Performance Evaluation of Supply Chain Management in Baby Fashion Industry Using SCOR Model

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Abstract—This research aims to evaluate performance of supply chain management in the baby fashion industry with PT Indo Trade Cemerlang as the study object. Baby fashion industry requires a long and complex process in its manufacturing process. Therefore, the right and effective supply chain management are needed to make it excellent and competitive in the baby fashion market. The research method in this research is to measure and evaluate the company's supply chain performance through SCOR Model 12 version and Analytical Hierarchy Process in its analysis. The data in this research is primary data, secondary data and interviews with four key employees in the supply chain department. All the data will be analyzed by using SCOR Model which consist of six main processes namely plan, source, make, deliver, return and enable which will combine with Analytical Hierarchy Process. The result of analysis in this research shows a score of 79,56 as an evaluation of company's supply chain performance which indicates that plan, deliver and return process have a significant role in determining supply chain management performance in the baby fashion industry.

Keywords—Supply Chain Management, Baby Fashion Industry, Plan, Deliver, Return.

I. INTRODUCTION

Fashion industry is one of the largest manufacturing industries on a global scale. One of the indicators is the high number of workers in this sector, which stands for 60 million workers worldwide [1]. In addition, this industry is also known for its long and complex manufacturing process. In most manufacturing industries, supply chain will coordinate between production, inventory, location and transportation in the process [2]. [3] added that these interrelationships can be found in upstream, downstream or both areas within a company. However, in the fashion industry, the supply chain includes not only these functions but also various companies from spinning to distribution that involve the transformation of fiber shape to the final product [4]. In his further research, [4] added that the length and complexity of the supply chain in the fashion industry makes it very sensitive to the bullwhip effect.

To make matters worse, the bullwhip effect phenomenon in the supply chain is also caused by the behaviour that occurs within it, in this case the fashion industry is not spared [5,6,7,8]. PT Indo Trade Cemerlang as one of the companies in Indonesia engaged in the baby fashion industry is also experiencing the same thing. The supply chain process of the fashion industry in Indonesia, run by PT Indo Trade Cemerlang, involves various divisions ranging from design, production planning, purchasing, production to distribution of goods by the logistics department, all of which are integrated. The entire supply chain process, starting from downstream to upstream areas, involves a long and complex supply chain for PT Indo Trade Cemerlang as a fashion industry player. To produce products with good quality and competitive prices, competitive supply chain management is absolutely necessary so that it is manifested into an absolute advantage for the company.

The urgency of raising baby fashion in this study can be seen from several aspects. First, the complexity and length of the supply chain process that occurs in the baby fashion industry. With the nature of the supply chain process, the company experiences many problems that if left unchecked will continue to harm the company at large. Second, the company has difficulty evaluating the current supply chain process. The difficulties experienced by the company ultimately lead to various problems that occur and the company's inability to make structured and systematic improvements. Third, according to research conducted by [9], it was found that the Indonesian fashion industry is a profitable industry where its growth has made a positive contribution to the Gross Domestic Product of the second largest creative economy in Indonesia with a value of IDR 116 trillion in 2018. So by raising this issue, it will be able to help companies in the same industry to evaluate their supply chain process and what policies can be taken in improving the process.

In this study, several problems related to the length and complexity of the supply chain in the baby fashion industry include: (1) the company experienced problems such as low accuracy of demand forecasts, (2) low accuracy between plans and actual production, (3) low level of production fulfillment from suppliers of finished goods production, (4) delays in delivery of goods from suppliers of finished goods, (5) high numbers of inventory stock of their products in the warehouse and (6) long procedures in paying bills to suppliers. From some of the problems that have been found in this study, the author found that the supply chain process in the company has not been running effectively. A company needs to make continuous improvements to its supply chain process and evaluate it regularly. Evaluation of the current supply chain process is to find out the indicators of the supply chain that have been running well or not, and what parts must be improved in order to achieve effective supply chain performance.

