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Inter-group Communication During Hurricane Katrina: How Organizational Culture Defeats Coordination

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Honors Thesis

Inter-group communication during Hurricane Katrina:

How organizational culture defeats coordination

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2 April 2012

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Department: Communication

Abstract

Interaction between groups can be understood as regulated by two Communication theories: Adaptive Structuration theory which describes how a group's resources affect how it solves problems, and Functional Group Decision Making Theory which describes the steps groups take to make decisions. When combined into a model, these theories provide a framework for examining how groups use resources in their interaction with each other. Research into both secondary and primary sources identified ten resources groups used to interact with other groups during the crisis response. Careful analysis determined that the Federal, State, and Private agencies' organizational cultures and social identities were resources that the agencies did not manage well which in turn led to poor coordination.

Background

On Friday, August 26, 2005, Hurricane Katrina struck Florida as a Category 1 hurricane, turned into the Gulf of Mexico, and began “rapidly strengthening” to a Category 4 hurricane (winds reaching 145 mph) according to the National hurricane Center ("Katrina: What happened when," 2005). Louisiana Governor Blanco declared a state of emergency. The next day (2 days prior to landfall in Louisiana), Governor Blanco asked President Bush to authorize FEMA to coordinate disaster relief. He did so. The Director of the National Hurricane Center, Max Mayfield, called the governors of Mississippi and Louisiana personally to impress upon them the seriousness of the potential devastation. The next day he called the President as well to warn him of the severity of the storm ("Katrina: What happened when," 2005).

At 20 hours before land fall Sunday morning, New Orleans mayor Ray Nagin, ordered a mandatory evacuation of the city. Researchers had previously determined it would take about twice that amount of time to evacuate the city. The National Hurricane Center predicted storm surges would overtop most levees[1]. At 8:30pm an empty Amtrak train left New Orleans with room for hundreds of passengers. An Amtrak spokesperson stated that the city had declined their offer to help evacuate. Mayor Nagin claimed he never received that offer ("A timeline of government response...," 2005)

On Monday, August 29, 2005 at 6am, Hurricane Katrina made landfall off the coast of Louisiana “massively” overtopping levees ("Katrina: What happened when," 2005). A whole day later, the city will discover that the levees protecting New Orleans from Lake Pontchartrain had

[1] New Orleans is below the sea level which means it has walls or levees to keep the tides from flooding the city. Storm surges are when the unusually high winds push the sea water over the land. If the extra water is higher than the levees, then New Orleans floods. And since New Orleans is situated like a bowl with no outlet, it can take a long time for flood waters to disperse; in most cases, the city has to pump the water out to speed recovery.

collapsed sending a slower wave of flooding into the city. (The Army Corps of Engineers are only able to repair them one week later). At least 80% of the city flooded putting survivors at risk for e. coli and other harmful bacteria. Thousands of survivors were trapped on rooftops while more flocked to the Superdome. The Superdome rapidly became unlivable as human waste piled up, temperatures reached the high 90s causing severe dehydration, and survivors began dying without their medication. Looting crippled rescue efforts as the city's diminished police force turned to controlling law breakers. At one point, a sniper shot at doctors and patients from a rooftop as they tried to evacuate Charity Hospital ("Katrina: What happened when," 2005).

The next several days were characterized by a flurry of miscommunication. Governor Blanco begged the President for more aid. The President assured her it's coming, but it never did. Meanwhile, the National Guard wondered why no one was asking for its help to rescue stranded survivors or to control looting. FEMA assumed responsibility of evacuating the Superdome, but it took several days. Thousands of buses were lost en route. ("A timeline of government response...," 2005)

Months later Frances Townsend in his report for the White House stated that though Hurricane Katrina was larger and more severe than expected, the greatest problem was poor communication between different Federal, State, and Private agencies. (Townsend, 2011)

Introduction

Experts in the Emergency Management field—including Jim Hatfield et. al, Naim Kapucu, Frances Townsend, and Jim McKay—agree that inter-group coordination (two or more groups working together) is key to a successful emergency response. However, evidence suggests that despite growing ease of communication (Yates, 2011), social or [organizational]

cultural issues impede communication between groups (McKay, 2010).[2]. According to Rama Joshi (2001), writing for the Indian Journal of Industrial Relations, *organizational culture* is the "…the prevailing roles, relationships, beliefs, norms, values, attitudes, skills, etc. pertaining to work. It takes time to develop and…is resistant to change" (p. 19, 20).[3] Organizational culture is what makes groups distinctive, provides direction, affects perception, and guides action.

A useful way of looking at organizational cultures is the Social Identity Theory. According to Blake Ashforth and Fred Mael (1989), Social Identity Theory states that "people tend to classify themselves and others into various social categories, such as organizational membership, religious affiliation, gender, and age cohort." (p. 20). People tend to hold more than one social identity and transfer from one to another depending on their context. For instance, a woman who identifies as both a mother and as a business executive will change her behavior depending on whether she's at home or in a meeting.

Group behavior can be further understood as the interaction of the Adaptive Structuration Theory and the Functional Group Decision Making Theory. Working together, these theories provide a framework that we can use to organize our approach to inter-group dynamics. The first theory, Adaptive Structuration Theory, explains how groups' rules, resources, and internal structure influence each other. According to Marshall Scott Poole et al. (1985), groups' structures make and remake groups' systems while the system, in turn, determines the structure. Systems are the "'regularized relations of interdependence between individuals and groups.' For example, the status hierarchy of a group or organization can be regarded as a…system" (p. 76).

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[2] Neither "culture" nor "social" is referencing ethnicity, geography, or race. While ethnicity and racial issues are often important to communication practices, this is not my area of interest. Because organizations in America tend to be highly heterogeneous in regards to issues like race, age, and gender, these issues will not be relevant to this discussion.

[3] *Groups* and *agencies*, in this context, are a collection of people with explicitly defined barriers and the same goal or task—like a corporation or charity organization.

