

Wary of the Web:
The Underutilization of Web Sites for Public Outreach by
State Emergency Management Agencies.

At the very moment that Web-based and wireless social media are reshaping the way we interact with one another, the nation's emergency managers are being forced to reassess their communication strategies. Once an area of government that appeared largely immune from public criticism, local, state and federal emergency management agencies now operate in a proverbial fish bowl. Hurricane Katrina changed the landscape for emergency managers in much the same way the January 1986 explosion of the space shuttle *Challenger* changed public perceptions of NASA.

This study focuses on the intersection between the growth of social media and the emergency management community's need to more effectively communicate with stakeholders vital to their success – especially the people they serve and the media they use to reach those people. Specifically, this study focuses on how the nation's state emergency management agencies (SEMAs) use the oldest and most established of the so-called “new media,” the Internet's World Wide Web, to reach out to the news media and people of their states or districts. This study builds upon and expands a 2007 pilot study that suggested at that time that SEMAs both underutilized and undervalued the Internet in their public communication.

Literature Review

When this study refers to *crisis communications*, the focus is on a subset of what is commonly known as *public relations*. It does not refer to emergency telecommunications systems or related logistics, an area of considerable public discussion in the wake of both 9/11 and Hurricane Katrina. In the context of this study, it

2 – Wary of the Web: The Underutilization of Web Sites...

is defined as “the values-driven management of relationships between an organization and the publics that can affect its success.”¹

Public relations also plays a critical role in the free flow of information and ideas in democratic societies. This is especially true for government agencies, which face a dual responsibility of keeping the public informed and garnering support for its actions. However, this can be difficult because of what researchers have described as the four areas of conflict inherent to government public relations: the ongoing struggle for control of the information flow between the government and the press, the struggle for power between the government’s legislative and executive branches, the competition between political parties, and efforts to protect vested interests from negative legislation or regulation.²

Up until Hurricane Katrina battered the U.S. Gulf Coast in the late summer of 2005, state and federal emergency management agencies had been largely immune from public criticism. The public had little reason to question the competency and dedication of emergency management officials. However that changed with Katrina. More than a public relations failure, the bungled response to the storm proved to be a systems failure. “This country’s emergency operations, awesome in their potential, are also frighteningly interdependent,” *Time* reported in a post-storm analysis. “At every level of government, there was uncertainty about who was in charge at crucial moments.”³

On the heels of the Katrina disaster, Gallup asked a nationwide sample of 921 adults whether they were satisfied with the work of the federal government in 17 areas. One respondent in three indicated satisfaction with government’s ability to respond to natural disasters, good for only 13th place on the list.⁴

State Emergency Management Agencies (SEMAs)

“A crisis is a major, unpredictable event that has potentially negative results,” wrote Laurence Barton. “The event and its aftermath may significantly damage an organization and its employees, products, services, financial condition and reputation.”⁵ While Barton’s definition appears to focus on the for-profit private business sector, it also is applicable to non-profit organizations, as well as government and non-government

3 – Wary of the Web: The Underutilization of Web Sites...

agencies. The discipline of emergency management – sometimes known as crisis management, disaster management or contingency planning – has been called “the abysmal science” by disaster recovery consultant Kenneth Myers.⁶ The process of emergency management involves four phases:

- Mitigation – an attempt to identify, minimize and (if possible) eliminate potential hazards.
- Preparedness – the planning phase, in which contingency plans are developed in anticipation of a variety of crisis scenarios.
- Response – the execution of the crisis plan with the mobilization of necessary resources.
- Recovery – the effort to return the situation to normalcy, to learn the lessons from the experience, and to mitigate future occurrences.⁷

Every U.S. state, territorial and tribal government has a department, office or agency responsible for coordinating its actions in the event of emergencies of natural or human origin. Sometimes this responsibility is shared by two or more agencies. While the specific structures of SEMAs vary among jurisdictions, they have common attributes. They usually are affiliated with the state’s military apparatus (the National Guard) or state law enforcement agencies (such as the state police or highway patrol). While some SEMAs are stand-alone agencies reporting directly to the governor, others are divisions within the state’s military or the law enforcement structures. Still others have equal standing with multiple related agencies under an umbrella public safety department structure.

The SEMA’s role is to manage each state’s response to crises by coordinating resources and serving as an information clearinghouse for all responding entities. Crises are managed from an emergency operations center that hosts representatives from a variety of public and private agencies. For example, it is not unusual to see officials of

4 – *Wary of the Web: The Underutilization of Web Sites...*

the American Red Cross or the Salvation Army collaborating with representatives of county, state and federal agencies in a typical state emergency operations center. This is especially true when it comes to incidents involving nuclear power – the Nuclear Regulatory Commission has mandated coordination between the utility companies, government officials (all levels) and private agencies since the interagency confusion surrounding the Three Mile Island accident of 1979.

The structure and identities of many SEMAs changed following the terrorist attacks on the World Trade Center and the Pentagon on September 11, 2001. The changes were a direct result of the creation of the Department of Homeland Security (DHS) in 2002, an effort to centralize the federal government's response to national security threats. Homeland Security Presidential Directive-5, issued by President George W. Bush on February 28, 2003, required the Secretary of Homeland Security to develop a mechanism for coordinating government and non-government responses to all large-scale emergencies within the United States. This resulted in the creation of the National Incident Management System (NIMS).