Previous research on the baby fashion industry found that baby fashion stock control in Indonesia is still based on

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intuition from company management rather than using correct and proven methods [10]. This research tries to look at the phenomenon of the baby fashion industry in Indonesia from a different perspective compared to previous studies. The difference between this study and previous studies lies in the object of research raised, where this study raises the supply chain in the baby fashion industry that occurs at PT Indo Trade Cemerlang. In addition, this research tries to evaluate the supply chain in the baby fashion industry that occurs at PT Indo Trade Cemerlang by using a combination of the SCOR Model and Analytical Hierarchy Process methods. The SCOR Model itself is one of the analytical tools to measure supply chain performance, especially in the manufacturing industry [11]. The SCOR Model itself was chosen because it is flexible and can be adjusted to increase productivity as needed [12]. Analytical Hierarchy Process itself is a model for determining the priority of elements in each layer of the decision hierarchy and synthesizing priorities to determine the overall priority of alternative decisions [13].

Research related to the fashion industry using the SCOR model has been carried out by focusing on performance improvement, supply chain strategy and performance evaluation [14,15,16]. Research conducted by Martino et al. [17] found that the SCOR model has helped the fashion industry in optimizing retail distribution which includes how to manage unsold stock. [18] in his writing added that the use of the SCOR model is considered appropriate in analysing the fashion industry due to the clarity of metrics and causal relationships in it that are able to dissect the supply chain from various perspectives. [19] also added in their research on sustainability in the fashion supply chain that the use of the SCOR model is a basic conceptual model of the supply chain to identify a basic language that is useful for explaining and comparing supply chain practices in the fashion industry.

II. LITERATURE REVIEW

Supply chain management focuses on optimizing the flow of goods and materials by sharing and analysing information related to internal and external supply chain activities [20]. Turbulence in a company's business environment increases the level of volatility and the risk of failure in the supply chain, which then forces companies to increase the agility and flexibility of their supply chains [21]. Therefore, the supply chain performance measurement system for companies is very important to measure the company's capability to face the challenges. In creating a supply chain performance measurement system, an important stage in the process is to define the core processes of the supply chain [22]. The measurement system should also focus on operational sustainability and be aligned with the company's strategy [23]. This is in line with the SCOR Model which provides methodological, diagnostic and benchmarking tools to assist companies in making dramatic improvements in the supply chain area [24].

The SCOR Model was first introduced in 1996 by the Supply Chain Council (SCC) as a model for measuring supply chain performance across industries [25,26]. Along the way, many researchers have explained that this model has been

generally accepted to measure and describe supply chain performance in a company [27,28,29]. [30] in their writing explained that this model has been implemented in various industries and research, as this model has also developed and simplified the adaptation process.

The current SCOR Model covers all activities of suppliers, customers and all interactions that occur in the market consisting of six main processes (Figure 1.), namely; (1) Plan, (2) Source, (3) Make, (4) Deliver, (5) Return and (6) Enable [31]. In the analysis, five dimensions are used to determine performance measures, namely; (1) Reliability, (2) Responsiveness, (3) Agility, (4) Cost, (5) Asset Management Efficiency. The SCOR Model also consists of four levels associated with four processes. Level 1 is the main process of the analysis model, level 2 is the category process that defines the operational strategy, level 3 is the process element that defines the individual process configuration, and level 4 is the improvement activity.

The implementation of the SCOR Model is flexible and can be adjusted to increase productivity as needed [32]. The SCOR Model itself has a function to evaluate objectives, re-engineering effectiveness, performance, quantification, testing and future planning as well as certain processes in the supply chain. In the aspect of supply chain, SCOR model can measure performance objectively based on existing data and can identify where improvements need to be made to create a competitive advantage [22]. The SCOR Model itself has five dimensions (reliability, responsiveness, flexibility, cost, and Asset Management Efficiency) where the dimensions are then decomposed into several performance indicators that are determined by themselves according to related industries [33]. Iskandar et. al. [34] explains that the performance indicators in the SCOR Model analysis are at the third level of the process which describes each process and activity. This third level will map performance indicators using the performance attributes of the SCOR Model.
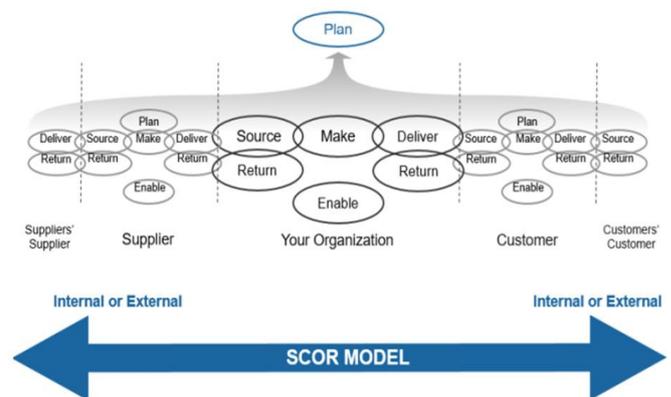