In other words, a system is a Network of people with different roles, in a hierarchy, who communicate with each other. A structure, Poole defines as "...the rules and resources people use in interaction" (p. 76). Rules can be either explicit (we follow Company Policy when speaking to customers) or implicit (don't interrupt the boss when his door is closed). Resources are anything a group uses to function and make decisions. They can include different kinds of information, abilities, people or experts, and tangibles like radios, money, roads, etc. We could chart the different elements of groups like this:

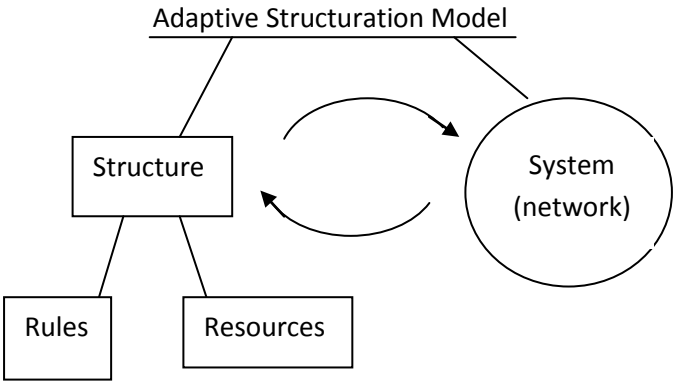

Figure 1

Social Identity, as it relates to organizations, is also an adaptive-structuring entity—meaning, it creates and is recreated like the Adaptive Structuration Theory describes.

The second theory, the Functional Group Decision Making Theory (FGDMT) outlines how groups use their Structure (especially their resources) to make good decisions. The following graph from *First Look at Communication* Theory by Emory Griffin (2003) shows the different steps:

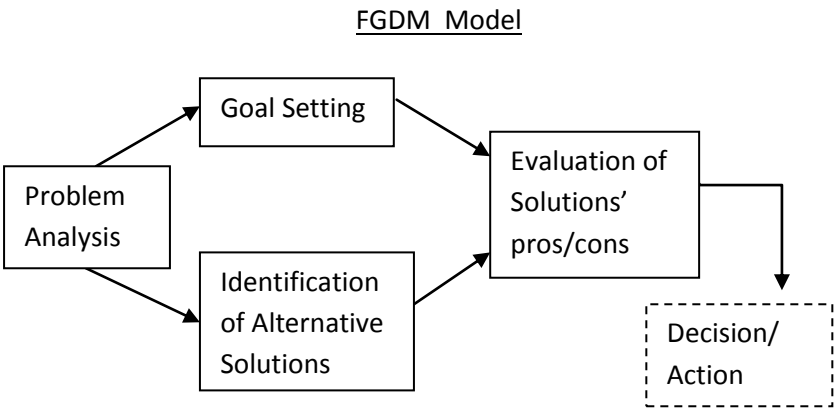

Figure 2

First, groups use their resources to analyze the problem, then they set goals and identify alternative solutions, and finally, they evaluate the pros and cons of each alternative and take action. When groups fail to perform each the tasks at each step carefully, they tend to make bad decisions.

If we were to combine these two models (calling the new hybrid: AS/FGDMT Model), it might look like this:

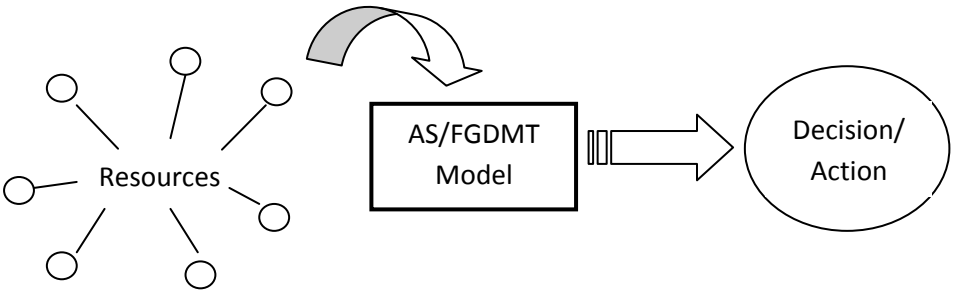

Figure 3

Groups input their various resources, including information about member status, roles, and hierarchies, information about the task to be performed, a working memory of similar tasks, networks, training, and physical resources (which I call tangibles) like radios, money, internet,

etc. into this AS/FGDMT Model. The Model then outputs a decision or action[4]. If the groups use the wrong resources to help them make a decision or take action, their decisions and actions tend to be bad. The results can be inefficiency, slow reaction-times, and poor information management. These sorts of results make it very difficult for groups to coordinate their response, much like what we saw after Hurricane Katrina.

Methodology

I chose three agencies to act as representatives of the three spheres of influence in New Orleans, Louisiana during the response to Hurricane Katrina: the Federal Emergency Management Agency (FEMA) to represent the Federal Government, Governor Blanco's office to represent Louisiana State (the State), and the American Red Cross (Red Cross) to represent private volunteers.

I chose one self-report for each agency ranging from four to seven pages. To gain some perspective and offset some of the self-reporting bias, I also chose four third-party sources ranging from one and a half pages to twelve. Information on all three agencies was tallied in the third-party sources. Information about other agencies besides these three agencies was ignored in all sources.

As I read though the seven texts, I tallied the themes that occurred the most often. I used those for coding. The assumption being that groups would write about the things that they were most preoccupied with and they would be most preoccupied with things that were a barrier. I

[4] I by no means intend to propose that this is instantaneous. The AS theory is an ongoing process. Like individuals, groups can (and perhaps often do) use mental shortcuts when processing information in the moment. The AS process helps to prepare the group's responses to future stimuli.

identified ten themes that were relevant to FEMA's, the Red Cross's, and the Louisiana State's discussion of the issues involved in responding to Hurricane Katrina.

Both successful attempts and failures were counted. Sometimes more than one theme was counted per sentence. Below is a table of definitions for each of the themes.

