



Emergent use of social media:

A new age of opportunity for disaster resilience

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The growing role of social media in disaster management

■ Social media

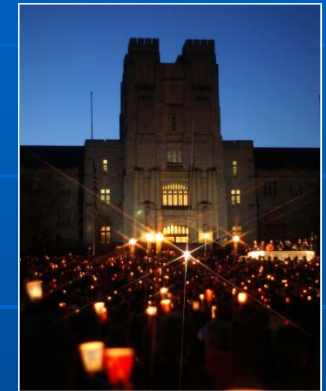
- Form of information communication technology
- Designed to disseminated through social interaction
- Collaborative, decentralized, horizontal, networked, community-driven



	Social media	Traditional media
Sources	Public	Organizations, Government
Format	Online discussion forums Web broadcasting Weblogs and Wikis, Podcasts, Pictures and Video, Social network platforms	News Entertainment Advertisement Risk communication Public service Propaganda
Technologies	Mobile phones Computers Digital music players Internet	Television Radio Internet
Information flow	Multi-directional	Uni-directional
Information control	Low	High
Adaptability	High	Low
Relevance for local residents	High	Low
Intelligence	Collective	Proprietary
Empowerment	Individual	Organizational
Accuracy of information	Variable	Variable
Cost	Low	High
Accessibility	Inclusive	Exclusive
Timeliness of information	Immediate	Delayed

The growing role of social media in disaster management^{1,2}

- 2007 Virginia tech shootings
- 2007 Southern California Wildfires
- 2008 Democratic Convention
- 2008 Hurricane Ike
- 2009 Iran protests



¹ Sutton 2008,
² Pew Research Ctr 2009

January 12, 2010

- The Haiti earthquake...
 - Killed 230,000
 - Injured 200,000
 - **Changed disaster management...as we once knew it**



The role of media after the Haiti earthquake

■ Traditional media

- Consumers used traditional media to *obtain* information about the quake

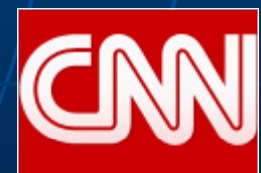


■ Social media

- Consumers used social media to *share* information, *react* to the situation and to *rally* support



- Twitter™ was the leading source of discussion about the Haiti quake¹
 - Followed by
 - Online video
 - Blogs
 - Discussion forums
- Two kinds of tweets
 - Links to read news
 - Links to take action

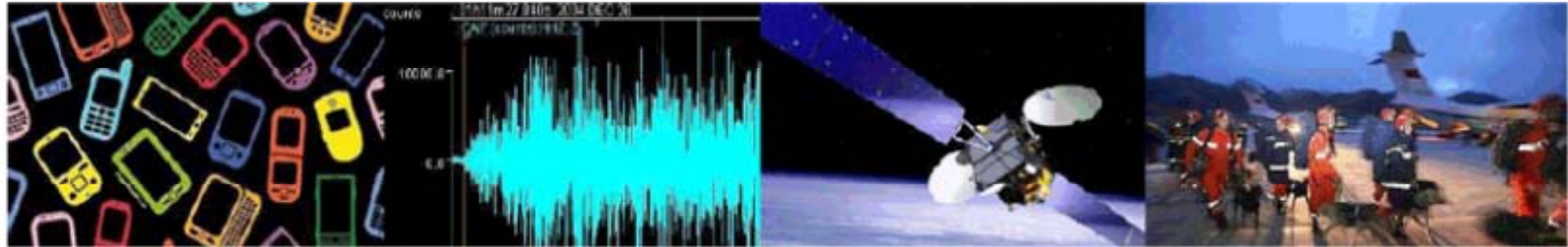


Social activism via Tweets and texts

- 2.3 million tweets included the word Haiti or Red Cross during the first 48 hours after the quake¹
- Red Cross raised \$25 million in 2 weeks just by texting¹



¹ Sysmos 2010



TIME TO SAVE A LIFE

Death toll from earthquakes: 700 000 over 10 years

Shock robs victims of precious seconds between 1st and 2nd-3rd waves, which could save their lives.

[read more](#)

According to a Gartner study in November 2010, the world's fleet of smartphones is expected to exceed 1.8 billion units in 2013. They are now equipped with a GPS and an accelerometer device whose primary function was to measure the seismic accelerations. The proliferation of smartphones allows to create the largest network of human sensors active.

Saving lives by empowering earthquake victims with a smartphone app



QuakeUp recognizes the pattern of seismic waves and enables data sharing.

Victims are warned via smartphones so action can be taken as the 1st wave hits

Geolocalised information is dispatched by users, helping rescue efforts in the aftermath.

[learn more](#)



Human resilience as a means for vulnerability reduction

- Resilience
 - The ability to cope with and recover from disasters
- Resilience is comprised of:
 - Absorptive capability
 - Organizational capacity
 - **Adaptive capacity**



Impact of social media on disaster resilience

- Social media builds adaptive capacity
 - Shares knowledge
 - Creates flexibility
 - Empowers local responders



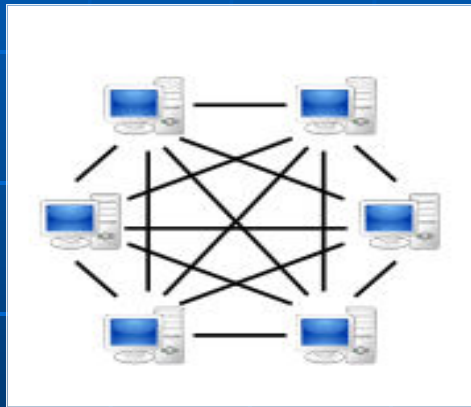
Impact on disaster organizational systems



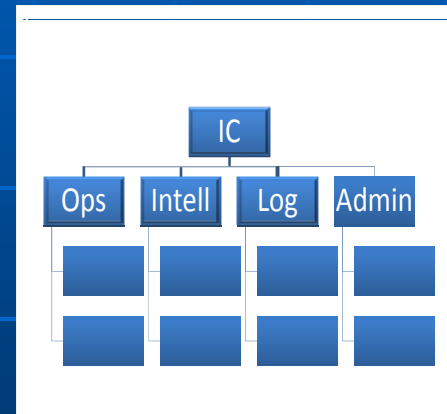
	Peer to peer	Hierarchical
Users	Public	Institutions
Sanction	Non-official	Official
Empowerment	Individual	Organizational
Activation	Immediate	Delayed
Adaptability	High	Moderate
Accessibility	Inclusive	Exclusive
Sources of public information	Many	One
Structure	Dynamic	Static
Scalability	High	Moderate

Impact on disaster organizational systems

- Peer to peer architecture



- Hierarchical architecture



Challenges of social media

- Lack of awareness
- Privacy issues
- Quality assurance

