

ABSTRACT

The construction sector carries out various business activities. Various activities in the construction sector, each activity can have an impact on the environment. Sustainable supply chain (SSCM) is a concept in the supply chain process that pays attention to three aspects, namely social, economic, and environmental in carrying out supply chain activities. This SSCM concept integrates these three aspects to obtain a sustainable supply chain process. The process of managing construction materials at PT XYZ is carried out by the Stone Crusher Plant. The material management process consists of several stages, namely, excavation of construction materials, production of construction materials, transportation and distribution of construction materials, and storage of construction materials. The series of supply chain processes in material management do not yet have specific performance indicators for each process. This causes companies to be unable to monitor and identify supply chain processes as a whole. Various processes in the management of this material, especially in the production section, produce pollutants in the form of dust particles from construction materials. Since 2011 - 2019, permits to conduct material excavation and material production have been temporarily revoked three (3) times due to reports related to complaints of dust pollutants in the excavation area and factory area as well as non-fulfillment of work safety provisions in mining permits. Evaluation of material management activities, especially social and environmental aspects in the supply chain, can be measured through a supply chain performance sustainability approach. This final project uses the Sustainable Balanced Scorecard model to map the supply chain strategy and the Supply Chain Operational Reference model to map business processes and determine metrics and ISO 14001 as a clause for the work environment. Based on the integration of the two models, a performance measurement metric is obtained which is used as a Key Performance Indicator (KPI) in measuring a sustainable supply chain. Based on the perspective of the BSC model, the research in this final project uses three BSC perspectives, namely the financial perspective, the internal business process perspective, and the learning and growth perspective. These three perspectives were chosen based on the company's material management business processes. All company strategies

that have been mapped into the previous BSC perspective are remapped with an overview of the relationship between strategies across perspectives. This relationship describes how the strategies owned by the company support each other between one strategy and another so that it is expected to achieve the company's goals which are identified in the performance attribute of the SCOR model. The priority vector shows the weight of each criterion from the matrix. In the financial perspective indicators, weighting is not carried out because the indicators in the financial perspective are not compared to the PCJM questionnaire. The criteria assessment is said to be consistent if the value of the Consistency Ratio is the Consistency Index divided by the Random Index 0.1. Based on the results of the consistency test, it is known that the value of the importance scale is fairly consistent because the entire consistency ratio value is less than 0.1. This final project obtains 20 KPIs, which are divided into financial, internal business process and learning & growth perspectives. Based on data collection and processing, the metrics/indicators used are one (1) indicator from the financial perspective, sixteen (16) indicators from the Internal Business Process perspective and three (3) indicators from the Learning & Growth perspective. All of these indicators are used as KPIs to measure the performance of the material management supply chain. Financial perspective with a strategy of reducing operational costs with a weight of 0.05 has a KPI Total Supply Chain Management Cost with a weight of 1. The Internal Business Process perspective with a strategy of fulfilling all material requests (weight 0.10) has the highest KPI weight on the KPI Number of Orders Delivered in Full with a weight of 0.11, for a strategy to improve service quality (weight 0.10) has a KPI with the highest weight on KPI Delivery Quantity Accuracy with a weight of 0.06, and for the strategy to improve production quality (weight 0.10) has the KPI with the highest weight on the KPI Schedule Achievement with a weight of 0.08. The strategy of creating a healthy and conducive work environment (weight 0.25) in the Internal Business Process perspective uses ISO 14001 as a reference for selecting KPIs that are in accordance with material management activities, in this strategy the highest KPI weight is on the KPI Number of Recordkeeping Regarding NOV with a weight of by 0.17. Learning & Growth perspective is a perspective that is used

to support the entire business process (material management) with a strategy to increase employee obedience and discipline (weight 0.45), there are three (3) KPIs obtained with the highest KPI weight in KPI Training with a weight of 0.66. KPI Training or training related to training activities in business activities including Occupational Health and Safety (OHS) training.

Keywords— Sustainable, Supply Chain Performance, Balanced Scorecard, SCOR, ISO 14001