Using what is already there - Integrated Crisis Communication as a new approach in Crisis Management – Case Study and Suggestions

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ABSTRACT

Communication plays a vital part in today's crisis management. Communication-channels and information systems in crisis management are often used separately. Our case study suggests an Integrated Crisis Communication (ICC) approach, which integrates all available communication-channels and information systems in one stakeholder oriented approach. The basis of this article is a case study of a 2-year research project with one of Germany's largest energy providers. The article starts with outlining the need for a communication-oriented crisis management. It presents results and findings from our research and explicates the main functionality the prototype we developed. Open questions and future research questions are outlined at the end.

Keywords

Crisis Communication, Crisis management, Crisis management systems, Integrated Crisis Communication, System Integration

INTRODUCTION

In spring of 2006 FEMA (Federal Emergency Management Agency) published an electronic textbook called "Disciplines, Disasters and Emergency Management – The Convergence and Divergence of Concepts, Issues and Trends from Research Literature" (McEntire, 2006) in which communication researchers Brian K. Richardson and Lory Byers exemplified how communication studies and emergency management studies could cover a common ground (Richardson/Byers, 2006) and thereby offer future research opportunities for an integrated research in this fields of study. In their paper, Richardson and Byers state that "while both Communication studies and Emergency Management Scholars seem to realize the value of one another's disciplines, little integrated research between both has been conducted" (p. 20). This paper wishes to pickup Richardsons and Byers challenge by applying an integrated communication approach to the interdisciplinary research field of emergency management. As Milis and van de Walle emphasized, in accordance with Turoff et al. (Turoff, 2004):"Implicit in crisis of varying scopes and proportions are communication needs that can be addressed by today's information and communication technology" (Milis & van de Walle, 2007), This paper wants to concentrate on the aspect of improving the distribution of information by using an integrated-communication approach as a pro-active tool in crisis-management. The case study presented is part of a research project, which was aimed at improving the crisis communication of one of Germany's largest provider of electricity by using the already available information and communication technology in the company or to develop a solution which could be implemented fast, easily and at low cost.

The first section of the paper starts with outlining the reasons for this project. The second section will outline our methods of analysis and will present our findings. The third section of the paper will present the prototype which was developed to meet the objectives of the client and the last section will then discuss the solution and open question.

Background

In August of 2003 the Northeastern and Midwestern part of the United States and parts of Canada were affected by a blackout which affected nearly 55 million people. Similar incident happened just a few days later in Sweden and Denmark (August 24th 2004) as well as in Italy (August 28th 2004) and again millions of people

Reviewing Statement: This paper represents work in progress, an issue for discussion, a case study, best practice or other matters of interest and has been reviewed for clarity, relevance and significance.

were affected. On June 22nd of 2005 the whole railway network of Switzerland broke down due to a blackout keeping over 20.000 commuters stranded in the summer without air-conditioning. The same year a severe winter storm caused the collapse of electrical towers in Germany which left over 250.000 people without electricity for over 3 days. Due to the high dependency on electricity, such events have a high impact on our daily lives. We need electricity for daily routines such as cooking, communicating and for transportation. Furthermore our economy is highly dependent on it. The Electricity Consumers Council (ELCON), taking into account an estimation of the Anderson Economic Group (AEG) calculated an economic loss of 4,5 to 8.2 billion dollars (Anderson, P. L. & Ilhan, K. G., 2003) for the Northeastern blackout alone (ELCON, 2004, p.1). According to Lerbinger it's of no surprise that "the incidence and severity of crisis is rising with the complexity of technology and society" (Lerbinger, 1997, p. 16). Mitchel and Thomas suggest that it's because of this rising complexity and the therewith interconnected infrastructure of social lives and technology that "fatalities and economic losses from disasters are rising (Mitchell & Thomas, 2001, p. 77). As it was outlined before, communication plays a vital part in disaster and crisis management. Herbert, Collins & Rowland emphasize this by stating that "the most basic ingredient in any disaster response is communication" (Herbert, Collins & Rowland, 2003, p. 23). Since every crisis and disaster is unique and therefore different, so is the communication situation. Andersen and Spitzberg, in accordance with Olmer and Alon (Omer & Alon, 1994) see it as a unique communicational problem, which is created when people and agencies are linked through disaster (Andersen & Spitzberg, 2009, p. 206). In 2006 the energy provider –due to own experiences and against the background of events such as the New York blackout of 2003 decided to fund a research project which was aimed at improving their crisis communication. The goal of this project was to improve the existing matters of communication and – if possible – provide pro-active communication for all stakeholders such as employees, customers, officials, emergency services or the media.