Figure 1. SCOR Model Six Management Processes
(Supply Chain Council, SCOR version 12)

B.1. The Combination of SCOR Model and Analytical Hierarchy Process

In this research, the combination of SCOR Model and Analytical Hierarchy Process is necessary because some processes in the supply chain are more important than others

[35]. Since the SCOR Model is general, this has led experts to add other models to complement it such as this Analytical Hierarchy Process [29]. The Analytical Hierarchy Process has been widely used in industrial engineering applications and policy-making processes especially in manufacturing integration systems, technology investment decision-making, flexible manufacturing systems and optimal parameter selection in technical problems [36]. [37] added that the Analytical Hierarchy Process divides complex problems with multi-criteria policy making into interconnected decision-making elements in a hierarchical structure. This means that the Analytical Hierarchy Process will help to break a complex unstructured situation into several components in a hierarchical arrangement.

B.2. SCOR Model in Fashion Industry

SCOR Model is one of the analytical tools to measure supply chain performance, especially in the manufacturing industry [11]. The fashion industry, as a part of the manufacturing industry, has widely applied the SCOR Model as an analytical tool to measure supply chain performance in this industry. [15] in their paper reviewed that the SCOR Model provides a framework for companies in the fashion industry to use appropriate performance indicators in measuring their supply chain performance. Caristi [18] in his article added that the use of the SCOR Model is considered appropriate in the fashion industry because the clarity of metrics and causal relationships in it are able to analyse the supply chain from various perspectives. [19] also added in their research on sustainability in the fashion industry supply chain that the use of the SCOR Model is a basic conceptual model of the supply chain to identify a basic language that is useful for explaining and comparing supply chain practices in the fashion industry. The SCOR Model has also helped the fashion industry in retail distribution optimization which includes how to manage unsold stock in stores [17].

B.3. Supply Chain Performance Measurement System

[38] in his writing explains that performance measurement is a process of quantification, where measurement is a process of quantifying performance. The supply chain itself focuses on optimizing the flow of goods and materials by sharing and analysing information related to supply chain activities internally and externally [20]. Turbulence in a company's business environment increases the volatility and risk of supply chain failure, forcing companies to improve the agility and flexibility of their supply chains [21]. Therefore, the supply chain performance measurement system for companies is very important to measure the company's capability to face existing challenges. In creating a supply chain performance measurement system, an important stage in the process is at the stage of defining the core processes of the supply chain [22]. And last but not least, the supply chain measurement system must also focus on operational sustainability and be aligned with the company's strategy [23].

III. RESEARCH METHOD

This research is a qualitative study that combines the Supply Chain Operating Reference (SCOR) version 12 analysis model with the Analytical Hierarchy Process as the analysis knife. The use of the SCOR Model itself in evaluating supply chain performance has its own advantages where the tool is able to measure the compatibility of performance measurement indicators for each business process. It also creates universal indicators for comprehensive performance measurement [39]. In addition, the combination of SCOR Model and Analytical Hierarchy Process is necessary because some processes in the supply chain are more important than others [35]. According to [32] the working principle of the Analytical Hierarchy Process is to simplify irregularities, strategies and complex and dynamic problems into parts and arranged based on a hierarchy. This means that the Analytical Hierarchy Process will help to solve a complex unstructured situation into several components in a hierarchical arrangement.

