



Use of social media, traditional media and mobile phone network to support national measures for successful disaster risk communication

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My curriculum and approach as a researcher

- **PhD & associate Prof. in Information & Communication Sc. since 2005**
 - Change management, Information Systems and ICT (Telecom Paris)
- **European Commission, JRC (Ispra, Italy) in 2010-2014**
 - Ethics of social media
 - Evidence-based policy
- **I3-Telecom Paris since 2014**
 - Digital and crisis/emergency management

□ A communicational approach of crisis management

- Transformations of the democratic public space
 - Mediations and interactions between public institutions and citizens,
 - The socio-technical devices (as social media) that underlie them
- The civil protection in France
 - DGSCGC, SDIS, ANSC and their partners

Which perspectives related to the digital question (in France)

■ A macro, meso & micro approach of the operational chain of crisis management

- **Macro : related to the ministerial management of a crisis or emergency**
 - The after 13th nov. 2015 : the rise of **social media** & the implementation of **inter-organisational information systems**
- **Meso : the level of the organization, the French Firefighters departments (SDIS), & their integration**
 - In the operational chain of crisis management : interactions with their hierarchy
 - in their local environment : interactions with citizens, with their institutional and private partners
 - The digital strategies they are implementing, their tools (**social media, app., carto...**), Their choices & positions, The changes they are experiencing
- **Micro : the individual practices of citizens in the context of an emergency or a crisis**
 - The **social media** uses and their implications on the crisis management processes
 - **Digital app and video feedback** for dispatchers to improve the out-of-hospital cardiac arrest handling

Context of this working paper

■ Our meeting and presentation last nov. 2022

- *Social media & digital app. as communication tools*
- *The hybrid threats (by Prof. Felipe Pathé Duarte)*

■ SAPEA working group (2022) on Strategic Crisis Management in the European Union

- **Three Global trends :**
 - Increasing of **frequency and severity** of natural disasters, (State) **vulnerability** and **complexity** (of management)
- **Importance to take into account :**
 - Scale, Risk, the time and the level of governance
- **The questions of trust (citizens/institutions) and rumours/disinformation**

■ The handbook of Computational Social Science for policy (JRC, 2023)

- **Opportunities**
 - Contextualisation and understanding of an event (multiple formats and sources of content)
 - Understanding dynamics of a disinformation campaign based on social network analysis
- **Challenges**
 - Professional practices
 - Recognition of citizens as the 1st link of the crisis management operational chain

Objectives of the working paper

- 1. Giving specific examples of both beneficial uses of social media and their critical analysis**
- 2. Providing a state of the art to support discussion about relevant issues to be addressed on social media in crisis management in the framework of the Agreement**
- 3. Eventually drafting concrete policy recommendations based on its discussion today**



1. Making the case through 3 examples

1. Flash flooding in Genoa 2011
2. Hurricane IRMA in Cuba 2017
3. Flash flooding in the South of France in 2019
- (4. Vancouver Riots)

The 2011 Genoa floods (Italy)

- A FB page becomes the node of communication between citizens, local authorities and rescue teams
- Social Media allows citizens to answer competently to the floods, supporting community disaster resilience building
- Social Media as virtual space of care
 - Reconfiguration of the partnership civil society/institution
 - Trust and co-responsability

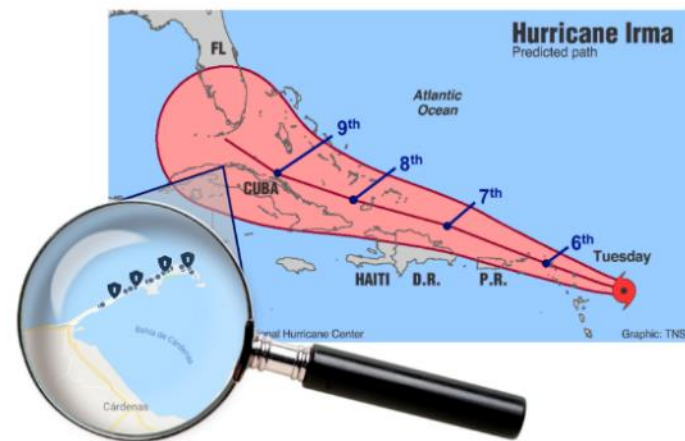


■ 2 key issues

- *The functions and values of « DIY » crisis management in building resilience society / Deepening the understanding for public institutions to embrace bottom-up initiatives*
- *Pros and cons of volunteering citizens' use of social media*