Since 1988, the Federal Emergency Management Agency (FEMA) has partnered with SEMAs to provide disaster assistance on a national basis. On March 1, 2003, FEMA became part of DHS. According to the FEMA Web site, "NIMS was developed so responders from different jurisdictions and disciplines can work together to better respond to natural disasters and emergencies, including acts of terrorism."⁸ It also resulted in creation of the National Incident Management System Integration Center (NIC), "a multidisciplinary entity made up of federal stakeholders and over time, it will include representatives of state, local and tribal incident management and responder organizations."⁹ NIMS training of state, local and tribal officials was scheduled for completion during fall 2006.

Ironically, several observers have claimed that the creation of a new emergency management structure under the DHS umbrella led to many of the problems that hampered the government's response to Hurricane Katrina. Many existing collaboration networks had been uprooted by the DHS structure. In a scathing indictment of the reorganization, three scholars wrote in *Publius: The Journal of Federalism*, "It is also our contention that this centralization of decision-making was and is largely unnecessary and

5 – *Wary of the Web: The Underutilization of Web Sites...*

wrong-headed and that, in particular, the proposed designation of the U.S. military as the lead agency in disaster and emergency response has the probability of both adversely affecting the capacity of state and local government to undertake emergency and disaster response and the morale and capacity of the military to fulfill its war-fighting mission.”¹⁰ In a blistering post-Katrina indictment released in April 2006, the Inspector General of DHS said public criticism of FEMA was “warranted.” The report said the federal government and the state of Louisiana had “great difficulty” coordinating with one another and “never fully achieved a unified command with FEMA.”¹¹

Crisis Communication and E-Government

The role of the Internet during crises was dramatically demonstrated on September 11, 2001. According to the Pew Internet & American Life Project, the number of Americans going online significantly – and temporarily – dropped in the three weeks immediately following the terror attacks. However, the number of site visits – a sign that people were surfing for information – increased 240 percent during the same period. Pew estimates that 50 percent of Internet users, approximately 53 million people, went online looking for information about the attacks and its aftermath during that period. More significant, according to the Pew report, was “the outpouring of grief, prayerful communication and information dissemination through e-mail and political commentary. Nearly three-quarters of Internet users (72 percent) have used e-mail in some way related to the events – to display their patriotism, contact their family and friends to discuss events, reconnect with long-lost friends, discuss the fate of friends, and share news.” The Internet had become the town commons of the 21st century.¹²

“From a purely technical perspective, the system worked better than anyone might have anticipated,” wrote Henry Jenkins in *Technology Review*. “While the World Trade Center housed an important relay system for cell phones, and its destruction thus left many New Yorkers without telecommunications, there was no significant national disruption of computer networks.”¹³

Post-Katrina research suggests that Internet users facing crises prefer interactive information sources to those that are static. Three out of four dispersed New Orleans

6 – *Wary of the Web: The Underutilization of Web Sites...*

residents who went online during the crisis reported visiting an online discussion forum. More than half said they posted messages. “This level of interaction also appeared to contribute to another phenomenon: the emergence of the citizen reporter,” wrote researchers Claire and Steven Procopio. “Users seemed to value information from other users, with 30 percent labeling it their most informative online source in the week following the hurricane.”¹⁴

The Internet has proven to be both a blessing and a curse for organizations. Hill & Knowlton executive Boyd Neil wrote that the Internet plays an integral role in crisis management in three ways: serving as a “trigger” to launch a crisis, as a strategy used by opponents to an organization’s initiatives, or as “a valuable weapon in a company’s arsenal for managing crises.”¹⁵ The Internet has also become a mechanism for holding emergency response agencies accountable. An example is the Disaster Accountability Project, created in August 2007 by a former American Red Cross site manager as an online social network to “report, verify, and raise awareness about gaps in disaster relief services.”¹⁶ Because of the risks and benefits inherent to the Internet, public relations practitioners have been forced to engage in what David Guth and Charles Marsh call “cyber-relations, the use of public relations strategies and tactics to deal with publics via the Internet and with issues related to the Internet.”¹⁷

Since the advent of the World Wide Web, many researchers have focused on the Internet’s potential for reforming democracy, a sort of e-government that allows ordinary citizens to more easily contact public officials and hold them accountable. In the strictest sense, e-government is defined as the “delivery of government information and services online through the internet or other digital means.”¹⁸ The argument is that because e-government is the product of citizen-initiated contacts, the Internet is a trustworthy channel of communication that can, in turn, lead to greater public confidence in government.¹⁹ An example of the application of e-government in emergency management can be found in Philadelphia, where officials announced in January 2009 that the city’s Office of Emergency Management had launched a social networking initiative to reach the public before, during, and after disasters through the use of social networking Web sites Blogger, Facebook, MySpace, Twitter, YouTube and LinkedIn.²⁰

7 – *Wary of the Web: The Underutilization of Web Sites...*

Despite this and other examples, there are limitations to e-government, most notably security and privacy issues and disparities in citizen access to technology.²¹

