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Supply Chain Management Performance Analysis of PT. Suzuki Indomobil Motors Using the SCOR Model

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Abstract

This research aims to analyze the supply chain performance of PT. Suzuki Indomobil Motor, so that performance improvements can be made in the company's supply chain. This study uses quantitative data sourced from primary data in the form of observational data and interviews, and secondary data in the form of company documents and literature. The steps in the processing carried out were collecting KPI data, pairwise comparison questionnaires, data processing using the SCOR method, and scoring using OMAX and the Traffic Light System. The KPIs with the highest to lowest importance weights in the company are planning (0.343), sourcing (0.247), production (0.177), delivery (0.135), and returns (0.097). Based on OMAX calculations, the supply chain performance that needs to be improved immediately is the percentage of suppliers with EMS (S1.1) and the accuracy of the number of product shipments by suppliers (S1.3). The value of the company's supply chain management obtained is 7.04, where this value indicates that the achievement of the value of the company's supply chain performance is classified as good, but improvements need to be made, especially for indicators that have low performance. As a reference for companies to evaluate and improve supply chain performance, and to monitor supply chain performance periodically. The results of the scoring system show that activities that need to be repaired immediately are activities that are in the red category, namely, Delivery KPI quantity accuracy by supplier and percentage of suppliers with EMS. The high percentage of errors in the delivery of raw materials by suppliers is the cause of delays in the delivery of vehicles to customers by PT. Suzuki Indomobil Motor, so it becomes a consideration for the company whether to continue using the old supplier or to consider other suppliers. Companies should select reliable suppliers so they can provide raw materials of the right quality, right amount, and on time.

Keywords: ***Performance, Supply Chain, SCOR***

1. Introduction

Competition in the industrial world is increasingly competitive, where industry players are competing to increase their competitiveness. To be able to compete in a competitive business environment, many managers and various companies are thinking about better ways to measure the company's performance. Performance measurement can be used to assess the success of the company. One of the efforts made to be successful in company performance is to increase the effectiveness and efficiency of production, as well as to improve operational processes. Supply chain management (supply chain management) is a field of study that lies in the efficiency and effectiveness of the flow of goods, information, and money that occur simultaneously to unite Supply Chain Management with the parties involved. Supply chain management can be applied to efficiently integrate manufacturers, suppliers, retailers, and sellers so that goods can be produced and distributed with the right amount and minimum overall costs (Rezky Kurniawan, 2018).

Today's global-level industry competition is increasingly providing a wide variety of choices for customers due to technological advances and customer demands that continue to vary. Currently, companies need to pay attention to their business processes to run according to goals. PT. Suzuki Indomobil Motor is a company engaged in the automotive industry that manufactures, markets, and sells cars and motorcycles. The company consists of two types of automotive vehicles, namely 4-wheeled vehicles and 2-wheeled vehicles. This company is a foreign investment (PMA) company. Then, the share ownership is also divided into two parties. So far, the company has often experienced delays in the receipt and delivery of raw materials, semi-finished products, or finished products, especially for two-wheeled vehicles (2), due to the lack of optimal delivery of raw materials by suppliers in meeting the company's raw material needs. Companies must improve their performance in order to compete with competitors.

Table 1. Product Delivery Performance

Product	Lateness	Pre-Order	On Time	% Lateness
Motorcycle Address	95	450	385	25%
Motorcycle Satria FU	60	60	0	0%
Motorcycle New Smash	115	960	845	14%
Total	**270**	**1470**	**1230**	**22%**

Source: PT. Suzuki Indomobil (2023)

The table above shows product shipments throughout April-September 2022. From the table, it can be seen that 1,470 product units ordered by consumers were 270 (22%) product units delivered late, and 1,230 (88%) product units were delivered on time. PT. Suzuki Indomobil Motor has many suppliers and customers in Indonesia and outside Indonesia. An obstacle occurred, namely, there was a delay in the delivery of motorized vehicles to customers. This shows the inefficiency of the company's supply chain in terms of its suppliers. One of the ways to evaluate SCM performance indicators is by conducting a supply chain management analysis using the SCOR method, which is considered to be more complete, systematic, and integrated. Based on this, companies need an analysis of their supply chain management using SCOR to evaluate supply chain performance appropriately. Therefore, the author raises the title "Performance Analysis of Supply Chain Management PT. Suzuki Indomobil Motor Uses Supply Chain Operation Reference (SCOR). The goal to be achieved from this research is to analyze the supply chain performance of PT. Suzuki Indomobil Motor, so that performance improvements can be made in the company's supply chain.

