Crisis communication in public emergencies: multistakeholders' perspectives

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Abstract

Purpose – The main purpose of this paper is to provide empirical evidence for effective crisis communication in public emergencies including the relevance of planning and training and rehearsal; to explore the role of different stakeholders and how social media influence effective crisis communication.

Design/methodology/approach – A qualitative research design was employed. Two events were analysed, via the synthesis model for handling crisis communication in the public sector, as cases. First, via post-crisis semi-structured interviews, a gas explosion in the city of Antwerp was analysed. Second, via participant observation of a training and rehearsal exercise, more insight was gained on the role of training and social media for crisis communication.

Findings – The findings of this paper provide empirical evidence that (1) effective crisis communication is communication that is diversified across different crisis stages and diverse stakeholders; (2) that different internal social media tools and external social media tools are necessary to be monitored for effective crisis communication; (3) that training and rehearsal are of great importance for effective crisis communication.

Originality/value – This paper contributes to three current crisis communication research calls. First, the call for more research focusing on public sector crisis management, using public sector crisis communication models. Second, the call for the implementation of a more multiple-actor approach instead of an organisation-centred approach; and, third, the call for gaining insight into how specific communication channels are used before, during and after a crisis.

Keywords Social media, Crisis communication, Multistakeholder perspective, Public emergency

Paper type Case study

Crisis and emergencies are common twenty-first-century phenomena (Reynolds and Seeger, 2005; Verhoeven *et al.*, 2014; Liu, 2019). Both have in common that something negative which was rather surprising happened and thus an immediate but accurate response is required (Baltes and Bîrsan, 2014). This negative event is called a crisis or emergency, depending on which stakeholders are involved and the phase of the event (Baltes and Bîrsan, 2014). To manage a crisis adequately, effective crisis communication is considered a strategic policy instrument since it can safeguard the reputation of an organisation (Reynolds and Seeger, 2005; Snoeijers and Poels, 2018; Lauran *et al.*, 2019). This is a challenge, however, since the inherent characteristics of emergencies such as immediacy, threat and high uncertainty create a challenge for accurate, credible and on-time communication (Reynolds and Seeger, 2005; Coombs, 2007b).

To be effective, three intrinsic elements of crisis communication have to be taken into account in a crisis communication plan: relationship building, strategic thinking and information sharing within and outside the organisation (Horsley and Barker, 2002;

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Gilstrap *et al.*, 2016). Thus, it is necessary to understand how different stakeholders perceive a crisis since this has an impact on crisis management given that via a collective understanding of the situation, the negative consequences of a crisis can be diminished (Reynolds and Seeger, 2005; van der Meer *et al.*, 2017). How different stakeholders perceive a crisis is influenced by how organisations communicate during a crisis (Lauran *et al.*, 2019). What is more is that organisations have to combine different crisis communication strategies since different stakeholders can all frame that same crisis in a different manner (Holmes *et al.*, 2009; Lauran *et al.*, 2019). People perceive risks in various ways due to their differences in available heuristics coming from diverse past experiences (Herovic *et al.*, 2019). Hence, organisations have to take into account that the outcome of any communication method they use is influenced by the subjective perceptions of the public (Herovic *et al.*, 2019). What is more is that although a crisis often happens unexpectedly, strategic planning can diminish the chaos and uncertainty and thus the impact of a crisis (Avery *et al.*, 2016). Finally, information sharing between different stakeholders needs to be considered. Due to the rise of social networking services (SNS), Internet communication is an omnipresent method for exchanging information about a crisis (Yi and Kuri, 2016). Different stakeholders use offline and online communication tools, such as social media channels, to seek or provide information (Yi and Kuri, 2016; Lee and Jin, 2019). Social media should be taken into account within crisis communication plans since the speed through which information can be spread via social media has an impact on the development of a crisis situation (Lauran *et al.*, 2019).