Online Newsrooms

Many organizations – in both the public and private sectors - do not appear to be taking full advantage of communication opportunities available through use of the Internet. A content analysis of 2001 *Fortune* 500 company Web sites revealed that the majority did not have dedicated newsrooms where media content is centralized. In the newsroom, news releases, executive biographies and executive photographs were the most common elements. “The Web has the potential to be a key public relations tool but is not currently being used to its full potential in media relations,” researcher Coy Callison wrote. “Journalists often note finding what they are looking for on company Web sites, and a few have even suggested that their coverage of companies with poor Web presence is skewed negative, if they cover these companies at all.”²² A 2003 study by David Hachigian and Kirk Hallahan supported these findings. In a survey of computer industry journalists, Hachigian and Hallahan found that respondents considered themselves to be “only moderately reliant upon Web sites as sources.” This finding comes despite strong agreement “about the time-savings that Web sites bring to the newsgathering process.” The authors concluded that “while Web sites have irreversibly taken a place in the media relations mix...(they) have a long way to go before being fully accepted with confidence by journalists as newsgathering tools.”²³

One reason journalists may find searching many Web sites to be a “less than satisfying” experience is the absence of research and strategic planning in the Web site’s creation. Following a series of interviews with “Web decision makers,” Candace White and Niranjana Raman concluded that many Web sites are the product of an urgency to establish a presence on Internet without a clear vision of why it is important. “Findings indicate that Web site planning is done by trial and error, based on intuition, with little or no formal research,” White and Raman wrote. They also wrote that these same Web decision makers believe that their Web sites are perceived by their publics as “a mark of quality” for their organization without empirical evidence to support that supposition.²⁴

8 – *Wary of the Web: The Underutilization of Web Sites...*

From the perspective of journalists, good Web sites are those that contain information they want in an easy-to-find centralized location, such as an online newsroom. “In particular, journalists search corporate Web pages looking for press releases, public relations personnel contact information, and general corporate facts,” wrote Callison. “Journalists also, weary from receiving mountains of unsolicited corporate material they neither request nor want, appreciate downloadable material that allows them control over what content they choose to view in addition to the fact that downloaded documents can be quickly edited and typeset while skipping the step of re-keying text.”²⁵

While there has been very little research focused on Internet use by SEMAs, those that exist have reached similar conclusions: that emergency managers are underutilizing the Web for public outreach. As early as 1998, scholars noted an increasing interest among emergency managers to the possibilities of the Internet.²⁶ However, a March 2001 study published in *The International Journal of Mass Emergencies and Disasters* concluded that SEMAs are missing “a major opportunity” to use the Internet to “educate local emergency managers and the public about the hazards to which they are vulnerable.”²⁷ A 2006 content analysis of the 51 SEMA Web sites published by the Natural Hazards Center at the University of Colorado reached a similar conclusion. “It is likely that the state emergency management agencies do not have the staff or finances to produce sophisticated Web sites,” the study said. “Thus, these agencies may be interested in providing more opportunities for democratic outreach on their Web sites, but may currently be unable to offer these opportunities.”²⁸

The 2007 Pilot Study

The research design for this study grew out of a 2007 pilot study.²⁹ It was based on a content analysis of the Web sites of the emergency management agencies of the 50 states and the District of Columbia conducted between October 20, 2006, and January 9, 2007. The principal purpose of the analysis was to determine the degree to which these Web sites are targeted toward and meet the needs of journalists who go online seeking information.

9 – *Wary of the Web: The Underutilization of Web Sites...*

At first glance, the nation's SEMA Web sites appeared well suited for handling media relations. That's because 46 of the 51 Web sites, 90.2 percent, had some form of newsroom where journalists can seek out news releases, backgrounders and other forms of in-depth information. However, a deeper analysis led to a conclusion that was a lack of understanding of media relations by Web designers and a failure to use a potentially powerful medium to fulfill these agencies' articulated mission of serving and protecting the people of their state.

In the 2007 study, the name of the agency's public information officer, a key media contact, was not listed in 41.2 percent of the surveyed sites. In many of the sites where it was listed, it was necessary to comb through a listing of agency personnel to identify the PIO. Also in 41.2 percent of the surveyed sites, there was not a direct e-mail link to the PIO. In some of these cases, telephone numbers were supplied. In others, a blind, all-purpose e-mail link to the agency was provided. The study concluded that, when it comes to online communication, state emergency managers more often directed their focus to internal publics – other public and private responding agencies within their state – than toward journalists. Supporting this hypothesis was the presence of emergency management training-related materials on 90.2 percent of the Web sites. Also, a large percentage of the material in online newsrooms was “evergreen” generic information targeting a broad, non-segmented audience.

The 2007 pilot study concluded that, at least when it comes to media relations, SEMAs were not tapping into the Internet's full potential. While most of their Web sites served a useful purpose as an inter-agency resource, the conclusion was that there was much more that could and should be done. The results of this review appeared to support the findings of White and Raman, whose research concluded that many Web sites are created without a clearly defined purpose. They also paralleled Callison's findings that most online newsrooms fall short of meeting journalists' needs.

Research Questions

1. Who do SEMA public information officers (PIOs) see as the primary publics of their agency Web sites and does the content reflect their priorities?
2. What factors influence the content-richness of SEMA Web sites?

10 – *Wary of the Web: The Underutilization of Web Sites...*

3. To what degree are SEMA online newsrooms and agency public information officers accessible?
4. To what degree do SEMA officials value the Internet as a vehicle for dissemination of emergency public information?