Table 1

Theme Title	**Description**
Hierarchy/Authority	A resource a group uses to organize their structure. Describes communication failures in a chain of command. This theme is expressed either internally or between agencies—for example, there was political maneuvering to place Louisiana under the authority of the federal government.
Roles	A resource a group uses to determine members' functions during a crisis. Unclear role definition leads to confusion and miscoordination.
Plans/Prep/Training	Describes pre-crisis planning, training, or preparation which becomes a resource groups' rely on to make good decisions and act quickly during a crisis
Discernables_Unused	This theme was tallied whenever an example of unused tangibles or information was mentioned or when a rejected offer of help was mentioned.
Discernables_Not Enough	This theme was tallied whenever an agency complained of insufficient tangibles or information (like situational awareness) to effectively and quickly mitigate the crisis.
Networks_External	This theme was tallied whenever an example of interagency

	communication or coordination (whether successful or not) was given.
Networks_Internal	This theme was tallied whenever an example of intra-agency communication was given.
Networks_Operability	This theme was tallied whenever an example of the failures of communication tangibles was given. This included when agencies couldn't enter New Orleans due to the flooded roads, or when agencies didn't have electricity or internet connection.
Security/Safety	This is a resource for groups since group members can't function optimally in an unsafe environment. For instance, rescue volunteers could not operate until the violent looters were handled.
Act Faster/Inefficiency	This theme was tallied whenever an agency expressed frustration with how slowly or how inefficiently they or another agency acted. For instance, FEMA described their response as "bureaucratic".

These are the coding definitions of the themes. When these themes are applied to group-dynamics, they have more complex definitions as will be described later.

Results

External Sources

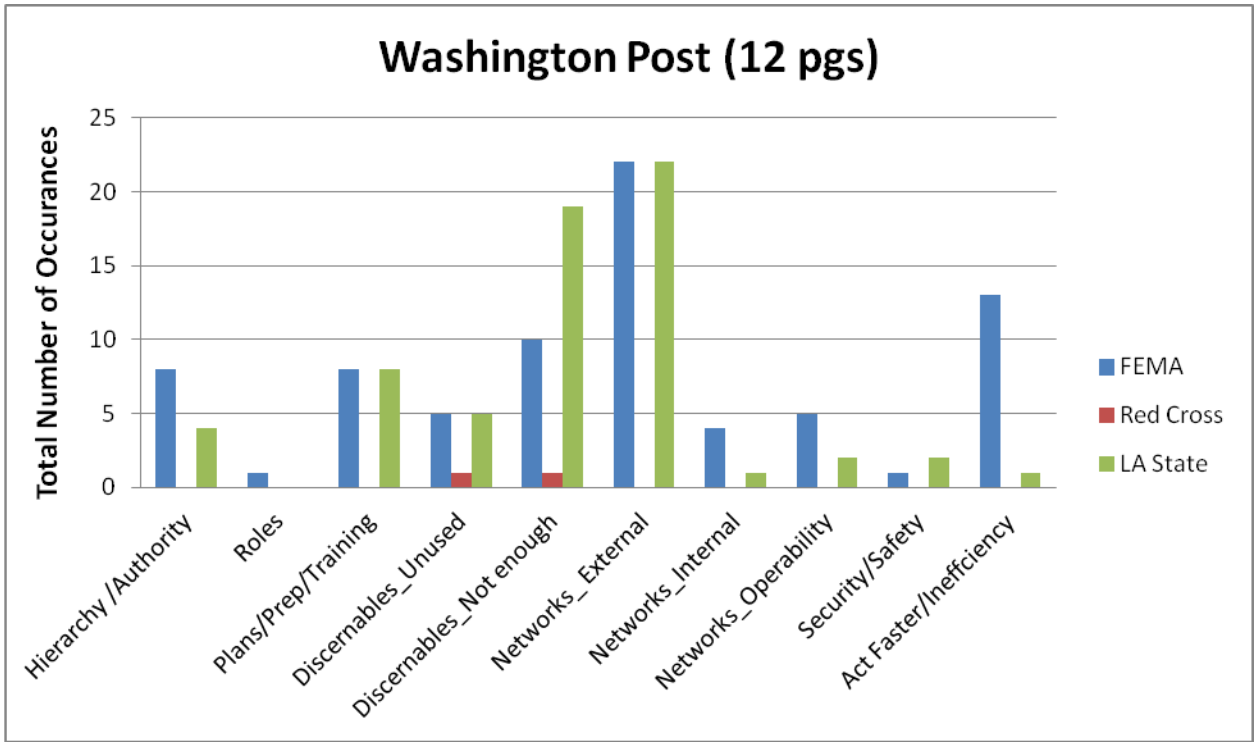

Figure 4

In the Washington Post article, the greatest reported theme for both FEMA and Louisianna State (LA State) was Networks_External at 22 occurrences each. The greatest theme concerning the Red Cross was Discernables_Unused and Discernables_Not Enough at one mention each. The Red Cross is not mentioned further in this article. Secondary themes for FEMA included Inefficiency (13 occurrences to LA state's 1) and Discernables_Not Enough (10 occurrences). Hierarchy and Preparation tied with 8 occurrences. Louisiana State's secondary themes included a high emphasis on Discernables_Not Enough (19 occurrences to FEMA's 10), and lesser emphasis on Plans/Prep/Training (8 occurrences).

