

## Doctors without (Virtual) Borders: Internet Effects on Epistemic Communities

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**Abstract:** Epistemic communities existed long before the widespread adoption of Internet technology in the mid-1990s. However, the Internet offers an array of new opportunities for epistemic communities, particularly non-government organizations (NGOs). The purpose of this research design is to propose a method to compare the effects of Internet use between NGOs founded before widespread Internet adoption, or *legacy* NGOs, and NGOs founded post-adoption, or *transformative* NGOs. To build my argument, I first present NGOs and the Internet through the framework of constructivism. I contend that not only do epistemic communities reflect constructivist thought, but that Internet can also be viewed as a physical constructivist structure in both design and use. I then propose a qualitative content analysis research design to analyze two NGOs: Médecins Sans Frontières (*legacy*) and Team Rubicon (*transformative*). I expect to find differences between each case based on language content, which should indicate how epistemic communities adapt to the Internet.

Epistemic communities, or networks of professionals with expertise in a particular areas and shared normative beliefs, existed long before the widespread adoption of Internet technology in the mid-1990s. However, the Internet offers an array of new opportunities for epistemic communities: for example, in the early 1970s the international medical volunteer organizations Médecins Sans Frontières depended on expensive landline phones to communicate, hard copy printing and mail document sharing and magnetic tape media for video exposure. By the late 1990s Médecins Sans Frontières was using instant email communications, paperless document transfers and 24/7 publicity through real-time streaming digital video.

Although Médecins Sans Frontières appears to have successfully adopted Internet applications, how does their organizational structure compare to epistemic communities founded after widespread internet adoption? More broadly, are all pre-Internet epistemic communities guaranteed similar success in the digital age? To build my argument, I first present epistemic communities and the Internet through the framework of constructivism. I contend that not only do epistemic communities reflect constructivist thought, but that Internet can also be viewed as a physical constructivist structure in both design and use. I then cite previous studies on how epistemic communities--particularly NGOs--have benefited or evolved through Internet use. Finally, I propose a qualitative content research design which analyzed a pre-internet founded (legacy) NGO and post-Internet (transformative) NGO.

### **Literature Review**

Constructivist theorists argue that the key structures in the international system are created from shared human knowledge and understandings: *states* do not do things--*people* do. Further, humans are purposeful actors, and thus it is the combined action of humans, organizations and ideas which construct and transform society (Wendt 1987; Wendt 1984). Other actors, in turn,

develop patterns of interaction through exposure to systemic norms and practices that reproduce in the system (Hopf 1998; Eriksson 2006). In addition, human organizations include epistemic communities; following the constructivist paradigm, epistemic communities are also purposeful actors and thus help structure the international system by diffusing group norms (Adler 1992; Haas 1992). Indeed, the purposeful normative behavior of epistemic communities may be key contributors to convergence of social and cultural norms in the international system. Keck and Sikkink (1999) further discuss epistemic communities as Transnational Advocacy Networks (TNAs), or cosmopolitan groups cooperating on a central issue and bound together by shared values and dense exchanges of information.

Non-government Organizations (NGOs) in particular play a central role under the epistemic and TNA framework by serving as alternative sources of discourse and by preventing states from monopolizing information (Keck & Sikkink 1999; Haas 1992). In addition, NGOs (and other epistemic communities, for that matter) can also set international agendas on given topics and drive systemic behavioral convergence (Haas 1992; DeChaine 2002). In fact, NGOs can even create information shocks that induce state decision makers to seek policy advice from the NGOs themselves (Haas 1992; O'Hagan 1999). For example, the human rights group Amnesty International can influence bilateral relations between state A and B by publishing state B's torture record for a global audience.

Médecins Sans Frontières (MSF; also known as Doctors without Borders) demonstrates how NGOs occupy space outside the state system. For example, by claiming neutrality MSF can usually cross state borders without challenge; indeed, a state can draw negative attention from the international community simply by denying MSF the right to enter its territory (Debrix 1998; DeChaine 2002). However, although MSF claims political neutrality so as to not antagonize

states, MSF still challenges territorial authority through the spread of information outside of state borders. Further, by bearing witness (*témoignage* in MSF parlance), MSF can purposefully frame one conflict actor as the "villain" and the other actor (and itself) as the "hero" (DeChaine 2002).