Methodology

Research for this study was conducted in two phases. Phase one involved a content analysis of the 51 SEMA Web sites (including the District of Columbia) conducted January-March 2008. The URLs were obtained from the FEMA Web site (www.fema.gov). A Content Richness Index (CRI) for each Web site was created, in part by determining the presence of the following Web site features:

Table 1: Features Used In Determining Each Web Site’s CRI (Non-prioritized)

Newsroom	Training information	Director’s biography	Director’s picture
Explicit mission statement	Implicit mission statement	Photo gallery	E-mail links
Document downloads	Weather	Video	Audio
Podcasts	Vodcasts	National threat level	DHS links
Kids info. (agency created)	Kids info. (other)	Governor’s office links	Disabilities info.
Family crisis planning	School crisis planning	Business crisis planning	Pets information

For each feature present, one index point was added to the Web site’s CRI rating. One index point was also added to each Web site’s CRI for each of the following hazards mentioned:

Table 2: Hazards Used In Determining Each Web Site’s CRI

Nuclear war	Radiological/nuclear	Terrorism	Tornado
Flooding	Chemical/Hazmat incident	Fire	Hurricane
Biological incident	Snow/Ice	Tsunami	Electrical blackouts
Oil spill	Public health issues	Road conditions	Drought
Extreme temperatures	Cyber-disasters	Weapons/munitions	Dam failures
Landslides/Avalanches	Thunderstorms/Lightning	Volcanoes/Ash	

There were 47 total CRI features and hazards, but because the presence of an agency’s mission statement must be either implicit or explicit (both of which are on the CRI features list), 46 was the maximum CRI rating a Web site could receive. Based on experience gained during the administration of the 2007 pilot study, the number of

11 – *Wary of the Web: The Underutilization of Web Sites...*

features and hazards used to create the CRI were expanded for this study. Newsrooms were characterized as being “active” if the most recent news release posting was less than three months old, the same criterion used in the 2007 pilot study. To aid in coding reliability, each Web site was reviewed, analyzed and coded on at least three separate occasions.

During phase two, each of the 51 SEMA public information officers (PIOs) was contacted by e-mail May 13-14, 2008, and invited to participate in an online survey. The e-mail recipients were directed to an Internet link that took them to the online questionnaire. A follow-up e-mail was sent to non-responding PIOs approximately one week later. The survey frame consisted of PIO names and e-mail addresses harvested from each agency’s Web site or through direct telephone contact. Twenty-three of the 51 (45.1 percent) SEMA PIOs successfully completed the online questionnaire.

Upon completion of the content analysis of the Web sites of the 51 jurisdictions, a data reduction was performed for analytical purposes. Based on each Web site’s assigned Content Richness Index number (CRI), the jurisdictions were divided into three categories of similar size: Low CRI (≤ 19 CRI, 18 jurisdictions), Medium CRI (20-26 CRI, 17 jurisdictions) and High CRI (≥ 27 CRI, 16 jurisdictions). Of the 23 respondents who completed the online survey, the CRI category distribution CRI was Low CRI - 9, Medium CRI - 7, and High CRI - 7.

Through data reduction, states were classified by population. High Population States were ranked 1st-17th in population, Medium Population States were ranked 18th-34th and Low Population States were ranked 35th or lower. The mean population rank for respondent states (26.39) was close to that for all states (26).

Taking these concepts a step further, a Media Accessibility Index (MAI) was created to quantify the ease with which journalists could retrieve information from SEMA Web sites. One MAI index point was granted for the presence of each of these five Web features: Presence of an online newsroom, accessibility to the newsroom within one mouse click, whether the agency’s public information officer was identified, whether a direct telephone number for the PIO was posted, and whether there was a direct e-mail link to the PIO.

12 – *Wary of the Web: The Underutilization of Web Sites...*

Because this survey is based on a small sampling frame (51 jurisdictions), the margin of error in the sample is high: 15.29 percent. While this does not constitute a random sample in that the respondents were self-selecting, it is a balanced distribution that appears to reflect the national sample. At the very least, it is an indicator of the current environment. A 45.1 percent response rate to an e-mail solicitation for participation in the online survey is considered good. There is often a disparity in survey response based on occupation, influence and residence. In short, the busier the respondent, the more difficult it is to gain cooperation.³⁰

RQ 1 – Who do SEMA public information officers see as the primary publics of their agency Web sites and does the content reflect their priorities?

According to the survey results, SEMA Web sites are, for the most part, untargeted. When asked who they considered the primary audience when preparing information for the SEMA Web sites, 52.2 percent of the survey respondents said it was “the public in general, regardless of where they live.” Another 34.8 percent said their Web sites were targeted at “residents of our state only.” To put it another way, nearly nine out of 10 respondents indicated that their Web sites targeted toward, for lack of a more descriptive term, “all comers.” That number didn’t vary significantly when analyzed by CRI category.

However, a content analysis of the SEMA Web sites suggests a different picture. Among the 51 jurisdictions included in the content analysis, training information geared toward local government emergency managers was the most-frequent Web feature at 92.16 percent. Document downloads came in second at 84.31 percent. Newsrooms were the third most-frequent feature at 82.35 percent. Among the 23 agencies participating in the online survey, those three features were tied for first at 82.61 percent each. Training information also ranked as the most common Web site feature among the Low CRI and Medium CRI sites. However, online newsrooms tied with family crisis planning information and pet information as the most frequent features of High CRI sites. In fairness, Web sites, by their nature, are capable of targeting more than one public at a

13 – *Wary of the Web: The Underutilization of Web Sites...*

time. However, as Table 3 suggests, the more content-rich a SEMA Web site is, the more likely that content is focused toward external publics.

