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The Will to Use Social Media in Crisis Communication in the European Union Area

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Abstract: - In this study we asked how people who are moving can get information about crises by mobile technology and whether there could be some solution(s) to improve the sharing of information via social media during crises. We also conducted a case analysis about how the Munich Police Department did their crisis communication via Twitter during the Munich shooting crisis. The crisis communication progress work in the EU is getting better by projects which are improving for example common information sharing environments and making the protocols for cooperating authorities in the EU. There are no common guidelines for social media environments in the EU for how to make crisis communication in social media uniform and of good quality between authorities and the public. Social media platforms such as Facebook and Twitter have become widely used in crisis situations, where authorities and public people have gotten and given information worldwide. Our conclusion was that there should be minimum guidelines between EU authorities for crisis communication on social media platforms. In the future, the most used social media platforms should be developed for better crisis communication possibilities and this could be started by challenging authorities to sit down to discuss with social media actors.

Keywords: - European Union; EU; Citizens; Crisis communication; Social media; Mobile technology

1 Introduction

The European Union depends on open, protected and secure seas and oceans for economic development, free trade, transport, energy security, tourism and good status of the marine environment. The major part of both the EU's external and internal trade is transported by sea. Europe's energy security largely depends on maritime transport and infrastructures. The European Union Maritime Security Strategy (EUMSS) covers both the internal and external aspects of the Union's maritime security. It serves as a comprehensive framework, contributing to a stable and secure global maritime domain, in accordance with the European Security Strategy (ESS) and its EU policies, in particular the Integrated Maritime Policy (IMP), and the Internal Security Strategy (ISS). By making coherence between sector-specific the member states can strengthen cooperation between different sectors. One aim in the EUMSS is to promote enhanced common situational awareness and better sharing of information, operational concepts, modi operandi and experience [1].

In 2009 the EU Commission adopted a communication towards the integration of maritime surveillance in the EU: A common information sharing environment for the EU maritime domain (CISE) and they did setting out guiding principles towards its establishment. The CISE should be a flexible process allowing for technical improvements and sectoral enhancements but at the same time it should take into account existing and planned systems while developing the CISE, for example civil-military cooperation should be utilized. "CISE architecture should be designed as a cost effective decentralized interconnection of different information layers that increases efficiency of maritime surveillance systems by filling existing information gaps across Europe while avoiding data duplication." The CISE should obtain an enhanced basic maritime situation awareness picture useful to all user communities [2].

Europe is a mobile society where millions of its citizens and third-country nationals cross internal and external borders every day. The terrorist attacks in Paris in 2015 and a year later in Brussels

demonstrated the ongoing threat to Europe's internal security. These kind of happenings have resulted in the need to join up and strengthen the EU's border management, migration and security cooperation frameworks and information tools in a comprehensive manner. The European Agendas on Security and Migration have set the direction for the development and implementation of EU policy. "This Communication builds on the synergies between these two Agendas and is intended as a starting point for a discussion on how existing and future information systems could enhance external border management and internal security in the EU." There are many information systems in the EU that provide authorities, but EU data management architecture is not perfect, so there must be actions to address the gaps and make improvements [3].

Social media (SOME) is "internet-based tools, technologies and applications which enable interactive communications and content exchange between users who move back and forth easily between roles as content creators and consumers are all components of social media". Compared to traditional media such as newspapers and television, SOME is a two-way, real-time platform whereas traditional media is one-way. In the case of the Boston Marathon Bombings Twitter was the first channel where users shared information about what happened [4].

Twitter defines itself as "a social broadcast network that enables people and organizations to publicly share brief messages instantly around the world" [5]. From a political point of view, during the Arab Spring Twitter was widely used to share news and help protestors to organize. According to Twitter, during the earthquake and tsunami in Japan, Twitter saw a 500 percent increase in tweets because people were looking for each other [4].

SOME has potential in the future to gain importance in crisis communication [6]. Overall there are no common guidelines for the SOME environment which all EU authorities could use during their crisis communication.

After this introduction we go through the methods and the process. Section 3 includes the literature review where we form a picture of how information of crises can reach the public nowadays and after that we use the NABC method to find out solution(s) to improve the present situation with possible innovation work. In Section 4, we make understanding of how Twitter can be used in the crisis communication and the SWOT analysis is used as a method to assess the example case. The last chapter contains our conclusions.

2 Research Method and Process

A case study does not have standard definition. "A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or few entities (people. Groups, or organizations)". A case study can be seeing as the case research strategy which is capturing the knowledge of practitioners and developing theories from it – it documents the experiences of practice [7].