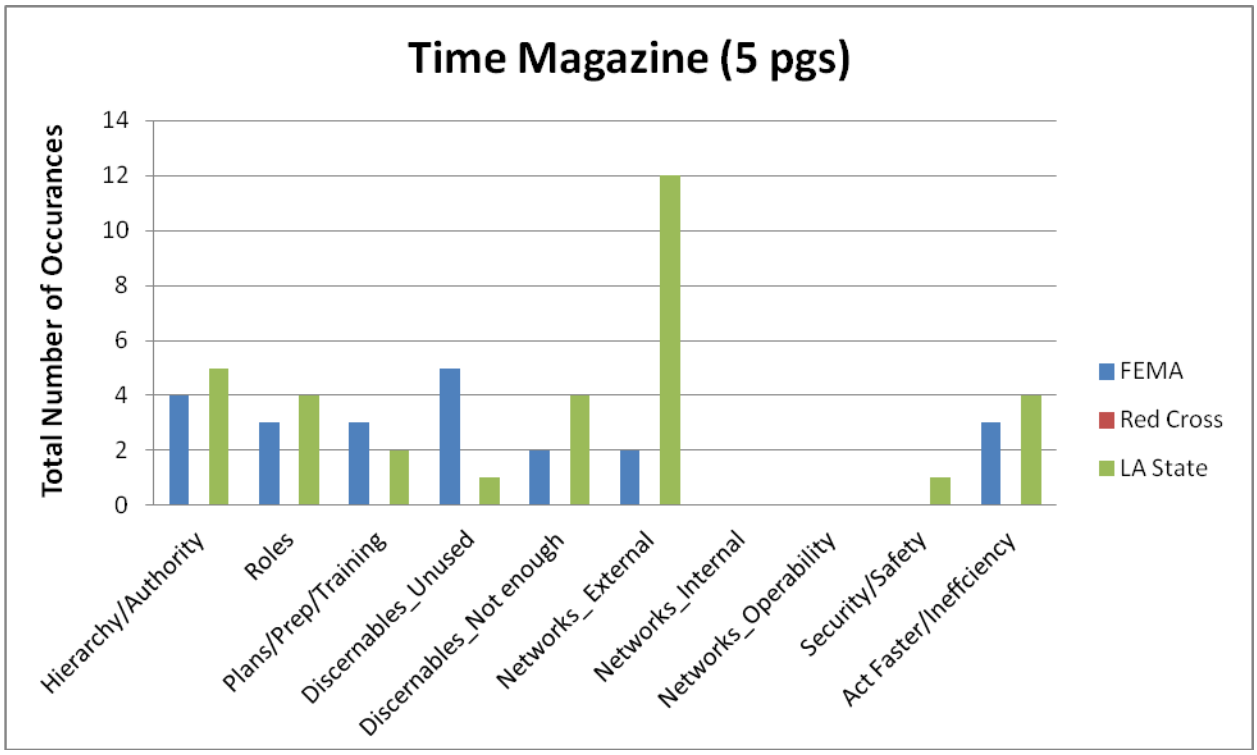

Figure 5

The Time magazine article did not mention the Networks_Internal or Networks_Operability themes and did not mention the Red Cross at all. The most frequent theme discussed was Networks_External for Louisiana State mentioned 12 times to FEMA's 2 times. FEMA's most frequent theme was Discernables_Unused (5 occurrences). Louisiana's secondary themes include Hierarchy/Authority (5 occurrences), and Roles, Discernables_Not Enough, and Inefficiency (4 occurrences each). FEMA's secondary themes included Hierarchy/Authority (4 occurrences) and Roles, Plans/Prep/Training, and Inefficiency (3 occurrences each).

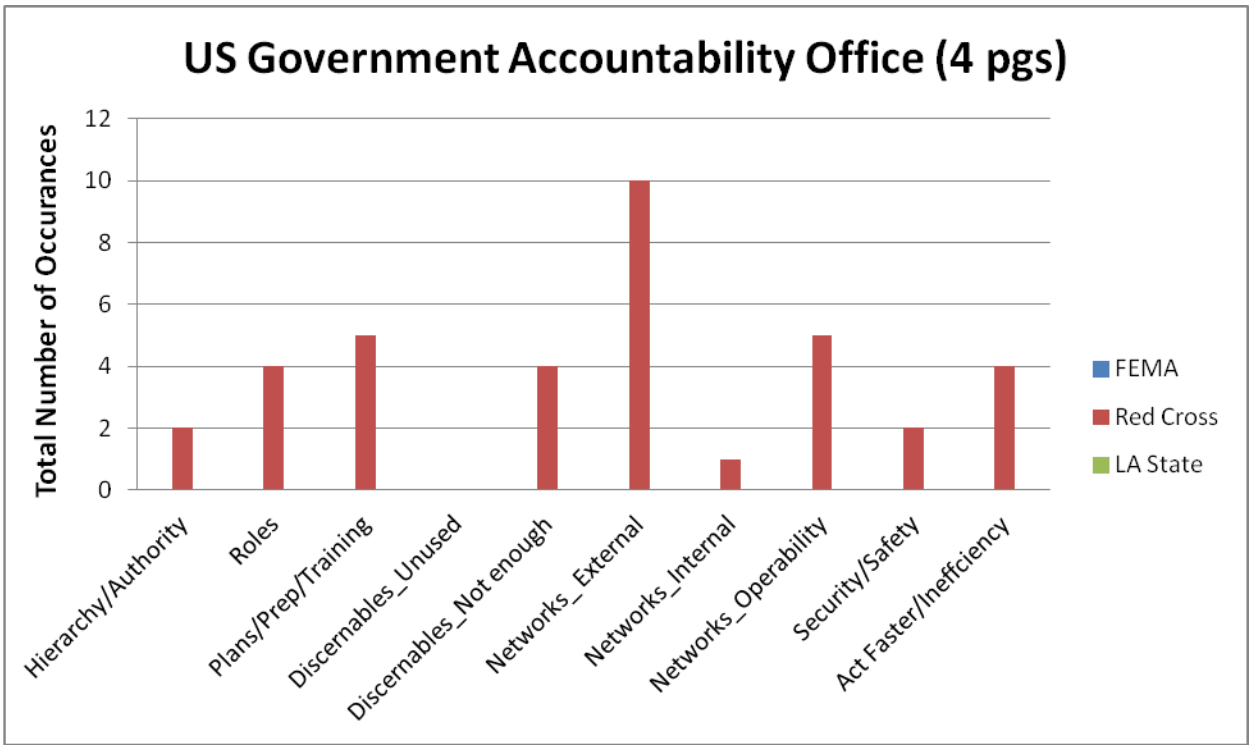

Figure 6

The US Government Accountability Office's (GAO's) report spoke exclusively on the Red Cross. The report did not mention Discernables_Unused. The theme occurring most frequently was Networks_External, mentioned 10 times in a 4 page paper. The Red Cross's secondary themes included Plans/Prep/Training and Networks_Operability (5 occurrences each) and Roles and Inefficiency (4 occurrences each). The least frequently discussed theme was Networks_Internal.

