Proceedings of the 8th Annual World Conference
of the Society for Industrial and Systems Engineering,
Baltimore, MD, USA
October 17-18, 2019

A Heuristic Approach for the Dynamic Vehicle Routing Problem

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Abstract: Industry 4.0 is a concept that assists companies in developing a modern supply chain (MSC) system when they are faced with a dynamic process. Because Industry 4.0 focuses on mobility and real-time integration, it is a good framework for a dynamic vehicle routing problem (DVRP). The goal of this research is to show that the delivery vehicles must serve customer demands from a common depot in order to minimize transit cost. It is assumed that new orders arrive when vehicles are delivering already-known orders. To solve this problem, a two-stage hybrid algorithm for solving the DVRP is proposed. Experimental results show the effectiveness of the algorithm, which has produced best solutions to problems.

Keywords: Industry 4.0, Heuristic algorithm, Vehicle Routing Problem