Table 3: Five Leading SEMA Web Site Features (percentages are rounded)

All SEMA Web Sites	Low CRI	Medium CRI	High CRI
1 Training info. (92)	1 Training info. (89)	1 Training info. (100)	1 Newsroom (100)
2 Doc. downloads (84)	2 E-mail links (72)	1 Doc. downloads (100)	1 Family crisis plans (100)
3 Newsroom (82)	3 Director's photo (67)	3 Newsroom (94)	1 Pets information (100)
4 Family crisis plans (78)	4 Family crisis plans (61)	4 Governor links (76)	4 Current weather (94)
5 E-mail links (76%)	5 DHS links (61)	4 E-mail links (76)	5 Doc. downloads (88)
		4 Family crisis plans (76)	5 Training info. (88)

Another indication of a gap between the perception and reality by PIOs of SEMA Web site targeting may be found in respondent perceptions of audience attitudes. SEMA public information officers were asked the degree to which each of three stakeholder groups – the media, state legislators and the public – understood their agency's mission. Approximately nine out of every 10 respondents said the news media within their state had a good understanding of their agency's mission. The respondents rated the state legislators second (60.8 percent agreement, 26 percent disagreement) and public in their state third (54.6 percent agreeing, 36.4 percent disagreeing). This pattern generally held true in cross-tabulations of CRI categories, PIO supervisory levels, Web site supervision, and each site's MAI.

Based on this analysis, our finding is that contrary to the stated intent of survey respondents, SEMA Web sites appear to place a greater emphasis on reaching internal and local/state public safety stakeholders than they do journalists or citizens of their state. However, the more content-rich the site, the more likely that the site's content is targeted toward citizens and journalists. We also find that SEMA public information officers tend to believe that the news media have a better understanding of their agency's mission than do state legislators or the public. Of the three stakeholders, the PIOs believe that the public has the least level of understanding of their SEMA's mission. In a post-Katrina environment where the entire emergency management community is under intense public scrutiny, the pervasive belief that the public does not understand the mission of SEMAs is troubling.

14 – *Wary of the Web: The Underutilization of Web Sites...*

RQ 2 –What factors influence the content-richness of SEMA Web sites?

In what may seem an obvious conclusion, the people who design and maintain SEMA Web sites appear to have the greatest influence on their content richness (Table 4, next page). However, the significance of this finding relates to a second finding, that only one-third of SEMA Web sites are designed and maintained by the agencies' PIOs. Among respondents, only 30.4 percent of the Web sites were designed within the agency. More than 60 percent were designed outside of the agency, with the overwhelming majority of those sites (85.7 percent or 52.2 percent of the total) required to follow a state government-mandated graphic/content template. When it came to determining

Table 4: SEMA PIO Characteristics vs. Content Richness

Characteristics		Percentage	Mean CRI	Percentage Difference
Years of EMA experience				
	≤ 3 years	39.1%	21.00	+ 13.29%
	> 3 years	60.9%	23.79	-
Prior EMA Experience				
	Yes	82.4%	23.25	+ 3.00%
	No	17.6%	22.58	
Prior journalism experience				
	Yes	43.5%	23.30	+ 3.19%
	No	56.5%	22.23	-
Job classification				
	Political appointee	17.4%	21.75	-
	Career state employee	82.6%	22.89	+ 5.24%
Reporting levels from the agency director				
	Report directly	70.0%	23.00	+ 1.46%
	One or two levels between	26.1%	22.67	-
Director's reporting levels from the Governor				
	Report directly	30.4%	23.29	+ 3.79%
	One level	69.6%	22.44	-
PIO decides Web content				
	Yes	52.2%	23.08	+ 3.64%
	No	47.8%	22.27	-
PIO maintains Web content				
	Yes	34.8%	25.63	+ 22.30%
	No	65.2%	21.13	-
Web site designed internally				
	Yes	30.4%	19.71	-
	No	60.9%	23.86	+ 21.05%

who decides Web site content, just over half of the PIOs surveyed (52.2 percent) said they made that decision.

15 – *Wary of the Web: The Underutilization of Web Sites...*

It appears that the higher in the SEMA organization chart the PIO is placed, the greater the content-richness of the agency's Web site. Among Low CRI Web sites, 62.5 percent reported directly to the director and 37.5 percent were one supervisory level separated from the director. Among Medium CRI Web sites, 85.7 percent reported directly to the director and 12.5 were one supervisory level separated from the director. That pattern did not hold precisely among the High CRI Web sites, where 71.4 percent reported directly to the director – still higher than in the Low CRI category – and 28.62 were two supervisory levels separated from the director. More than half (56.3 percent) of those reporting directly to the director decided the content of their agency's Web site, compared to only 25 percent of those who said they were separated from the director by one supervisory level.

Respondents were also asked whether they consider themselves a political appointee (serving for a limited time at the pleasure of the governor) or as a non-partisan (career) state employee. Contrary to appearances, this question has nothing to do with the effect of politics on emergency management. Instead, the focus is on the degree to which the PIO serves in a managerial role. By definition, positions filled by political appointees tend to be more managerial than those filled by career employees. These are the top managers of an agency who come and go with changes in political leadership. While a large majority of respondents said they were career (non-partisan) employees, it was the political appointees who appeared more likely (75 percent) to decide Web content than those who were nonpartisan career employees (47.4 percent).