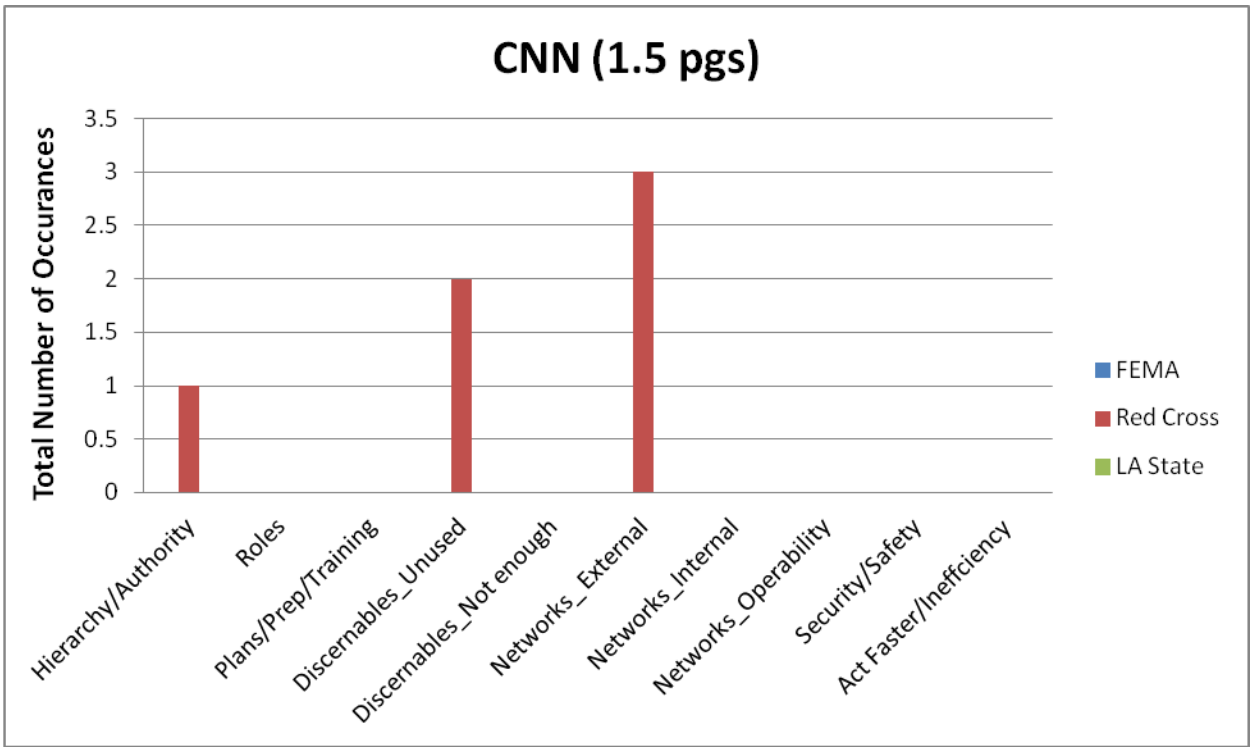

Figure 7

This 1.5 page report did not mention FEMA or Louisiana State at all. It occurrences three themes in relation to the Red Cross: Networks_External (3 occurrences), Discernables_Unused (2 occurrences), and Hierarchy/Authority (1 occurence).

Internal Sources

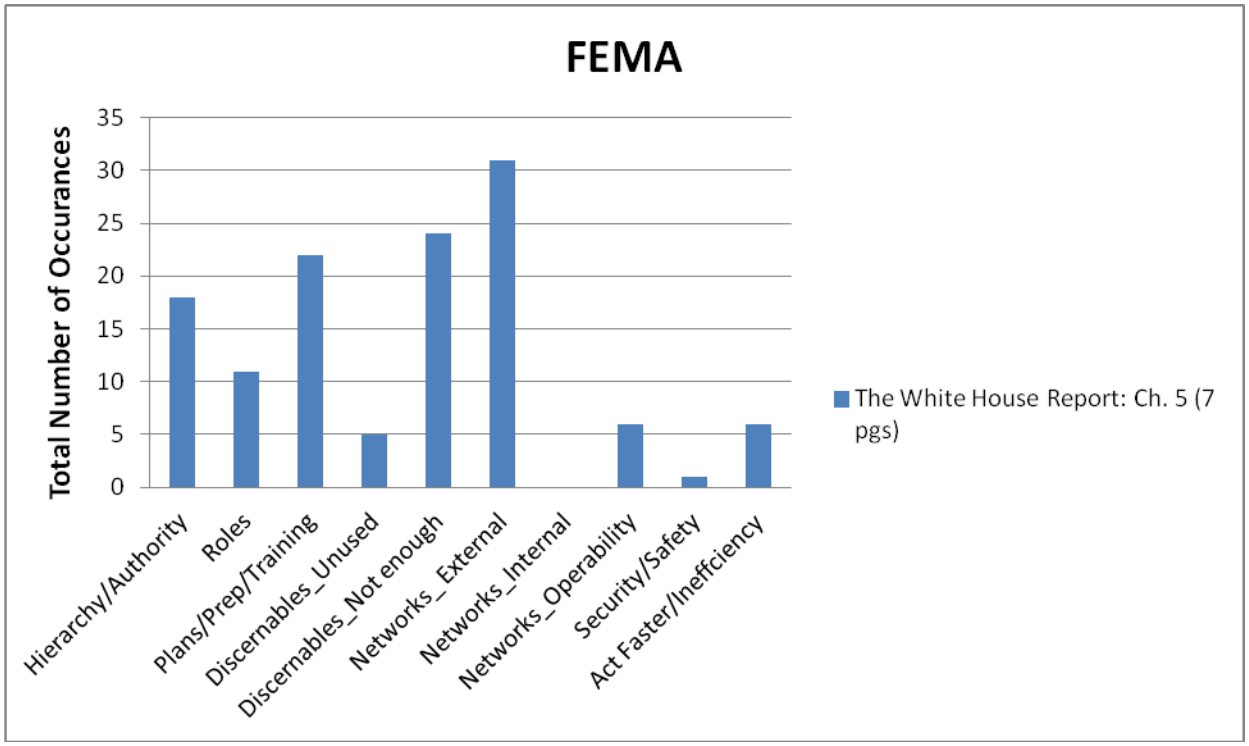

Figure 8

The FEMA's self-report was most concerned with Networks_External (31 occurrences). It's secondary themes included Discernables_Not Enough (24 occurrences) and Plans/Prep/Training (22 occurrences). The report was least concerned with Networks_Internal (0 occurrences) and Security/Safety (1 occurrence).