The 2017 IRMA hurricane (Cuba)

- Social Media used to share information & specifically locating people and states of the hotel
- Authorities did not take into consideration this information when dealing with the crisis
- A counter example
 - Virtual space of mutual aid and support among citizens : Trust
 - No co-responsibility between public institutions and citizens :
 - Social media information was not trusted
 - Crisis management remains traditional (top-down communication)



■ 2 key issues

- *How may SM support a co-responsibility and a more agile response to a disaster?*
- *Social media as a means to define a more adequate and inclusive answer*

Flash flooding in Nov. 2019 in the Alpes-Maritime (France)

■ An example of affiliated volunteers

Virtual Operational Support Team
(VISOV in France)

■ Tree types of contributions

- Updating the map of the opened crisis shelters to welcoming citizens
- Proposals to welcoming fellow citizens
- Direct questions to friends possibly in difficulties

■ Social media for emergency management

- A new channel of communication
- Citizens become actors on the ground and online

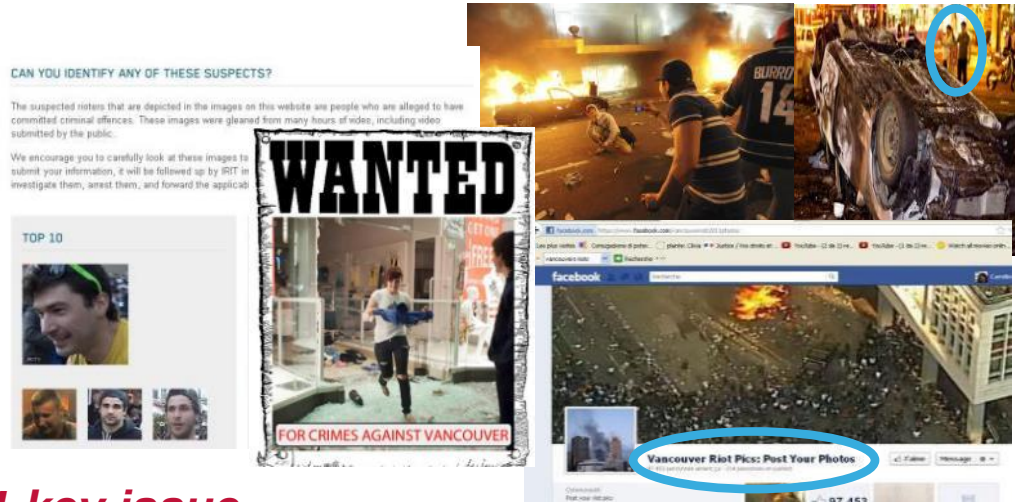


■ 2 key issues

- *Beyond the complexity social media have been bringing in disaster management, what are their added value?*
- *Is the VOST example reproducible to others (online) citizens' communities?*

The 2011 Vancouver riots (2011)

■ The social media used to cover the event



■ 1 key issue

- *The public institution unpreparedness to deal with social media and its content*



2. State of the art

Framing social media in crisis management

■ Social media

- Platforms 2.0
- Creation of content
- Share it
- Use / consume it
- Interact with others or the environment

■ In 2019 Facebook, Twitter and WhatsApp counted 5.7 billion of users (Statistica, 2019)

■ Nature of social media has changed especially during crisis when they have been becoming more collaborative

➤ *Crisis informatics: how networked digital technologies interact with crisis management (from both social & computer sciences perspectives)*

Social media cover different tools & functions

- Wikis : for information gathering and knowledge creation following a collaborative perspective;

Wikipedia

- Blogs and micro-blogs: for publishing information and/or self-expression

Twitter

- Social networks: for relationship management, self-expression and communication, information gathering

Facebook LinkedIn

- Content sharing and indexing systems: for creating and exchanging multimedia information (pic, videos, etc.)