This research will begin with the identification of the supply chain management process in the baby fashion industry with PT Indo Trade Cemerlang as the object of research. Through this identification based on direct observation, the research problem will be defined. The next stage of this research is entering the data collection and processing stage. This research data was obtained through direct observation, questionnaires, interviews with three informants at PT Indo Trade Cemerlang which includes the Supply Chain Manager, Production Supervisor and Purchasing Supervisor as well as through internal company data. After all the required data is obtained, the next stage is to process the data. The data processing process itself goes through several stages, namely identifying the company's supply chain process through the SCOR Model framework, identifying the company's supply chain performance indicators and after that weighting using the Analytical Hierarchy Process on processes, dimensions and performance indicators.

Based on data processing of performance indicators (Key Performance Indicator, KPI) obtained through questionnaires, 22 KPIs are obtained that are most suitable in this study. The 22 KPIs consist of 6 KPIs from the plan process, 4 KPIs from the source process, 5 KPIs from the make process, 3 KPIs from the deliver process, 2 KPIs from the return process and 2 KPIs from the enable process. The performance indicators will then be analyzed using the Analytical Hierarchy Process in the form of a hierarchy. Based on the Analytical Hierarchy Process, a comparison scale is then made to compare between elements to determine the level of importance of each element. With this comparison, the final analysis will get the level of importance of each element and lead to the final score of the company's supply chain performance.

IV. RESULT AND DISCUSSION

C.1. Initial Observation

This research focuses on the supply chain process in the baby fashion industry with the object of research at PT Indo Trade Cemerlang based in Indonesia. The company's supply chain process begins with a model design process approved by the product development, sales, marketing, supply chain and board of directors. The approved model design is carried out at

the end of the year for the coming year along with determining the launching time of each product. From the approved model design, the supply chain department will then calculate all cost requirements, materials, production capacity, material & production supplier partners, production schedules, delivery schedules and so on. The whole thing is poured into annual master planning which will be derived into 3-month, monthly and weekly periods. For the supply of goods & production needs, from the master planning, the purchasing department will coordinate the main contract for the next 1 year to their partners (suppliers).

In the questionnaire process for the three informants (supply chain manager, production supervisor and purchasing supervisor), KPI validation is used to identify several supply chain KPIs that are in accordance with the company. The KPI validation method in this study was carried out using the average value (the result of the questionnaire filled out by 3 informants) of each indicator asked. If the average value of the indicator is ≥3.00 then the indicator will be used as a KPI that

is suitable for the company. The opposite also applies when the indicator has a value of ≤2.99 then the indicator is declared not suitable for the company.

Based on the questionnaire, there are 22 indicators that have a mean score ≥3.00 and are in accordance with the company (Table 1). The 22 indicators have a variation in mean score from the highest at 4.00 (production planning process, timeliness of design submission before production and conformity of quantity and quality delivered with what was ordered) to the lowest at 3.00 (competitive price of goods from suppliers & outsourced production, communication to suppliers, coordination process with suppliers & outsourced production, continuous and measurable improvement in production quality and flexibility in returning final products that do not meet quality standards). The selected indicators represent the supply chain management process studied in this research which includes the process of plan, source, make, deliver, return & enable.