So called extreme-case method selects a case because of its extreme value on an independent or dependent variable of interest and often it is considered to be prototypical or paradigmatic of some phenomena of interest [8]. The report communicates the findings of the study and it is main source of information for judging the quality of the study – the way it is done differences of the audiences [9].

"In the majority of cases, literature reviews serve as the means to reveal open research gaps and are part of a larger research endeavour. Planning and accomplishing the literature search process in a rigorous manner will help to discover similar research endeavours early and prevent the researcher from doing redundant work" [10].

2.1 Analysis

The NABC model gives a practical and structured framework for innovation work and it is developed by Stanford Research Institution (SRI). The letters NABC stand for Need, solution Approach, solution Benefits and Competition of any existing solutions there are already. The key is to create new customer value which is better than the competition's value and this can be done by understanding the customer's needs [11].

SWOT analysis is a direct risk analysis designed to identify risks and opportunities within the greater organizational context – to find out what are the strengths, opportunities, weaknesses and threats in an organization. These four factors are the main sources for analysis and these sources also enable cross-references. SWOT analysis is a big-picture tool and it is a subjective tool where practices on

completing the grid may vary with the facilitator [12]. "SWOT analysis allows the planner to integrate and synthetizes diverse information, both of a quantitative and qualitative nature" [13].

2.2 Research Attributes

This desktop study started by making a picture of the situation that is present in the European Union area in the crisis communication. The resources also included some case experiences outside of the Europe; from the main crisis events which are widely known all over the world. The gathered information were valuated and constructed by NABC method which gave us direction for the progress work.

Our progress work focused on Twitter and by the case Munich shooting we were able to deliver valuation of the event. In the case valuation we used the SWOT analyze to find out how the crisis communication was done by Twitter and finally we made our findings how the Twitter as a tool could be developed by a very simple way. The research attributes are collected to Table I.

Table I. Research attributes in this study

Title of study	Twitter as a Tool in Crisis Communication in the European Union Area
Research questions	1. How people who are moving in a crisis area can get information about crises via mobile technology? 2. Whether there could be solutions to improve the sharing of crisis information via social media (SOME) to the people? 3. How social media and especially Twitter can be used in crisis communication in the European Union? 4. How the Munich Police Department did their crisis communication via Twitter during the crisis?
Research agreement	Laurea University of Applied Sciences gave agreement for this study.
Unit of analysis	The messages observation of the Munich Police District's Twitter communication (#PolizeiMuenchen) during the crisis.
Importance of study	The study is important to those instances whose are dealing with developing the social media in crisis communication.
Methodological focus	Case study: analyzing the European Union progress work in crisis communication in social media environments.
Form of analysis	1. NABC method 2. SWOT analysis
Nature of Study	Explanatory study of how social media is used in crisis communication.
Research approach	Explanatory study from the view of service producers and customers
Specification of constructs	EU projects are developing the use of the social media in a crisis management and telecommunication possibilities in the European Union are getting better in the future and it is supporting for example the use of the social media.
Theoretical approaches	Theoretical knowledge and the learnings from the new theory.
Theoretical literature	Benbasat, Goldstein & Mead, 1987. Gerring, 2007. Runeson & Höst 2009. Brocke, Björn Niehaves, Björn Niehaves & Reimer, 2009.
First research target	To understand the situation in the use of the social media in crisis communication in the European union area.
Second research target	To understand the importance of the Twitter as a tool in a crisis communication.
Research design	Building the theory helps to understand the valid situation and analysis of the event in Twitter gives change to understand the results and make the conclusions.
Research collection	Real-time observation of the case events in media and in Twitter. Collecting the data of the subject messages.
Logic of evidence	The case analysis was analyzed as it was appeared.
Coding and reliability	Analyzed messages in Twitter were displayed analyzed as they were. The reliability was built by analyzing all messages form the event period.
Main results	Twitter has its weaknesses in crisis communication. Twitter could be develop better for crisis communication by a simple progress work.
Role description	Researcher was student in Laurea University of applied sciences.

3 Crisis Communication and Reaching People by Mobile Technology

In an effective emergency management system it is important to focus on customers and customer service. The public and all partners are considered in emergency management. It can be called a customer service approach that includes placing the needs and interests of individuals and communities. The goal is to be responsive, informative and meet the expectations. Good communication leadership of the emergency management organization have a duty to share and disseminate information internally and externally. For the citizens it is important to remain confident during the crisis communications [4].

Based on the common operational assessment on the situation, the first step on the Channel-Based Mass Communication sub process is to elaborate a coordinated and consistent communication to the public regarding the situation (Fig. 1). When using this kind of communication model, the sub process continues with the section of communication channels and many of the channel choices can be used at the same time. The last activity in this model is to conduct the communication which is

likely to become a direct or indirect input to the information gathering process [14]. By mobile technology a user can be reached in many ways for example by SMS messages, different internet channels using old 2G and 3G or new a Long-Term Evolution (LTE) or Wifi technologies, global positioning systems, etc.