Crisis communication plans are a major element of crisis management plans (Coombs, 2014a). Surprisingly, public organisations very often lack a crisis communication plan which makes communication with stakeholders difficult (Horsley and Barker, 2002). The latter is because they devalue communication within their general strategy because they lack the resources to employ full-time staff that can prepare and execute communication plans (Horsley and Barker, 2002; Liu and Horsley, 2007; Wallström *et al.*, 2015; Chon, 2019). Having a crisis communication plan is, however, important for public organisations since ineffective communication can feed failure in handling a crisis which can then raise questions about the effectiveness of public agencies and can even lead to a general reallocation of public resources (Horsley and Barker, 2002; Snoeijers and Poels, 2018). More work is also needed to specify the role of crisis planning for local governments and how they respond to and overcome a crisis (Frandsen and Johansen, 2009; Avery *et al.*, 2016). Furthermore, a clear understanding of how different stakeholders communicate with each other and the public during an emergency is missing (van der Meer *et al.*, 2017). What is more is that although social media influences communication, little empirical evidence indicates how public organisations use social media in emergencies since only a few organisations have included social media communication in their communication plans (Heverin and Zach, 2010; Wallström *et al.*, 2015; Frandsen and Johansen, 2016). Hence, there is a need for more public crisis communication insights.

Although relevant, the majority of crisis communication research focuses on corporate crisis communication strategies and more precisely on how the public evaluates their communication and responsibility (Wallström *et al.*, 2015; Yum and Jeong, 2015; Avery *et al.*, 2016). To examine the latter, researchers very often rely on Coombs' (2007a) Situational Crisis Communication Theory (SCCT). This theory argues that a crisis becomes a crisis when someone perceives it as such (Coombs, 2014b). The SCCT is, however, mainly used for corporate crises (Anderson-Meli and Koshy, 2020). There is only limited research focusing on crisis communication in the public sector (Horsley and Barker, 2002; Frandsen and Johansen, 2009; Wallström *et al.*, 2015), and most public crisis communication studies follow the insights of mainstream corporate crisis communication (Zhao, 2018). Although there are some similarities such as the diversity in primary public and daily communication practices, there are far more significant differences between the public and private sector regarding

communication and especially public relation practices (Liu *et al.*, 2010, 2012; Chon, 2019). For example, public and private organisations differ in their purpose (Liu *et al.*, 2010). Whereas private organisations mainly focus on making a profit, public organisations have the primary goal of serving the public, which indicates a social instead of a profit purpose (Liu *et al.*, 2010; Chon, 2019). Both also differ in the influence of politics, the impact of the legal framework, the availability of a communication budget, communication frequency, their structural communication approach (centralised and formal versus decentralised), the information pressure from and interaction with heterogeneous stakeholders and their relationship with the media (Frandsen and Johansen, 2009; Liu *et al.*, 2010, 2012; Ly-Le, 2015; Chon, 2019). Given these significant differences, communication models differ between the private and public sector (Liu *et al.*, 2010; Chon, 2019). Given the relevance and challenges of communication, it is argued that it is crucial that public administration scholars further study public sector communication, taking the specific characteristics of the public sector into account (Perry and Rainey, 1988; Bozeman and Bretschneider, 1994; Frandsen and Johansen, 2009; Liu *et al.*, 2012).

To sum up, current crisis communication research would benefit from three elements: first, more research on public sector crisis management, using public sector crisis communication models; second, using a more multiple-actor approach instead of an organisation-centred approach; and, third, gaining insights into how specific communication channels are used before, during and after a crisis (Avery *et al.*, 2016; Manias-Muñoz *et al.*, 2019). Therefore, this paper argues that a better understanding of the communication process including different stakeholders and social media in public emergencies both provides insights into and extends the literature on emergency and crisis management.

To elaborate upon our argument, we start off with a qualitative case study focusing on a crisis characterised by unpredictability, with the aim of better understanding the communication process in public emergencies. This paper follows the research stream (e.g. Horsley and Barker, 2002; Frandsen and Johansen, 2009; Liu *et al.*, 2010; Liu *et al.*, 2012; Ly-Le, 2015; Zhao, 2018; Coombs, 2020) that indicates that public organisations are unique with respect to crisis communication. Therefore, this paper relies on the synthesis model of Horsley and Barker (2002) for handling crisis communication in the public sector and builds further on their insights as well as those from Avery *et al.* (2016) to explore the elements of preparation and mobilisation of crisis management resources regarding public crisis communication. Additionally, this paper explores the influence of digital media on crisis communication since it is argued that this influences how the public interprets messages as well as the authority of public organisations because they have very little control over a crisis in the digital age (Zhao, 2018). Thus, this paper replies to the call for more research focusing on the role of social media in crisis communication (Wallström *et al.*, 2015) and contributes to the empirical call for more research and especially more case studies focusing specifically on public sector crisis communication and real-time realistic crisis management settings (Horsley and Barker, 2002; Snoeijers and Poels, 2018).

