

# An analysis on the role of trust in digital humanitarian actor networks

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## ABSTRACT

This paper explores the difficulties of collaboration between Volunteer and Technical Communities (V&TCs) and Humanitarian Response Organisations (HROs). The phenomenon of digital volunteers and their role in collecting and analyzing social media data provided by disaster affected populations has brought unprecedented opportunities and challenges to the humanitarian system. Central to these processes are the risks and vulnerabilities that these transformations might bring to existing humanitarian actors. Thus, this paper draws upon the work of Anthony Giddens regarding trust to account for the ongoing relational dynamics, and the unpacking of both its institutional and inter-personal dimensions. The paper identifies two major approaches underlying their collaborative efforts. The first approach concerns a top-down and centralized process of developing a institutionalized forms of interfacing; while the second concerns the development of interpersonal relational infrastructure.

## Keywords

Trust, virtual communities, humanitarian response, organisation, collaboration

## INTRODUCTION

The area of humanitarian affairs has been undergoing important changes as responses to crises become more complex and dynamic (Harvard Humanitarian Initiative, 2011; United Nations Office for the Coordination of Humanitarian Affairs, 2013). One of these changes is related to the emergence of volunteer and technical communities (V&TCs) that have supported and augmented the capabilities of the traditional humanitarian aid system. The V&TCs are a global network comprised of large numbers of volunteers collaborating in a distributed manner, sharing a common set of open tools (Capelo, Chang and Verity, 2013a).

For instance, V&TCs played a crucial role in Haiti in 2010, where the massive scale of the earthquake opened wide gaps in the coordination and information sharing of the international response. In particular, these distributed 'digitally savvy' global citizens, informally organized, began to interact directly with the affected population via information communication technologies (ICTs) and were relaying actionable information to the traditional humanitarian aid actors (Harvard Humanitarian Initiative, 2011). Whereas, the contributions of V&TCs are widely recognised, the establishment of a working collaboration between them and formal humanitarian actors has been a challenge (Capelo, Chang and Verity, 2013b; Harvard Humanitarian Initiative, 2011). Furthermore, ongoing efforts continue from both traditional and non-traditional actors in this digital

divide, and have been focused on developing a collaborative order that can bring these two networks together in meaningful ways. This paper will present empirical work discussing the critical component of trust and face-to-face (F2F) exchanges that are only partially and informally embedded in the processes for producing crowdsourced information goods for humanitarian missions.

## LITERATURE

Debates on the existence of virtual humanitarian communities have extended to numerous discussions on how social media provides enhanced processing abilities for crisis response (Imran, Castillo, Lucas, Patrick and Rogstadius, 2014; Turoff, Chumer, Van de Walle and Yao, 2004), or drawn attention to how some crisis-coordinating stakeholders have been experimenting with digital volunteers and taken special care in regards to the focal points of information coordination (Whipkey and Verity 2015; Whipkey and Verity 2014). Crucially where value has been added to the wider academic debate on ‘crowd’ generated data has resulted in research regarding useful processing of information for Crisis Information Management (CIM) and Shared Situational Awareness (SSA) through the efforts of the crowd itself (Imran et al, 2014; Tapia, Moore and Johnson, 2013). Some authors attend to the processes of collaboration and the role of technology in restructuring the humanitarian field (Capello et al., 2013ab; Ngamassi Tchouakeu, Maldonado, Zhao, Robinson, Maitland and Tapia, 2011; Tapia, 2006).

Similarly, in the broader area of crisis management the difficulties in collaboration are perceiving ‘informational’ and technical terms attended to a lesser degree the social processes and relational aspects. For instance, Bharosa, Janssen and Tan (2011) identify several major impediments to the flow of information across crisis response actors: data inaccessibility, data inconsistency, inadequate stream of information, low information priority, source identification, unreliability, etc. These difficulties deteriorate the process of information sharing, whose effectiveness is captured by the term ‘information quality’ (IQ). The contributions of V&TCs are widely recognised, however the working collaborations between them and HROs during humanitarian responses encounter many challenges (UN Foundation, 2011; van Gorp, 2014). Studies on the interfaces between them have identified numerous issues where filtering and processing of information are central to the success of humanitarian responses (Burns and Shanley, 2012). However studies have found that numerous information management related problems include the quality and timeliness of information (De Bruijn, 2006), the unpredictability of required information (Saab et al., 2008), unwillingness to share (Ngamassi Tchouakeu et al., 2011), and mismatch of usable data (Saab, Maldonado, Orendovici, Ngamassi Tchouakeu, Gorp and Zhao, 2008; van Gorp, 2014). Where attention is under reaching is regarding the way collaboration is established as well as pertinent issues such as trust, relational infrastructure and commitment (Tapia et al., 2013).