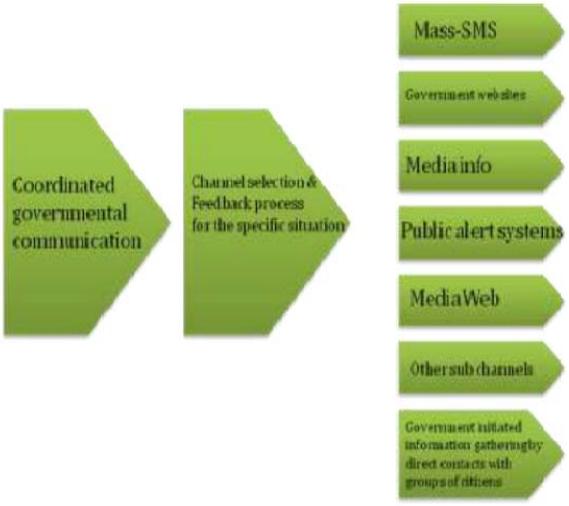

Fig. 1 Channel-Based Mass Communication model

There are many types of crisis, for example some can be connected to companies or enterprises, a natural disaster or a catastrophe which involves the general public and local authorities. A mass crisis can be a humanitarian crisis caused by a civil war, disease breakout, drought, etc. [15].

3.1 Near in the Future

When the European directive 2014/61/EU is fully ratified, it will affect the future of using mobile technology while travelling around Europe due to the lower mobile device using costs in the EU area. The digital economy is changing the internal markets and citizens are moving more across the EU borders. The EU has a vision of a digital economy that delivers sustainable economic and social benefits which rely on modern online services and fast internet connections. This can be seen as a strategic importance to the social and territorial cohesion. EU citizens and the public and private sectors must have a chance to be part of the digital economy and high-speed electronic communications networks. It is going to be easier for EU citizens to move from one EU country to another when the cost of roaming will be the same in each EU country and there will be fewer surprises of data use because of the mobile operator's costs and user limits [1]. In 2017 the roaming costs in all EU countries are going to be the same as in the EU citizen's home country [16].

Social media (SOME) has potential in the future to gain importance in crisis communication. In SOME there are many communication levels, for example videos, photos, blogs, news and comments. At the moment there are no specific guidelines for maritime crisis communication on social media. The authorities have been using SOME to share information concerning preventive and informative content but it has been lacking situational awareness in crisis. The European Union has funded the project Contribution of Social Media in Crisis management (COSMIC), which has offered Guidelines for the use of new media during a crisis. COSMIC has been planned for public and private organizations and it has not focused on cooperation between authorities [6]. Facebook and Twitter have become familiar SOME channels to use in crisis communication [15] [6].

3.2 The Learnings of the Social Media

The Boston marathon bombings (BMP) happened in 2013. Information about the terrorist attack started to flow on Twitter and Facebook after a couple of minutes – the Boston Police department (BPD) also confirmed the explosion in a tweet. After one hour there were 300 000 "Boston marathon" mentions on Twitter, many photos in media from the scene and about twenty minutes after that the mentions grew to 700 000. Television broadcasters were present during the crisis but social media was shaping the story and the response heavily and according to Pew Research Center about fifty percent of viewers kept up with news and information online or on a mobile device. BPD used social media to inform, correct inaccurate information, lead and listen to the public conversation [4]. Unfortunately while writing this paper there was no valid research available about the 2015 Paris and 2016 Brussels terror attacks concerning how people were reaching information during those crises.

During the BMB crisis the cell phone use caused slow and delayed service, so the local emergency management agency tweeted to people to use text messages. The Google person finder, where people can seek missing persons, got about 5400 people in the database during a period of about 24 hours from the happening. The police also

used Twitter in the manhunt of the suspect and tweeted when he was caught. During the crisis, information on SOME was moving fast because people had instant access by mobile phones and this was one reason for misinformation. This again led to the tension between speed vs. accuracy – and finally to the communication of unverified information. BPD had a strong role in correcting the false information. BPD is present on SOME platforms like Facebook, YouTube and the video-streaming site (UStream) [4].

In 2010 the Eyjafjallajökull volcano eruption happened in Iceland and at that time nearly 100 000 visitors were at the closer area. There were no casualties but about 100 buildings were damaged. The tetra system used by authorities was working fine but the mobile telephone network became overburdened. Crisis communication to the public was conducted for example through phones (voice mail and SMS), on national broadcasting service, a warning website and press releases. Hosting web cameras were also used for observation and world-wide broadcasting. Challenges were the social media, blogs, Twitter and Facebook as well as the spreading rumours. After the crisis, the takeaway was that there is an immediate need for a better alarming system to reach unlisted phones, which is connected to the fact that there is a lack of sufficient software equipment as well as plans for how to handle international media [14].