Crisis and communication

There are many definitions of a crisis. Horsley and Barker (2002, p. 408) for example define a crisis as "a low-probability, high-impact situation that is perceived by critical stakeholders to threaten the viability of the organisation and that is subjectively experienced by these individuals as personally and socially threatening". Following Coombs (2007b, 2014a, 2015), a crisis is characterised by the fact that it is perceptual that it has a high level of unpredictability, that it can harm the expectations of stakeholders

and thus lead to negative outcomes. This indicates that different individuals can interpret the situation in a different manner (Zhao, 2018). Crisis practitioners are said to deal with crisis situations in a fast and effective manner, applying a strategy that includes "insights that can be applied effectively and ethically under extraordinary pressures of limited time and severe scrutiny of the organisation's legitimacy" (Heath, 2010, p. 3). The latter is a challenge since there is an overall consensus that a crisis is characterised by high uncertainty and by development: "A crisis starts to evolve when a stakeholder perceives that an organisation can no longer meet his expectations. Initially, very little information is available on the ongoing situation, which may impede the decision to communicate and can endanger the organisation's interests. A crisis attracts the attention of other stakeholders and of the media, depending on the responsibility attributed to the organisation by the stakeholders and on the organisational communication, which may amplify or play down the crisis" (Snoeijers and Poels, 2018, p. 66). Hence, whether a crisis is considered a crisis depends on who first interprets a situation as a crisis.

Communication is highly relevant in managing a crisis effectively in the short and long run (Wallström *et al.*, 2015; Tkalac Verčič *et al.*, 2019). Crisis communication can be defined as "verbal, visual, and or written interaction between the organisation and its stakeholders (often through the media) prior to, during and after a negative occurrence" (Fearn-Banks, 2002, p. 480). The main goal of crisis communication is to explain a particular event, to identify outcomes and potential—harmful—consequences in a reliable manner (Reynolds and Seeger, 2005). Thus, crisis communication is used to create shared meanings and "co-create frameworks for understanding and action within the highly uncertain, demanding, and threatening context of a crisis" (Sellnow and Seeger, 2013, p. 11).

It is important that the organisation itself fills first the need for information before others start speculating because any stakeholder can perceive an event as a crisis due to their own experience and background, so it is up to the organisation to manage it immediately (Snoeijers and Poels, 2018). Whenever there are inconsistencies in crisis communication, this opens the door for the public to speculate and fill these information gaps themselves based on their own perceptions of reality (Andrade *et al.*, 2020). The sooner organisations start to communicate, the sooner organisations can tackle the information needs of different stakeholders (Snoeijers and Poels, 2018). Whenever a crisis occurs, local governments, such as municipalities, have to communicate with diverse stakeholders like employees, citizens and other public organisations (Wallström *et al.*, 2015). To define how important particular stakeholders are during a certain crisis moment, organisations look at their power to influence the organisations' legitimacy and urgency to take action (Coombs and Holladay, 2012). It is important to recognise and specialise communication for different stakeholders and to take the timing of communication into account so that communication is as natural as possible (Coombs and Holladay, 2001; Horsley and Barker, 2002; Reynolds and Seeger, 2005; Kim, 2016; Bakker *et al.*, 2019; Chon, 2019). When the different needs of diverse stakeholders are ignored, crisis communication can never be effective (Wallström *et al.*, 2015; Chon, 2019).