## TRUST AND TRUST DEVELOPMENT

The work of Anthony Giddens (1990; 1991) is particularly relevant in inter-organisational and network contexts (Kelly and Noonan, 2008; Knights, Noble, Vurdubakis and Wilmott, 2001; Walsham, 2001) for pointing out the qualitative shift in the basis of trust relations in the contemporary world. For Giddens, trust is about developing a sense of emotional comfort in situations which we cannot control or monitor; and a device for ‘bracketing out’ potential risks and vulnerabilities that allow us to engage with others (Giddens 1990). Similarly, Luhmann (1995) argues that trust and distrust are strategies for dealing with situations where one must enter into risks that cannot be controlled in advance. In contrast with more conventional theorizations, the work of Giddens avoids perceiving trust development as a cognitive and calculative process (Kelly & Noonan, 2008). As such trust is largely based on a presentational basis and trust developing endeavours can be seen as impression management (ibid.).

Giddens (1990) distinguishes between two main types of trust – that is, trust in abstract/expert systems and personal trust. The former relates to the reliability upon abstract/ expert systems, where the role of the trustee is taken by ‘anonymous others’ and supplanting trust that was largely secured by relations of kinship, community or tradition. Such expert/abstract systems are the modern institutions and networks that are characterized by complexity. In such a context, trust takes a form of ‘faceless commitment’ through which a ‘leap of faith’ is generated to allow engagement. Individual social actors who represent or are responsible for these systems are viewed as the ‘access points’ or interfaces between these networks. The latter type of trust is associated with face-to-face (F2F) commitments, oftentimes characterised by trustworthiness developed through friendships and intimacy. Hence, the face-to-face mode of the relationship is important for ‘humanising’ and ‘re-embedding’ a

system in inter-personal linkages (Giddens, 1990).

For the purposes of this paper we refer to Giddens to help give meaning to distinguish trust as a mechanism used by focal points between two different actor- networks as they strive to develop stable collaborative orderings for generating informational products in humanitarian missions. We refer to the term ‘actor network’ as a constellation of organizations and/or communities. In this case we deal with HROs and V&TCs, and the establishment of stable orderings (Law, 2007), as the alignment of their interests through ‘enrolling’ and ‘mobilizing’ (Callon, 1986) might be problematic and calls for balancing between different types of approaches to trust and their respective mechanisms and practices through which they become produced.

## **METHODOLOGY**

The study follows a longitudinal interpretive case that explores the network transformations in the humanitarian sector, adopting a qualitative case approach that presents an ethnographic angle to the research, and treated the data in an inductive, grounded manner. This study has continued over 14 months and entailed a process of collection and analysis of documents, reports, conferences, and media interviews that took place in parallel. The authors also semi-structured interviews and informal and personal correspondence with relevant actors. Specifically, emphasis on the collaborative relationship between the Office for the Coordination of Humanitarian Affairs (OCHA) and the Digital Humanitarian Network (DHN), allowed the authors access to key individuals involved in remote support coordination to humanitarian responses around the globe. Such forms of participatory inquiry also allowed them to develop an in-depth understanding of the underlying context in which these processes take place. For instance, one of the authors had a visiting period at OCHA’s Field Information Service (FIS) section.

## **LIMITATIONS**

The data that we present is purely of a qualitative nature and therefore lacks some of the contributions that quantitative data might have been complementary. For example, utilization of a network analysis and visualization would have provided better context to illustrate the nexus of focal points and the strength of the information pathways they enable. Unfortunately, we were unable to pursue this approach due to time sensitivities. However, we acknowledge that this could be the basis for future analysis and presentation of the data.

## **PRACTICES AND MECHANISMS OF TRUST DEVELOPMENT**

In our analysis we problematise the emergent endeavours of developing a collaborative network ordering between the Humanitarian Response Organizations (HROs) and the Virtual and Technical Communities (V&TCs) as a complex process of trust development. It is commonly agreed that their polar differences contribute to the emergence of a new network configuration. In particular, HROs are seen as bureaucratic, formalized and slow moving organizations, while the V&TCs are fast moving, informal and possess flexible formations. Yet, it is indisputable that the future of the humanitarian sector is inevitably associated with their collaboration. This collaboration, however, should involve significant transformations in the existing humanitarian cluster system:

“I think the formal organizations and V&TCs both bring strengths and our biggest challenge is how to build on both of those. DHN for example was informally created, it’s dynamic, and always changing, which is interesting but then the problem with that is how reliable is it? Can people trust it and how do you introduce a host government or HRO to the volunteer groups and then swear to them they can trust them?” (Milton, personal communication, August 2015).

