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Crisis Informatics

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Crisis Informatics'

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I was delighted to be invited to join the Editorial Board of the *Journal of Geography and Natural Hazards*. This short piece highlights some of the key themes in my primary research interest, crisis informatics (also referred to as disaster informatics) an emerging, interdisciplinary area of study. "Crisis informatics" was first coined in a paper that I presented in 2006 entitled "Using research to aid the design of a crisis information management course" presented at the Association of Library & Information Science Educators (ALISE) conference, San Antonio, USA. It is broadly defined as the interconnectedness of people, organizations, information and technology during crises/disasters. Crisis informatics examines the intersecting trajectories of social, technical and information perspectives during the full life cycle of a crisis: preparation, response, and recovery. It is a growing field of inquiry and requires integrative and collaborative efforts from many disciplines in order to achieve effective and efficient crisis/ disaster preparedness and response. Crisis informatics strives for socially and behaviorally informed development of ICT for crisis situations [1].

The many diverse actors and agencies involved in a crisis/disaster: citizens, victims, government and non-government agencies, increase the amount of information produced in a crisis. Information overload occurs from official and multiple unofficial citizen generated content. The integration and coordination of information created and disseminated through informal and formal channels is a key challenge in crisis informatics. The pervasiveness of social media tools and the subsequent increase in informal communication have heightened this problem.

The proliferation of social media tools such as Facebook, Twitter, Google Person Finder, Google Crisis Response, Youtube, Flickr are changing the face of managing information in crisis situations. These tools are used to: send personal messages, retrieve local information to communities, find missing people, coordinate relief efforts, organize volunteer groups and to mobilize. By harnessing the collective power of citizens and engaging communities in their own response and recovery, social media has the potential to transform crisis management. Official and unofficial sources of information are now present and shared on the same social platforms, for example during Hurricane Sandy,

information was posted on Twitter by city departments, by public transit authorities, by news organizations, and by citizens conveying information about the state of their neighbourhoods, and exchanging information about the safety of family and friends.

One of the challenges for centralized authorities and for the emergency management community is how to coordinate and aggregate the vast amounts of unofficial citizen generated information. Key questions to consider are: how does the unregulated nature of social media affect information creation and dissemination in crises/disasters? how do those connected by social media act to organize the vast amounts of data on these platforms into useful information resources?

However, not only have social media tools the capacity and power to inform, to provide real-time information to facilitate recovery efforts but they have the power to misinform. The combination of a vast amounts of official sources of information and citizen generated content created and disseminated via social media, adds to information overload in crises. This increases uncertainty and the difficulty of making decisions about whom and what are trustworthy sources of information. Deciding which information providers to trust and what sources of information to trust in crises is critical as acting upon trusted information can shape and influence the nature of the crisis. How can this information be verified and by whom?

Information needs change at different stages of a crisis/disaster and increasingly, a diverse range of tools create, organize and disseminate information. Technological innovations are changing the ways people interact with each other; people have different expectations and require new ways of engagement. The emerging area of crisis informatics explores this changing interconnectedness of people, organizations, information, and technology during crises. Getting the "right" information to the "right" person at the "right" time using a platform suited to particular needs and communities is critical.

References

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