A little more than one-half (52.2 percent) of respondents said that the design of their agency's Web site must conform to a design/template adopted by their state government. Just under one-third (30.4 percent) said their Web site was designed within their agency, with another 8.7 percent created by outside consultants/designers. Overall, Web sites created by outside designers/consultants had the highest mean CRI, followed by those following a mandated template (23.5) and those that were designed within the agency (19.71). These figures suggest a relationship between the Web site's designer and content-richness – not surprising, in light of earlier findings. However, it may be a surprise to some that Web sites administered under a mandated template appear to be more content-rich than those designed in-house. A further cross-tabulation shows that

16 – *Wary of the Web: The Underutilization of Web Sites...*

66.67 percent of respondents who said they determine the content of their agency's Web site are using a state-mandated template, compared to only 8.33 percent whose Web site was designed in-house. Also, more respondents who administer their agency's Web site are using a template (62.5 percent) than those administering an agency-designed site (12.5 percent).

These results suggest that persons maintaining SEMA Web sites appear to have a higher influence on their content richness than those with the responsibility to decide Web content. This may be explained by the site administrator's deeper understanding of Web technology and subsequent decision to make greater use of it. It also suggests the need for a greater understanding of Web technology by those determining an agency's Web content. Agencies with PIOs who report directly to the director tend to have Web sites that are more content-rich than those where the PIO does not. Web site designs conforming to a state government-mandated template tend to be more content-rich than those designed within the SEMA. This suggests that a higher level of Web design expertise exists within state government, but outside of SEMAs.

RQ 3 – To what degree are SEMA online newsrooms and agency public information officers accessible?

For the purposes of this study, a Web site's newsroom or training page was considered easily accessible if it had a direct link on the agency's home page. By that standard, three out of four SEMA Web sites nationwide (74.51 percent) were considered accessible. That figure was slightly higher (78.26 percent) for the 23 agencies that responded to the online survey. In contrast, SEMA training information was considered accessible on 82.35 percent of the sites nationwide and on 82.61 percent of the respondents' Web sites.

The accessibility of newsrooms appears to be related to the Web site's content-richness. The mean CRI of accessible sites nationwide was more than 30 percent higher than those that were not, 24.59 CRI versus 18.86 CRI. The results were similar among survey respondents, with the mean of accessible sites almost 25 percent higher (23.94

17 – *Wary of the Web: The Underutilization of Web Sites...*

CRI to 19.17 CRI). Among the sites nationwide with accessible newsrooms, there was a sharp contrast when analyzed by CRI classification. The mean CRI of newsroom-accessible High CRI sites was 30.40, compared to 15.13 in Low CRI sites. Again, the results were similar among survey respondents, 29.17 to 17.50.

The public information officer is identified by name on 68.6 percent of the sites nationwide. Those sites have a 23.69 mean CRI, 9.9 percent higher than the sites in which the PIO is not identified by name (21.56 mean CRI). When viewed by CRI classification, Low CRI sites in which the PIO is identified have a 16.25 mean CRI, compared to a 24.10 mean CRI on Medium CRI sites and a 30.28 mean CRI on High CRI sites.

The mean CRI for SEMA Web sites with a MAI rating of four or five was 25.60, or 20.6 percent higher than sites with MAI ratings of zero to three (21.14 mean CRI). The mean MAI appears to rise with size of each state's population, 2.35 for Low Population States, 3.35 for Medium Population States and 3.88 for High Population States. A similar pattern developed when viewed against CRI classifications: 2.56 for Low CRI sites, 2.94 for Medium CRI sites and 4.19 for High CRI sites. It should be noted that while the MAI may be a useful tool for analysis, it was created *after* the administration of data gathering. In hindsight, additional indicators could have been incorporated into the survey instrument.

In summary, less than half of the SEMA Web sites provide the identity of the PIO, his/her direct telephone number and direct e-mail address. One out of every five sites does not identify the agency's PIO by name. This, in our opinion, is in conflict with the value of transparency the public expects of government agencies. While it may seem counter-intuitive, SEMA PIOs may want to be insulated from the citizenry. Most SEMA public affairs staffs are relatively small. Demands on their time are considerable, especially during periods of crisis. One can't blame them for not wanting to be overwhelmed with public inquiries when they are busiest. It was noted during the content analysis phase of this research that a handful of states appear to have sought a middle ground by providing password-protected access to journalists.

RQ 4 – To what degree do SEMA officials value the Internet as a vehicle for emergency public information?

When asked whether they thought the Internet was a valuable medium for use during emergencies, 78.4 percent of the respondents answered in the affirmative (47.8 percent “slightly agree” and 30.4 percent “strongly agree”), while 17.4 percent answered in the negative (17.4 percent “slightly disagree” and 0 percent “strongly disagree”). The rating average for all respondents was just below the threshold for “slightly agree.” However, when asked if the Internet is as valuable a medium for use during emergencies as traditional media (such as radio and television), 63.7 percent answered in the affirmative (36.4 percent “slightly agree” and 27.3 percent “strongly agree”) and 31.8 percent answered in the negative (31.8 percent “slightly disagree” and 0 percent “strongly disagree”). The rating average (on a 1-5 scale with higher numbers indicating greater agreement) for all respondents was 3.59, between “no opinion” and “slightly agree.” Respondents from agencies with a High CRI rating were slightly more positive than those with Web sites with a Low CRI rating (4.33 and 4.11 respectively). However, the inverse was true when asked if the Internet is as valuable as traditional media during emergencies (High CRI – 3.00 compared to Low CRI – 4.00). Most notably, in almost every cross-tabulation, the rating for the Internet as a valuable tool during emergencies was higher than that for the ratings of the Internet as being as valuable as traditional media.

