# Evaluating Platforms for Community Sensemaking: Using the Case of the Kenyan Elections

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**ABSTRACT**

The profusion of information technology has created new possibilities for local communities to self-organize and respond to disruptive events. Along with the opportunities, there is also a series of challenges that need to be addressed in order to improve societal resilience. One of these challenges is to make sense of the continuous stream of information to create a coherent understanding and improve coordination.

The research presented in this paper focuses on the socio-technical requirements of IT platforms that support sensemaking and coordination. Using a comprehensive evaluation exercise based on real data from the 2017 Kenyan elections, we examine the development, workflows and use of this shared situational awareness in a group decision making process. In this manner, we identify requirements for resilience platforms and identify further research directions.

**Keywords**

Sensemaking, community engagement, evaluation, requirements, resilience

## INTRODUCTION

Disruptive events, irrespective of their nature, often exceed the capacities of professional authorities – leading to institutional voids and giving rise to localized response activities (IFRC 2016). At the same time, the situation is often highly uncertain. Through the proverbial 'information firehose' decision-makers and affected communities are confronted with conflicting or redundant information, and actionable information is increasingly hard to find (Van de Walle and Comes 2015).

Given the uncertain and chaotic nature of these disruptive events establishing an understanding of the crisis, and attributing meaning to what is happening are crucial for the response (Weick 1993; Weick 2010). *Sensemaking* process is a continuous process of information collection, enactment and retainment (Sharoda and Reddy 2010). While this sensemaking process has been studied extensively for responders, such as Search and Rescue teams (Muhren and Van de Walle 2009), disasters coordinators (Weick 2010), and emergency services (Kuligowski 2011), there is limited research in sensemaking and decision-making at the community level.

However, communities play an important role in the response to disruptive events. The World Disaster Report 2013 by the International Federation of the Red Cross, highlighted that: "90% of the people saved in a disaster are saved by local people" (IFRC 2013). Communities are not only the first on-site, but also have access to local resources and capacities that can be deployed immediately. For sensemaking, particularly the legacy or 'sensemaking trajectories' (Muhren et al. 2008) of the local communities are highly relevant.

The increasing importance of mobile technology and social media has given communities more options to create, share and analyze information. Increasingly, communities use collaborative platforms to self-organize. These can be neighborhood apps fostering communications, or dedicated tools and platforms for crowdsourcing (Shanley et al. 2013) or crisis mapping. One of the most recent examples has been provided in the 2017 Harvey Hurricane response (Sebastian et al. 2017).

This paper sets out to study the impact of collaborative platform on community sensemaking and decision-making. In this paper we present the initial findings from an extensive evaluation session, based on a real-world case. In the next section we explore the theoretical background related to the community sensemaking and

decision-making. This background informed both the setup of our evaluation as well as the approach to collecting data. Next, we present the results from our various data collection efforts, including surveys, self-reporting and group discussions. We conclude the paper by discussing these results, the methodology used, presenting the key findings and future research opportunities.

## BACKGROUND

### Resilience

A widely used definition of resilience sees it as 'systems ability to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner' (UNISDR 2009). However, many other definitions and insights have been developed. This includes discussions on whether resilience is the ability bouncing back to a previous state as predominantly used in engineering (Bruneau et al. 2003; Comes and Van de Walle 2014; Comfort et al. 2010; Madni and Jackson 2009; Zobel and Khansa 2014) or an adaptive process of change and transformation as is typical for the socio-ecological school of resilience and complex adaptive systems theory (Filatova et al. 2016; Folke 2006; Jerneck and Olsson 2008; Klein et al. 2003). The later emphasis the transformative nature that disruptive events have on communities and socio-ecological systems, requiring them to not only deal with the consequences of a disaster ('bouncing back') but also reflect on the causes of such an event and implement measures to reduce future risk ('bouncing forward'). Increasingly we see the latter approach be part of disaster risk reduction strategies, often referred to as 'building back better' (Fan 2013) and strengthen the affected communities capacities (Almedom 2008).

A different, but related debate is the discussion whether resilience is linked to tangible assets and characteristics of a community as argued by Norris et al. (2008), or rather a process (Brown and Kulig 1996). However as illustrated by Giddens (1979), the two aspects are linked: certain characteristics, infrastructures and/or assets of a community can enable or hinder the community driven resilience process.

