

SIMULATION AND OPTIMIZATION OF CONTAINER TERMINAL OPERATIONS: A CASE STUDY

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ABSTRACT

Container terminals are facing a set of interrelated problems. Container handling problems at container terminals are NP –hard problems. The docking time of container ships at the port must be optimized. In this paper we have built a simulation model that integrates all the activities of a container terminal. The proposed approach is applied on a real case study data of container terminal at El-Dekheilla port. The results show that the proposed approach reduced the ship turnaround time in port where 51% reduction in ship service time (loading/unloading) in port is achieved.

KEYWORDS: Container Terminal, Discrete Event Simulation, NP-Hard Problems, Optimization