In summary, while the respondents see value in using the Internet during emergency conditions, they do not see the Internet equal in value to the more traditional communications media, such as radio and television. The numbers reflect an apparent ambivalence toward the Internet. While the respondents see some value in the Internet, they do not see it being as valuable as the more traditional media with which they are more familiar. Even those individuals who one might expect to be a champion of the Web, the respondents who maintain/administer their agency’s Web site, are less enthusiastic about the Internet compared to traditional media (3.25 or close to “no opinion” on the five-point scale).

Conclusions

Because of the ubiquitous nature of the Internet, it is easy to understand why some may believe that one size fits all. Often, there does not seem to be a strategic (goal-driven) reason for the material posted. Many SEMA Web sites do not appear to be targeted appropriately to match PIO descriptions of objectives. While agency public information officers describe them as being targeted to the public-at-large, they more often focus on the needs of first responders and others in the emergency management community. Equally compelling is the finding that respondents believe that the public does not understand their agency's mission as well as either the news media or state legislators. These findings raise the prospect of a potentially damaging credibility gap between the perception and reality of emergency management. This communication breakdown could result in a climate of severe political recriminations much like that experienced in the post-Katrina period.

There's nothing wrong with providing training calendars and internally focused information on the Web. The emergency management community is an important stakeholder. However, this does not preclude providing a similar emphasis to other publics, such as the news media, businesses, educational institutions and the public at-large. Should any specially targeted information be of a sensitive nature not intended for other publics, it can easily be password protected.

While traditional mass communication sources of information – radio, television and newspapers – continue as important channels for reaching the American public, emergency managers should also consider “nontraditional” Internet and wireless social media. Some may express concerns about the fragility of the Internet and social media infrastructure during calamities, but the fact is that all digital age communications face similar vulnerabilities. The Federal Communications Commission has noted that some social media systems, such as text messaging, cell phone and personal data assistants (PDAs), may continue to function while other systems fail.³¹

It is true that the Internet is least reliable during periods in which electricity is disrupted and there is severe infrastructure damage. However, the same can be said of

20 – *Wary of the Web: The Underutilization of Web Sites...*

almost all emergency communications. Nor does this diminish the value of the Internet and social media in the areas of preparedness (pre-disaster) and recovery (post-disaster).

While the primary focus of this study was the Internet, it should be noted that the growth of wireless communication has also led to advances in emergency notification through text messaging to cellular telephones. Such technology is outside the scope of this research, but it is certainly among the social media presenting emergency managers with new opportunities for public outreach. One can reasonably assume that with the passage of time, the acceptance and use of Web-based and wireless social media technology will grow within the emergency management community. Emergency managers may also learn to embrace the concept of citizen journalists lending them additional eyes and ears in the field to monitor rapidly developing crises. Because of their commitment to public safety, emergency managers are usually willing to adapt any technology that helps them advance their mission. When it comes to the use of new media, it may be more of a question of budgetary constraints than desire.

Limitations and Closing Commentary

There were several limitations to this study that must be noted. A three-month sampling period may seem like a substantial time frame. However, it is not representative of the ebb and flow of a typical year in emergency management. The pilot study, on which this study is based, was conducted during the last three months of 2006, marking the end of fall and the beginning of winter. It was also a time of year in which hurricane and tornado activity were low. With hindsight – as well as more time and resources – a systematic sampling of the calendar year would have been more representative. However, those issues were not resolved in time to affect the design of this research effort. The time and resource issue also had an impact on the reliability of coding. To compensate for the absence of additional coders, each Web site was visited a minimum of three times to ensure a degree of consistency. The CRI could, at best, measure the presence of certain elements within a Web site. However, it does not measure quality. At best, the CRI can serve only as an indicator of Web site quality.

21 – *Wary of the Web: The Underutilization of Web Sites...*

The initial design of this research called for telephone interviews with each of the 51 SEMA public information officers. After five test interviews, this approach was abandoned as being too time-consuming and labor-intensive. We found that the PIOs were very difficult to reach because of their work demands. While this may seem to verify some of the conclusions in the study about the accessibility of the PIOs, it also hastened the decision to use a Web-based survey instrument that allowed the PIOs to shift their responses to a more convenient time. The change to a web-based survey enabled us to achieve a valid response level in a manageable amount of time – especially in light of results that showed minimal difference between respondents and the nationwide sample.

In conclusion, while this study cites multiple areas where we believe there is room for improvement in the use of Internet communications by SEMAs, it should not be construed as a criticism of the communication accomplishments of emergency management professionals in general. Nor should any rankings described in the study be seen as more than research matrices created to describe SEMA Web practices nationwide based on a common set of factors.

There is little doubt that people working in state, local and federal EMAs are professionals dedicated to the preservation of public health and safety. Even with the communication shortcomings that have been identified, each of the 51 SEMA Web sites we studied serves a useful purpose. It is hoped that the same can be said for this research – that its purpose was not just to criticize SEMAs, but to help shed some light on how they can fulfill the mission to which they have dedicated themselves.