Next, I posit a constructivist interpretation of the Internet given how it enables development of fluid online structures and fosters interaction between thousands of interconnected individuals, NGOs, advocacy networks, and other grass root organizations. The underlying technological structure presents the Internet as a *physical* embodiment of constructivism. Internet is based on the Transmission Control Protocol/Internet Protocol (TCP/IP), which breaks data transmissions into small packets for fast transfer (the TCP) and then seamlessly reassembled data at the receiving end (the IP). In short, as long an ICT system can "speak" TCP/IP it can join the network at any access point, either landline or wireless (Eriksson 2006; Langman, 2005; Naughton, 2001).

This decentralized engineering decision was a product of the specific economic, political, and social environment in which the Internet was created. In part, the technological characteristics of the early Internet derived from the norms of its designers and initial user community (Boas, 2006; Naughton 2001). The technology was originally a tool for a small group of engineers and academics who were wary of bureaucracy, trusted each other, and worked well through consensus. In light of this culture, they made specific choices about the design of the technology that rendered the network resistant to efforts at centralized control.

The Internet allows users across the network to exchange information and ideas through textual interaction, link exchanges, multimedia file sharing, and real-time voice and video streaming, which enables individuals to interact regardless of physical proximity. This increases an individual's access to knowledge resources by amassing greater numbers of like-

minded individuals through electronic links than previously available in a local community (Danitz & Strobel, 2000; Dartnell 2003; Herrera 2003; Landqvist & Teigland 2005).

Furthermore, such rapid and open communication helps shape perceptions and allows social movements to circumvent the state and directly address national and international audiences. The Internet thus offers more power to non-state actors, while at the same time shaping international politics by rapidly and dramatically altering interaction between actors and the institutions that actors construct (Clark, Sollins & Braden 2005; Debrix 1998; Eriksson 2006; Herrera 2003).

However, while NGOs can be viewed as communicative structures in their own right, international communication is a costly endeavor (Keck and Sikkink 1999). While communicative structures encourage reciprocal and horizontal patterns of communication and exchange, they also face resistance from geographic distances, language and cultural barriers, and the cost of physical communication infrastructure. Information-intensive activities also require financial, personnel and other resources and infrastructure. The Internet provides appropriate, capable, and nearly universally accessible and affordable tools to mitigate these obstacles (Eriksson 2006; Goodman & Drezdova 1999). By the late 1990s hundreds NGOs had built web sites, including homepages, bulletin boards, news and discussion groups, and various online databases, research and educational tools. In fact, some NGOs (such as Association for Progressive Communications and FrontlineSMS<sup>1</sup>) specialized in providing Internet support to target populations or other NGOs (Goodman & Drezdova 1999).

In early discussion on the impact of the Internet on NGOs, Calhoun (1998) stated that “the main impact [of the Internet], especially in the short to medium term, will be to allow us to do

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<sup>1</sup> See <http://www.apc.org/> and <http://www.frontlinesms.com/>.

more of the things we were already organized and oriented to do.” At the same time, he also noted technology is simply a tool, and technology will not be adopted if the organization does not or cannot integrate the tool into this existing organization mission. Goodman and Drezdova (1999) also found that, “NGOs have been able to cut costs and improve the effectiveness and scale of their communications, planning, other logistics, and information gathering, storage, processing, exchange, and protection.”

Qualitative studies found that human rights groups were able to cut costs and improve the effectiveness and scale of their communications and coordination. For example, Amnesty International reported increased capability to solicit donations, communicate with members and publish information for wider audiences (Goodman & Drezdova 1999; Rodgers 2001). In a study conducted during the late 1990s, staff from three NGOs in Africa reported Internet access reduced the amount of time and cost associated with transmitting messages (McConnell 2000). In many cases, sending an email message to another local organization was believed easier, cheaper and more efficient than attempting to reach the desired organization by telephone. Furthermore, 93% of those interviewed reported that Internet use assisted them in achieving their organization's operational goals and objectives. 83% also reported that they believed that their organizations' use of the Internet had increased their ability to deliver information to their community stakeholders (McConnell 2000).