2. Literature Review

A supply chain is a network of companies that work together to create and deliver goods to the end user. It could be said that a supply chain is a physical network of companies involved in supplying goods, producing goods, and sending them to end users. To improve and achieve an effective supply chain, companies must collectively make decisions regarding the 5 five main supply chain driving processes, namely the production process, inventory management, transportation selection, location, and information flow (Ben-Daya et al., 2019).

According to Zekhnini et al. (2021), SCM has the main objectives, including:

a. Delivery/delivery of products promptly to satisfy consumers.
b. Reducing costs, achieving minimum costs and maximum service levels. Supply chain management (SCM) considers all facilities that affect the goods or services produced and the costs required to meet consumer needs.
c. Improve all results of the entire supply chain (not just one company). Maximizing the overall value generated to meet customer needs and demands, and minimizing overall costs such as ordering, storage, and transportation costs.
d. Can win market competition. To be able to win market competition, the supply chain must be able to provide cheap, quality, timely, and varied goods or services.

Performance comes from the definition of performance, which means work performance or work results, but can have a broader meaning, namely, not just results, but how the work process takes place. Performance is the result of work that has a strong relationship with the organization's strategic goals,

customer satisfaction, and contribution to the economy. Performance can generally be interpreted as a person's ability to carry out a job with existing resources, carry out the job, and the results achieved from the job. It can be concluded that performance is a person's ability to utilize the resources they have to achieve work results both in quality and quantity, in accordance with the responsibilities given. Good performance is performance that follows procedures according to established standards (I KOMANG BUDIASA, 2021). The performance measurement system is carried out so that:

a. Perform monitoring and control activities
b. Communicate corporate objectives to the supply chain function.
c. Knowing the company's position relative to competitors and the goals to be achieved.
d. Determine improvements to be able to excel in competition.

SCOR is a reference model for supply chain operations that integrates three main elements in management, namely business process reengineering, benchmarking, and process measurement into a functional framework in the supply chain. Models are needed to measure the performance of a company's SCM process. The SCOR model is organized into five main supply chain processes, namely Planning, Sourcing, Production, Delivery, and Returns. Several companies have proven that the SCOR model has been tested well in order to measure the level of supply chain performance in a company, which can be used as reference material for further business process improvements (Azmiyati & Hidayat, 2017). The SCOR Model has a framework that combines supply chain business processes and performance measurement based on best practices into an integrated structure so that the communication process between supply chain actors and supply chain management activities can run optimally (Chehbi-Gamoura et al., 2020).