Method of Analysis and findings

We chose a quality research approach in order to identify the company's complex crisis management structure in respect to their internal and external stakeholders, the technology used and stakeholder's individual needs. In order to achieve that, we conducted over 40 hours of participant observation with different members of the crisis management group, 13 semi-standardized interviews with employees on all management levels, 9 interviews with corporate clients, as well as 4 focus groups with 48 private customers. We also analyzed the company's publications and homepage in respect to their capabilities and use in crisis management. Against this background we also analyzed the crisis management handbook and the crisis management infrastructure in detail and observed the company's annual crisis management drill, which included the high- and midlevel crisis-management teams. Some of our methods and findings have already been published by Müller and Pipek in respect to the socio-spatial implications of converging physical and digital infrastructures (Müller, et al., 2009), so these results won't be outline here.

Our findings showed that the power-provider uses a crisis management system which is mostly laid out for network control and command performance. It is an expert system which can only be used by the network control personnel in charge. This system is a hard- and software solution that has been designed individually for the company's network-control and was then enhanced so that it could also be used for crisis management. The core system, the network management system, is used to operate and control the low, medium and high voltage networks. The high and medium voltage network is mostly used for transporting electricity over larger distances and for providing larger business customers. Customers here are medium to large industrial businesses or local municipal energy providers. The low voltage network is mainly used for small businesses and private customers. The high and medium voltage network is fully controlled by the system and its sensors. Faults and failures are directly detectable. The low voltage network has only limited telemetered sensor data. Due to this limitation, network operators can only detect problems in the low voltage network in an area but is not able to link the outage to an individual household. This means that the energy provider depends on the customer to report failures on such a level, because the system itself is not able to do that automatically.

The network-control system has no external communication capabilities and the most common ways of communicating internally is either e-mail or telephone/mobile phone. Whereas in daily business operations mails are used, the phone is preferred for crisis situations. Sms-services are only used internally for alerting mid and high level emergency management teams. Even though the crisis-handbook hasn't outlined which communication channels have to be used, most of the immediate communication is done over phone and then later backed up by e-mail. The lack of strict guidelines of communication procedures can be explained by personal relationship between most members of the teams, since many of them have worked closely together in the network-control stations and have been in the company for years. Members of other units, such as public relation or marketing cannot operate the crisis management system due to a lack of clearance as well as training. Therefore information from the different systems often has to be "translated" by the technician in charge

manually – meaning that technical details such as power-line information and other details have to be put into understandable terms, so that official or private customers can understand them. This "translation"-process is often done manually by the technicians via mail or phone on request by the PR-officer in charge, because the system itself can not automatically generate this information.

Our analysis of external crisis communication with business customers (small and large) showed that even though a whole range of different communications channels (phone, fax, mail, sms) is used on both sides in a crisis, the preferred way of communication between the company and these stakeholders is the telephone. Special contact numbers for the power-outage hotline for business customers are commonly known by business customers even though some of them had to look for them when asked for. Private customers can only reach the network control operator in charge over a public power-outage telephone hotline. The number for that hotline is not generally known by the private customers even though it can be found on their energy bill. Our research showed that most customers don't look into their bills in order to find that number, but use the telephone book, the internet or a telephone operator. Our findings showed that private customers had to try several times to find the number online because it is not easy to find on the company's homepage. Some hotline-numbers on other homepages, for example yellow-pages were in some cases outdated because the company had changed them over the years but telephone companies still listed them. Others methods of reporting a blackout such as a web-interface, instant messaging or e-mail are not possible and customers seeking immediate information about a blackout in their area are not able to find any data, because such information is not published directly to customers or over the web but is later (1-2days) given to the press with a statement.

Communication with administrators (city halls, district administrator, etc.) or other responsible administrations is mostly conducted over telephone and only in a few cases by e-mail or fax. The contact with these people/groups had been established before, due to the private initiative of one of the crisis-management team's executives, but this cannot be seen as standardized. Communication with external crisis management teams is complex. Official crisis management task-forces on regional and state-level have standardized ways of communications and contact information have normally been exchanged between these task-forces. These teams have to follow a certain protocol and have been equipped with special telephone numbers and contact officers. Radio communication between organizations is only possible in a few cases, because the different task-forces or organizations such as e.g. the police use different radio technology, exclusive radio-channels and are sometime not allowed to share channels due to broadcast limitation and federal laws.