As for MSF in particular, proliferation of communication technology during the 1980s and 1990s dramatically improved the group's ability to publicize information and organize logistics (DeChaine 2002; MSF 2010). Recently, as part of the mission to bear witness MSF launch a global Internet petition in March 2010 calling on 39 pharmaceutical companies to abandon a court case against the South African government that would impede access to affordable AIDS

drugs in the country with the largest number of people living with HIV/AIDS (MSF 2010). However, reliable Internet access in the field remains a concern. MSF volunteer Nell Eisenberg stated that, "In Kenya, the internet was often down or slow and the phone service was not great, so it was definitely hard to communicate regularly with family and friends (MSF 2010)." MSF volunteer Colleen Cowhick added, "I was amazed at the kind of technology we had at our disposal, although the heat and dust had quite an effect on usage...in some of my assignments, we didn't have internet access so communications with family and friends were extremely limited and difficult, as satellite phones were expensive (MSF 2010)." Finally, in a 2009 briefing on logistical concerns in Africa, MSF logisticians highlighted Internet infrastructure constraints as a persistent operational weakness (MSF, 2009).

### **Theory and Hypothesis**

Some NGOs are much better equipped to deal with technological change than others. New technologies can have disruptive effects to organizations in the sense that they ask organizations not just to adapt to the new technology, but force them to transform or face eventual irrelevance or even extinction (Tsui 2009). Tsui (2009) further refers to NGOs that adapt to the Internet as *legacy* NGOs and fully-networked NGOs and *transformative* NGOs. NGOs that have formed in the wake of the Internet are theoretically better positioned to take advantage of the transformative capabilities of new technologies and optimize their processes for the networked international system. I will use Tsui's two technological categories to frame my theory.

MSF and Team Rubicon are examples of legacy and transformative NGOs, respectively. Founded in 1971, MSF amassed decades of epistemic and logistic experience before the Internet reached widespread use in the mid-1990s. Despite being a legacy organization under Tsui's definition, though, MSF qualitatively appears to have successfully adapted to the Internet era. In

contrast, Team Rubicon was founded by a group of physicians on an airplane en route to Haiti following country's devastating earthquake in January 2010 (Channel 3000 2010). The group immediately leveraged Internet applications such as standard email, Facebook (social networking), Flickr (image sharing), and YouTube (video sharing) in order to solicit medical donations and additional volunteers.<sup>2</sup> Team Rubicon also partnered with the University of Pennsylvania's Wharton Business School to, "create a strategic plan and take tactical steps to expand, integrate, and scale its marketing and social networking activities (Team Rubicon 2010)." Thus although the missions of both MSF and Team Rubicon are similar, the conditions of their respective foundings are quite different. Therefore I propose two hypotheses for measure their respective experiences:

*H1: Non-government organizations founded after widespread Internet adoption are designed based on meaning and content constructed by online organizational patterns.*

*H2: Non-government organizations before widespread Internet adoption are designed base on meaning and content constructed in traditional offline organizational patterns.*

### **Data and Methods**

Scholars have indicated that it is difficult to quantitatively measure how Internet use affects NGO operations, and that no standard quantitative techniques for studying the Internet (Agre 2002; Fielder 2010; Rodgers 2001; Wakeford 2000). Furthermore, the case studies presented here are predominantly from the late 1990s, long before the arrival of Web 2.0 applications such as Flickr and YouTube. However, casual inspection of the language from each NGOs website offers insight into how they were constructed. Consider the following excerpts from MSF's and Team Rubicon's respective mission statements:

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<sup>2</sup> [http://www.youtube.com/watch?v=VpKVjVkr\\_8w](http://www.youtube.com/watch?v=VpKVjVkr_8w) is one example.

**Médecins Sans Frontières:** "Today, MSF provides aid in nearly 60 countries to people whose survival is threatened by violence, neglect, or catastrophe, primarily due to [armed conflict](#), [epidemics](#), [malnutrition](#), [exclusion from health care](#), or [natural disasters](#) (*hyperlinks included in excerpt for illustration*). MSF provides independent, impartial assistance to those most in need. MSF reserves the right to speak out to bring attention to neglected crises, to challenge inadequacies or abuse of the aid system, and to advocate for improved medical treatments and protocols."<sup>3</sup>