TABLE 1. Initial Hierarchy of SCOR Model Measurements

Process (Level 1)	Dimension (Level 2)	Key Performance Indicator (Level 3)	Key Performance Indicator (Level 3)	Unit
Plan	*Reliablity*	Production planning process	Production planning process	Days
		Timeliness of design submission before production	Timeliness of design submission before production	%
		Demand forecast process	Demand forecast process	Days
		Production alignment with planning	Production alignment with planning	%
	Responsiveness	Raw material procurement planning process	Raw material procurement planning process	Days
		Bill of Material (BOM) calculation process	Bill of Material (BOM) calculation process	Days
Source	*Responsiveness*	Communication with suppliers	Communication with suppliers	Days
		Coordination process with suppliers & production outsourcing	Coordination process with suppliers & production outsourcing	Days
	Agility	Availability of suppliers & production outsourcing	Availability of suppliers & production outsourcing	%
	Cost	On-time delivery of products to warehouse	On-time delivery of products to warehouse	%
Make	*Reliablity*	Quality of outsourced production meets requirements	Quality of outsourced production meets requirements	%
		Measurable and continuous production quality improvement	Measurable and continuous production quality improvement	%
		On-time production completion	On-time production completion	%
		Not Good (NG) production output rate	Not Good (NG) production output rate	%
	Cost	Conformity of delivered quantity/quality with orders	Conformity of delivered quantity/quality with orders	%
Deliver	*Reliablity*	On-time product delivery	On-time product delivery	%
		Efficient delivery planning aligned with operations	Efficient delivery planning aligned with operations	%
	Cost	Guaranteed replacement of claimed products	Guaranteed replacement of claimed products	%
Return	*Reliability*	Flexibility in returning non-standard products	Flexibility in returning non-standard products	Days
	Responsiveness	Monitoring reports of Supply Chain Department performance	Monitoring reports of Supply Chain Department performance	%
Enable	*Reliablity*	Root cause analysis of Supply Chain Department issues	Root cause analysis of Supply Chain Department issues	%

C.2. Weight Scoring Calculation

SCOR Model is a tool to look deeper into the supply chain process in an organization. With this tool, companies can utilize it as a basis for evaluating the performance of supply chain management to be more effective and efficient. Furthermore, through this tool, weighting will be carried out into six SCOR perspectives, namely the plan, source, make, deliver, return & enable process as the basis. In the previous table 1, it can be seen that the SCOR hierarchy is divided into 3 levels. Level 1 is the process perspective of the supply chain, level 2 is the result of the KPI classification of the SCOR dimensions and level 3 is the scope of the supply chain in the

form of performance measurements needed by an organization to evaluate their supply chain processes. Analysis of the three levels is then carried out to get the interconnection between the three through the weighting of processes, dimensions and Key Performance Indicators (KPIs).

Level 1 Weighting Matrix

At level 1 (Table 2), the weighting was carried out on 6 supply chain processes using the Analytical Hierarchy Process calculation principle. The Analytical Hierarchy Process calculation principle is then applied to each supply chain process to get the weight of each process. Based on the weighting data in table 2 below, it is found that the plan

process has the highest weight or priority and the return process is the lowest in priority. And for the source and make processes have the same weight as 0.22. The weighting or priority score at level 1 will then be used in the assessment at the next level (Level 2).

TABLE 2. Supply Chain Key Processes Weighting

Process	Priority
Plan	0,29
Source	0,22
Make	0,22
Deliver	0,17
Return	0,05
Enable	0,06
Total	1,00

Level 2 Weighing Matrix

At level 2 (Table 3), the weighting process is carried out on aspects of the supply chain dimensions based on the hierarchy in the SCOR Model. The aspects of the supply chain dimensions include the dimensions of reliability, responsiveness, agility, cost and asset management efficiency where each aspect is weighted using the Analytical Hierarchy Process calculation principle. Based on the weighting at level 2, the data as listed in table 3 is obtained. The table shows that in the plan process, the validated dimensions are reliability and responsiveness with reliability having the highest weight. Source process, the validated dimensions are responsiveness, agility and cost with responsiveness having the highest weight. And the make process, the validated dimensions are reliability and cost with reliability having the highest weight. The same thing happens in the deliver process where the validated dimensions are reliability and cost with reliability having the highest weight. While in the return process, the dimensions that have been validated are reliability and responsiveness with responsiveness having the highest weight. And the last is the enable process, the validated dimensions are reliability and agility with reliability having the highest weight.

TABLE 3. Supply Chain Performance Dimension Weighting

Process (Level 1)	Dimension (Level 2)	Weight
Plan	Reliability	0,87
	Responsiveness	0,13
	Total	1,00
Source	Responsiveness	0,43
	Agility	0,26
	Cost	0,31
	Total	1,00
Make	Reliability	0,71
	Cost	0,29
	Total	1,00
Deliver	Reliability	0,83
	Cost	0,17
	Total	1,00
Return	Reliability	0,15
	Responsiveness	0,85
	Total	1,00
Enable	Reliability	0,83
	Agility	0,17
	Total	1,00

Level 3 Weighing Matrix

Weighting at level 3 (Table 4) was carried out on each supply chain performance indicator applicable at PT Indo Trade Cemerlang. The weighting of the performance indicators that apply in the company produces the data as listed in Table 4 below. In the process of weighting performance indicators, the first step is to validate the performance indicators that have been asked to 3 informants through questionnaires. From the performance indicators asked, 22 valid indicators were obtained for this study. The 22 indicators were then categorized based on level 1 and level 2 matrices before weighting.

