

CHAPTER 5 - CONCLUSIONS AND RECOMNEDATIONS

5.1 Conclusions

From the results of the research that has been done above, the following results were obtained:

1. To solve the problem of physical availability (PA) below the target of 80% in the P360/P410 dump truck unit at PT. XYZ, the methods used are Overall Equipment Effectiveness (OEE), Focus Group Discussion, applying Fish Bone and Root Cause Analysis (RCA), and Five-Why Analysis.
2. There are 4 main problems that cause Physical Availability (PA) not to be achieved, namely instructors are rated ineffective, the unit often breaks down, parts are not ready at unit breakdown, and production is not achieved. We obtained 6 alternative solutions, including training mechanical, training operation part agreement programs, customer operation improvement programs, customer maintenance improvement programs, and backlog maintenance systems.
3. With the matrix diagram method, 4 solutions were selected, namely mechanical training, operation training, customer operation improvement programs, and customer maintenance improvement programs, to be used as improvements and obtained results. The Physical Availability (PA) value of the OB Dump Truck unit increased from 83,86% to 87,30% with a GAP percentage of 3,44%, and the value of Overall Equipment Effectiveness (OEE) increased with a GAP percentage of 48,13% from the original value of 48,86% to 91,99%. Meanwhile, The Physical Availability (PA) value of the Coal Dump Truck unit increased 71,97 to 97,31% with a GAP percentage of 25,34%, and the Overall Equipment Effectiveness (OEE) value increase from 32,28% to 103,42% with a GAP percentage of 71,14%. The results of two categories of OB dump truck and COAL dump truck units can prove that an increase in the value of Overall Equipment Effectiveness (OEE) can be an indication of an increase in the value of Physical Availability (PA).

5.2 Recommendations

This research still needs to be developed, especially on the productivity effect of dump trucks, so that the Overall Equipment Effectiveness (OEE) method can be developed by combining the results of dump truck production and excavators. Time Motion Study (TMS) method can be added to see the effectiveness of dump trucks and excavators to get efficient or optimal time and matching fleet so as to increase production.

GLOSARIUM

Dump Truck	: Trucks or transportation equipment that functions to move heavy equipment and materials.
Excavator	: Heavy equipment consisting of arms (arm), boom (shoulder) and bucket (skeletal device) and powered by hydrolis power motorized with diesel engines and on the wheels of the chain (track shoe).
Matching Fleet	: System used to optimize the use of a fleet of vehicles and heavy equipment in mining activities
TMS	: Time Motion Study
TMS	: The method used to see the effectiveness of equipment movement.
OB	: Over Burden
P360	: Model dari Dump Truck Scania
P410	: Model dari Dump Truck Scania
OEE	: Overall Equipment Effectiveness
PA	: Physical Availability
MA	: Mechanical Availability
AP	: Achievement of Production
RCA	: Root Cause Analysis
CRC	: Customer Relation Char
CMIP	: Customer Maintenance Improvement Program
COIP	: Customer Operation Improvement Program
CSM	: Customer Solution Management

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