Instagram, tiktok, youtube

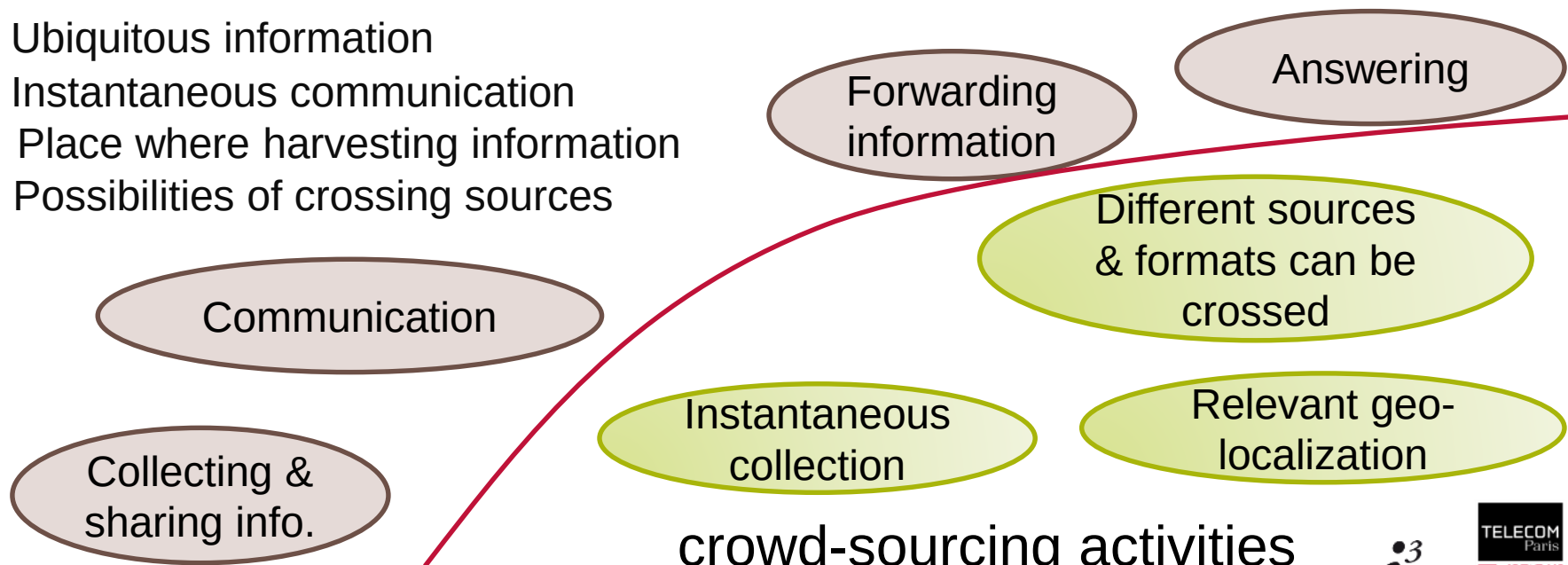
- *Important for the action to be done*
- *During a crisis we observe a combination of different functions*

State of the art

Micro-blogging activities

Social media offer opportunities

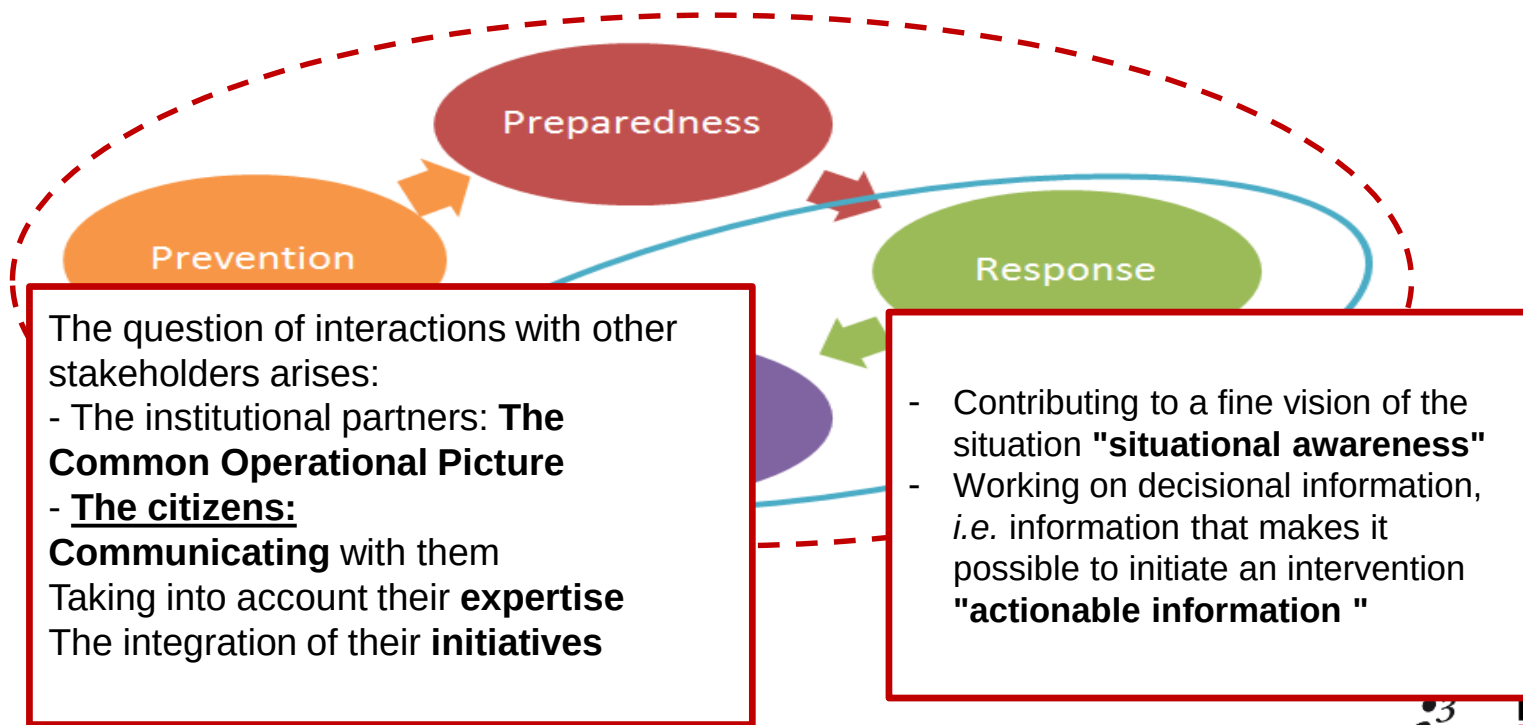
- ✓ Ubiquitous information
- ✓ Instantaneous communication
- ✓ Place where harvesting information
- ✓ Possibilities of crossing sources



