

Optimization model of maintenances services routes

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Abstract

The logistics of operations is fundamental in the success and development of the company, in this article we analyze a service company and its current network of work, this company is dedicated to provide maintenance services. We will formulate through operations research an optimization model for the management of work orders of preventive and corrective services, which will help reduce and optimize service times windows, of one of the largest convenience store chains in Nuevo Leon, Mexico, which has approximately 1,200 stores, by choosing the best technician based on skills, availability and response time. The model uses different parameters such as assignment, type of work, severity and location, to create an optimal route of maintenance attention.

Keywords

Preventive maintenance; optimization model; maintenance logistics.

Biographies

Edgar Aurelio Marco Granda is a full professor of the Department of Engineering of the Universidad de Monterrey. He holds a PhD of Industrial Engineering from ITESM. He has 18 years of professional experience in logistics, operations and supply chain in several Mexican companies. He has taught for 5 years courses on industrial engineering and logistics in the Universidad de Monterrey, ITESM, UMIN and Universidad Autónoma de Nuevo León. As a consultant, he has carried out projects on logistics and supply chain for different company in México.

Gerardo Frutos Solis oversees the production process laboratory for industrial engineering and business management engineering at the University of Monterrey. He is a graduate of the Universidad de Monterrey in Mechatronics Engineering and is currently studying a master's Degree in Engineering Management at the Universidad de Monterrey. He has worked as a maintenance supervisor, as well as a maintenance internship. He has participated in consulting projects in conjunction with a team of professors-consultants from the Universidad de Monterrey.