A dynamic logistics process knowledge-based system – An RFID multi-agent approach

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Abstract

Purpose

This paper proposes a real-time knowledge support framework for the development of an RFID-multi-agent based process knowledge-based system which has the ability to solve dynamic logistics process management problems.

Design/methodology/approach

The proposed system is developed with “real-time process management” capability which automatically identifies current process status, performs the process logic checking/reasoning, and, provides process knowledge support to staff members when they are tackling logistics activity problems. The unique feature of this on-line knowledge-based system, which enables it to enhance the performance of logistics organizations, is a process management engine incorporating radio-frequency identification (RFID) and multi-agent (MA) technologies.
Findings

The capability of the proposed system is demonstrated through an application case study in Eastern Worldwide Company Limited. The result reveals that both performance of operations and the utilization of resources have improved significantly.

Originality/value

The proposed system is a novel approach which leverages logistics performance and facilitates the creation of a learning organization through the provision of real-time knowledge support for those who handle logistics operations.

Article type

Research Paper.

Keywords: Logistics process knowledge; Real-time knowledge-based system; Radio-frequency identification (RFID); Multi-agent technology

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