role in achieving business performance for shipping companies. Although

important, supply chain activities such as transportation, warehousing, and storage are rarely studied over time, so this is what causes business performance to decline. Decision makers (managers) have recognized that building an effective supply chain offers opportunities to create sustainable performance (Tracey et al., 2005). When the company focuses on managing the supply chain well, the benefits that will be obtained include timely product availability, low-cost delivery cycles, quality customer service and increased company profits.

Supply chain is generally understood as the integration of the main business processes that provide products, services and information that add value to customers (Mauldin, 1997). These processes include logistics activities such as warehousing, inventory control, transportation management, as well as logistics activities such as customer service. This is called the ability to manage supply chain (supply chain capabilities) to be more efficient and have an impact on business performance.

Today's global market offers a tremendous opportunity for shipping companies to achieve business performance. Reflecting on the geographical conditions in Indonesia that require the availability of massive infrastructure to facilitate shipping companies in improving performance and synergizing with the government to build the nation. An integrated supply chain system and technological improvements provide a better service space for customers (Shin et al., 2018). With increasing global competition, shipping companies must be more involved in how to better serve customers in order to create sustainable business performance (Gligor & Holcomb, 2014).

### **Logistics Management in Supply Chain**

Logistics management means carrying out activities to ensure the supply of the right product, in the right quantity and at the right time and in the right conditions so that customers can reach them at a low cost. Within this framework, process integration, task management, optimization of methods and support of adequate information systems are essential and, therefore, management partnerships are key. This phase

involves all physical activities from raw material procurement to final product, which includes transportation, warehousing and production time activities. Supply chain management aligns all these activities in such a way that customers can have access to several high-quality products and reliable services at minimum costs (Bagher, 2018).

Several previous studies have stated that supply chain management is a key and strategic factor in achieving organizational goals and ultimately improving overall company performance (Dos Santos & Smith, 2008; Han et al., 2009; McCormack & Johnson, 2002; Tracey et al. , 2005). Thus, supply chain management must be considered as one of the critical points in the field of organizational management, which requires monitoring, evaluation, complications, improvement and ultimately leads to excellence, and continuous improvement of business performance and highly efficient management becomes important to achieve.

### **Factors Affecting Business Performance in Supply Chain Management**

In the development of integrated supply chain management, the development of trust and trust among partners and service providers is a testament to reliability and a critical factor that must be considered in managing supply chain capabilities. The use of accurate measures and complete flow of information systems at the right time and place and has been well coordinated will create sustainable business performance improvements. Therefore, it is important and necessary to build good relationships to create quality supply chain management.

Several research results show that there is a significant relationship between supply chain capabilities and the company's financial and operational performance. This is reflected in the logistics management aspect of the company, which if the logistics management can be optimal, it will have an impact on the effectiveness of logistics costs, labor costs, product costs and the possibility of decreasing the cost of distributed products. In the aspect of the role of information systems, the better the quality of information in the company, the greater the impact on business performance in the company. In the aspect of relationships, between supply chains, it is the main

thing that must be maintained which will have an impact on business continuity in the future.

Business performance can be achieved in many ways, one of which is supply chain capabilities optimization strategy. The intended optimization is maximizing all possible aspects that have an impact on the creation of sustainable business performance. Aspects that can be optimized include: human resources, availability of transportation fleets, information systems, capital and connectivity between partners (Ou et al., 2010). Based on this, the following hypothesis is proposed:

**H1:** Supply chain capabilities have a significant effect on business performance.

The process of distributing products and services to customers is the most effective and efficient way for companies to remain successful and is at the center of supply chain management practices (Arawati, 2011). This is called supply chain flexibility, which increases flexibility and achieves sustainable business performance. Liu et al. (2019) stated that the complete definition of supply chain flexibility is a supply chain that includes five dimensions, namely operating system flexibility, logistics process flexibility, supply network flexibility, organizational design flexibility, and information system flexibility. The research also states that an organization or company that has strong supply chain flexibility will be able to achieve superior company performance.

