



Guidelines for the use of digital tools such as social media and mobile apps. for successful disaster risk communication

Caroline Rizza

I3 UMR 9217 – CNRS
Telecom Paris, IP Paris

caroline.rizza@telecom-paris.fr

Olivier Galichet

Crisis management & civil protection
expert olivier@galichet.com



Context of these guidelines and recommendations

■ A one-year-preparation :

- **Nov 2022:** *Social media & digital app. as communication tools / The hybrid threats (by Prof. Felipe Pathé Duarte)*
- **May 2023:** *Working paper on “Use of social media, traditional media and mobile phone network to support national measures for successful disaster risk communication”*

■ 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 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

■ The questions of trust (citizens/institutions) and rumours/disinformation in a post-covid-age

Addressing the question of rumour & misinformation on social media & Rebuilding trust between institutions & citizens

■ Rumour/misinformation is not disinformation & 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 despite the idea of 2 opposite worlds

➤ Toward 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

The guidelines

- 1. Addressing these two questions & their associated stakes:**
 - Situational awareness,
 - Information disorder reduction,
 - Crisis communication,
 - Collaboration with main stakeholders
- 2. Being more prepared to include these tools in case of major events**
- 3. Preparing civil society to use these media during a disaster:**
 - The reception of key messages from official institutions (following a top down perspective)
 - Possible interactions with public institutions, and the integration of citizen-led initiatives (on a top-down or more horizontal perspective)

Framing social media in disaster risk reduction & 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

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

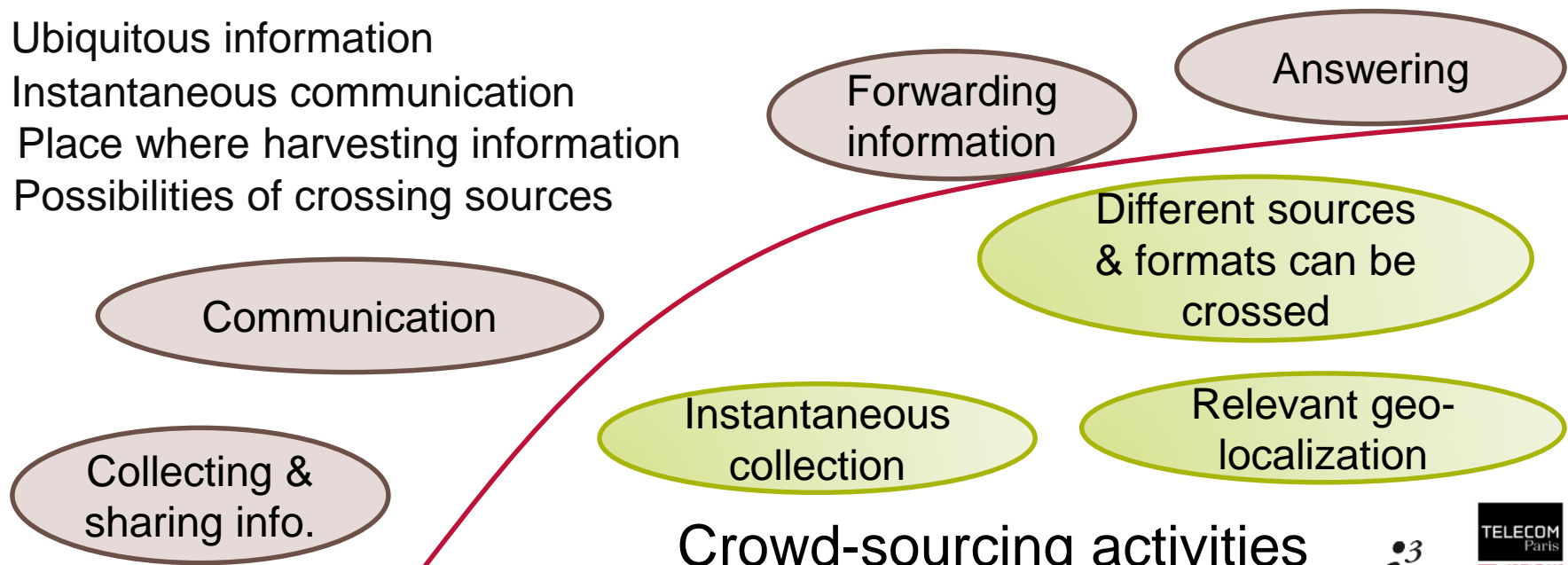
- *Important for the action to be done*
- *During a crisis we observe a combination of different functions*