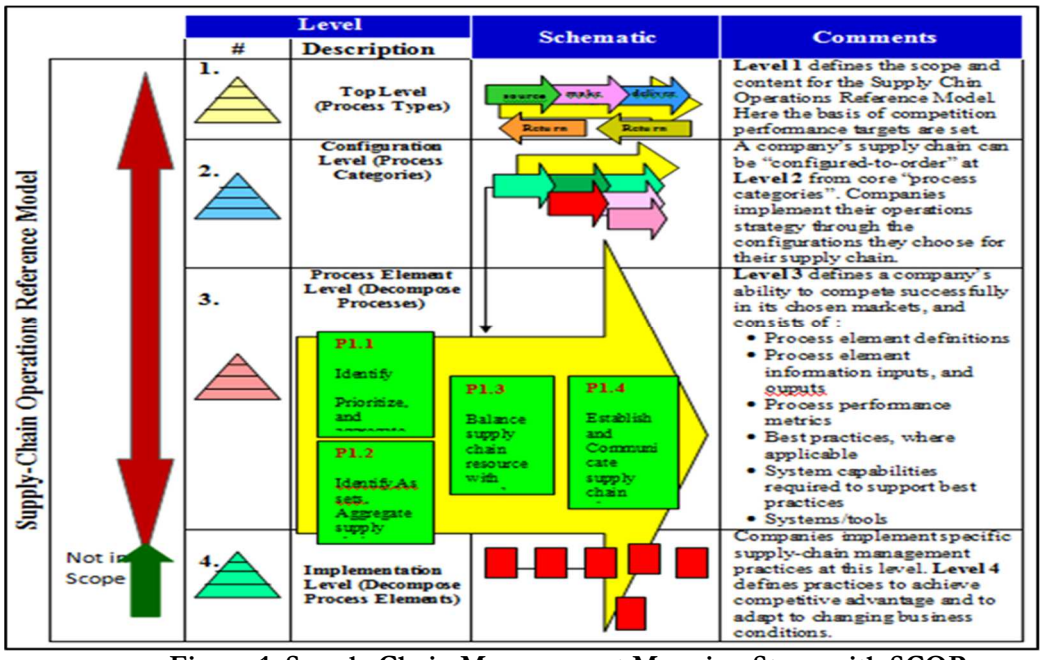

Figure 1. Supply Chain Management Mapping Stage with SCOR
Source: Azmiyati & Hidayat, 2017

3. Research Methodology

In this study, the authors used quantitative data, namely data obtained in the form of numbers that can be counted directly from the company, namely Key Performance Indicators (KPI) and pairwise comparison questionnaires. The data sources used are primary data in the form of observational data and direct interviews with the company, and secondary data in the form of data obtained through literature studies, both obtained from company data and document materials, literature, the internet, journals, and various other sources related or closely related to this research. The research location, which is the object of writing in data collection, is PT. Suzuki Indomobil Motor, which is located on Jl. P. Diponegoro No.KM 38, RW.2, Jatimulya, Kec. Tambun Sel., Bekasi Regency, West Java 17510, which will be held for approximately one

month. The object under study is the company's SCM performance to determine SCM performance at PT. Suzuki Indomobil Motor. The data collection method used in research is observation, which is a data collection technique by direct observation of objects to find out the production process. Interviews are a data collection technique by conducting direct questions and answers about problems related to research, both with employees as respondents and with company management. The steps in data processing are carried out by collecting the necessary data, such as Key Performance Indicators (KPI), pairwise comparison questionnaires, processing with the SCOR method by identifying Key Performance Indicators (KPI), weighting using AHP, and measuring performance with OMAX.

4. Result and Discussion

The grouping of supply chain activities at PT. Suzuki Indomobil is carried out with the SCOR model approach. The SCOR model has five (5) main process categories in grouping a company's supply chain activities. Supply chain activities can be described in the SCOR model chart, as shown in the following figure:

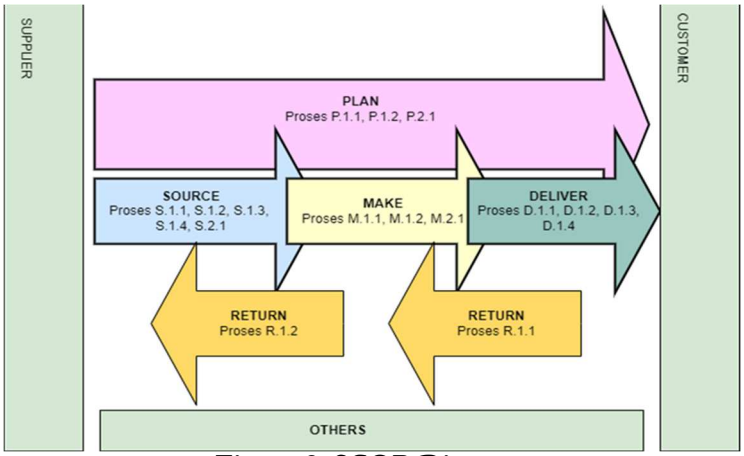

Figure 2. SCOR Diagram

After adjusting the strategy with supply chain activities based on the SCOR model, key performance indicators (KPIs) are determined. Each supply chain activity in the SCOR model has different KPIs. KPIs SCOR models for each supply chain activity can be seen in the following table:

Table 2. Identify Key Performance Indicators (KPIs)

SCOR Model	Index	Key Performance Indicators
PLAN	P.1	Reliability
	P.1.1	Forecasting accuracy
	P.1.2	Accuracy of raw material planning
	P.2	Responsiveness
	P.2.1	Cycle time planning
SOURCE	S.1	reliability
	S.1.1	Percentage of suppliers with EMS
	S.1.2	Accuracy of product delivery by the supplier
	S.1.3	The accuracy of the number of shipments by the supplier
	S.1.4	Accurate storage of raw materials
	S.2	Responsiveness
	S.2.1	Delivery time performance by the supplier
MAKE	M.1	reliability
	M.1.1	Conformance of production with the schedule
	M.1.2	The number of defective products from production
	M.1.3	Production efficiency
	M.2	Responsiveness
	M.2.1	Number of machine problems
DELIVER	D.1	Reliability

	D.1.1	Accuracy of product delivery by the company
	D.1.2	Accuracy of delivery quantities by the company
	D.1.3	Order delivery error by the company
RETURN	R.1	Reliability
	R.1.1	Return rate from customers
	R.2	Responsiveness
	R.2.1	Percentage of solid waste recycling

The pairwise comparison matrix for each target is as follows:

Table 3. Pairwise Comparison Matrix between Perspectives

Performance Level 1	Delivery	Production	Planning	Returns	Sourcing
Deliver	1.00	1.00	1/3	1/2	1/3
Make	1.00	1.00	1/2	2.00	1.00
Plan	3.00	2.00	1.00	2.00	2.00
Return	1/2	1/2	1/2	1.00	1/3
Source	3.00	1.00	1/2	3.00	1.00

Level performance indicators at level 1 consist of performance categories, namely planning, sourcing, production, delivery, and returns. The Level 1 performance weighting matrix can be seen in the following table:

Table 4. Level 1 Performance Weighting Matrix

Performance Level 1	Delivery	Production	Planning	Returns	Sourcing
Deliver	1.00	1.00	0.33	2.00	0.33
Make	1.00	1.00	0.50	2.00	1.00
Plan	3.00	2.00	1.00	2.00	2.00
Return	0.50	0.50	0.50	1.00	0.33
Source	3.00	1.00	0.50	3.00	1.00

The results of local weighting at level 1 can be seen in the following table:

Table 5. Level 1 Performance Weighting Results

Performance Level 1	Weight	Ranking	Inconsistency
Planning	0.343	1	0.049
Source	0.248	2	
Production	0.177	3	
Delivery	0.135	4	
Return	0.097	5	
Amount	1.000		

The table above shows that, based on the assessment of expert respondents, planning performance is the most important performance in evaluating the supply chain at PT. Suzuki Indomobil compared to sourcing, production, delivery, and returns. Source is the third most important performance to be considered in supply chain performance. Comparison of performance indicators at level 2 consists of a comparison of the importance of reliability and responsiveness in each performance category of planning, sourcing, production, and delivery. The results of the performance indicator weighting at level 2 can be seen in the following table:

Table 6. Level 2 Performance Weighting Results

Performance	Sub Performance	Weight
Planning	Reliability	0.33

	Responsiveness	0.66
Production	Reliability	0.66
	Responsiveness	0.33
Return	Reliability	0.75
	Responsiveness	0.25
Source	Reliability	0.25
	Responsiveness	0.75
Delivery	Reliability	1.00

The table above shows that in planning performance, responsiveness is more important than reliability, with a weight of 0.66. In production performance, reliability is more important than responsiveness, with a weight of 0.66. In return performance, reliability is more important than responsiveness, with a weight of 0.75. In source performance, responsiveness is more important than reliability, with a weight of 0.75. So, in planning performance and responsiveness, resources are more important than reliability. Meanwhile, in production performance and returns, reliability is more important than responsiveness. There is no comparison in delivery performance because it only has one sub-performance, namely reliability.

