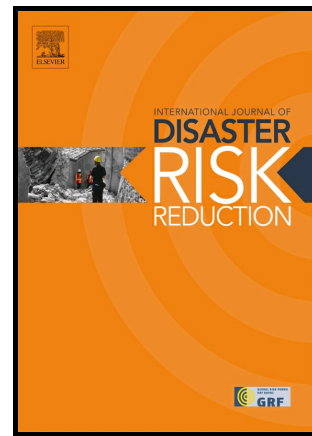


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Social Media Applications and Emergency Management: A Literature Review and Research Agenda

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# Social Media Applications and Emergency Management: A Literature Review and Research Agenda

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## Abstract

Social media applications have proven to be a dependable communication channel even when traditional methods fail. Their application to emergency management offers new benefits to the domain. For instance, analysis of information as the event unfolds may increase situational awareness, news and alerts may reach larger audiences in less time and decision makers may monitor public activities as well as coordinate with stakeholders. With such benefits, it seems the adoption of social media applications to emergency management should be automatic, however their implementation introduces risks as well. To better understand the benefits and challenges, a review and analysis of the literature regarding the application of social media to emergency management was conducted. Identified research gaps were mapped into social and technological challenges. These challenges were then analyzed to set research directions for practitioners and researchers.

**Keywords:** social media, emergency management, socio-technical challenges, complex systems.

## 1. Introduction

The emergency management domain is facing an increase in complexity and a decrease in the predictability of operational scenarios (FEMA 2012a). Comprehensive analysis of events such as: Hurricane Katrina, Hurricane Sandy, the earthquake and tsunami at Fukushima, Japan, among others, indicate that traditional emergency management methodologies have been overwhelmed by:

- Rapidly developing scenarios
- Increased numbers of participants
- Adoption of new technologies
- Large amounts of data to be collected and analyzed

Consequently, the implementation of traditional emergency management activities, which follow a hierarchical approach, result in severe economic impacts, loss of human lives, loss of morale

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