The Eyjafjallajökull eruption had enormous effects on aviation around the world. At the worst point of the crisis, more than 75 percent of flights were cancelled and flight closures affected 10.5 million passengers, 8.6 of whom were temporarily stranded. Those people who were for example on holiday or business travelers started to look for other options to travel onward, which put considerable strain on the European train and ferry network. One important view to the crisis was that the emphasis was on getting people back to their countries of origin – citizenship. The crisis had the problem that locations of needed transports for the people needed - did not reach the help. “What is clear that Europe badly needs crisis response strategies and plans that provide for substitution if one mode of international transport fails” [17].

In crisis communication there are some ethical, legal and social issues which have to be taken into consideration. How can the content in messages of emergency situations be protected in such a way that it will not threaten the safety, privacy and dignity of individuals? One threat is fast information sharing. Journalism where there is competition to get more information faster may push journalists to do juicy news of individuals. People who are present in a crisis area can very quickly share live stream content on a SOME platform without realizing that it can invade someone’s privacy and even endanger lives during the event (think this from a view during a terrorist attack). To tackle these kind of problems, there should be an approach of verification of the content before someone releases it. This also prevents more the misrepresentation of an individual and a community through the spreading of false information [16].

In a crisis communication situation the public are sharing information and disseminating news to the world without government communication methods. In crises people can seek help from first aid responders – in that situation emergency managers are receiving and exchanging information. “The very structure of communication and information sharing dynamics is changing for both for emergency managers and the public”. Social environment is changing and in crisis management the public are seen more as a resource and not as a burden, for example in sharing local maps and data during crises. The change in using SOME can change voluntarism including in organizations [17].

Social media is essential during disasters, its power and benefits are stronger when using old and new media together. The lesson from many disaster cases is that one media cannot work alone during the crises. Using media sources together will bring effectiveness to saving lives and property, build community resilience, response and faster recovery from crises [4].

3.3 Applying the NABC Model

There are four main questions that need to be answered while using the NABC model. In the first very important question (Need), it is necessary to work out what is important to the customer(s) and market. The word customer is not only a product user because it also includes cooperators that are linked to your innovation [18].

The second thing is to find out the solution (Approach) that fills the desired need and a gap in

the market. At the third phase, the Benefits should be found from the concept that has been made by using NABC, this contains for example efficiency benefits. When looking at the last question, there must be clear view of how the Competition is acting to your goal – does someone have a better product than yours or can you still come up with a better solution in innovation [18].

It is important to answer all these questions and one challenge to do this is to have enough knowledge. When using the NABC method there must be weight on the Need and Competition, this gives a chance to exceed the supreme innovation [18].

3.3.1 Need

At this moment there is no (public) common SOME platform in the EU area to share crisis information by mobile technology directly to EU citizens or to people present in the area during a crisis. On a national level there are for example public media houses, which have a duty to make emergency communication via television channels or FM radio.

Sharing crisis information by mobile technology to maritime passengers in the EU is more challenging because of limited capacity of LTE and Wifi technology on the crafts vs. the continental area. To passengers in the EU area it is difficult to find the right channels from SOME while they are crossing the borders, if there are no decisions or practices how and where to share crisis information from the public authorities. The need should be seen on a single area (EU) and not separating maritime and continental authorities so there could be wider and similar services to the public at the same time.

3.3.2 Approach

To the people who are using mobile technology while they travel around the EU area there should be an easy and reliable way to reach information about crisis situations which can endanger their security in their present or future location. In many crisis cases people have got information from SOME. The information might be behind many actors, for example corporations or police districts.

How can people set their mobile device to the "right channel" to reach the information that supports their survival before, during and after a crisis situation? It is stated that COSMIC has brought principles to private actors in crisis communication, so there could be a simple way to use those guidelines to make similar corner stones for the public authorities who have their duties in the EU area. In this way there could be a chance to find out principles for a minimum content in crisis communication and to connect the public authorities and the general public to the "right channels". Some social media actors have their own crisis communication services and they should be given the chance to develop their services to serve people in better ways through cooperation. Crisis communication should be gathered on the most used platforms, linking right authorities and people on the move for real time information.