Table 7. Weight of Planning Performance with Reliability

Indicator	Weight	Inconsistency
Forecasting accuracy	0.5	0.00
Accuracy of raw material planning	0.5	

The table above shows that, in terms of planning performance, performance indicators on forecasting accuracy have the same weight value as raw material planning accuracy. That is, both have the same level of importance in the reliability category. In terms of planning reliability, the accuracy of the demand forecasting process is as important as the accuracy of forecasting the amount of raw materials needed. The better the level of accuracy in Reliability, the better.

Table 8. Source Performance Weight with Reliability

Indicator	Weight	Inconsistency
Accuracy of delivery by the supplier	0.346	0.0227
The accuracy of the number of shipments by the supplier	0.346	
Accurate storage of raw materials	0.209	
Percentage of suppliers with EMS	0.098	

The table above shows that the accuracy of sending items by the supplier has the same weight as the accuracy of the number of deliveries by the supplier, namely 0.346. This means that in the source category, the supplier's ability to deliver raw materials accurately and in accordance with the requested quantity is the most important indicator. This is followed by the accuracy of storing raw materials with the number of records entered, and finally, consideration of the interests of suppliers who have environmentally friendly systems.

Table 9. Weight of Production Performance with Reliability

Indicator	Weight	Inconsistency
Production schedule compliance	0.474	0.051
Material efficiency	0.376	
Product defects from production	0.149	

The table above shows that the production schedule compliance indicator is the most important in the production category, with a weight of 0.474. This is followed by the material efficiency indicator with a weight of 0.376 and defective products from production with a weight of 0.149. This means that the suitability of the production process to the schedule that has been designed is much more important than the level of material efficiency and the number of defective products in the production output.

Table 10. Weight of Delivery Performance with Reliability

Indicator	Weight	Inconsistency
Accuracy of product delivery by the company	0.500	
Accuracy of delivery quantities by the company	0.250	0.000
Delivery error by the company	0.250	

The table above shows that the accuracy of product delivery by the company is the most important indicator, with a weight of 0.50. Meanwhile, the accuracy of the number of deliveries by the company and the accuracy of product delivery by the company weigh 2.5. This means that the level of accuracy in sending goods by the company is much more important than the accuracy of the number of goods sent and the level of delivery errors made by the company when making deliveries. After all the KPIs have been clearly selected, data on the realization of the company's KPIs is then collected.

Table 11. Company KPI Target and Realization Data

KPI's Code	Performance	Initial Conditions (Level 3)	Target (Score 10)	Worst Condition (Score 0)
P.1.1	94%	72.50%	85%	60%
P.1.2	89%	73.40%	85%	60%
P2.1	0.2 hari	0.3 hari	0.2 hari	0.5 hari
S1.1	79%	82%	90%	65%
S1.2	85%	83.70%	95%	65%
S1.3	78%	87%	98%	70%
S1.4	88%	88%	100%	80%
S.2.1	86%	84%	95%	70%
M1.1	86%	85%	95%	70%
M1.2	4%	6%	5%	10%
M1.3	85%	84%	95%	70%
M.2.1	7%	6%	5%	10%
D1.1	88%	86.10%	98%	70%
D1.2	86%	82.50%	98%	70%
D1.3	88%	81.29%	98%	70%
R.1.1	6%	5.01%	5%	10%
R.2.1	84%	82%	95%	70%

After knowing the weight, target, and realization of each performance indicator, the scoring system is then calculated using the Objective Matrix (OMAX). In the OMAX calculation, the value of each level will be determined so that later performance achievements can be known, and what level each performance indicator is at, and will be categorized according to the Traffic Light System. In OMAX, if the level of performance achievement is the target value, it is placed at level 10, the worst condition value is placed at level 0, and the actual performance in the initial condition is placed at level 3 to get the middle value.