The recent survey on urban resilience of Meerow et al. (2016) highlights particularly well how fragmented the field of resilient is with respect to the definition and scope of the term; the only consensus that they found was that resilience is something positive. Maybe most important from an information system and ICT perspective is the missing combination of the engineering and design thinking of resilience with the adaptive and transformative theories that come from the socio-ecological systems, thereby expanding the scope of the analysis to complex adaptive socio-technological-ecological systems. We discuss here specifically the role of information sharing platforms for community resilience, thereby making a headway in bridging the gap between (ICT) design and resilience in disaster response.

### Community

As illustrated, communities play a pivotal role in dealing with a disruptive event. These disruptive events test the resilience of a community and reveal shortcomings. As such, communities are not only at the heart of responding to disruptive events, but also benefit from understanding how they can improve their resilience when disruptive events affect them.

Communities can be identified by three characteristics according to Frankenberg (1966): common interests among people; or common ecology and locality; or a common social system or structure. This definition implies a shared responsibility and interest in the resilience of their community and in dealing with disruptive events. This shared responsibility among everyone in the community has been described by Ronan and Johnston (2005). Moreover, communities are also driven to develop mechanisms to improve their resilience, whether pre- or post-disaster (Kendra and Wachtendorf 2007; Taket 1999).

Theories on social capital in resilience stress the importance of social interaction in terms of networks and information flows for collective action (Adger 1999; Pelling and High 2005). Besides keeping links to their close families or within their neighborhood ('bonding' social capital), the networking capital stresses the importance of external links that a community has, governed by economic or legal relations (Adger 2009), where the latter are particularly important in institutional 'voids', marked by an absence of governmental actors (Klievink and Janssen 2014). Extending these concepts Szreter and Woolcock (2004) define linking social capital as "norms of respect and networks of trusting relationships between people who are interacting across explicit, formal or institutionalized power or authority gradients in society". This is particular important as in disasters, the ability to connect quickly to professional decision makers and public authorities for coordination of relief efforts can be crucial (Aldrich and Meyer 2015; Aldrich and Sawada 2015).

### Coordination

In the response to disasters, communities and professional actors hence need to work together, pooling their knowledge, resources and response capacities. Accordingly, coordination in the context of disasters entails information sharing, collaborative use of resources or expertise, joint policies and definition of responsibilities (Comfort 2007). Information and communication technologies empower new actor groups to self-organize and engage, taking on new roles and responsibilities.

At the same time, particularly the early chaotic phase of disasters is subject to 'severe' or 'deep' uncertainty (Comes et al. 2015). The combination of uncertainty, time pressure, and proliferation of technology has wide implications for coordination. The widespread access to data and analysis tools gives rise to an unprecedented number of forecasts, predictions and analyses at any level, adding noise and uncertainty. Particularly, the problem of politicizing data and the link between information and power has been increasingly in focus recently (Comes and Adrot 2016).

The increasing pressure for accountability and transparency can lead to stalemates and long decision processes. But the longer it takes to decide the more likely it is that, given the pressure to respond, reactive measures have already been implemented locally. This lacking coherence increases the risks of decisions being rendered obsolete or seriously flawed even before they are implemented. Under the pressure to respond and given disrupted communication lines, in these settings localized response efforts emerge, making it particularly challenging to coordinate and align their efforts. Nevertheless, coordination is a critical success factor in effective disaster response as the situation is often so overwhelming not a single actor is able to deal with the situation single-handedly (Bharosa et al. 2010).

### Sensemaking & Information

Sensemaking is the process that individuals go through to develop an image of what is happening or what people are doing (Weick 1995). This -iterative- process is a collaborative effort by different actors to develop a shared awareness. While this sensemaking process has been studied extensively for responders, such as Search and Rescue teams (Muhren and Van de Walle 2009), disasters coordinators (Weick 2010), and emergency services (Kuligowski 2011), there is limited research in sensemaking and building situational awareness at the community level. However, over time different platforms have emerged that support responders in supporting this process, including crowd-sourced information, for example during the Kenyan Elections (Goldstein and Rotich 2008).