3.3.3 Benefits

As mentioned, using SOME in crisis communication is only one tool. The progress in the EU is making mobile technology more available to people and this progress should be seen as a chance to develop services in cost effective ways. This leads to a discussion about why not use an existing SOME platform in more innovative ways for example by challenging the actors to develop their services for crisis communication. This can be seen as faster and more effective than building a new CISE for crisis communication, though there has to be a discussion whether the existing/becoming systems can support SOME environments.

The information that authorities are sharing during crises should be serving the recipient's needs, for example including less chance to misunderstand messages and the structure of messages should be of good quality. One way to ensure this is to make information fields in SOME more structured and the information under accepted common guidelines.

3.3.4 Competition

At the moment it is not known that there would be exactly same kind of development work, where crisis communication by mobile technology for people on the move in the EU area could be improved in cost-effective ways.

The important aspects are that the crisis communication from EU authorities to the public should be of better quality and this could be supported by developing existing SOME platforms. From the start, the challenge of this progress is to

collect authorities and corporations in the same table for the common good.

3.3.5 Summary of NABC analysis

Overall there are no common guidelines for the SOME environment which all EU authorities could use during their crisis communication. Mobile technology is only one tool in crisis communication, in the future it will be a more available and more cost effective way to reach people by mass communication.

Crisis management should be seen as customer service – it should contain wide cooperation between the right actors. There should be more discussion about how the existing SOME platforms could be used in more efficient ways and to ensure that more people can get quality information about the threats endangering their safety and security. In the future, the most used SOME platforms should be developed for better crisis communication possibilities and this could be started by challenging authorities to sit down to discuss with SOME actors.

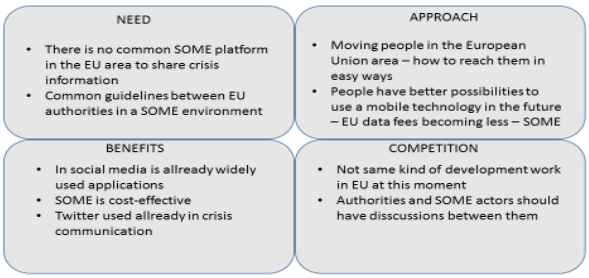

Fig. 2. Summary of NABC analysis

4 Growing Role of Social Media in Crisis Communication

Disaster communication needs a strategy which contains the basic principles to ensure that the emergency managers can effectively communicate with their customers and partners. The basic principles provide guidance to emergency managers and other officials. In emergency management there has to be a view of mitigation, preparedness, response and recovery. It is important to understand how to talk to the customers, how to assure them and also what to say and not. The content of the messages has to be accurate and timely, and the connections have to be solid. There is no room for lies [4].

For the emergency management system it is necessary to understand that the focus must be on customers and customer service. Customer service approach contains the understanding of needs and interests of individuals and communities. Good communication needs the commitment of leadership and the information shared has to be considered internally and externally. The commitment to crisis communication needs planning and operations which have be taken into account during decision-making processes [19].

4.1 Develop Work in European

The Mass Crisis Communication with the Public Project (MASSCRISCOM) was an EU founded project. Experiences in the EU area were analyzed, for example crisis communication in pandemic diseases, storms, flooding and the volcanic eruption in Island. The financial crisis has made enormous human suffering in the EU area as well. In the MASSCRISCOM project, communication between people and authorities was examined and the globalization aspect was present. Technological development, a new media landscape, new communication needs and demands and increased transparency leads to rethinking how to offer communication. The results in MASSCRISCOM present a coherent, generic crisis communication model based on an all-hazards approach and existing conditions [14].

Crisis management needs real-time information from many sources. The European commission framework programme 6 project CHORIST has produced for example a module which contains a tool to warn people. A huge number of users are carrying mobile devices which are connected to SOME and this fact gives good possibilities for emergency communications. Authorities in Europe use variant information systems while they produce services to the citizens. The warning systems in the EU area vary, for example the Norwegian police can send SMS messages to the population in particular areas. Usage of SOME in crisis communication has its challenges. Reliability in mobile systems is one matter that has to be developed. In the future different features in mobile technology such as positioning offer new changes [15].

4.2 Social Media as a tool for Crisis Communication

During a crisis it is important to deliver information which contains the best available content as quickly as possible to as many people as possible. Delivering information on SOME is very fast and this gives the opportunity to disseminate crisis information speedily and efficiently for example between people and authorities [14].

Twitter, Facebook, Crownvoice and similar SOME platforms can reach people who otherwise would not receive the information fast. SOME gives people the chance to have their voices heard, hear what other people's opinions are and enable better decision making in a crisis situation. Building a relationship with customers in SOME is important – it gives people the opportunity to have insight of a service, take responsibility for receiving information and opinions and creating credibility. This kind of relationship building will increase opportunities for having a far greater impact from important messages in a crisis situation. "A Society, in which many people have a personal relationship with the authorities, have a greater credibility for these, are able to put reasonable requirements and understand their own responsibility, is a society with a greater power of resilience and ability to recover [14]."