ENDNOTES

¹ David W. Guth and Charles Marsh, *Public Relations: A Values-Driven Approach* Fourth Edition (Boston: Allyn & Bacon, 2008), 17.

² Scott M. Cutlip, Allen H. Center, and Glen M. Broom, *Effective Public Relations* 6th ed. (Englewood Cliffs, NJ: Prentice-Hall, 1985), 569.

³ James Carney, “Four Places Where the System Broke Down,” *Time*, 19 September 2005, 34-41.

⁴ Gallup Poll, 12-14 September 2005. Reported online: www.pollingreport.com/institut.htm.

⁵ Laurence Barton, *Crisis In Organizations: Managing and Communicating in the Heat of Chaos* (Cincinnati: South-Western Publishing, 1993), 2.

⁶ Kenneth N. Myers, *Total Contingency Planning for Disasters* (New York: John Wiley & Sons, 1993), 2.

⁷ Haddow and Bullock.

⁸ “Welcome to the National Incident Management System Integration Center,” Federal Emergency Management Agency Web site, www.fema.gov/emergency/nims/index.shtm.

⁹ Ibid.

¹⁰ Carmine Scavo, Richard C. Kearney, and Richard J. Kilroy, Jr, “Challenges to Federalism: Homeland Security and Disaster Response,” *Publius: The Journal of Federalism* Vol. 38 No. 1 (September 2007), 81-110

¹¹ *A Performance Review of FEMA’s Disaster Management Activities in Response to Hurricane Katrina*, Department of Homeland Security Office of the Inspector General, 14 April 2006, online: http://www.dhs.gov/xoig/assets/mgmtrpts/OIG_06-32_Mar06.pdf

¹² “Commons of the Tragedy – How the Internet was used by millions after the terror attacks to grieve, console, share news, and debate the country’s response,” Pew Internet & American Life Project, 10 October 2001, online: www.pewinternet.org/

¹³ Henry Jenkins, “A Safety Net,” *Technology Review*, December 2001, 91.

¹⁴ Claire H. Procopio and Steven T. Procopio, “Do You Know What It Means to Miss New Orleans? Internet Communication, Geographic Community, and Social Capital in Crisis,” *Journal of Applied Communication Research*, Vol. 35 No. 1 (February 2007), 67-87.

¹⁵ Boyd Neil, “Crisis Management & the Internet,” *Ivey Business Journal*, January/February 2000, republished on Hill & Knowlton Web site, www.hillandknowlton.ca/crisis/crisis_internet2000.htm.

¹⁶ “New Disaster Response Watchdog Group Launching Today,” news release, Disaster Accountability Project, 14 August 2007, online: www.disasteraccountability.com.

¹⁷ David W. Guth and Charles Marsh, *Adventures in Public Relations – Case Studies and Critical Thinking* (Boston: Allyn & Bacon, 2005), 320.

¹⁸ D.M. West, “State and federal e-government in the United States,” March 2005, online: www.INSIDEPOLITICS.org.

¹⁹ Christopher G. Reddick, “Factors that explain the perceived effectiveness of e-government: a survey of United States city government Information Technology directors,” *International Journal of Electronic Government Research* 5.2 (April-June 2009): 1.

²⁰ “Social Networking with Emergency Management,” News Release, U.S. Federal News Service. 7 January 2009, online: <http://proquest.umi.com/pqdlink?Ver=1&Exp=01-22-2014&FMT=7&DID=1623325491&RQT=309&cfc=1>

²¹ Brooke Fisher Liu, “Preparing the People: An Assessment of State Emergency Management Web sites,” Natural Hazards Center, University of Colorado, July 2006, online: www.colorado.edu/hazards/awards/paper-competition/Liu2006.pdf

²² Coy Collision, “Media relations and the Internet: how *Fortune* 500 company Web sites assist journalists in news gathering,” *Public Relations Review* Volume 29 (2003), 29-41.

²³ David Hachigian and Kirk Hallahan, “Perceptions of public relations Web sites by computer industry journalists,” *Public Relations Review* Volume 29 (2003), 43-62.

²⁴ Candace White and Niranjana Raman, “The World Wide Web as a Public Relations Medium: The Use of Research, Planning and Evaluation in Web site Development,” *Public Relations Review* Volume 25 No. 4 (Winter 1999), 405-419.

²⁵ Callison, 30.

²⁶ Eve Grunfest and Marc Weber, "Internet and Emergency Management: Prospects for the Future," *International Journal of Mass Emergencies and Disasters*, Vol. 16 No. 1 (March 1998): 55-72.

²⁷ Seong Nam Hwang, William G. Sanderson, Jr., and Michael K. Lindell, "State Emergency Management Agencies' Hazard Analysis Information on the Internet," *International Journal of Mass Emergencies and Disasters*, " Vol. 19 No. 1 (March 2001): 85-106.

²⁸ Liu, 8.

²⁹ David W. Guth, "Untapped Potential – An Analysis of Online Newsrooms on State Emergency Management Agency Web sites." Public Relations Society of America International Conference. Philadelphia. October 2007.

³⁰ Delbert C. Miller, *Handbook of Research Design and Social Measurement*, Fifth Edition (Newbury Park, Sage Publications, 1991), 150-151.

³¹ "Communicating During Emergencies," Federal Communications Commission, 10 November 2005, online: www.fcc.gov/cgb/consumerfacts/emergencies.html.