TABLE 4. Supply Chain Performance Indicators Weighting

Process (Level 1)	Dimension (Level 2)	Key Performance Indicator (Level 3)	Unit	Weight
Plan	Reliablity	Production planning process	KPI 1	0,26
	Reliablity	Timeliness of design submission before production	KPI 2	0,48
	Responsiveness	Demand forecast process	KPI 3	0,08
	Reliablity	Production alignment with planning	KPI 4	0,13
	Responsiveness	Raw material procurement planning process	KPI 5	0,42
	Reliablity	Bill of Material (BOM) calculation process	KPI 6	0,13
Source	Agility	Communication with suppliers	KPI 7	1,00
	Cost	Coordination process with suppliers & production outsourcing	KPI 8	1,00
	Responsiveness	Availability of suppliers & production outsourcing	KPI 9	0,83
	Responsiveness	On-time delivery of products to warehouse	KPI 10	0,17
Make	Reliablity	Quality of outsourced production meets requirements	KPI 11	0,37
	Cost	Measurable and continuous production quality improvement	KPI 12	1,00
	Reliablity	On-time production completion	KPI 13	0,39
	Reliablity	Not Good (NG) production output rate	KPI 14	0,16
	Reliablity	Conformity of delivered quantity/quality with orders	KPI 15	0,07
Deliver	Reliablity	On-time product delivery	KPI 16	0,17
	Reliablity	Efficient delivery planning aligned with operations	KPI 17	0,83
	Cost	Guaranteed replacement of claimed products	KPI 18	1,00
Return	Responsiveness	Flexibility in returning non-standard products	KPI 19	1,00
	Reliability	Monitoring reports of Supply Chain Department performance	KPI 20	1,00
Enable	Reliablity	Root cause analysis of Supply Chain Department issues	KPI 21	1,00
	Agility	Production planning process	KPI 22	1,00

The weighting process is then carried out by comparing each performance indicator in a pair-wise comparison based on level 1 classification. From this comparison, the weight of each performance indicator for each level 1 classification is obtained as shown in table 4 below. The performance indicators defined in table 4 are specific to PT Indo Trade Cemerlang and the level of weight given. This will certainly be different from other companies which will adjust to the characteristics of each company.

Scoring System & Final Score

In the previous section, the three levels based on the SCOR Model have been weighted using the Analytical Hierarchy Process calculation principle. With the weights that have been obtained, the SCOR score is then processed by calculating the score of the performance indicators multiplied by the weight of each indicator. The indicator weights, which have previously been normalized using the Snorm de Boer formula, then lead to the final score of the SCOR Model's dimensional aspects. The results of the calculation of the weights and scores of performance indicators that produce the final score in the dimensional aspects. Of the 22 performance indicators, the highest score is in the plan process in the reliability dimension which is at a score of 94.74. While the lowest score is in the plan process in the responsiveness dimension with a score of 47.27.

After knowing the final score of the dimensional aspects that are composed of calculating the score of performance indicators with the weight of each indicator, the next step is to know the score of each dimensional aspect. The final score of the dimensional aspect obtained from the previous calculation is then multiplied by the weight of each dimensional aspect resulting from the calculation at level 2. The results of the final score of the dimensional aspect can be seen in table 6 below.