By examining the progression of practices that are leading to trustful collaborations, we identify two different approaches to possible network transformation– bottom-up, local and top-down, centralized. Importantly, these two approaches appear to be significantly different and even polar, yet they can coexist and complement each other as both introduce forms of enrolment by providing alternative itineraries of engagement.

## **BOTTOM-UP AND LOCAL APPROACH**

While V&TCs are heterogeneous and constituted by different communities with diverging practices and levels

of formalization, the collaborations that spur in the local contexts are commonly premised on personal trust. Most V&TCs are usually led by active individuals with reputations associated with current or past field experiences, and oftentimes an inter-personal relationship to formal actors may already exist prior to their collaboration. F2F work was found to be crucial in spurring and establishing working relationships, even when little institutional legitimacy was in place:

“As a volunteer coordinator, having the field experience is useful because a lot of IMOs [information management officers] all know that I worked with *MapAction* so they know I have that field experience. I think face to face contact does make a big difference in how people trust you, it’s contact specific...but for other DHN members there’s probably opportunities being missed where data isn’t being shared.” (Campbell, personal communication, November 2015).

A stark contrast has been observed regarding the impacts between V&TCs that can exercise face to face (F2F) exchanges with focal points within the humanitarian system, as opposed to those that rely primarily on peer to peer (P2P) generated products and independently plug in to humanitarian activations (Verity, personal communication, 2015). At StandByTaskForce (SBTF) for example, they build on the information that is readily available in online media. Which means SBTF and other communities that generate information products, do so based on what they can gather online rather than what aid organizations need (Meesters, personal communication, 2015). Part of this has to do with how SBTF and other V&TCs are organized, many having emulated the success of P2P governing models such as Wikipedia or ODesk, advocating that not only can they operate alongside but surpass existing institutional information management models in humanitarian missions (Burgh, personal communication, June 2015).

“DHN was started in order to coordinate these large events on a remote basis, specifically with remote volunteers working online. But they really needed a way to solidify those arrangements so that it wouldn’t be ad-hoc every time and disorganized” (Milton, personal communication, November 2015).

A natural progression that came out of the need to match volunteer capacities with information products for aid operations came about in the development of volunteer coordinators that could mitigate the risk of crowd data being in-effectively applied. For example, GIS Crops, an online mapping contributor and DHN member, coordinates with HumanityRoad to manage the activities of over 6000 volunteers during an activation (Milton, personal communication, 2015). While they are not explicitly instructed, these coordinators (who are volunteers themselves) act as focal points for formal humanitarian information management officers (IMOs). Having such focal points serves as a bridge to articulate the mission needs of humanitarian deployments and brings some predictability to the activation process. However, most focal points of V&TCs are after all volunteers, only some have had direct experience in the humanitarian system and thus it is difficult to build rapport and trust with formal organizations when they are subject to rotations and spend shorter durations on an activation.

## TOP-DOWN AND CENTRALIZED APPROACH

HROs observe a more centralized approach to their operations. For example, it is known that routines in the disaster response context constitute reliance on standard operating procedures that have been in place for decades (Tapia, Bajpai, Jansen, and Yen, 2011). In fact, often is the case that different HROs may be silo-ed from one another due to rigid institutional structures that demand that information and it’s bringers be passed through strict controls. For example, there are cases in OCHA where one humanitarian worker had to get permission from their supervisor before interacting with another worker to share information (Verity, personal communication, November 2015).

As such, organizational rigidity require structures, routines, and cultures of formal humanitarian actors that are typically influenced by intra- organizational ties, which in turn will influence inter organizational relationship formation and development (van Gorp 2014). Taking OCHA's case a step further, coordination arrangements between clusters are said to be rigid, hierarchical and cumbersome to the degree that it has an affect on their humanitarian information management and exchange (HIME) processes (Altay and Labonte, 2014). For example, it is common for HROs to ignore the presence of V&TCs in favor of older models of data collection activities as those are familiar and biased (O’Callaghan, personal communication, November 2015). Still, there are transformations occurring in the humanitarian sector, caused by the emergence of the V&TCs that result in pressure on the operations of traditional humanitarian actors:

“Regarding the relationship with DHN or promoting it; for example, when I’m going out now and delivering trainings on information management with different UN groups, I’ve started mentioning the DHN and the added value of it. Though I’d say for me right now, it’s more like name dropping rather than explaining anything additional to it” (Link, personal communication, 2015).