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

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

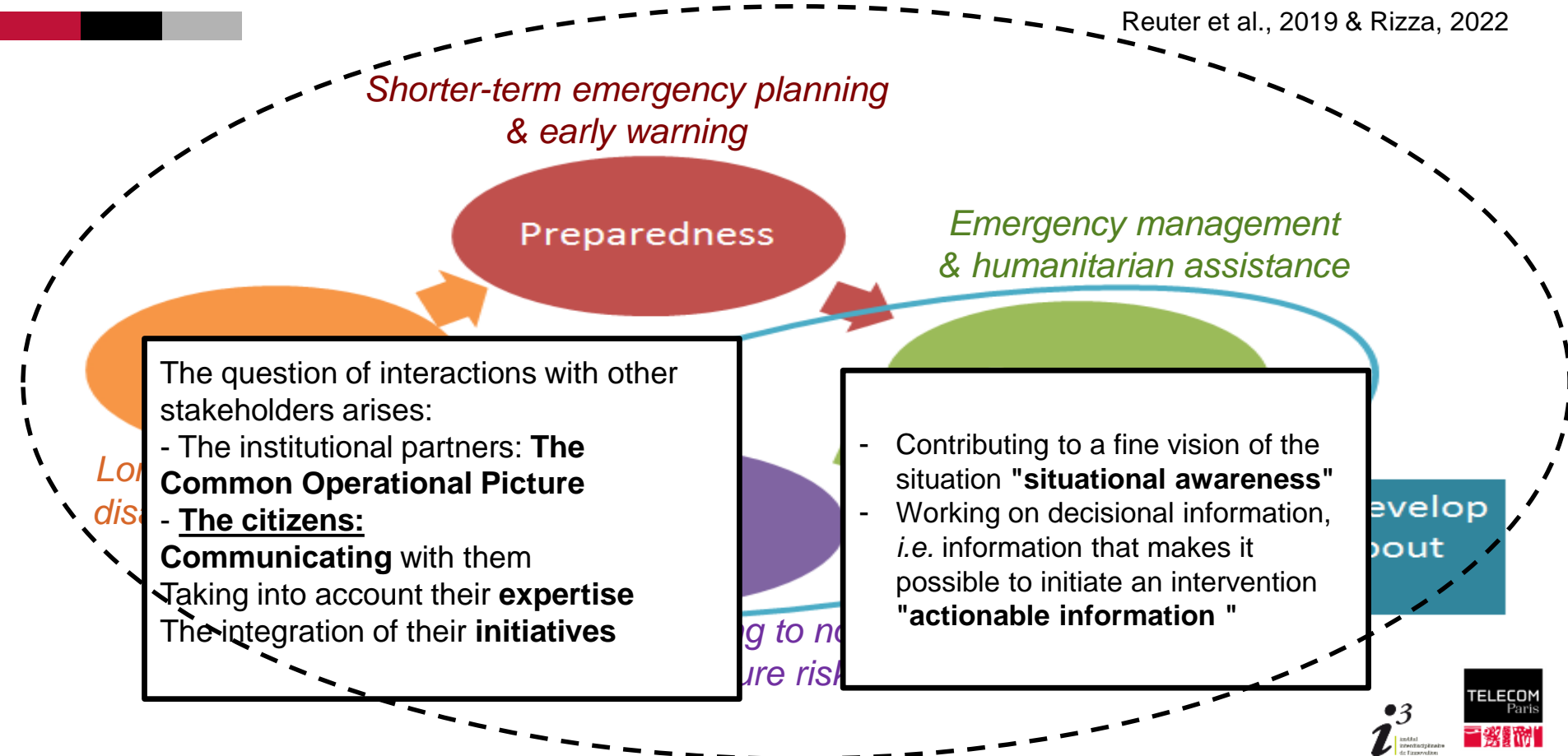
- Which methodologies implemented in order to think about and design tools integrating these parameters?