crowd-sourcing activities

Use of social media in the crisis management cycle

Reuter et al., 2019 & Rizza, 2022



Technical and social challenges (4)

■ Technical challenges

- Data quality, trust
- Format content
- interoperability
- Big data questions
- Collected data visualization
- Recommendation systems based on social media data

■ Legal challenges

- Absence of legal basis to involve citizens in the response
- Personal data protection issues / privacy concerns

■ Ethical issues

- Co-accountability of stakeholders / actors
- Empowerment
- Equity / justice /fairness

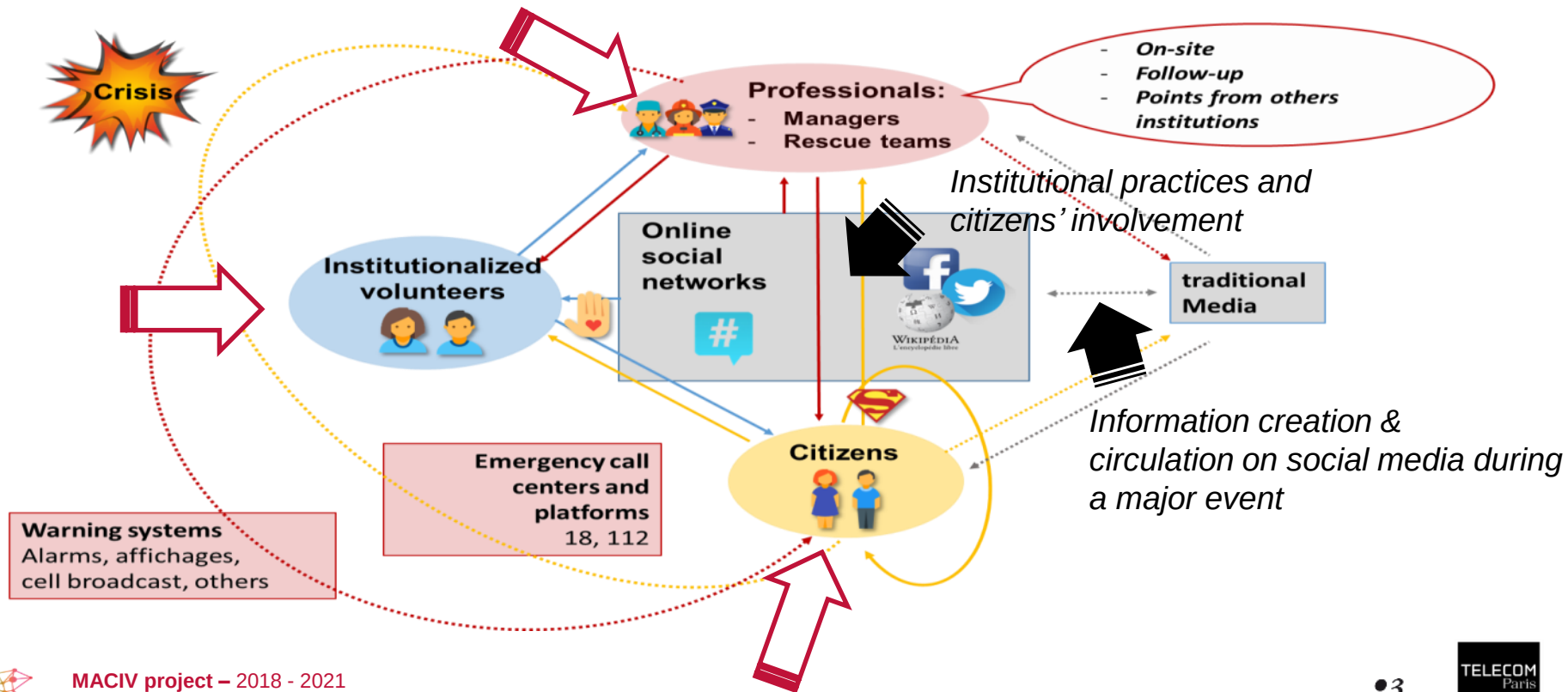
■ Design challenges

- Which methodologies implemented in order to think about and design tools integrating these parameters?

➤ *From the institutional side:*

- Barriers more organizational than technical
- Lack of time and resources
- Need for procedures, doctrines and training

How do social media impact practices ?



MACIV project – 2018 - 2021
Funded by the French Research Agency

A communicational dimension

- **Social media as an infrastructure to clarify the status of an event**
 - **Bottom-up**
 - situational awareness and actionable information to assess the means to be sent
 - **Top-down**
 - Alerts and official communication about the event
 - Instrumental vs. Expressive usages.
 - 2 different communication strategies
- **Key issues**
 - **How to cope with citizens expectations in terms of communication**
 - **Guidelines are not sufficient (digital culture, competences, new rules)**
 - **Necessity to rethink these tools and their place in advance of the crisis**

An organisational dimension

- **Social media as a virtual space for expression and organisation of citizens' actions**
 - **Volunteers can be**
 - Spontaneous / non-affiliated or affiliated
 - On site or on line
 - **Bring the questions of the recognition of citizen-led initiatives**
- **Institutional practices mobilising social media**
 - Pressure in processing an overwhelming quantity of data while managing the event
 - Difficulties in coping with public expectations in terms of communication
- **Key issues / limitations**