Flexibility is a complex and multidimensional concept that is difficult to explain coherently. Flexibility is defined as an attribute of a technological system to address various environmental requirements (Sánchez & Pérez, 2005). Flexibility reflects the ability of a system to change or react with minimal constraints in time, effort, cost or performance. In recent years the literature on flexibility has increased. Most of the articles published relate to the flexibility of logistics systems. Of course this shows the complexity of the concept as well as the importance of flexibility in the supply chain.

In general, flexibility is understood as the ability to adapt to change and is very important for the long-term survival of an organization (Stevenson & Spring, 2009). In the short term, flexibility affects a company's competitive posture and can affect its overall profitability. Flexibility becomes especially relevant when the entire supply chain is considered to consist of a network of supply, production and delivery companies. In this case, many sources of uncertainty must be addressed (Merschmann & Thonemann, 2011). Flexibility in the service industry such as freight forwarding allows the shift of roles or service models so that they can be very different or even of high quality.

Flexibility in the service industry such as freight forwarding allows the shift of roles or service models so that they can be very different or even of high quality. Emphasis on multiple dimensions of supply chain flexibility can be directly linked to overall business performance. There are two aspects, namely process flexibility and logistics flexibility in supply chain flexibility. In the context of shipping companies, the aspect of process flexibility refers to how shipping companies provide the best service according to customer needs and expectations. This makes the expedition owner focus that providing the best service is the company's main goal. In terms of logistics flexibility, it refers to how the services sold by the shipping company reach the market with the best quality. It focuses on what strategies are used to achieve these conditions. Based on this, the following hypothesis is proposed:

**H2:** Supply chain flexibility has a significant effect on business performance.

## **METHODS**

This research was conducted at PT. Sumber Djaja, a freight forwarding company across the islands of Java, Bali and Lombok, located in Probolinggo, East Java. The population of this research is the employees of PT. Sumber Djaja, totaling 50 people. Sampling in this study used a purposive sampling technique where the sampling was carried out with certain predetermined criteria and in accordance with the research objectives

(Bungin, 2013). In this study, only 45 people were taken from the total population of 50 people, while the 5 employees who were not respondents did not understand the supply chain management of PT. Source Djaja so that it is not included in the respondent criteria, the respondent criteria set are:

1. Respondents are permanent employees who are on duty and understand the company's supply chain sector, (with the reason that respondents are always in the field and interact directly with consumers intensely)
2. Respondents have worked for more than 3 years at PT. Source Djaja.

## RESULTS AND DISCUSSION

Table 1 shows that majority of respondents who filled out the questionnaire were male, had driver positions, and had worked for 4 years.

Table 1: Respondents Profile

Respondents Profile		Frequency	Presentation (%)
<b>Gender</b>	Male	38	85%
	Female	7	15%
<b>Position</b>	Operational Manager	1	2,2%
	Staff Control	4	8,8%
	Administration	3	6,6%
	Driver	37	82,2%
<b>Length of Work</b>	4 Years	11	24,4%
	5 Years	8	17,7%
	6 Years	4	8,8%
	9 Years	2	4,4%
	11 Years	1	2,2%
	12 Years	8	17,7%
	15 Years	4	8,8%
	20 Years	4	8,8%
	23 Years	2	4,4%
	24 Years	1	2,2%

Table 2: Cross Loading

Indicators	X1	X2	Y
X1.1	0.837	0.399	0.610
X1.2	0.714	0.205	0.389
X1.3	0.751	0.104	0.296
X1.4	0.702	0.292	0.275
X1.5	0.827	0.541	0.610
X2.1	0.455	0.816	0.551
X2.2	0.332	0.778	0.430
X2.3	0.251	0.756	0.389
X2.4	0.333	0.788	0.455
Y1.1	0.411	0.500	0.725
Y1.2	0.499	0.537	0.838
Y1.3	0.506	0.342	0.689
Y1.4	0.438	0.360	0.733

The validity test in this study includes the convergent validity test and the discriminant validity test. While the reliability test was carried out using composite reliability and Cronbach alpha. Based on Table 2 above, it can be concluded that the cross loading (of the dimensions or variables measured) for each indicator is known to be greater than the cross loading value, and there are other measures or variables. If the cross loading value is  $> 0.50$ , the indicator is considered valid to measure the appropriate size or variable. If the correlation value of the indicator and the structure itself is higher than the correlation between indicators and other structures, it can be concluded that the potential structure can predict the indicators of each indicator better than other indicators. Table 3 shows that the AVE value is greater than 0.5 which means that the variables in the study have met the evaluation of convergent validity. In addition, it can also be concluded that each variable in this study can be used as a measuring tool used in this study. This can be seen from the value of composite reliability and Cronbach's alpha which has a value of more than 0.7.