➤ *From the institutional side:*

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

Use of social media in the crisis management cycle

Reuter et al., 2019 & Rizza, 2022



Dufty's resilience building framework

Goals and ways that social media can help build community disaster resilience

	DISASTER RISK REDUCTION	EMERGENCY MANAGEMENT	COMMUNITY DEVELOPMENT
Goals	<i>Minimization of residual risk</i>	<i>Safe communities through shared responsibility</i>	<i>Formation of social capital for disasters</i>
Ways	Informing others of disaster risk	Providing emergency intelligence through crowdsourcing	Increasing and improving social networks, leadership and support systems
	Discussing and planning ways to minimise risk	Helping people prepare for disasters	Providing support to people during and after a disaster
	Coordinating and managing tasks	Communicating warnings to others	Conducting post-event learning to improve
	Conducting post-event learning to improve	Coordinating community response and recovery	
		Conducting post-event learning to improve	



3. The guidelines

- Follow the crisis management cycle PPRR
- Pay a specific attention to the community development dimension (as defined by Dufty)

Integrating of digital tools into practices & facilitating communication and collaboration with civil society

➤ Challenges:

❖ Technical

- Promoting specific research grants and collaborations in an end-user-perspective (covering both public and private actors)

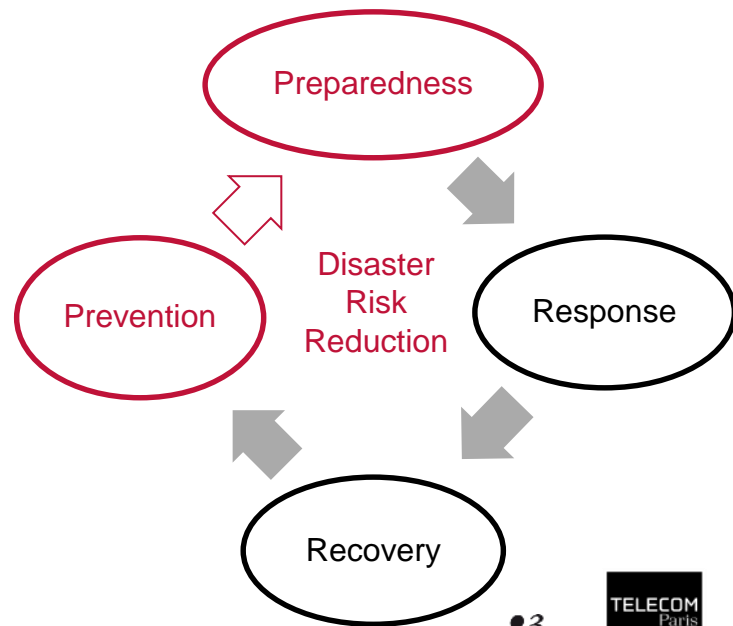
❖ Ethical legal

- Defining programs & promoting media education and training to face information disorder;
- Implementing working groups (experts and lawyers, ethicists and social scientists) to draft & discuss a timely political and legal agenda to draft and enact legal framework both allowing to involve citizens (VOST or unaffiliated volunteers) and settling also limits of IT uses;
- Fostering collaborations with public and IT companies which mobilise specific design methodologies to embrace “ethics-by-design approach”

❖ Organisational

- Allocating dedicated funding to recruit additional and digital competent human resources and to train teams;
- Defining and implementing a concrete digital communication strategy on social media to being identified by civil society on this digital space, being heard when communicating at the time of the event and being able to identify and face any information disorders - this action includes collaboration with VOST;
- Giving more time to test and experiment operational new rules and procedures (such as digital communication strategy) integrating both social media and other digital tools uses as well as citizens' involvement; making these actions compulsory

“Ensuring that the society in a whole acquires a (digital) hazard culture and shares the same knowledge, competences, and values to face a disaster”