Table 12. Supply chain measurement scheme for planning category

KPI's Code	P.1.1	P.1.2	P2.1
Performance	0.938	0.887	0.200
10	0.850	0.850	0.200
9	0.832	0.833	0.186
8	0.814	0.817	0.171
7	0.796	0.800	0.157
6	0.779	0.784	0.143
5	0.761	0.767	0.129
4	0.743	0.751	0.114
3	0.725	0.734	0.100
2	0.683	0.717	0.086
1	0.642	0.701	0.071
0	0.600	0.683	0.054
Level (Score)	10	10	10
Bobot (weight)	0.500	0.500	1.000

Value	5	5	10

The table above shows that the company's supply chain performance in the Planning category is good. This can be seen from the level value of each supply chain activity that has reached the target and is marked in green.

Table 13. Supply chain measurement scheme for source categories

KPI's Code	S1.1	S1.2	S1.3	S1.4	S.2.1
Performance	0.790	0.849	0.779	0.880	0.860
10	0.900	0.950	0.980	1.000	0.950
9	0.889	0.934	0.964	0.983	0.934
8	0.877	0.918	0.949	0.966	0.919
7	0.866	0.902	0.933	0.949	0.903
6	0.854	0.885	0.917	0.931	0.887
5	0.843	0.869	0.901	0.914	0.871
4	0.831	0.853	0.886	0.897	0.856
3	0.820	0.837	0.870	0.880	0.840
2	0.763	0.775	0.813	0.853	0.793
1	0.707	0.712	0.757	0.827	0.747
0	0.650	0.650	0.700	0.800	0.700
Level (Score)	2	3	1	3	4
Bobot (weight)	0.346	0.346	0.209	0.098	1.000
Value	0.692	1.038	0.209	0.294	4

The table above shows that the company's supply chain performance in the Source category is not good. This can be seen from the level value of each supply chain activity, which has different level values. There is no supply chain activity in the Source category that is good or reaches the target. Activities S.1.1 and S.1.3 are activities that need to be corrected immediately because they have a level below 3 and are marked in red. While activities S.1.2, S.1.4, and S.2.1 need to be improved because they are at levels 3 and 4, which are marked in yellow.

Table 14. Production Category Supply Chain Measurement Scheme

KPI's Code	**M1.1**	**M1.2**	**M1.3**	**M.2.1**
Performance	0.858	0.040	0.845	0.067
10	0.950	0.050	0.950	0.050
9	0.936	0.049	0.934	0.049
8	0.921	0.047	0.919	0.047
7	0.907	0.046	0.903	0.046
6	0.893	0.044	0.887	0.044
5	0.879	0.043	0.871	0.043
4	0.864	0.041	0.856	0.041
3	0.850	0.040	0.840	0.040
2	0.800	0.027	0.793	0.027
1	0.750	0.013	0.747	0.013
0	0.700	0.000	0.700	0.000
Level (Score)	3	3	3	10
Bobot (weight)	0.474	0.376	0.149	1.000
Value	1.422	1.128	0.447	10.000

The table above shows that the company's supply chain performance in the Production category is quite good. This is shown from the activity assessment level in M.1.1. M.1.2 and M.1.3 are yellow, and M.2.1 is green. Companies just need to ramp up M.1.1 activities. M.1.2 and M.1.3, and maintain the performance of M.2.1 activities.

Table 15. Supply chain measurement scheme for shipping categories

KPI's Code	D1.1	D1.2	D1.3
Performance	0.878	0.861	0.980
10	0.980	0.980	0.980
9	0.963	0.958	0.956
8	0.946	0.936	0.932
7	0.929	0.914	0.908
6	0.912	0.891	0.885
5	0.895	0.869	0.861
4	0.878	0.847	0.837
3	0.861	0.825	0.813
2	0.807	0.783	0.775
1	0.754	0.742	0.738
0	0.700	0.700	0.700
Level (Score)	4	4	10
Bobot (weight)	0.500	0.250	0.250
Value	2.00	1.00	1.00

The table above shows that the company's supply chain performance in the Delivery category is quite good. This is shown from the activity assessment level in D.1.1. and D.1.2, which is yellow, and D.2.1, which is green. Companies only need to increase activities D.1.1. and D.1.2, and maintain the performance of activity D.2.1.