Before, during and after elections a custom-build web platform called Ushahidi was used to collect reports from the public through different channels, including SMS and submissions on a web page (Okolloh 2009). The resulting information from this platform provided both government agencies and individual citizens with an understanding of the unfolding situation. It has been studied how these crowdsourcing platforms support mandated responders in their sensemaking process for example after natural disaster such as the Earthquake in Haiti 2010 (Gao et al. 2011; Heinzelman and Waters 2010) or conflict situations such as the Libya crisis (Stottlemyre and Stottlemyre 2012) or Kenya elections (Meier and Brodock 2008). However, it is there has been limited study how such platforms and the resulting information support sensemaking at the community level.

### Research gap

Building resilience is a process that is targeted at and - more importantly- driven by communities. Building resilience enables communities to reduce the impact of disruptive events and supports them in dealing with the resulting effects. Especially in these circumstances communities are dependent on themselves. If we are to encourage the community resilience process, supporting sensemaking at the community level is an essential step. Nevertheless, the currently available platforms mostly support the sensemaking process of formal (mandated) responders, but they could also support the communities in their collective sensemaking process (Comes et al. 2017). However, to date no research focused on investigating if this is a valid assumption and how platforms should be designed to encourage such community sensemaking process. This paper aims to address this research gap. In the study presented here, we use a comprehensive evaluation approach to examine the contribution of (augmented) crowdsourcing platforms to the sensemaking process for non-mandated responders in disruptive events.

## METHODOLOGY

When designing an evaluation to examine the above mentioned effects, there are several considerations (Link et al. 2014; Meesters 2014) First and foremost, we need to design the content, this encompasses not only the

objective, but also the tasks to be executed. Those *objectives* and tasks stem from the research objective outlined above: Sensemaking in a disruptive event by non-mandated (experienced) responders. This is then translated in specific *tasks*. Next, we consider the *delivery* of the evaluation; how the evaluation is framed and presented to participants. This includes the *scenario* and *background* introduced to the participants as well as the *workflows* and *tools* at the disposal of the teams. Finally, data has to be collected during the scenario exercise in order to evaluate the initial (research) objective.

### Evaluation Design

To examine if the platform and services offer sense-making support, the scenario would have to fulfill the following criteria: (1) provide an unknown context to the participants, (2) provide a clear objective that encourages participants to common to a situational understanding, (3) provide sufficient data to enable participants to reach that objective (4) provide a comprehensive and realistic scenario. The participants were students with various backgrounds in Technology and Management, with a common interest and some introductory lectures on the design of participatory systems. A total of twelve students joined the evaluation.

### Evaluation Delivery

The Kenyan elections, which initially took place on August 8, 2017, were highly disputed and have led to several eruptions of violence. The results of the elections were also disputed and eventually annulled by the supreme court of Kenya, leading to another election cycle held in October 2017. As part of the government's effort to make the elections more transparent, the Uchaguzi[1] initiative was re-launched. The goal of the initiative was: "... to help Kenya have a free, fair, peaceful, and credible general election in 2017." Uchaguzi aimed to support this objective through a broad network of civil society and citizen observations. It provided a platform which enabled citizens to report, with any technology available to them, any incidences significant to the election.


**Fig 1. Real-world Uchaguzi workflow**

This scenario was a good fit with the criteria outlined above: the participants were not closely familiar with the specific background and context of the Kenyan elections. Furthermore, the scenario provided a clear objective: mapping the reports of voting incidents and irregularities to support the Kenyan election board in assessing the validity of the elections as well as support the security & safety forces in containing the violence. Additionally, access to sufficient data was provided to create a comprehensive and realistic scenario that enabled enough depth for the participants to play their role and complete their objective. Finally, the validity of the scenario was ensured by being based on the Uchaguzi deployment which was part of the real elections with proven results.