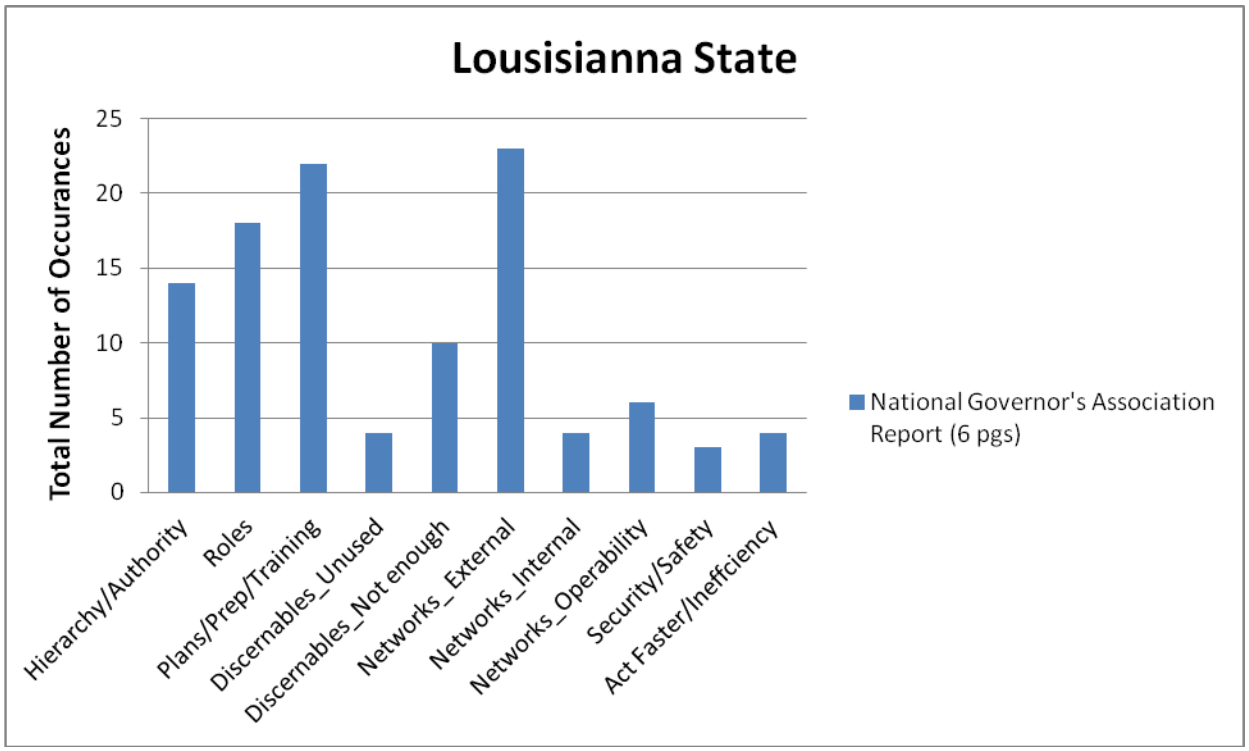

Figure 9

Louisiana State's self report was most concerned with Networks_External (23 occurrences) and Plans/Prep/Training (22 occurrences). The report's secondary themes included Roles (18 occurrences), and Hierarchy/Authority (14 occurrences). The report was least concerned with Discernables_Unused, Networks_Internal, Inefficiency (4 occurrences each), and Security/Safety (3 occurrences).