Table 16. Supply chain measurement scheme for return categories

KPI's Code	R.1.1	R.2.1
Performance	0.058	0.842
10	0.050	0.950
9	0.050	0.931
8	0.050	0.913
7	0.050	0.894
6	0.050	0.876
5	0.050	0.857
4	0.050	0.839
3	0.050	0.820
2	0.033	0.780
1	0.017	0.740
0	-	0.700
Level (Score)	10	4
Bobot (weight)	1.000	1.000
Value	10	4

The table above shows that the company's supply chain performance in the Returns category is quite good. This is shown by the company's performance in R.1.1 activities, which have met targets marked in green, and R.2.1 activities, which are yellow, indicating the need for improvement in R.2.1. After measuring the overall supply chain performance, a total index value of 7.04 can be obtained, where this achievement is included in the good category. Based on the Traffic Light System, the total index value is in the green category, indicating that the company's entire supply chain performance has achieved the expected performance. Thus, the company must be careful about the possibility that it can reduce supply chain performance and continue to improve performance. A KPI that is included in the green category indicates that the KPI has achieved the target set by the company, so the company must continue to maintain it and even hope that the achievement can exceed the expected target. KPIs included in the yellow category indicate that the performance indicators have not been achieved, but are approaching the target and have reached the minimum target. So the indicators in the yellow category must be considered by the company.

Meanwhile, KPIs in the red category indicate that the performance indicator is far below the target that has been set, so it must receive attention first to improve it.

5. Conclusions and Recommendations

The conclusions obtained from research conducted related to supply chain management performance analysis at PT. Suzuki Indomobil Motor is the result of an activity scoring system that needs to be repaired immediately, specifically activities in the red category, including delivery KPI quantity accuracy by supplier and the percentage of suppliers with EMS. The high percentage of errors in the delivery of raw materials by suppliers is the cause of delays in the delivery of vehicles to customers by PT. Suzuki Indomobil Motor, so it becomes a consideration for the company whether to continue using the old supplier or to consider other suppliers. Companies should select reliable suppliers so they can provide raw materials of the right quality, right amount, and on time. The value of the company's supply chain management is 7.04, indicating that the company's supply chain performance is classified as good, but improvements are necessary, especially in areas with low performance. Suggestions that can be given in this study are that improving the performance of the company's supply chain should be carried out continuously, and it needs to be monitored regularly by the company, so that it can improve the performance of the company's supply chain.

References

Apriyani, D., Nurmalina, R., & Burhanuddin, B. (2018). Evaluasi kinerja rantai pasok sayuran organik dengan pendekatan Supply Chain Operation Reference (SCOR). *Mix: Jurnal Ilmiah Manajemen, 8*(2), 312–335.

Azmiyati, S., & Hidayat, S. (2017). Pengukuran kinerja rantai pasok pada PT. Louserindo Megah Permai menggunakan model SCOR dan FAHP. *Jurnal Al-Azhar Indonesia Seri Sains dan Teknologi, 3*(4), 163.

Ben-Daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management: A literature review. *International Journal of Production Research, 57*(15–16), 4719–4742. https://doi.org/10.1080/00207543.2019.1568779

Chehbi-Gamoura, S., Derrouiche, R., Damand, D., & Barth, M. (2020). Insights from big data analytics in supply chain management: An all-inclusive literature review using the SCOR model. *Production Planning and Control, 31*(5), 355–382. https://doi.org/10.1080/09537287.2019.1631460

Chotimah, R. R., Purwanggono, B., & Susanty, A. (2017). Pengukuran kinerja rantai pasok menggunakan metode SCOR dan AHP pada unit pengantongan pupuk urea PT. Dwimatama Multikarsa Semarang. *Industrial Engineering Online Journal, 6*(4), 1–8.