#### *Scenario*

Using Uchaguzi as inspiration the scenario was adopted for the evaluation. The participants took on the role as

[1] Uchaguzi 'Election' in Swahili https://www.ushahidi.com/uchaguzi-support/what-is-uchaguzi/uchaguzi-2017-overview-and-background

members of an 'Election Observation Mission-team', send from the European Union in response to a request made by the Kenyan government. In this scenario the participants support the election observation mission by collating, processing and analyzing the data send to them by other observers in the team, closely resembling the real-world mandate, process and workflow of Uchaguzi. Aside from the participants themselves, the evaluation included several role-players to provide realism and support to the participants, without breaking the scenario:

- **Head of mission:** The head of mission provided the participants with the required objectives, necessary information and mandatory tasks. This included the data collection tools showed in the next section.
- **Kenyan Election Board:** This player of the Kenyan Election Board, would inform the participants about the impact of their work, provide general updates on the unfolding situation and respond to country-specific inquiries if needed.
- **IT Support:** IT support provided the role-players with their own 'digital workspace', including dedicated email accounts, a shared workspace for their team on Google Drive, the pre-configured Ushahidi platforms and a Slack channel were the support was offered. Most importantly, IT support would also provide daily data updates (injects) to the participants.

The data provided to the participants was created specifically for this exercise *using the real-world data* from the Uchaguzi deployment. A representative sample for the evaluation was made from the complete data-set, ensuring a similar ratio of 'published' (indicating verified and useful reports) and 'unpublished' (indicating were valuable reports). The data-set also had the same distribution across distinct categories as the complete real-world data-set. The timestamps of the reports were updated to match the dates of the evaluation period.

Participants were divided in three groups and worked in their own environment. In their role of 'digital election observers', the participants received a briefing at the start of the evaluation outlining their mandate, mission objective and tools at their disposal. Each group was provided with their own 'digital workspace' as described above.

This platform was augmented with several services developed as part of the COMRADES research project. Using these tools, the team would receive, process and publish the 'reports' (data) received from the observers. While the participants were free to determine their own workflow, a generic daily workflow would encompass receiving data (daily), cleaning & importing it, processing it, and publishing the results to the public.

### Data collection

The data collection was carried out using three approaches: surveys, mission reports and group discussion. The *surveys* focused on an individual participant while the *reports* had to be filled by the whole groups. In fact this was aimed at making the group work together and summarize their collective perspectives and situational awareness. Eventually, the *group discussion* was a collective meeting of all groups to determine if the single teams shared a common understanding of the local context, and if, given the same roles and data, could come up with a common decision.

The repetition of surveys and reports over time was aimed at tracking changes in the perspectives of the participants. To achieve that, three surveys and two reports were filled in and written by the participants at different times along the evaluation. Table 1 illustrates the schedule of the evaluation, including the main objective (task) for that day, the in-person meetings and the data-collection for the evaluation. This schedule was presented and monitored by the head-of-mission role-player. The next sections show the content and structure of the surveys, reports and group discussion.

**Table 1 Schedule of the Evaluation**

| Date | Mission | Participant Task | Team Meeting | Eval. data collection |
|---|---|---|---|---|
| **Day 1** | Preparation | System test | Briefing & Tutorials | 1st survey |
| **Day 2** | Preparation | System test | | |
| **Day 3** | Election | Process observation reports | Q&A Session | |
| **Day 4** | Election | Process observation reports | - | |
| **Day 5** | Election | Process observation reports | | Intermediate Report |
| **Day 6** | Election | Process observation reports | Q&A Session | 2nd survey |
| **Day 7** | Election | Process observation reports | | |
| **Day 8** | Debrief | Process observation reports | | Final report |
| **Day 9** | Debrief | | Presentation / Debrief | 3rd survey |

*Surveys:*

The surveys aimed at evaluating Situational Awareness of each individual participant and were structured according to the Situational Awareness Rating Technique (SART) as suggested by Selcon and Taylor (1990). This approach uses ten questions based on a 7pt Likert Scale, aimed at investigating three components of Situational Awareness: Situational Understanding, Attentional Demand, and Attentional Supply. Situational Understanding represent the confidence a participant has that the situation at hand is completely understood. Attentional Demand relates to how challenging the current set of events is in terms of Instability, Variability and Complexity. While Attentional Supply applies to the amount of effort a participant is investing in understanding the course of events.

