

ABSTRACT

The domestic energy demand in Indonesia is expected to continue increasing year by year, especially the demand for electricity. In 2022, the electricity demand in Indonesia reached 1,172 kWh per capita and is projected to increase by 5.3% in 2023. The government aims to accelerate the supply of coal as a source of electricity generation to all steam power plants (PLTU) in Indonesia (ESDM, 2023). As a result, the demand for coal transportation, including shipping via rivers and seas, is also on the rise, with PT CNB being one of the providers of tug & barge and bulk carrier vessels for coal transportation. PT CNB plans to expand its fleet of ships due to the increasing demand for cargo transportation.

Following the addition of 4 ship fleets in March 2022, there has been a decrease in the utilization of ship activity until December 2022. Various factors contribute to this decrease in utilization, including loading supply waiting time, supply waiting time, document waiting time, and discharge waiting time. Data on waiting times indicate that the factors hindering efficiency are supply waiting time and loading waiting time, as they do not meet the target completion time of 12 hours per day and 16 hours per day.

Furthermore, it has been identified that there is a purchase cycle time issue within the procurement and supply chain division, as it fails to meet the target for completing tasks. This issue also impacts the delivery of goods and outstanding payable invoices from suppliers. Therefore, this research is conducted to design and analyze the staffing needs for the procurement and supply chain division for one year.

This research continues with workload calculations using the Full-Time Equivalent method. The FTE results indicate values for four employee positions: 1.27 (Procurement Supervisor), 5.14 (Procurement Staff), 2.63 (Procurement Admin Staff), and 4.36 (Logistics Support Staff). The FTE results show that 3 out of 4 employee positions have an index above 1.28, indicating potential excessive workload in 2024. Therefore, it is necessary to add 10 employees for that year to handle the tasks within the procurement and supply chain division of PT CNB, which includes sourcing suppliers, administrative tasks, and logistics.

Keywords — Employees, Workload, Full-Time Equivalent, Tug & Barge, Shipment, Logistics.