

Hybrid Knowledge-Based System for Collaborative Green Automotive Manufacturing Management

Mohd Kamal Mohd Nawawi^a, Nik Mohd Zuki Nik Mohamed^b, Adam Shariff Adli Aminuddin^a

^aSchool of Quantitative, Universiti Utara Malaysia, 06010 UUM, Sintok

^b Faculty of Mechanical Engineering, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia

ABSTRACT

The objective of this research paper is to demonstrate the application of hybrid knowledge-based system, gauging absences of pre-requisites (GAP), and analytic hierarchy process (AHP) approaches for selecting the improvement programs for Collaborative Green Manufacturing Management (CGMM) system. In this research, a generic knowledge-based system is developed to measure the level of CGMM adoption in automotive manufacturers compared to the ideal system. Using the GAP and AHP tools, the key green manufacturing improvement programs can be prioritized and demonstrated with an illustrative example.

KEYWORDS: Analytic Hierarchy Process (AHP); Gauging Absences of Pre-Requisites (GAP); Green Manufacturing, Knowledge-Based System (KBS)

DOI: 10.4028/www.scientific.net/AMM.752-753.1333