*Reports:*

The reports were aimed at collecting open feedback from the teams. The participants were given a predefined structure to be filled in. The structure was divided in two main parts: one was a Situation Report as part of the scenario exercise and the second one was aimed at gathering feedback on the evaluation exercise itself, but also on the platform. The situation report included the following sections: workflows, IT tools, current situation, and advice on the election validity and recommendation for security force allocation. For this purpose, a template map was provided to the students to report Security, Staffing and Voting Issues.

With regards to the security force allocation, participants had to come up with a final decision in terms of the allocation of three police forces within the most affected areas of Kenya. This had to be included in the final report. The report included also the reasoning behind the above-mentioned choice based on their situational awareness. In the Evaluation section, participants had to provide feedback based on the following elements: Mission and Objective (e.g. feasibility of the exercise), Workflows and Team Organization (e.g. critical perspective on the flows chosen by the team) including IT Systems and Services used.

*Group Discussion:*

Once the final report was delivered, the group discussion phase was implemented. This section was structured in the following way. First, the participants presented their map with the final decision and related argumentations. The groups then discussed to come up with a joint decision. This discussion was facilitated by the researchers.

## RESULTS

Based on the data collection strategy shown above, several results were gathered for each of the data collection tools. Table 2 summarizes the results, while the following sections provide more details.

**Table 2 Summary of Results for each of the Data collection tools adopted**

| Data Collection Tool | Evaluation Dimension | Results for Situational Awareness | Other Results |
|---|---|---|---|
| **Surveys** | Individual Participant | Increasing over time, affected by continuous information inflow. | N.A. |
| **Reports** | Within Group | Different Prioritization of Areas | Similar workflow for separate groups, need for contextual knowledge, Socio-Technical Requirements |
| **Group Discussion** | Among Groups | Different prioritization of Areas, Different Interpretation of Information | Need for contextual knowledge, Socio-Technical Requirements |

### Results of Surveys

Situational Awareness seemed to increase during the simulation and reaching a plateau between the second and the third survey. As far as the components of situational awareness are concerned Situational understanding increased over the simulation but reached a plateau between the second and third surveys. Attentional demand increased considerably between the first and second surveys. The demand kept rising the second and third survey, but with decreased momentum. Attentional Supply increased over time almost steadily. Table 3 shows the results from the surveys.

**Table 3 Results of the Surveys averaged per group and for all groups (overall average)**

| Group Average | Survey | Attentional Demand | Attentional Supply | Understanding | Situational Awareness |
|---|---|---|---|---|---|
| Group 1 | S1 | 4,0 | 3,6 | 3,3 | **3,0** |
| | S2 | 4,6 | 4,4 | 4,0 | **3,9** |
| | S3 | 4,8 | 4,5 | 4,2 | **3,8** |
| Group 2 | S1 | 3,7 | 4,4 | 3,5 | **4,2** |
| | S2 | 4,4 | 4,8 | 4,7 | **5,1** |

| | | | | | |
|---|---|---|---|---|---|
| | S3 | 4,8 | 5,0 | 4,4 | **4,6** |
| Group 3 | S1 | 4,6 | 4,8 | 3,4 | **3,6** |
| | S2 | 5,6 | 4,3 | 3,8 | **2,5** |
| | S3 | 5,7 | 5,1 | 3,7 | **3,1** |
| Overall Average | S1 | 4,1 | 4,3 | 3,4 | **3,6** |
| | S2 | 4,9 | 4,5 | 4,2 | **3,8** |
| | S3 | 5,1 | 4,9 | 4,1 | **3,8** |

### Results of Mission Reports

In addition to the surveys, each group also produced two reports: an intermediary report (approximately halfway during the evaluation) and a final report (at the end of the evaluation). The participants described the workflows they used throughout the evaluation period. This workflow involved processing the incoming data and using the various systems at their disposal. Based on these descriptions, it became clear that all groups followed the same approach: 1 or 2 persons in the team would be responsible for uploading the data in the platform, after which all the group members would go over the results and fine-tune the entries on the platform as needed.

The Participants were asked to provide advice to the *Kenyan Government* based on the data they received and analyzed. They were also asked to describe how confident they felt in the recommendation and feedback provided in the report. For the final report only, the participants had to provide a final decision in terms of validity of the elections and resources allocation. The results of resources allocation showed that the groups prioritized different areas in terms of intervention of three different police forces (see figure 2). Also, the decision on the validity of the elections was different for the groups.