SOME has many platforms in which to share information and the tools on SOME have led to barriers and challenges for citizens and public organizations. The COSMIC project has resulted in principles which offer the chance for a better use of SOME during crises in a responsible and effective manner. These principles are called AID (Fig. 3). The Tips & tricks contains three phases of a crisis: 1. Pre-Crisis, developing a social media policy and strategy, 2. Crisis, monitoring and adapting to emergent initiatives on SOME and 3. Post-Crisis, directing people to aftercare initiatives and seeking feedback. Public authorities in this context means governmental organizations which carry a prime responsibility for crisis management but also those private organizations which take part in crisis management in their own domain. The Tips & tricks starts from the idea that authorities should adapt to existing SOME use in civil society for citizens and from the point of view of citizens they should have the chance to trust in civil society during crises [16].

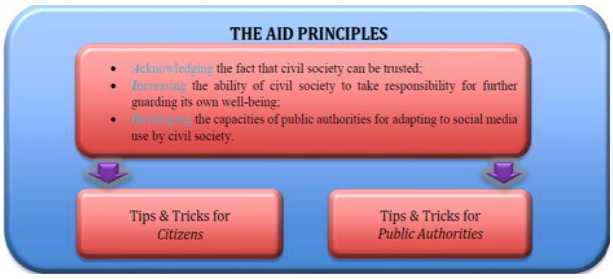

Fig. 3 The COSMIC principles [16]

There are some simple, basic principles that have to be taken into account in crisis communication. One of these is to understand the needs of the customers. When doing crisis communication through a medium the messages should be easily understandable without jargon and acronyms – this requires easily accessible language and you have to tell them what you want them to do. It is also necessary to view what kind of people exist in the area which the crisis communication is connected to – this requires for example aspects of the disabilities of people and cultural and language existence [4].

When disaster occurs people have to get fast information of the situation. Twitter has become a place where people can gather information about crises. The mass of shared information, tweets, makes it challenging because people have difficulties in finding the most important information they need at the time – those who share information on Twitter should have a comprehension of what the receiver wants to have [20].

It is important to note that in crisis communication there is not only one tool that you can rely on. When choosing a tool for crisis communication there has to be valuation of the advantages and disadvantages – there has to be a purpose behind using a specific tool. SOME cannot be the only tool, it still needs old media alongside it. The type of a crisis and with whom the wish is to connect and interact in crises situations demands a great deal of what the crisis communication tool should be like. In the SOME environment a platform that exists today may not exist tomorrow [16].

4.3 SWOT of Munich Shooting Case

SWOT analysis contains both inner and external environments of an organization. Internally, the framework addresses the organization's strengths

and weaknesses on key dimensions as production facilities and capacity, customer perceptions of product quality, price and availability, etc. The assessment of the external environment includes information on the market such as social trends, technology, government regulation, etc. SWOT analysis is powerful in discovering strategic advantages [13]. In SWOT analysis there are four questions which have to be answered (Table II) [12].

Table II. SWOT analysis

INNER ENVIRONMENTS	EXTERNAL ENVIRONMENTS
What are our organization's strengths?	What opportunities does this project present in that context?
What are our organization's weaknesses?	What threats does this project present in that context?

There was a shooting incident in the city of Munich in Germany on the evening of 22 July, 2016 and the events lasted till the night. Many people were killed and wounded in the gunfire which was committed by a man who eventually shot himself. This shooting case spread widely in the media. For example television channels such as France 24 and the internet service Youtube shared live broadcast from the scene. In the SWOT analysis, we used our observation of the Munich Police District's (MPD) Twitter communication during the crisis. Mainly we focused on how the Munich Police District managed in their crisis communication during the crisis and how Twitter could be more informative in the crisis communication to serve authorities.

4.3.1 Strengths

The first tweet from MPD (#PolizeiMuenchen) contained information in German that there is a big police operation in OEZ (the hashtag of Munich Olympia Shopping-Centre) and MPD asked to avoid the shopping center. The next tweet was "+++ACHTUNG+++ Meiden Sie die Umgeung um das #OEZ – Bleiben Sie in Ihren Wohnungen. Verlassen Sie die Strabe!+++", which contains the information to avoid the environment of OEZ, people should stay in their homes and people should get away from the streets. The ninth tweet was in English where MPD told people to "Please avoid public areas in #Munich right now. #gunfire". The 17th tweet was a warning message in French and later they also used in Spanish. In total, MPD used four languages in their communication. The MPD portal works only one way and people can only like or share from that portal.