As one can see, most of the communication between the electricity provider and its stakeholders is based on personal communication via the telephone. We therefore took a close look at the telephone-system and the hotline. The telephone system has different telephone numbers for some different stakeholder, but all calls are routed through the same telephone system. Our findings showed that this system works well with small outages and few people calling. In case of outage calls will be directed directly to network operator, who will conduct an interview in order to locate the problem. If more people are calling about the same outage the operator will then turn on an automated telephone-system. Callers from the affected area will then hear a recorded message, which explains that an power outages has been detected in their area and that the energy provider is doing everything to fix it. Identifying if a person calls from the same area is only possible if that person uses a land-line and CLIP (Calling Line Identification Presentation). If people call from a mobile phone, such identification is not possible and people will have to wait in line until the operator answers their call. Due to that process – in some instances – the telephone system was not able to answer all calls and waiting times for callers increased significantly. Our research showed, that many people hung up while waiting and our focus group interviews suggest that most customers were not satisfied with the system, because nearly none of their informational needs were met. Additional findings suggest that in case of large blackouts there is a high possibility of the telephone-system collapsing altogether because too many people will try to call the hotline and will therefore overload the system.

After indentifying the communication-channels between the company and its stakeholders, we took a closer look at the stakeholder's communicational demands in case of a blackout. All stakeholders agreed that the main concern is to know when the blackout will end. If that is not possible, they want an estimation of the possible duration of the blackout. This information is especially important for the manufacturing industry which may have to adjust their production. The cause of the blackout is only of secondary interest for private customers but very important for large business customers such as municipal energy suppliers who need this information in order to inform their customers. Our research showed that business-customers generally felt well informed because they were able to reach the operator in charge nearly all the time.

All in all, our findings suggest that no communication-demands are actively or pro-actively met by the energy provider. Whereas the company uses a push-strategy with the media nearly all other stakeholders have to "pull" information from the company. As it was outlined before, our research showed that in most of the times the private customers need for general information was not met by the company but the media instead. Our findings showed that local media plays a very important information source – which is also in accordance with Pollard

(2003, p. 93). One of the immediate sources of information when a blackout occurs, is the local radio which is often the only communication channel available. Our findings suggest that local radio stations were perceived as important because they provided relevant data in the time of the blackout (see also Piotrowski & Amstrong, 1998, p. 344). If such media was not accessible, customers tried to find other sources of information such as other media, neighbors or relatives. This behavior of looking for substitutable and multiple media seems to be common (Burkhart, 1991, p. 62, 114).

As we outlined earlier, most of the internal as well as external communication is being directed over telephone. Our studies showed that stakeholders – especially small-private customers - do prefer different ways of communication and information seeking in a crisis and that their needs are often heterogeneous in such an instance. Even though the energy provider use a lot of communication channels (Internet, Mail, Print, SMS etc.) when there is no crisis – especially for marketing and public relation - only a few these are used in a crisis situation. Based on our interviews and focus groups we found out that most of the stakeholders would prefer a multitude of communication channels, which could provide pro-active information if possible. Our findings showed that stakeholders would like to personalize their way of communicating which would allow them to choose between different communication channels, point of time for communicating (before, while, after), frequency of contact and extend of information needed.

Albeit most of the relevant information for different stakeholders is available in the crisis management and the network control system nearly none if the information can be distributed to stakeholders, because a) the system cannot identify stakeholders automatically – especially private customers – and b) has no individual information about these stakeholders and their preferences. As you may remember, it was the declared objective of our project to develop a solution , which would address the individual needs of internal and external stakeholders by using the available technology in the company and to develop a solution which could be implemented easily and at low cost. We were asked to develop a working prototype, which could be implemented in the pre-existing structure of the company's emergency management. We knew from our interviews and focus groups, that one solution alone would not meet the different needs of the stakeholder and therefore would not improve the communicational situation of the company significantly. We therefore devised an integrated crisis communication system (ICCS), which includes an internet platform and database which was interlinked with the telephones system as well as the crisis management system. The key element of that platform was, that stakeholders who wanted to receive pro-active information of possible blackouts in their area had to register with their name, address, telephone-/mobile- number and email on that platform. By registering, they also gave the energy provider permission to get in contact with them in case of a power outage. Over the web-interface stakeholders could choose their individual alerting-method (automated telephone call to landline or mobile, Short-message service (SMS), mail or individual blackout information over a personalized web page) and when they wanted to be contacted. If communication could not be established, stakeholders could also choose alternative, redundant communication methods as well as the interval in which they wanted to be contacted. Since messages need to be personally relevant, we offered different stakeholder groups the chance to personalize their alerts to their wishes. Stakeholders could, e.g. choose how often, when and with what information they wanted to be contacted and people with special needs, such as elderly, sick or impaired people could also register for special assistance. Other stakeholders, such as media representatives could also register for local blackout information as well as background information.