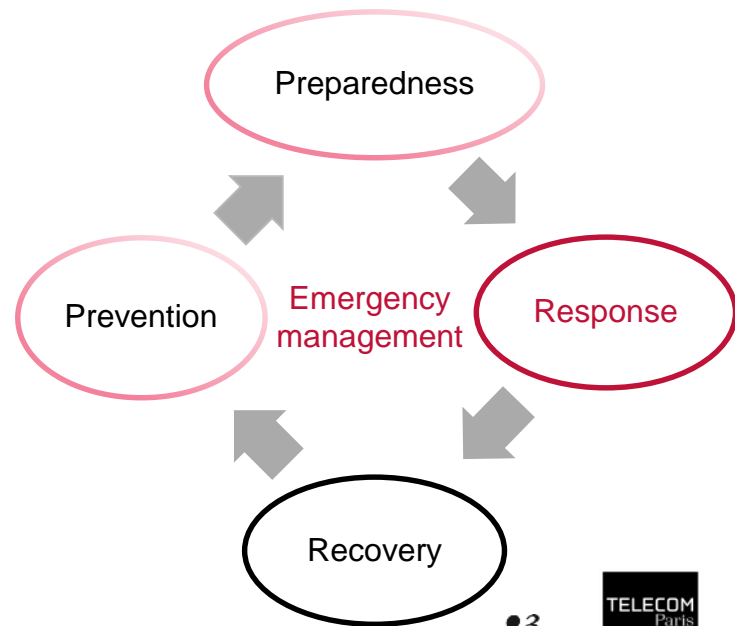
Embracing digital opportunities by including the two following actions:

1. **Activation of specific networks of actors to monitor the environment;**
2. **Timely top-down communication through historical and new media to inform the civil society - this can include relying on VOST**

➤ **The mobilisation of digital tools**

- **Using** social media data as an additional situational assessment tool to obtain a clearest vision of the disaster on the field and scaling up or down the means consequently
- **Mobilising (digital) expert communities** to both collect relevant data and update usual maps uses by citizens;
- **Communicating** through a top-down perspective using cell-broadcast and social media about the situation and when possible and relevant **engaging** with citizens by answering to their requests on social media;
- **Monitoring** the digital space to identify any potential information disorders (rumours or disinformation campaigns)

“Facing the occurrence of the disaster”



The official crisis managers and rescuers communication as a key-action

❖ Being present and communicating to hold and limit

- Spread of information disorder through the occupation of the media space and the early identification of rumours or disinformation campaign;
- Emergence of unaffiliated citizens-led initiatives which can telescope and impede on-going recovery actions when they are not adapted or too numerous

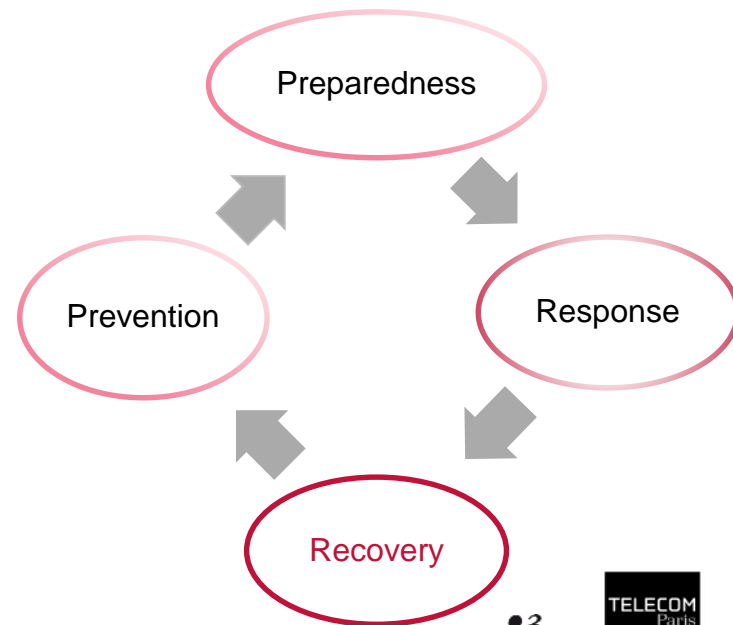
❖ Monitoring citizens-led initiatives to collaborate and engage with civil society by

- Identifying needs or issues that may have not been yet and taking them into account in the on-going operational plan;
- Relying on some citizens-led initiatives when a need is not covered yet, when the capacity of operational resources is not sufficient or when their action covers a non-priority issue

➤ A key-stage in the building of trust and co-reliability between official institutions and civil society

- A means to anticipate the preparation of the feedback on the event and the actions taken;
- The inclusion of civil society in the feedback on the event is a means to promote transparency and reinforce trust and resilience

“Ensuring the whole population (victim or outside the affected area) received timely and relevant pieces of information about both extent of damage and potential number of casualties as well as the ongoing rescue operation and recovery actions”





The recommendations

- Have been formulated following the same logic
- Include the key messages and actions outlined in the guidelines



- Thanks for your attention -