The Use of RFID Systems in Humanitarian Operations and Crisis Management

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ABSTRACT

Natural and man-made disasters with massive consequences may occur at anytime and anywhere around the world. In the aftermath of a massive disaster, emergency aid must be moved into the area with the distribution of that aide requiring efficient management in order to achieve the greatest positive impact in the least amount of time. Many factors contribute to and must be managed properly in coordinating emergency supply and distribution from the point of origin of the supplies to the point of destination for their use or final distribution to the affected people under the emergency conditions. The affected people have urgent needs requiring the fast distribution of supplies, often through channels and distribution systems that have been destroyed or severely damaged by the disaster. Traditional approaches to coordinating emergency supply and distribution focus upon just three components in a general framework: the acquisition, storage, and distribution of the inventory. In this paper, we expand this general framework to include an information technology and knowledge discovery component that is vital in today's highly networked decision systems. A critical component of this fourth component is the automated capture of inventory information. We explore how radio frequency identification (RFID) technologies may help to improve the humanitarian operations and crisis management of inventory within the disaster relief system.