EMSC (Euro-Mediterranean Seismological Centre) earthquake tools' effectiveness depends on people's real-time reporting, reactions and testimonials

As soon as people experience shaking from earthquakes, they begin a rapid search for information in order to establish what is happening/has happened and many turn to the Internet (Bossu & Earle 2012; Tierney 2009). Flash-sourcing or real-time monitoring of website traffic can be used to provide rapid information on the local effects of earthquakes due to this natural convergence of eyewitness looking for earthquake information on the EMSC (Euro-Mediterranean Seismological Centre) website, mobile site, and/or app, LastQuake. Citizens can be considered as real time sensors. People often start arriving on the EMSC website less than 20 seconds after shaking. Not only do eyewitnesses search for information, but they also provide information quickly and in mass. They turn to social media, generating, in a very similar way, a surge in published tweets related to shaking experiences (Earle et al. 2010; Earle et al. 2011). EMSC uses Twitter earthquake Detection (TED), an approach that applies place, time, and key word filtering to detect felt earthquakes through the surge in published tweets (Earle et al. 2010; Earle et al. 2011). Using TED, EMSC found a magnitude 5.1 earthquake that struck Japan on 16 May 2016 in just 32 seconds. EMSC uses both flash-sourcing and TED to provide rapid felt earthquake information as these methods prove to be complementary with only 10% of felt earthquakes being detected by both (Bossu, Laurin, et al. 2015 - full reference in source document). These detections allow for EMSC to state simply that shaking has been reported in a given region and do not include any information about the earthquake itself; such as, magnitude, for example. Once arrived on the websites or the LastQuake app, EMSC asks witnesses to be information providers themselves by providing testimonies, comments, and geo-located pictures. EMSC then uses this crowdsourced information to further inform the public on where the earthquake was felt and the felt intensity of shaking. In the first 30 minutes after an earthquake strikes, for example, EMSC collected 2,400 testimonies for an earthquake in Arizona, 700 testimonies for an earthquake in England, and 160 for an earthquake in Malaysia (Bossu et al. 2016).

Note: See source document for full references.

Applicable to:

Stakeholders: <u>Access and use of infrastructure/services</u>, <u>Social networks</u>, <u>Density of active citizenship</u>, <u>Communication</u>, <u>Open-mindedness</u>
Disaster Phases: <u>Response</u>
Types of Actors Concerned: <u>Non-active citizens</u>, <u>Active citizens</u>, <u>NGOs</u>
Hazards: <u>Natural hazards</u>

Recommendations:
- <u>The use of new technologies (e.g. Bluetooth) can improve communication strategies in disaster management situations</u>
- <u>Use cultural factors to improve the effectiveness of disaster communication</u>

Source

[Deliverable D3.3a "Initial report on the impact of best practices prototype implementation" (page 13)](#)

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