**Team Rubicon:** "Communicate and Coordinate, is the second part of our modus operandi. Without communication and coordination the entire response effort falls flat on its face. Team Rubicon utilizes the latest satellite communication technology to ensure that it never operates 'in the dark.' Additionally, Team Rubicon plugs itself into local networks in the DZ (*disaster zone*), finding niches in the response that need to be filled. In this manner, Team Rubicon can serve as the 'eyes and ears' of the response, sending back reports from the front lines of triage operations."<sup>4</sup>

Aside from including hyperlinks to additional documentation, the MSF mission statement has changed little since 1971. In contrast, Team Rubicon immediately refers to rapid communication and technologically-driven coordination efforts. However, both websites feature prominently-placed social network banners, online content subscription options (RSS, email, etc), rotating images, and media links. Thus simply eyeballing the websites is not enough.

Therefore, I propose using *qualitative content analysis* to in order to discern the legacy and/or transformative structures of each site, or the, "use of replicable and valid method for making specific inferences from text to other states or properties of it source (Mayring 2000)." This includes manual or automated coding of print, audio or video media to obtain counts of words, phrases, or word-phrase clusters for analysis. Krippendorf (2004) identifies five key processes of content analysis:<sup>5</sup>

- 1. Unitizing.** The researcher must establish the unit of analysis (word, meaning, sentence, paragraph, article, news clip, document, etc.).

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<sup>3</sup> <http://www.doctorswithoutborders.org/aboutus/?ref=main-menu>

<sup>4</sup> <http://teamrubiconusa.org/about/>

<sup>5</sup> <http://faculty.chass.ncsu.edu/garson/PA765/content.htm>

2. **Sampling.** Usually the universe of interest is too large to study the content of all units of analysis, and instead units must be sampled. Sampling involves counting, which may require the researcher to develop thesauruses (so different terms with like meanings will be counted under the same construct) and expert systems or other rule engines (so the proper contextual valence is assigned to each counted construct).
3. **Reducing.** Content data must be reduced in complexity, usually by employing conventional summary statistical measures.
4. **Inferring.** Contextual phenomena must be analyzed to provide the context for findings.
5. **Narrating.** Conclusions in the content analytic tradition are usually communicated using narrative traditions and discursive conventions.

Hsieh and Shannon (2005) further discuss three approaches to qualitative content analysis based on inductive reasoning. The first is *conventional* qualitative content analysis, in which coding categories are derived directly and inductively from the raw data for grounded theory development. The second approach is *directed* content analysis, in which initial coding starts with a theory or relevant research findings and themes are allowed to emerge from the data which validate the theory. The third approach is *summative* content analysis, which starts with the counting of words and extends to include latent meanings and themes to explore word usage in an inductive manner (also, Zhang & Wildemuth ND). Individual themes are typically used as the unit for analysis, which can be a single word, phrase, paragraph, or even an entire document (Zhang & Wildemuth ND). I cannot present an exhaustive list of content variables without actually deriving themes from a thorough inductive analysis. However, I can present initial summative words and word-clusters.

- Communication (communicate, coordinate, contact, network, Internet, message, email)
- Organization (organize, structure, hierarchy, network, logistics, data, database).

Based on the small excerpts above, I expect to find significant language differences between each site. Indeed, the MSF excerpt contains none of the initial summative words, which I brainstormed without consulting the excerpts.

## Conclusion and Implications

The Internet seems to clearly present opportunities and challenges for epistemic communities; however, based on my literature review no one has examined the relationship since the early 2000s. The Internet has come a long way both technologically and in usage rates in the meantime: a year in Internet-time is an eternity in technical evolution. But what do these case studies potentially *mean*? While MSF appears to have successfully adopted Internet applications, MSF also has had almost 40 years to adapt. In comparison, Team Rubicon exploded onto the humanitarian scene as a fully-networked NGO within *days* of founding. *Transferability*, or the extent to which the researcher's working hypothesis can be applied to another context, is an important facet of qualitative content analysis (Zhang and Wildemuth ND). I assess this design will not only be transferrable to other NGO case studies, but will also discern how NGOs are born, how they evolve, and how they thrive or fail under the Internet's effects. Further, although content analysis is a time intensive endeavor the method can also potentially track how ideas diffuse from a single epistemic community into the international system--or watching constructivism happen in real-time, if you will.

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