Table 3: Validity and Reliability

Variables	Cronbach's Alpha	Composite Reliability	AVE	R Square
X1	0,833	0,878	0,591	
X2	0,794	0,865	0,616	
Y	0,735	0,835	0,559	0,505



Table 4: Path Coefficient

Variables	t-statistics	P-Values
X1 → Y	4,607	0,000
X2 → Y	4,373	0,000

The effect of supply chain capabilities (X1) on business performance (Y) has a significant relationship with the t-statistic value of 4.607 or greater than t-table 0.68. The results of the study prove that the hypothesis H1 "supply chain capabilities has a significant effect on business performance" can be accepted. The effect of supply chain flexibility (X2) on business performance (Y) has a significant relationship with the t-statistic value of 4.373 or greater than t-table 0.68. The results of the study prove that the hypothesis H2 "supply chain flexibility has a significant effect on business performance" is also accepted.

Based on the data analysis that has been carried out, the result indicates that supply chain capabilities have a significant effect on business performance. This means that supply chain capabilities have an influence on business performance which is depicted through logistics management indicators, the role of information systems and the role of relationships. Therefore, all aspects of these indicators must be considered by the company because they have a significant influence on business performance. The results of this study are supported by research conducted by Dos Santos and Smith (2008) where the researchers conclude that supply chain capabilities have a significant influence on business performance. The same view is also expressed by Bagher (2018) where the researcher concludes that supply chain capabilities have a significant influence on business performance. Therefore, this study also strengthens previous research related to the effect of supply chain capabilities having a significant effect on business performance.

Significant result of the relationships between supply chain capabilities and business performance indicates that the supply chain capabilities of the company that are carried out have an effect on company performance. It is important for company to continue to improve logistics management, the role of information systems and also the role of relations with the company. This can be done by being committed to aligning all

activities in the company properly so that customers can rely on company services with minimum costs incurred by the company, focusing on the integration of supply chain management activities and their linkages with the flow of information to achieve reliability and sustainable business performance, and build good relationships with external parties even more maximally to create quality supply chain management.

Based on the data analysis that has been carried out, the result indicates that supply chain flexibility has a significant effect on business performance. This means that supply chain flexibility has an influence on business performance which is illustrated by indicators of process flexibility and logistical flexibility which include adaptable flexibility, alignment flexibility and agility flexibility. Therefore, all aspects of these indicators must be considered by the company because they have a significant influence on business performance. The results of this study are supported by research conducted by Sanchez & Perez (2005) where the researchers conclude that supply chain flexibility has a significant effect on business performance. The same view is also expressed by Manders et al. (2014) where the researcher concludes that supply chain flexibility has a positive and significant influence on business performance. Therefore, this study also strengthens previous research related to the effect of supply chain flexibility having a significant effect on business performance.

The results of supply chain flexibility having a significant effect on business performance indicate that the supply chain flexibility that is carried out affects the company's performance. This can be done by focusing more on supply chain management activities companies such as services that are produced and also monitoring activities when working on delivery orders, quality checks, vehicle tracking to the ease of payment methods. Companies also need to focus on the company's logistics strategy to improve service to consumers.

## CONCLUSION

The results of the analysis conclude that supply chain capabilities and supply chain flexibility affect business performance, so that the managerial implications for PT Sumber Djaja are to pay more attention to and maximize the development of the role of information to help maximize supply chain activities at the time of delivery, as well as

strive to develop by adding types of trucks so that the company can meet and adjust to customer demands. This is a form of strategy to improve the company's performance as well as a consideration for decision making so that the company can continue to survive in the midst of increasingly fierce competition in the field of similar shipping services that continue to emerge.

Based on the results of the research as a whole, the suggestion that can be conveyed after conducting this research is that further researchers are expected to be able to expand the scope of the sample to external parties related to the company and deepen research and other related variables to be investigated.

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