

Modeling IoT Enablers for Humanitarian Supply Chains Coordination

ABSTRACT

Disaster relief operations rely on reliable real-time information sharing during disasters to coordinate scarce resources and save lives. The Internet of Things (IoT) has recently been regarded as an important technology for enhancing information sharing in disaster response operations to achieve effective coordination, accurate situational awareness, and comprehensive visibility of operational resources. Despite its relevance, its adaptation and implementation have been fraught with complexity. This research developed a structural model to identify enablers of IoT-based coordination systems in humanitarian supply chains using the Decision Making Trial and Evaluation Laboratory (DEMATEL) technique. Seven dimensional enablers have been formulated by reviewing the literature and experts' opinions. Main finding relates to the interplay between management support, IT infrastructures, third-party logistics service providers as key enablers towards adaptation and implementation of IoT in humanitarian supply chains. Results provides important implications and insight to decision-makers in international humanitarian organizations toward adaptation and implementation of IoT systems in humanitarian supply chains.

Keywords: Humanitarian supply chain, Internet of Things (IoT), Coordination.