The need for information as well as the content of the information changes during a crisis (Snoeijers and Poels, 2018). For example, in the first stages of a crisis, the need for information is high (Panagiotopoulos *et al.*, 2016). On time, clear and reliable information is essential but challenging in times of high uncertainty (Panagiotopoulos *et al.*, 2016). What is more is that different communication is necessary since varying stakeholders such as (potential) victims, emergency workers or the general public are involved (Reynolds and Seeger, 2005; Tkalac Verčič *et al.*, 2019). Following Coombs (2007b), protecting stakeholders from any harm by providing information and by taking their needs into account is the first priority during a crisis. Lack of communication or waiting too long for facts and figures to communicate can

create distrust amongst the stakeholders and can therefore prevent the crisis from being resolved (Horsley and Barker, 2002). During a crisis, relationship thinking, in which organisations enter into dialogue to build relationships, gain people's trust and, moreover, maintain it, becomes more important (Marynissen *et al.*, 2010). A post-crisis stage is characterised by reflection and learning about how new risks can be tackled (Reynolds and Seeger, 2005). After being given communication, the media and the public become more critical and judgmental of the cause of the crisis and how it was tackled (Reynolds and Seeger, 2005). Schultz *et al.* (2011) argue that the medium used to communicate during a crisis is even more important than the content. Communicating in an open and responsive manner is considered the way to go to diminish negative reactions (Liu *et al.*, 2012). During and after a crisis, every organisation has to invest in communicating clearly to their stakeholders what their precise role was in the crisis because it has an impact on how stakeholders perceive the organisation (Tkalac Verčič *et al.*, 2019). Maintaining the trust of their stakeholders during a crisis is essential for the long run (Tkalac Verčič *et al.*, 2019). Hence, what can help to overcome a crisis situation getting worse are the content, timing and form of communication (Baltes and Bîrsan, 2014).

Effective crisis communication – the role of traditional and social media
Rapid communication is a precondition for effective crisis management (Roy *et al.*, 2020). The primary forms for public organisations to reach the public are the traditional news media (Liu *et al.*, 2012). As a consequence, stakeholders are dependent on the media to receive information about the crisis (Avery *et al.*, 2016). By proactively distributing correct information to reporters and diverse media channels, the likelihood of correct information and fair coverage increases (Liu *et al.*, 2012). It is important for an organisation to control the information it spreads, especially when a crisis is not under control (Avery *et al.*, 2016).

Today, almost every crisis unfolds in the mainstream media and also online due to the abundant presence of social media which positively influences the speed of communication but which reduces the possibility to communicate in a unified and consistent manner (Jin *et al.*, 2014; Gribas *et al.*, 2018; Roy *et al.*, 2020). Lariscy *et al.* (2009, p. 314) define social media as "online practices that utilise technology and enable people to share content, opinions, experiences, insights, and media themselves". Social media platforms provide tools that facilitate fast and easy exchange of information, so they have changed the way organisations communicate during a crisis (Roy *et al.*, 2020).

Social media networks can be considered as two-way media channels that can have a positive as well as a negative influence on crisis management (Andrade *et al.*, 2020; Coombs, 2020). The positive influence of social media comes from the fact that it creates transparency, situational awareness and can rapidly reach a broad audience (Panagiotopoulos *et al.*, 2016; Andrade *et al.*, 2020). Social media allow organisations to produce their own content and to manage a crisis situation via quick communication with stakeholders (Schultz *et al.*, 2011; Roshan *et al.*, 2016). When circumstances are unusual and characterised by uncertainty, people desperately look for relevant and reliable information (Yi and Kuri, 2016). Social media can be a good alternative for traditional media such as radio, TV and newspapers since it can provide relevant information about the crisis itself, the safety of family members and friends and can monitor help requests immediately after a crisis event (Yi and Kuri, 2016).

Different social media channels can be used to develop real-time communication with all kinds of stakeholders during a crisis (Wallström *et al.*, 2015). Social media tools such as Twitter and Facebook are often used together in a crisis situation, but both fulfil a different function (Eriksson and Olsson, 2016). Schultz *et al.* (2011) and Eriksson and Olsson (2016)

argue that Twitter is seen as an "elite channel" via which quick communication keeps everyone up to date due to the high speed with which tweets can be shared. On the contrary, Facebook is seen as a familiar channel for entering into dialogue with each other (Schultz *et al.*, 2011; Eriksson and Olsson, 2016). Hence, it is a challenge for an organisation to manage their social media communication during a crisis and to pay attention to whom they are trying to reach with their social media messages, what the content of those messages is and which social media tools suit the needs of their different stakeholders best (Schultz *et al.*, 2011).