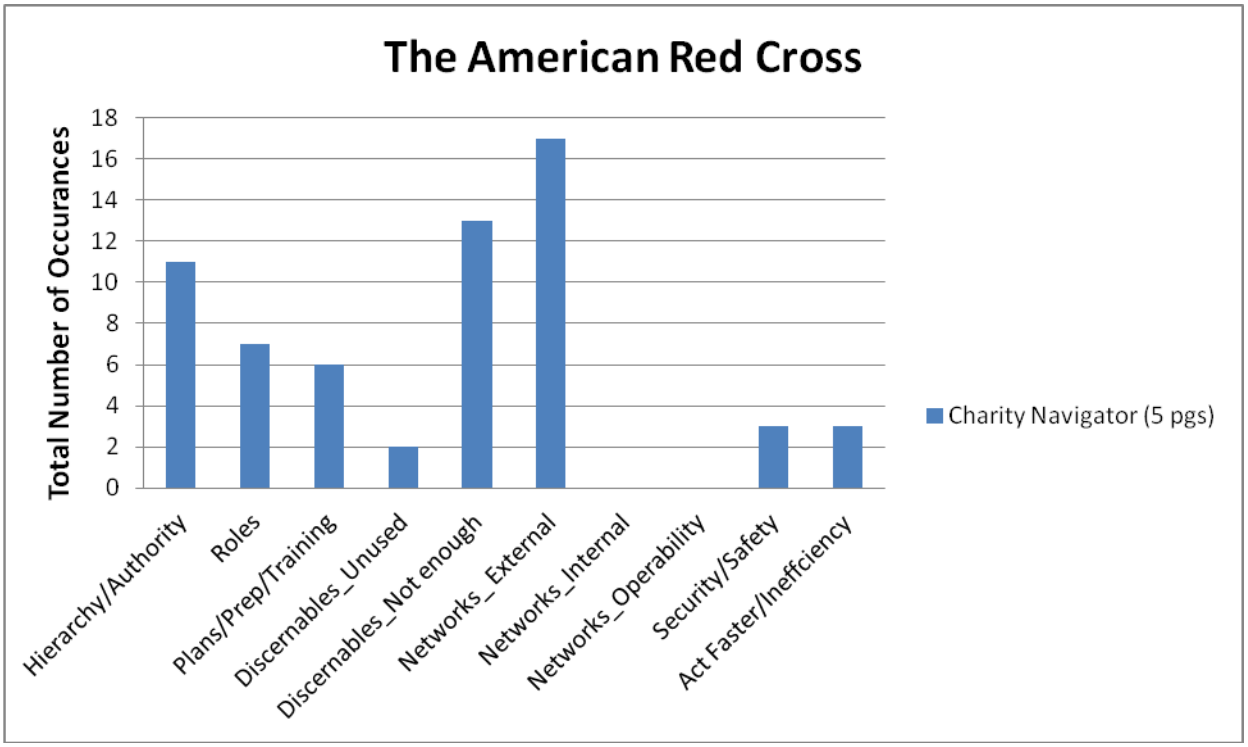

Figure 10

The American Red Cross's self report was most concerned with Networks_External (17 occurrences. The report's secondary themes included Discernables_Not Enough (13 occurrences) and Hierarchy/Authority (11 occurrences). The report was least concerned with Security/Safety and Inefficiency (3 occurrences each) and Discernables_Unused (2 occurrences). The report did not mention the themes Networks_Intenral or Networks_Operability at all.

Discussion

As I read through the texts I found ten themes that occurred consistently. All ten of them seem to be associated with the Adaptive Structuration Theory (Figure 1 and Table 1). Three of those seem to be related to Poole's (1985) definition of Structure: Hierarchy/Authority, Roles, and Networks_Internal (Table 1). The rest appear to be related to Adaptive Structuration's

Resources: Plans/Prep/Training, Discernables (Unused and Not enough), Networks (External and Operability), Security/Safety, and Act Faster/Inefficiency (Table 1).

The theme that occurred the most frequently in nearly all of the texts was Networks_External (Figures 4-10) indicating that each agency and each external source was highly concerned with the quality of communication between agencies. The relatively low concern about Internal and Operability portions of the Communication Networks might be due to the steps agencies took to bolster these parts of their Networks after 9/11. Likewise, though these agencies work in very uncertain and often threatening environments agencies might be counter-intuitively unconcerned with Security/Safety because they might feel confident in their agency's ability to protect them with a well-tested structure (rules, training, resources, etc).

The secondary themes that garnered the most attention (Hierarchy/Authority, Roles, and Plans/Prep/Training) can be thought of as resources or structure that contributes to the agencies' organizational culture. Hierarchy and Authority[5] creates the foundation and structure for the group—the skeleton. Roles give a direction and a standard operating procedure (SOP) for performing tasks. In an emergency response context, agencies tend to define themselves via Roles. Therefore, besides providing direction and SOP, Roles provide the group with a valuable sense of identity and purpose. Plans/Prep/Training reveal the values and forethought of the group. What the group values, they will take steps to protect with planning and training (closely related to Roles). What the group values affects organizational culture. For instance, a group that values children will prepare differently and behave differently from a group that values small businesses. The fact that so many of these pieces of organizational culture showed up as themes

[5] including unofficial power and status hierarchies as well as officially described supervisor-worker relationships

in the texts suggest that a central concern for the writers was the organizational culture of each agency demonstrated by their attitudes and behavior.

Although it wasn't mentioned as frequently, Internal Networks is another critical piece of organizational culture. Internal Networks are what you say, how you say it, and who you say it to[6]. It also includes a memory of previous transactions and a knowledge database of who knows what. The Internal Network is especially critical for developing organizational culture because it creates a transactional climate (what it feels like to talk to others, i.e. supportive, defensive, open, unwelcome, etc.). Furthermore, the Internal Network carries the memory of the organizational culture. Every time a member speaks, what they say and how they say it reveals the organizational culture and recreates it for the listener. In this way, organizational culture carried by the Internal Network could be described as an adaptive-structuring entity (meaning it acts the same way that the Adaptive Structuration Theory describes: creating and being recreated). It was said before that this theme might not have been of great concern because groups had taken steps to address it after 9/11. However, groups' behavior, decisions, and External Communication develop out of the organizational culture advanced by the Internal Network. It is possible that the difficulties groups have had in External Communications are in actuality chronic problems in their Internal Communications.

Besides organizational culture, the Internal Networks might influence groups' Social Identities. As was stated before, Social Identity Theory is also an adaptive-structuring entity. Ashforth & Mael (1989) state, "Identification [with the organization] also may engender internalization of, and adherence to, group values and norms and homogeneity in attitudes and behavior." (26). Meaning, individuals who enter the organization partially imbibe the

[6] While analyzing documents, I only counted instances of communication between members of a group. However, Internal Networks are composed of more than just instances of communication.

organizational culture making it a part of (or one of) their social identities. I submit that they "internalize" this culture through interaction with the Internal Network.[7] Then, individuals use their social identities to recreate the organizational culture. "It is likely that social identification will reinforce…the distinctiveness of the group's values and practices, group prestige, salience of and competition with out-groups…" (Ashforth & Mael, 1989, p. 26). "Salience of out-groups" is a process by which the perception of other groups makes your group band together more closely. This can have important implications for how groups cooperate. If your group identity is being challenged[8] by outside groups, it might be psychologically hard for your group to act altruistically or even cooperatively with those outside groups.

It is possible to see an example of this in the treatment of the American Red Cross by the media (Figures 4-7) and the subsequent treatment of the Red Cross by FEMA. The media never significantly mentioned the American Red Cross with either FEMA or Louisiana State. It appears as if the media treats the two government agencies and the Red Cross (a private agency) as "out-groups[9]". Social identity is built by what your group says about you and simultaneously built by what others say about your group. It's logical that the media's categorical separation of government and private agencies correlates with how those agencies see themselves.