The realisation that the future of humanitarian response should inevitably embrace and integrate the contributions of V&TCs creates a context of anxiety and risk for traditional actors like OCHA. Moreover, the different styles of operating and lack of familiarity between these actors enhances the levels of anxiety and need for developing psychological security in the humanitarian sector:

“We’ve done a lot of work trying to encourage our field based IMOs to reach out and they are not part of our branch. They report to their own country office who report to a different division inside of OCHA. Trying to convince these IMOs to reach out for a partner with either local volunteer type groups or with those who are more global like the ones a OpenStreetMap, can be difficult because they’re already working hard and in stressful environments” (Verity, personal communication, November 2015).

Endeavors have focused on introducing and developing institutionalized forms of interfaces are suggested, in which focal points from both constellations can meet and learn about each other. Some of the testimonies suggest that the development of different initiatives such as a ‘neutral forum’, ‘innovation space’, or a ‘research and training’ consortium would help persist F2F exchanges and thereby build trust and commitment through shared experience before crises:

“If we can facilitate this linkup between the formal organizations and the DHN organizations, it would really help and I think that should be a fairly frequent thing whether it be once a year or every two years. I think it’s important to keep those face to face contacts happening” (Campbell, personal communication, November 2015).

Importantly, it is claimed that such dialogic interactions would lead to a ‘clearer operational interface’ that outlines agreed upon communication practices, standards, protocols, roles and priorities. Such trust developing practices aim to establish common contextual awareness and commonalities performed by dialogic collaborative practices.

## DISCUSSION AND CONCLUSION

Our analysis offers a glimpse into the practices and mechanisms involved in this important aspect to the IT product exchanges of V&TCs and HROs. Namely, via the two approaches of trust development (i.e. top-down and bottom-up), that touched on inter-linkages between institutional and inter-personal bases of trust. In particular, the endeavours to develop institutionalized collaborative interfaces with a view to bracketing risks and increasing predictability are also mingled with organizational identity and culture.

Giddens’ (1990) work in abstract/expert systems and personal trust applies to our case, as V&TCs would seem to see the transformation of the humanitarian system as a positive venture. For them, their contributions are more readily accepted in abstract contexts like P2P environments where general data can be consumed by multiple actors. However, HRO’s, who are often the recipients of crowdsourced data from humanitarian V&TCs are only able to find limited ways to incorporate their contributions, and further find it unlikely that their governing institutional structures are unlikely to change. Rather the testimonies suggest that both networks have realized the polar incompatibilities of their cultures but cannot deny the dependency they have with one another. As such, the creation of a new network, possibly one where a dedicated order of nodes could act as coordinating pathways in matching data requests with skills and volunteer capacity more effectively. Generally speaking some changes are being attempted to match standards and practice with technological advances in information communication (ICT). But the creation of a culture where humanitarian stakeholders share information, build trust, and expand their inter-organizational ties with V&TCs is challenging (Saab et al., 2008; Van Gorp, 2014). A promising step in this direction may be an equivalent of a proof of concept, e.g. building evidence that the collaboration with V&TCs can work and is beneficial by unpacking this network dynamic and illustrating the performative practices and mechanisms that bring into question the understanding of collaboration in ‘connectivist’ and ‘transmissional’ terms enabled by technology. In contrast, we build on the work of Tapia et al. (2013) to highlight the relevance of issues of trust, credibility, commitment and power in understanding the ongoing humanitarian network transformations.

## RECOMMENDATIONS AND IMPLICATIONS

Considerable commitment to developing focal points both from V&TCs and HROs may not only help sort out some of the barriers to humanitarian coordination in informational contexts but possibly lead to the creation of a new network of focal points that could serve as a two way bridge to the capacities of both. However, that is not to say that this idea represents a quick fix. Rather it a step to larger changes that need to be undertaken to improve not only the way V&TC contributions are addressed, but wider implication of utilizing crowd sourced products into humanitarian missions. However such commitments will not occur without significantly more research into this vital area that is currently under-reaching. Future contributions to this topic might include a thoughtful presentation of the identities of V&TCs and HROs and basis for boundary spanning relationships that view trust as an integral part of their collaborative orderings.

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