Despite the positive consequences social media can have for effective crisis communication, it can also create challenges because of its constant and interactive information flow which cannot be fully monitored and controlled by official organisations (Roshan *et al.*, 2016; Stewart and Young, 2018; Coombs, 2020). Social media are a space where everyone can interpret and share information (Panagiotopoulos *et al.*, 2016). As a consequence, official organisations are only one of the many stakeholders sharing information (Panagiotopoulos *et al.*, 2016). It is via the new media that diverse stakeholders have more involvement and can be more communicative during a crisis (Ly-Le, 2015; Chon, 2019). Citizens, for example, play a very important and active role in the spread of information via different communication channels during a crisis (Wallström *et al.*, 2015). Controlling this information is, however, a challenge, especially if resources are limited (Wallström *et al.*, 2015). A negative influence of social media comes forth if organisations do not have the capacity to monitor and react to and interact with stakeholders on social media, which can create unnecessary and unexpected (extra) chaos (Holmes *et al.*, 2009; Yi and Kuri, 2016; Andrade *et al.*, 2020). One explanation for this is that there is a difference between official crisis information containing facts and statistics coming from the government and information coming from those who have experienced similar crisis situations in the past since that information is mostly in the form of subjective narratives (Bakker *et al.*, 2019). Research shows that experts have to provide relevant information and behavioural guidance on top of situational updates to diminish action by subjective narratives. Furthermore, they have to monitor their narratives on social media during a crisis so that they can adequately react to incorrect crisis information (Bakker *et al.*, 2019). It is important to control and monitor social media since the spread of false information via online communication channels can reach large audiences in no time and can harm societies (Roozenbeek and Van Der Linden, 2019).

To realise effective crisis communication, there is an overall argument that organisations have to prepare for potential crises before they take action (Horsley and Barker, 2002). Thus, social media tools have to be integrated into organisational policies so that stakeholders' concerns can be monitored and official governmental social media accounts can post relevant, accurate and reliable information to overcome the needs of different respondents (Stewart and Young, 2018). Immediately after a crisis happens, individuals seek out and share information via different channels such as the television, (local) governmental websites and social media (Lee and Jin, 2019). By seeing non-experts such as social media users as one of the many stakeholders, experts take the messages from these non-experts into serious consideration and learn how to address them, which can have positive consequences during the crisis (Herovic *et al.*, 2019).

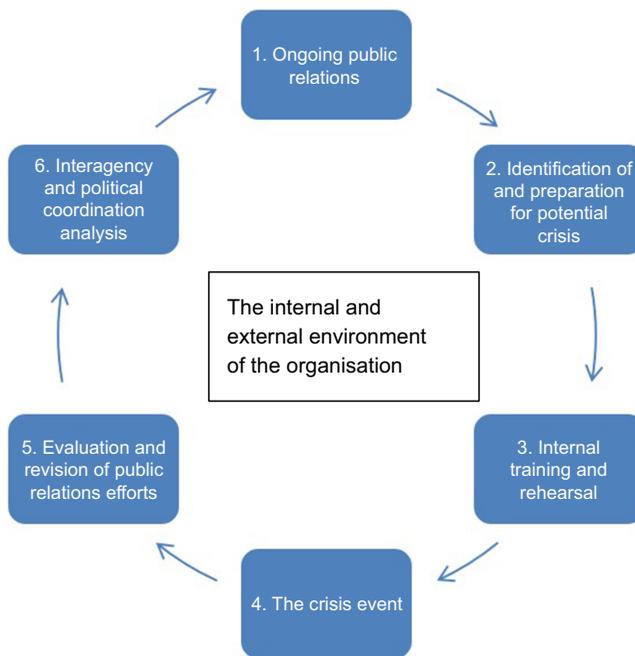*Conditions for crisis communication – preparation and action*
Organisations have to be continually prepared for unforeseen crisis (Gribas *et al.*, 2018). Two general and essential preparation elements of crisis management can be distinguished: planning and building skilled teams (Gilstrap *et al.*, 2016). Planning is considered an important step to effectively overcome a crisis since it reveals a process

that can be followed during a crisis (Baltes and Bîrsan, 2014). Crisis planning includes identifying different types of crises, defining stakeholders (and their needs) that could become involved and developing a communication plan including contact details and communication procedures (Avery *et al.*, 2016; Gribas *et al.*, 2018). A predesigned crisis communication strategy including clear spokespersons is important (Wallström *et al.*, 2015). Spokespersons are useful to communicate effectively with different stakeholders because they can create credibility and thus trustworthiness (Ly-Le, 2015; Tkalac Verčič *et al.*, 2019). The development of pre-crisis planning has made crisis communication less spontaneous, less non-routine and less time and event bound (Reynolds and Seeger, 2005). Hence, planning supports organisations in making decisions before, during and after a crisis.