TABLE 5. Final Score of Supply Chain Performance Dimension

Process (Level 1)	Dimension (Level 2)	Final Score (Dimension)	Weight	Weight x Score	Final Score (Process)
Plan	Reliablity	94,74	0,87	82,29	88,50
	Responsiveness	47,27	0,13	6,21	
Source	Responsiveness	64,92	0,43	28,03	67,97
	Agility	69,37	0,26	17,90	
	Cost	71,05	0,31	22,04	
Make	Reliablity	73,08	0,71	51,76	78,99
	Cost	93,34	0,29	27,22	
Deliver	Reliablity	83,20	0,83	69,34	82,53
	Cost	79,13	0,17	13,19	
Return	Reliability	89,23	0,15	13,01	86,01
	Responsiveness	85,46	0,85	73,00	
Enable	Reliablity	66,67	0,83	55,56	66,95
	Agility	68,36	0,17	11,39	

Based on table 5, the final score for each dimension that has been defined is obtained. In the plan process which consists of the dimensions of reliability and responsiveness, the final score is 88.50. The source process which consists of the dimensions of responsiveness, agility and cost gets a final score of 67.97. On the other hand, the make process which consists of the dimensions of reliability and cost has a score of 78.99. For the deliver process itself which consists of the dimensions of reliability and cost, it gets a score of 82.53. The return process which consists of the dimensions of reliability and responsiveness gets a score of 86.01. And finally, for the enable process which consists of the dimensions of reliability and agility, it gets a score of 66.95. All the final scores of the dimensions obtained will then be processed further to get the final score of the overall supply chain management performance of PT Indo Trade Cemerlang.

The final score on the dimension aspect that has been obtained in the previous calculation is then calculated further. The calculation is by multiplying the final score of the dimension aspect against the weight score that has been obtained at level 1 in the previous calculation. From this calculation, the score of PT Indo Trade Cemerlang's supply chain performance is 79.56 as shown in table 6 below.

TABLE 6. Final Score of Supply Chain Performance

Process (Level 1)	Final Score (Process)	Weight	Weight x Score
Plan	88,50	0,29	25,39
Source	67,97	0,22	14,69
Make	78,99	0,22	17,07
Deliver	82,53	0,17	14,00
Return	86,01	0,05	4,36
Enable	66,95	0,06	4,05
Total Score			**79,56**

C.3. Discussion

Based on the data described above, it can be seen that the company's supply chain performance score is 79.56. Based on the traffic light system [40], the 79.56 figure falls into the category of unachieved performance. In the traffic light system, a performance is said to be good when it has a score $\geq$ 80. Although the overall performance of the company's supply chain has not been said to be good, if examined more deeply from each process that composes it has a variety of performance scores. Some variables in the process aspect that have good performance scores include the plan process which has a performance score of 88.50, the deliver process which has a score of 82.53 and the return process which has a performance score of 86.01.

The high score for the plan process in this study shows that this variable has a very significant effect on the performance of the supply chain efficiently and effectively at PT Indo Trade Cemerlang. The company's significant planning process here includes the process of submitting designs before the production process, planning the purchase of raw materials, matching production results with production plans and the production planning process. This is in line with research conducted by [41] where the plan variable has a significant effect on overall supply chain performance, especially in the aspect of effective planning management, including demand and supply planning, which is very important to improve the efficiency and performance of supply chain operations. [42] also confirmed that planning has a significant influence on the company's financial performance, especially in terms of profitability and cost management.

Research conducted by [43] confirms that planning variables in the SCOR model play a crucial role in planning demand and supply, especially for seasonal products with

uncertain demand. In the planning process, companies apply flexibility, a very high level of responsiveness to changes, both internally and externally, and the reliability of the planning process itself. However, the flexibility, responsiveness and reliability of the planning process still have boundaries that are brought together in S&OP meetings. In the context of planning that allows it to be adjusted, company management must still pay attention to the bullwhip effect factor so that it can be minimized.

The significance of the deliver process on improving supply chain performance highlights the aspects of conformity of quantity and quality delivered with what was ordered, on time delivery and delivery planning in accordance with the most efficient operations. This is in line with research conducted by [44] who found that the deliver aspect, especially related to delivery reliability and delivery time, has a significant effect on supply chain performance. [45] in their research also found that the deliver variable plays a significant role in improving supply chain performance, especially in terms of delivery accuracy (quantity and goods). A reliable delivery process will have a positive impact on supply chain performance, one of which is to reduce the return rate on products that have been sent.

