

ABSTRACT:

Closed-loop supply chain management has been identified as an efficient, effective and economical strategy towards environmental sustainable practices in manufacturing companies. Without a formidable closed-loop supply chain to complement green supply chain management, most of the goals will not be achieved. A performance evaluation system is crucial for achieving a successful closed-loop supply chain in the automotive industry. Hence, a suitable expert fuzzy rule-based system for evaluation was developed in this study using Visual Basic.Net. The fuzzy rules and arithmetic used were described. The resulting performance measurement system was evaluated using a case study company from the automotive industry. The study culminated with recommendations and proposal of directions for future studies.