In an ideal world, crisis communication plans are ready to use, although the reality is often very different (Gribas *et al.*, 2018). One may, for example, not exaggerate the function of a plan since plans are fragile and can be ambiguous (Lauder and Marynissen, 2018). It is important to note that no two crises are completely identical, and as a consequence no one crisis communication plan is applicable to every crisis (Horsley and Barker, 2002; Coombs, 2020). One should always take the external context and the possibility of unexpected events into account (Lauder and Marynissen, 2018). Thus, although there is a general consensus within crisis management research that planning does help in overcoming a crisis, it also comes with some challenges due to the high level of uncertainty because no one crisis is completely equal to another, and thus no plan is adequate for all crises (Avery *et al.*, 2016; Coombs, 2020). Hence, "planning is not enough: not only are resilience and agility required in response, but both must be able to accommodate elements of randomness as part of their adaptive strategies" (Lauder and Marynissen, 2018, p. 320).

To overcome the pitfalls of planning, a team-centred approach including training and exercises via crisis simulations and rehearsed scenarios to prepare for a crisis are useful (Horsley and Barker, 2002; Avery *et al.*, 2016). Different experts such as social services, emergency services or media relations can be involved, and it is the collaboration between these different experts that builds a network of stakeholders so that a potential crisis is more easily identified or managed (Horsley and Barker, 2002). Crisis simulations and training and rehearsal are effective for enhancing crisis recognition and for putting theory into practice (Marynissen *et al.*, 2010, 2013). Snoeijers and Poels (2018) argue that crisis training has an effect on crisis experience and thus on crisis perception. Training is helpful for people to detect a crisis earlier, thus providing evidence that crisis simulations and exercises are useful (Snoeijers and Poels, 2018). To summarise these different preparation and action conditions, we use the synthesis model of Horsley and Barker (2002, p. 427) for handling crisis communication in the public sector (Figure 1).

This crisis communication model for the public sector (Figure 1) combines communication processes with activities that public organisations use to prepare for and handle a crisis (Horsley and Barker, 2002). The basic assumption of the model is that all crisis communication activities take the internal and external environment of a crisis into account. Furthermore, it is important—even long before a crisis occurs—to take care of your public and media relations and to have communication plans. Crisis communication plans— short-term and long-term—have to be developed, and teams have to participate in training and rehearsal so that there is more clarity regarding how to overcome a crisis. It is also important that organisations communicate in an open way in a timely manner but with correct information, taking the needs of different stakeholders into account. Finally, post-crisis evaluation and interagency coordination are considered important (Horsley and Barker, 2002). The remaining questions care how different stakeholders perceive a crisis and what the role of social media during public sector emergencies is so that the main goal— effective crisis communication—is achieved.

Source(s): Horsley and Barker (2002: 427)

Methodology
To answer the research question, a qualitative research design was implemented. More precisely, this paper follows other qualitative research such as that of Baxter and Jack (2008) and relies on an in-depth case study so that "how" and "why" questions can be answered. The focus of this paper is on a crisis characterised by an immediate speed of onset "where the organisation has little or no warning of the crisis, and there is no adequate time to research the problem or prepare a precise plan before the crisis hits" (Avery *et al.*, 2016, pp. 74-75). Following Yin (2018), two events were considered as cases. One event was a gas explosion in the university neighbourhood of the city of Antwerp, Belgium. On January 15, 2018, a gas explosion occurred in the evening at an apartment building. Ten people were injured, and two people were killed. In addition, six buildings close to the apartment building also suffered serious damage. This unexpected emergency had a major impact on the citizens of Antwerp, and the need for effective crisis communication was high. The other event was a training and rehearsal exercise of the city of Antwerp. For the first event, the gas explosion, data were gathered post-crisis via semi-structured interviews, and for the second event we did participant observation of the training and rehearsal exercise. To conduct the analysis of the data, this paper relies on the synthesis model of Horsley and Barker (2002) for handling crisis communication in the public sector (Figure 1).