The information provided by stakeholders could not only be used for communication but also for indentifying them in case of a power outage. If a blackout is detected affected stakeholders from that area can be identified

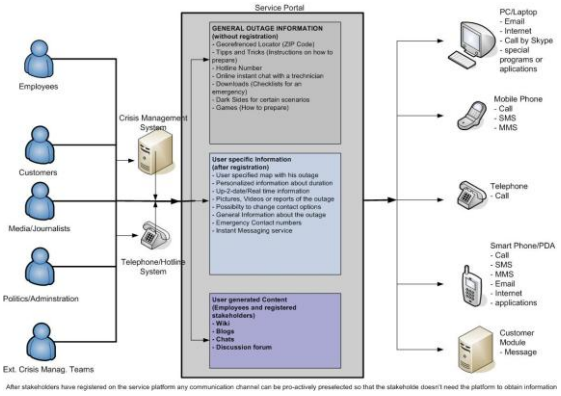

Figure 1: Schematics of the Integrated Crisis Communication System

by their ZIP Code or their telephone number and can then be pro-actively informed over their preselected communication channel. The registered data can also be used for identifying caller on the telephone hotline.

As one can see in Figure 1 all the information of the stakeholders, the crisis management system and the telephone system go into the server for the Integrated Crisis Communication system which then sends out personalized information about the outage over the preselected communication channels. We connected the databank of registered users with the telephone system, so that this people could be identified by their caller ID or by a code which was provided. If the caller could be identified a special automated telephone message was provided, which addressed the caller personally and in accordance to their needs. We also optimized the telephone system, so that it could identify non-registered stakeholders faster and would register them temporally, so that they could be identified faster the next time.

By integrating the telephone system into our service platform all the other communication channels could be addressed over this integrated crisis communication systems as well. As you can see, the service platform is therefore not only an information system but also a communication system which integrates all the available information and communication systems in one approach. Other information from external crisis management systems or even user-generated content by the public could also be integrated into the system as well but such

solutions were integrated at that point The prototype was working as a demonstrator for the energy provider on several occasions and was tested with students and employees of the company and was well received.

Even though we were not able yet to test the system in a real crisis situation, we believe that the stakeholders satisfaction with such a system will improve because individual information needs are met and that therefore less people will need to get in contact with the energy provider, which would lessen the workload for the operator and the telephone system alike.

CONCLUSION AND FUTURE QUESTIONS

The findings of our research - even though it could only be outlined in basic showed that stakeholders in a crisis have individual needs which are often only met in part. Because of our findings with the energy provider, we believe that companies and organization in general only use a small part of the available communication technology in a crisis situation, whereas in normal business operations nearly all available communication-channels are used. Our analysis showed that the company therefore depends highly on mass-media. Yet as Andersen and Spitzberg put it:"a unified/centralized source of authoritative information is essential (Andersen & Spitzberg, p. 213) and organizations affected by a crisis should become that source of information by providing relevant information to stakeholders. Such a unified/centralized approach is important because "the more agencies responsible for managing a crisis, the more likely there will be communication errors" (Turner & Pidgeon, 1997, p. 87).

Even though many of our findings are in line with maxims of crisis management and crisis communication, many aspects of our research – as well as a theoretical background for an Integrated Crisis Communication approach could not be outlined in detail. There are still many question unanswered, but the prototype and our research suggest that the approach we have chosen may deliver some useful insights and ideas for improvement for other organizations. Many questions such as using an open-standards vs. standardization – or a in depth analysis of the organizational und psychological dimensions of such an approach will have to be researched in more detail. Other technologies, such as for example social online networks (see also TUROFF ET AL. 2009) could offer additional benefits for an Integrated Crisis Communication approach and would have to be researched in more detail from that viewpoint.

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