As in the first tweet, MPD used references to other Twitter hashtags such as #OEZ, #Munchen (the hashtag of the official city portal), #Schieberei and #gunfire several times on their Twitter site – the last two ones are portals were people can share their tweets of safety & security issues all over the world. In the tweets, MPD gave an authority telephone number where people were able to ask about relatives or missing persons. The Facebook service Safe Check was mentioned in a tweet – this is a service where people can seek missing persons. MPD was able to communicate in many Twitter portals (hashtags) at the same time and they took into account another incident in the Munich centrum that could be linked to OEZ events and later they confirmed it did not. MPD tweets included information of MVD (Munich Transport Corporation) public transportation, which was shut down. At the end of the events MPD gave information of the death of the suspect and finally the time and place of the press conference.

During the crisis situation media all over the world shared live content from the scene for example on television channels, internet channels, SOME. A significant amount of the shared information came from people who had been near OEZ and many people took part in speculations of shooting events on SOME. People shared actual photos and videos of the shooter, the shooting and the victims. During the event MPD posted several tweets where they asked people to stop posting photos and content of the happening.

4.3.2 Opportunities

This unfortunate Munich Shooting case opens opportunities for MPD to analyze, valuate and develop the success of the crisis communication in the SOME environment. The crisis communication policies, strategies and procedures have to be checked from the perspective of how did we do and how can we do better.

The first tweet when the crisis started included information in German and it took a while before the same information was posted in English and later the information was given in two other languages. This delay gives less of a chance to

reach a bigger mass faster. It would more informative to post the actual time in the first tweet because after hours have past, Twitter only tells the hour the tweet was posted on the main window. Posting the actual time in a tweet helps for example tourists who might have difficulties to adapt the right time. The first tweet from MPD was shared 2600 times and the second 6700 times. The first warning message in English about the happening was shared 3500 times. People should be encouraged to share the most important information.

During the crisis situation MPD posted about 50 messages on their portal (#PolizeiMunchen) so there lies a chance that the most important messages might disappear in the mass. It could be possible to make the most important messages more visual and those could be repeated. When given enough precise information it will cut the wings of rumors. The public shared most the tweets (the best 16 000 times) which included the MPD's wish not to share photos or videos of operating police in order to avoid any helpful information for the suspects.

4.3.3 Weakness

In the SOME environment Twitter is only one tool when thinking of crisis communication and management. The one weakness is that it cannot offer wide possibilities alone – mostly it is used in short messages or for sharing photos and videos. In a crisis communication situation authorities have to handle many other similar tools at the same time. This leads to the question of what are the main tools to use together in crisis management.

In the Munich shooting case MPD linked other services to their Twitter portal, such as a traditional telephone service and SOME Facebook service Safe Check. This leads to thinking that important information is going in different locations, it is less unified and handling it requires more resources.

The mass of information which travels on Twitter is huge and it is impossible to control all portals at the same time. There have to be decisions which portals are the most essential for crisis communication each time. MPD linked to those Twitter portals that were connected to the local target area and common ones for the public.

Twitter has great potential to become a more informative platform in crisis communication. Twitter could simply develop the portal page for authorities so they could, for example, place a permanent map of the crisis area in the portal's main window and a permanent information field about main information of a crisis situation and of course the normal, rolling tweeting area.

4.3.4 Threats

During the crisis situation in Munchen the world media spread the rumor that there was more than one shooter. For example MPD said in their tweet "The suspects are still on the run. Please avoid public places." This rumor was one reason for starting discussion in the traditional media of a possible terror attack and the same happened on SOME – the snowball effect was ready. From the point of view of authorities it is essential to deliver information that people can rely on. The past terror attacks in Europe have their effects in people's memories and disinformation for example from terrorist organizations cannot but have an effect on people's opinions and decision making. One of the worst scenarios is mass panic or people taking the law into their own hands during crises.

MPD had a great load on their shoulders of how to manage people on SOME during the crisis. As mentioned earlier, people were sharing content on Twitter that included visual material of the victims and the actual shooting. At the same time MPD was concerned the tweets might endanger the whole operation of the authorities by leaking information to the shooter(s). It seems that the right kind of tweets from the MPD encouraged people to share the important messages. The human and individual rights have to be secured in the SOME environment – unfortunately this task is very hard during a crisis as the case has shown. The presence of the authorities on SOME and on Twitter has to be well planned and executed to tackle existing threats.

4.3.5 Summary of SWOT analysis

It is a benefit when authority can use a knowledge of the local environment while they make a crisis communication. The information have to be easily understandable and there have to be clear instructions for the people what you want them to do. A disinformation can confuse and lead to the wrong actions of people. It is necessary to valuate actions afterwards crises. The one important view to do that is to increase the knowledge about a changing environment and the needs people have. Also the valuation of the used tool have to be done,

so it is possible to make decisions - does it still work for us in the future.