The return process in this study has a good performance score, especially in the aspects of flexibility in returning final products that do not meet quality standards and guaranteeing replacement of products that have been claimed. The significance of this return process is as found by [46] who found that the return process has a significant impact on supply chain performance even though it is negative. [47] also saw that improving on the aspect of product returns can reduce costs further and increase customer satisfaction. Another study conducted by [48] also confirmed that the return aspect is important, especially in terms of waste management and product returns in the textile industry.

The service level in the return process is maintained by the company due to the intense competition in the baby fashion industry itself. The aspect of the return process that is highly guarded by the company in this case is the guarantee and ease in the process of returning the final product that does not meet the standards. The guarantee of product replacement provided by the company when the purchased product does not match the product description provides peace and comfort to customers. And the aspect of reliability in the delivery process in the form of conformity in the number and quality of products and the timeliness of delivery is something that is highly guarded by the company. The company has also implemented a Warehouse Management System (WMS) that facilitates and maintains the quality of goods delivery.

Other variables in the process aspect that have unachieved performance scores are in the source process which has a score of 67.97, the make process 78.99 and the enable process which has a performance score of 66.95. In the source process, the activities that cover the process are related to purchasing, shipping, receiving and transferring raw materials, semi-finished goods to products from the company. What needs to be improved by the company in the aspect of the source process in this case is the implementation of strategic

purchasing. Research conducted by [49] explains that strategic purchasing management will have an impact on overall supply chain performance. Companies need to carry out an open partner selection policy so that they get partners (both for materials and production) with the best qualifications. A closed policy in the selection of partners will lead to conditions that make it difficult to reduce production costs, inability to improve the production process, and difficulty in improving the quality of materials obtained by the company.

In the make process, the performance indicators that fall into this category are related to the timeliness of production completion and the timeliness of product delivery to the company warehouse. Some things that can be done to improve these two performances include setting performance indicators for delivery to production partners and also transportation arrangements by companies that have been carried out by production partners. The enable process itself touches the aspects of the indicators of the supply chain department's performance monitoring report and analyzes the root causes of each problem faced by the department. Some things that can be done to improve the performance of the company's enable process are to foster a culture of strict monitoring and continuous improvement within the members of the supply chain department. In addition, another thing that needs to be done is to use a reward & punishment mechanism for these two performance indicators.

The data analysis conducted in this study found several novelties compared to previous studies. First, this study found that the main factors affecting supply chain performance in the baby fashion industry are the plan, deliver and return processes. This is different from previous findings which show that the most influential indicators of supply chain performance in the fashion industry are global supply chain capabilities and product lines. Second, the three processes at level 1 that most significantly affect supply chain performance in the infant fashion industry are the results of an analysis using a combination of two analytical tools, namely the SCOR Model and the Analytical Hierarchy Process. Third, if it is lowered deeper at level 3 (performance indicators), this study found that the indicators that have a significant influence are the production planning process (plan), the conformity of the quantity and quality delivered with what was ordered (deliver) and the guarantee of replacing products that have been claimed (return). These three indicators represent the highest score of performance indicators measured based on the SCOR Model and Analytical Hierarchy Process.

V. CONCLUSION

Evaluation of the company's supply chain performance can be done with a combination of SCOR Model and Analytical Hierarchy Process. Although the object of research (baby fashion industry) and the analytical tool used are the same (SCOR Model), the combination of Analytical Hierarchy Process model as an analytical tool (along with SCOR Model) has provided different processes and results. This difference is clearly seen where the Analytical Hierarchy Process provides space to weight each level in the SCOR Model. With this weighting, the variables contained at each level can be

determined in terms of their importance. Based on the performance evaluation that has been carried out on the supply chain process, it is found that the company's supply chain management performance score has a score that is not good (not yet achieved).

The findings generated in this research have also contributed to the study of supply chain management performance evaluation. The contribution is in the form of confirmation of the processes that significantly affect the performance of supply chain management in the baby fashion industry, namely the plan, deliver and return processes. Finally, this research can help to improve strategies that can be implemented in other industries. In addition, research with the same object or even with a wider sample of objects would be very interesting if examined with different analytical tools (for example by using the World Class Logistics Model, Strategic Audit Supply Chain and others).

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