

ABSTRAK

Produktivitas alat berat merupakan salah satu faktor penting dalam efisiensi proyek konstruksi, khususnya pada proyek berskala besar, salah satunya *batching plant*. Penelitian ini bertujuan untuk menganalisa pengaruh produktivitas alat berat terhadap Biaya Pokok Produksi (BPP) pada Proyek *Batching Plant* yang dikelola oleh PT PP Presisi. Fokus penelitian mengarah pada alat berat utama yang berperan dalam proses produksi beton, meliputi *excavator*, *wheel loader*, *truck mixer*, *generator set*, dan *batching plant*. Metode yang digunakan adalah metode kuantitatif deskriptif dan regresi linear sederhana untuk mengidentifikasi hubungan antara produktivitas alat berat yang diukur melalui *key performance indicators* terhadap perubahan BPP. Hasil penelitian menunjukkan bahwa terdapat hubungan yang signifikan antara produktivitas alat berat dengan biaya pokok produksi yang dibuktikan dengan nilai korelasi sebesar 0,9484. Tingginya frekuensi *breakdown* sejalan dengan pelaksanaan *periodic service* yang hanya 27,3% servis yang terlaksana dengan total *breakdown* 353,5 jam pada pra penerapan sistem monitoring. Tingginya frekuensi *breakdown* juga menyebabkan kerugian biaya sewa pada pra penerapan sebesar Rp 18.180.044, dan pada periode pasca penerapan sebesar Rp 7.550.351. Setelah menerapkan sistem monitoring sederhana, seluruh *key performance indicators* berada di atas 85% sesuai dengan standart caterpillar (OEM).

Kata kunci: Produktivitas, alat berat, manajemen, *preventive maintenance*

ABSTRACT

Heavy equipment productivity is one of the important factors in the efficiency of construction projects, especially in large-scale projects, one of which is a batching plant. This study aims to analyze the effect of heavy equipment productivity on the Cost of Goods Manufactured (COGS) on the Batching Plant Project managed by PT PP Presisi. The research focuses on the main heavy equipment that plays a role in the concrete production process, including excavators, wheel loaders, truck mixers, generator sets, and batching plants. The method used is descriptive quantitative method and simple linear regression to identify the relationship between heavy equipment productivity measured through key performance indicators to changes in BPP. The results showed that there is a significant relationship between heavy equipment productivity and cost of production as evidenced by the correlation value of 0,9484. The high frequency of breakdowns is in line with the implementation of periodic service, which only 27.3% of services are carried out with a total breakdown of 353.5 hours before the implementation of the monitoring system. The high frequency of breakdowns also caused losses in rental costs in the pre-implementation period of Rp 18.180.044, and in the post-implementation period of Rp 7.550.351. After implementing a simple monitoring system, all key performance indicators were above 85% in accordance with Caterpillar (OEM) standards.

Keywords: *Productivity, heavy equipment, management, preventive maintenance*