 - **A mistrust regarding information circulating on social media**
 - **Lack of time, ressources, competent and trained staff**
 - **How to define a relevant digital strategy in line with the characteristics of an area.**



3. Discussion

1. About misinformation, disinformation and communication on social media
2. Taking into account and integrating citizens' initiatives in crisis management

About misinformation, disinformation and communication on social media at the time of a crisis

■ Rumour/misinformation is not disinformation

- **Disinformation**
 - Misleading content in the form of a journalistic information
 - In a context of distrust regarding authorities (as in our post covid era)
 - Disinformation campaigns are political with their own form of rationality and self-perpetuating
- **Rumours**
 - Are related to the uncertainty that a crisis brings
- **Social media users may be careful and alert**

■ Toward policy guidelines

- **Necessity for the Institutions to be present on social media**
 - Not only at the time of the crisis
 - To rebuild trust with citizens
- **Necessity to adopt and adapt to a « new » digital culture brought by social media**
 - Bridging the gap of cultures to better communicating and collaborating
 - Media education for citizens

Taking into account citizen-led initiatives in crisis management



■ Institutional/citizen collaboration: two opposite systems

- "The Cathedral and the Bazaar" illustrates this opposition (Batard, 2021):
 - A vertical and organized organization: the cathedral's one
 - A horizontal and distributed organization *via* social media and digital applications: the bazaar

■ Towards policy guidelines

- How to establish social media as a **genuine collaborative space** where citizen action is recognized?
- The **horizontality** of the exchanges : citizens as the **1st actor of the operational chain** of crisis management
- **Collaborating through the 4 steps of the crisis management cycle** and not only at the time of the crisis to build Trust



- Thanks for your attention -

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