Harris, F., Pedley, P., Wall, R. A., & Norman, S. (2020). Quick reference guide. In *Copyright made easier* (pp. 15–60). Routledge. https://doi.org/10.4324/9780203403594-6

Budiasa, I. K. (2021). *Beban kerja dan kinerja sumber daya manusia*. Penerbit CV Pena Persada.

Mathur, B., Gupta, S., Meena, M. L., & Dangayach, G. S. (2018). Healthcare supply chain management: Literature review and some issues. *Journal of Advances in Management Research, 15*(3), 265–287. https://doi.org/10.1108/JAMR-09-2017-0090

Nakasumi, M. (2017). Information sharing for supply chain management based on blockchain technology. In *Proceedings of the 2017 IEEE 19th Conference on Business Informatics (CBI 2017)* (Vol. 1, pp. 140–149). IEEE. https://doi.org/10.1109/CBI.2017.36

Narti, N., Sriyadi, S., Rahmayani, N., & Syarif, M. (2019). Pengambilan keputusan memilih sekolah dengan metode AHP. *Jurnal Informatika, 6*(1), 143–150.

Purnomo, A. (2015). Analisis kinerja rantai pasok menggunakan metode Supply Chain Operation Reference (SCOR) di industri tekstil dan produk tekstil sektor industri hilir (Studi kasus pada perusahaan garmen PT Alas Indah Remaja Bogor). *Seminar Nasional ReTII.*

Rainaldi, A., & Aspiranti, T. (2020). Analisis kinerja supply chain management dengan menggunakan metode Supply Chain Operation Reference (SCOR) pada komoditi bata ringan. *Prosiding Manajemen, 6*(1), 323–327.

Rakhman, A., Machfud, M., & Arkeman, Y. (2018). Kinerja manajemen rantai pasok dengan menggunakan pendekatan metode Supply Chain Operation Reference (SCOR). *Jurnal Aplikasi Bisnis dan Manajemen (JABM), 4*(1), 106.

Ramadheena, F. A., Zhafari, M., & Aini, Q. (2020). Evaluation of supply chain management performance at MSMEs using the SCOR method. *INTENSIF: Jurnal Ilmiah Penelitian dan Penerapan Teknologi Sistem Informasi, 4*(2), 159–172. https://doi.org/10.29407/intensif.v4i2.14277

Romanto, F. A., & Handoko, F. K. (2022). Metode Supply Chain Operation Reference (SCOR) sebagai analisis kinerja manajemen rantai pasok di Pabrik Gula Pandjie. *Jurnal Mahasiswa Teknik Industri, 5*(1), 107–113.

Rosdiani, A., Darmawan, R. F., & Al-Mundzir, H. A. (2022). Pengukuran kinerja manajemen rantai pasokan dengan model Supply Chain Operations Reference (SCOR) terhadap produktivitas kerja. *Nautical: Jurnal Manajemen Ilmiah Multidisiplin, 1*(4), 235–240.

Saragih, S., Pujianto, T., & Ardiansah, I. (2021). Pengukuran kinerja rantai pasok pada PT. Saudagar Buah Indonesia dengan menggunakan metode Supply Chain Operation Reference (SCOR). *Jurnal Ekonomi Pertanian dan Agribisnis, 5*(2), 520–532.

Wigati, D. T., Khoirani, A. B., Alsana, S., & Utama, D. R. (2017). Pengukuran kinerja supply chain dengan menggunakan supply chain operation reference (SCOR) berbasis analytical hierarchy process (AHP). *Journal Industrial Services, 3*(1a).

Zekhnini, K., Cherrafi, A., Bouhaddou, I., Benghabrit, Y., & Garza-Reyes, J. A. (2021). Supply chain management 4.0: A literature review and research framework. *Benchmarking: An International Journal, 28*(2), 465–501. https://doi.org/10.1108/BIJ-12-2019-0554