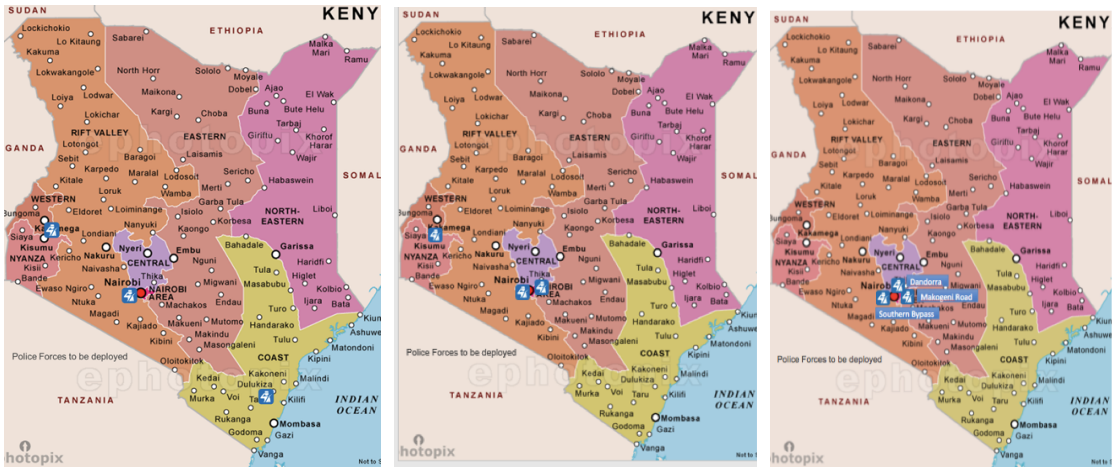


**Figure 2 Comparison of Police forces allocation among the three groups of participants. While there seems to be some agreement on Nairobi, there are different opinions on Kisumu and Mombasa.**

### Results of the Group Discussion

During the discussion the participants showed to have a collective understanding of the local context and could discuss the topic using the same terms. Nevertheless, their presentation of final decisions showed a different prioritization of areas as in the final reports (see fig. 2). The group discussion revealed that participants had different interpretations of the available information despite having the same role in the simulation. This led to the difficulty of finding a common decision. Differences among groups rose based on different prioritization of areas, or the trustworthiness of the information from specific sources.

## DISCUSSION

Combining the results from the individual surveys, the group reports and the joint discussion with all participants, findings related to different topics emerge. First, we discuss the use of the platform and its features by the participants. Secondly, we examine the way that the participants handled, processed and interpreted the data provided to them. Next, we zoom more specifically into the relation between the data and the sensemaking process. Finally, we reflect on the evaluation method itself.

### Platform evaluation & socio-technical requirements

The platform to process and share data played a vital role in the evaluation setup. This platform, along with new

features designed to support communities in their sense-making process, was used by the participants to enter and map the incoming reports. Our evaluation proved useful to *collect socio-technical requirements* for the further development and deployment of this platform. The feedback given by participants in the surveys, reports and group discussion emphasized the *importance of training*. This training related to the technical operation of the platform, as well as the workflows within the team.

Some of the feedback produced by participants was also more technical and directly related to possible *additional features for the platform* they used. This feedback included improvements in the user-interface, the ability to process data in a more structured manner, and integrations with other services and platforms. Some of these elements were directly implemented by the developers of the platform, while other are in the list of possible improvements for the future. This ensures direct applications of the findings from research and gives importance to the HCI component of a platform, which could ultimately affect the goal of stimulating a shared situational awareness and cooperation among stakeholders (Streefkerk et al. 2014). This direct feedback loop also highlights evaluation approach as a tool for direct and actionable feedback to developers of these platforms.