If this is true, then FEMA's underuse of the Red Cross takes on a new light. According to the CNN article ("Red Cross: State rebuffed relief efforts," 2005), the American Red Cross asked FEMA (as per standard operating procedure) on September 1 whether it could enter New Orleans to begin the relief effort at the Superdome. FEMA requested that the Red Cross wait 24

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[7] What and how you say things provides information about your organizational culture. (Maybe I discourage you from taking that new idea to the boss because 'that's not how we do things here'). New comers learn about the organizational culture via interaction with the Internal Network.

[8] Perhaps just by the virtue of being there. Not necessarily a conscious threat.

[9] An "in-group" is "us"; an "out-group" is "them". So the media is treating the government agencies and the private agencies as if they don't belong together in a "them" vs. "them" paradigm.

hours for a place to be set up for them. But 24 hours later, FEMA had already ordered the evacuation of the Superdome and told the Red Cross that "…they felt they had adequate supplies there to take care of it without (the Red Cross)…" ("Red Cross: State rebuffed relief efforts," 2005). However, the FEMA self-report later states that Discernables_Not Enough was the second highest concern (Figure 8). Clearly, FEMA was uncertain about whether or not it needed help. I propose that because FEMA did not recognize the Red Cross as an in-group, it did not take into account the Red Cross's resources. Or in other words, FEMA's social identity did not include the Red Cross as a collaborator therefore FEMA did not input the Red Cross's resources into the AS/FGDMT model (Figure 3) which resulted in further poor decisions and miscoordination.

Recommendations

It seems clear that organizational culture and social identity is a critical influence on a group's internal structure and external behavior. Although the scope of this study did not include an accurate description of each of the agency's organizational cultures or social identities, it can to some degree describe an organizational culture that may lead to better cooperation. Rama Joshi (2001) describes how management can influence organizational culture.

> Organizations where the members feel that management is "holding back" information or they don't "tell us what is going on" tend to be characterized by suspicion, rumour, distortion and mistrust of management. Such an organization will not be capable of generating a culture characterized by high levels of commitment and/or performance. Developing good communications is, therefore, essential in order to generate trust, cooperation, commitment and feeling of belonging. (p. 24)

That “commitment and feeling of belonging” is very much like what Social Identity Theory describes. Joshi believes that good Internal Communication—one that promotes a trustworthy hierarchy—is essential for commitment to the group’s goals, performance, and, perhaps by extension, cooperation between groups. Groups should reinforce a culture of transparent management to garner membership trust, loyalty, and cooperation.

One way to encourage this sort of transparent management is to create what Joshi (2001) describes as a “flat structure”, “It is believed and also proved by experience that flat structures with low hierarchies encourage communication and clearer definitions of responsibility.” (p. 22). This means that groups with members with mostly equal statuses (or low “power distances”) tend to communicate better and have a clearer definition of Roles. As was stated earlier, both Louisiana State and the Red Cross (Figures 9, 10) struggled with Role definition. Perhaps easing the power distance among members in a hierarchy is one way to encourage greater Role definition. A clearer definition of Roles also positively influences members’ social identities which Joshi said generated cooperation.

Another area that seemed to be critical to this research was Internal Networks. I stated before that Internal Networks both carry the organizational culture and create a transactional atmosphere (what it’s like to talk to people). If this is so, then developing a cooperative atmosphere seems like an important first step in interfacing with other groups. Agencies (if they haven’t already) may need to develop an organizational culture that expects to and values working with other organizations in a crisis[10]. This culture might value a more permeable group boundary allowing frequent turnover of membership. A more permeable group boundary would also allow easier temporary incorporation of people with out-group social identities into the in-

[10] Remember FEMA and the American Red Cross

group's activities[11]. This culture might also have a higher tolerance for chaos and anxiety (making it easier to interact effectively with strangers and foreign organizational cultures). It might value diversity and innovation allowing the group to quickly incorporate new perspectives into the decision-making process. This list could be expanded to any number of qualities.

Joshi (2001) cautions, however, that "A new culture cannot be developed in any simple way in organizations that are already in existence and have evolved a way of life." (p. 22). Individuals tend to be extremely resistant to change; organizations more so. It can be very difficult and take several membership turnovers to affect a lasting and substantial change in organizational culture[12]. However, I think it is worth the effort.

Issues of communication are unavoidably complex and thus require more than one research perspective. My argument depends in large part on organizational culture, but I was unable to do the research necessary to accurately describe each agency's culture. Knowing what sort of culture each agency had would allow researchers to corroborate or dismiss my hypothesis.

Another question worth pursuing is how organizational cultures affect information management. The ways agency's collect, analyze, distribute, and archive information affects the quality of their decisions. It may be that that organizational culture can act as a top-down influencer of information management. There is already well established research describing how important information management is to quality decision making and how stress affects communication channels. Hari Das (1980) states,

> "Other writers have also noted that when individuals work under great stress, certain pathologies may arise in the decision processes which reduce the overall quality of the

[11] For instance, an agency might need to listen to an expert who is part of an out-group. An agency with more permeable boundaries would have an easier time temporarily including that expert in group activities.

[12] This is one reason things like prejudice and racial stereotyping take so long to die out.

> decision. Severe crisis is also likely to make creative problem-solving very unlikely, as the decision-makers become increasingly focused on fire-fighting. The available evidence thus seems to suggest that under severe crisis situations, decision-makers are less likely to perceive all relevant information, perceive the information less accurately, and consider fewer alternative courses of action available to them." (p. 183-184)

He further describes how there is a tendency to reduce the number of communication channels during a crisis. This combined with short reaction times can lead to poor decisions like what we saw during Hurricane Katrina. (Das 1980, 185)

There are certainly many avenues of study in both the fields of Emergency Management and Group Dynamics. However, we should not let the issues of inter-group communications lie dormant until the next disaster strikes. At the time of this writing, the Gulf Coast is entering another hurricane season with unseasonably warm waters which have already led to more tornadoes than usual in Michigan, Ohio, and Tennessee and may lead to harsher Hurricane Katrina-like storms. The time to develop relationships with other agencies and prepare Communication Networks is now, when nature is peaceful. Not doing so could cost the lives of victims.

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