This case analysis showed that the information spreads very fast and into many instants. One problem in using Twitter in crisis communication seems to be that the most important messages may vanish in the big mass of the messages. This includes also using the different languages when customer may not understand what is happening. The European Union is getting more multicultural so the selections of the messages must be essentially done.

The speculations and disinformation start to spread very fast and if the rumours cannot be tackled right away; the results may be strong – even a mass panic. In the SOME environment it is challenging to convince people to not spread messages or pictures which can endanger the operating authorities and for example people´s privacy. Twitter can be used in crisis communication and it should be developed for that use in the future.

5 Conclusions

The strategies and policies in the European Union are guiding the progression for efficiency and more dynamic security work in information sharing. The projects like EU CISE and COSMIC are essential steps for the future to make more common protocols to help cooperation between authorities, cooperators and the public. The gaps in information sharing will be fewer and for example data duplication will be minor. From the point of view of the people in the EU area, there should be more discussion about how the existing SOME platforms could be used in more efficient ways and to ensure that more people can get quality information about the threats endangering their safety and security.

Mobile technology is only one tool in crisis communication, in the future it will be a more available and more cost effective way to reach people by mass communication. Crisis management should be seen as customer service – it should contain wide cooperation between the right actors. Good communication includes leadership with responsibilities, for example disseminating information internally and externally in a way that the citizens can remain confident during crises. The environments as a maritime on crafts makes it more challenging to offer crisis communication by mobile technology vs. the continental area. The limitations of mobile networks should also be recognized, for example in some cases there have been overloads in the communication systems during crises. SOME is power and its benefits are stronger when using old and new media together.

In many cases platforms such as Facebook and Twitter have been mainly used in SOME environments during the crises. The COSMIC project has reduced the gap in the needed guidelines for crisis communication but there are still issues that have to be dealt with. Our conclusion is that there should be more discussion about how authorities could use SOME more efficiently. A first step could be building simple guidelines for crisis communication in a SOME environment for EU authorities. In this way people who are present in the EU area could have more quality information with minor chance to be misled. Secondly it would be necessary to challenge SOME actors to discuss with authorities to improve their SOME platforms. It would be cost effective to develop existing SOME-platforms for more effective crisis communication channels in such a way that people can easily get information wherever they are within the EU.

The use of social media in crisis communication is increasing. At the same time the possibilities to use mobile technology widely are opening opportunities to develop new services for EU citizens. EU legislation work is also pushing the mobile operations by the directive to ensure more equal services in the EU area and this for example eventually leads to cheaper mobile phone expenses for consumers. More and more people are using smartphones, which are frequently connected to internet services. Those services include for example positioning applications and SOME platforms such as Twitter and Facebook. From the point of view of authorities these progresses have to be seen as a great opportunity for developing crisis communication in the EU area.

The EU area has faced many kinds of crises and some of those have been examined in the EU projects. These projects have offered new ways to build better communication environment systems and principles to guide management in different situations. The COSMIC project has opened new ways of thinking about how to make crisis communication in the SOME environment and it

has brought principles for how to build better communication between the public and the authorities. The evident problem is that there are no common crisis communication guidelines for the SOME environment which could build guidance between authorities in the EU area. This leads to the situation where all authorities have different ways to build polities and strategies for crisis communication on SOME. The problem can be that the quality and available efficiency on SOME varies between authorities – from the point of view of the customer's needs, individuals do not know what to expect from the authorities during crisis communication on SOME.

We learnt from the case analysis that managing people during the crisis is very challenging on Twitter. Information in the beginning about the crisis type affects the authorities' decision of how to place the content in the first tweet. The first tweet should contain information of what authorities want from the people, what happened, where and when. The presentation of the first warning tweet should be visually clear and awake the interest of people, it should be repeated when a mass of tweets arises. In the multicultural EU the first tweets should show for whom the messages are meant, for example using different languages gives a better chance to reach a bigger mass of people.

The case gave us an indication that repeating important messages makes people share them again on Twitter. During the crisis, protecting individual's rights and privacy and securing operating authorities is challenging in portals which work two-ways. During the Munchen shooting events the police worked in many portals at the same time and tried to convince people not to send critical material of the events. When the crisis situation is over people need information about it and also post crisis information which helps them to adapt and continue normal life. Twitter is a working tool in crisis communication but it needs other tools beside it on SOME, and the traditional media still has its own success. Twitter could be more informative for crisis communication and this could be done by simply adding a couple of elements to the portal window for authorities.

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