#### Information processing & sensemaking

Even though the situation evolved, and new events started to emerge, the participants felt more confident in their tasks. This was also indicated by the reduced need for external services that supported participants in understanding specific keywords (places, names, terms, etc.). Participants indicated in both the surveys and reports that the usefulness of services decreased. By working with the data over a longer period, they implicitly built up their tacit knowledge to understand the situation, essentially supporting their own sense-making process. However, in the group discussions participants also mentioned that as the evaluation progressed they felt the need to classify the information in the initial (pre-defined) categories in the system, even though they were free to adapt them to their needs. This desire to fit the data to certain categories, trends and previous findings indicated the risk of *confirmation & fitting* (Comes 2016)

Furthermore, in the final report and group discussions, the participants seemed to mainly focus on the latest data received. Rather than building a comprehensive evaluation, including all the data gathered and processed throughout the evaluation, participants focused on the issues that the latest update revealed. The historical data (and underlying trends) was selectively used (or even discarded) in the final reports to highlight these issues, essentially displaying an *immediacy effect* (Anderson 1965; Huber et al. 2011)

In the reports the participants noticed the reliability of their self-reporting and stated that they felt confident in the data they had processed and their analysis but *lacked the contextual knowledge to assess how their 'internal' findings related to the real-world*. Specifically, in relation to media reports, public awareness and -most importantly- as historical baseline, for example from previous elections. Participants indicated that this information and contextual knowledge would enable them to better frame and interpret the results from their data and better cater to the needs of the requesting agency. This contextual knowledge is especially relevant to identify abnormalities (baseline), or to give meaning/value to certain signals presented in specific messages.

#### Methodology

The evaluation setup and scenario provided the participants with an in-depth experience of handling crowd-sourced information during a disruptive event. None of the participants had any prior experience with the crowd-sourcing information in general or with these situations specifically. Moreover, during the briefing the participants indicated that they were not familiar with the details of the scenario, other than what had been reported in the news. While the participants were not directly affected by the event, these properties are similar to communities who aim to understand and make sense of a unknown situation.

The participants indicated in the group discussion that they felt the scenario was comprehensive but that a clear motivation was needed to feel (continuously) engaged. As they were not (in reality) affected by the elections or had another incentive, motivation was at times suboptimal. Additionally, the extend time-period of the evaluation also proved challenging for them to stay involved and motivated. While the participants found the case interesting as an introduction into this field, a more compressed, relatable case would have kept the engagement stronger over the longer period of the evaluation. These findings emphasize the importance of reciprocity for information systems aimed at communities, as illustrated in the socio-technical requirements found within the COMRADES project (Piccolo et al. 2017).

Despite these improvements, the evaluation methodology provided comprehensive feedback on the platform, the use of information, and the sense-making process of non-professional responders at the community level. It also demonstrated that the use of platforms and -more importantly- *working directly with information*, supports the community in building an understanding of the ongoing situation. However, there are caveats and biases that

have to be taken into consideration and studied in more detail.

## CONCLUSION

Various situational awareness platforms are now available to deal with social unrest resulting from conflict situations. Nevertheless, these platforms are rarely evaluated scientifically in order to assess their actual support (especially for communities) and which requirements are key for their design. Effectively evaluating these platforms during real crises is impractical, therefore scenario evaluations are needed. One of the challenges related to the development for scenarios, consists of the creation of realistic settings, able to emulate reality as much as possible in order to provide scientific ground for the evaluation.

One key finding of this study is that it is possible to transform data recorded from a real situation into a scenario for the evaluation of a situational awareness platform. The proposed methodology was used to set up a scenario with social media data from the Kenyan election of August 8th, 2017. The course of the election was stretched from one to nine days, in order to adapt the workload to the number of participants available compared to the real case. Moreover, the purpose of an extended schedule, was aimed at giving the participants time to fill in the intermediate surveys and write the intermediate report. Given the limitations above, the findings of this research approach have to be considered as the qualitative results of an exploratory study.

The methodology still provided us with a tool to analyze the ability of the platform to create a shared situational awareness and a coordinated approach among stakeholders, but also some directions for future research. As far as this is concerned, we were able to create a collective understanding even for people who were not initially familiar with the context. This only solved part of the problem. The participants *interpreted* the situation differently, due to their background, bias, etc. Therefore, even though we established a common narrative and vocabulary that could be used to communicate effectively, additional efforts are needed to translate this into a coordinated approach among different stakeholders.

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