For the semi-structured interviews, questions were asked focusing on crisis and communication, the role of different stakeholders and social media as well as on how they prepare for a crisis and how communication works during a crisis. During the interviews, the following questions were asked: "How does communication take different stakeholders into account?", "How is the communication plan characterised?", "How did you use social media

for communication with stakeholders?". The usage of a semi-structured scheme had the advantage of preparation and collection of reliable, comparable and qualitative data (Cohen and Crabtree, 2006). To analyse the data, this paper relies on a commonly used method (Strauss, 1990). Every interview was transcribed verbatim and coded in a three-step manner—open, axial and selective—in NVivo.

Regarding the sampling method, this paper relied on the common used method of purposeful sampling (Suri, 2011). Via purposeful sampling, relevant respondents who could provide rich information about crisis communication, the relationship with stakeholders and the use of social media during a crisis were selected. There are several purposeful sampling strategies (Patton, 2002; Suri, 2011). More precisely, this paper relied on criterion sampling. Criterion sampling involves reviewing and studying "all cases that meet some predetermined criterion of importance" (Patton, 2002, p. 238). To select respondents, very explicit inclusion criteria were used to enhance methodological rigour (Suri, 2011). More precisely, this paper relies on five different inclusion criteria: involvement in the crisis management of the gas explosion as well as the training and rehearsal, type of stakeholder, job and years of experience in crisis management and communication. Respondents represented different stakeholders such as the city of Antwerp, the Antwerp police department and different newspapers. All of them were journalists, policy officers, communication specialists or employees of the emergency planning department as well as of a multidisciplinary team—consisting, for example, of police and firefighters—from Antwerp with several years of experience in crisis management and crisis communication. Hence, this sampling method led to a set of respondents that could provide relevant information regarding the research question and the cases under study. A detailed overview of respondents can be found in Table 1.

For the participant observation, an internal training and rehearsal of the city of Antwerp was observed. This training was organised by the city and involved different stakeholders, such as the police, fire brigade, medical services, civil protection, various communication teams and the city of Antwerp. The scenario was as follows: "Several persons are stuck in the elevator of a particular building. The elevator car is skewed, and debris is also falling down. As a result, the elevator is defective, and people have to be evacuated." Observations were

Respondent ID	Stakeholder	Job	Years of experience in crisis management/communication
1	Federal Public Service – Public Health	Disaster coordinator	>20
2	City of Antwerp	Press coordinator	>25
3	Newspaper "Gazet van Antwerpen"	Journalist	>3
4	Newspaper "Het Laatste Nieuws"	Journalist	>3
5	Communication consultancy organisation	Co-founder and director	>15
6	Antwerp fire department	Spokesperson	<3
7	City of Antwerp	Disaster coordinator	>10
8	City of Antwerp	Communications officer	>10
9	City of Antwerp	Social media strategist	>10
10	Police department of the city of Antwerp	Spokesperson	>3
11	City of Antwerp	Crisis support and safety coordinator	>15
12	City of Antwerp	Spokesperson	>3

Table 1.
Overview of respondents

made of the site in the command bus of the communication team, on-site during the rehearsal and after the training during the evaluation meeting at the headquarters of the city of Antwerp.

Findings
Crisis and communication
In general, respondents agreed that crisis communication is faster, is more focused and is characterised by high levels of uncertainty compared to communication under stable conditions. During the first stage of a crisis, respondents indicated that it is necessary to communicate very specific information regarding the precise risks. The main goal is to avoid—as much as possible—harm to the public. Although complete information is never available in the first stage of a crisis, respondents unanimously agreed that it is always better to quickly send limited and correct messages instead of withholding information. Honest, correct and empathic information is a necessity since it is very difficult to rectify the situation afterwards. Furthermore, respondents stated the importance of taking into account the social interest and the specific characteristics of different public stakeholders. They agreed that effective crisis communication is communication that starts from the needs of the listeners, not from the needs of the communicators. For example, the journalists stated that it was important for them that the families of the victims were first informed before the news was distributed in newspapers and online. Nevertheless, given the high impact of the crisis, social interest was enormous, and this had consequences for the crisis communication.

> Correct information, but also very specific information. Your communication must be focused on what you want to achieve. And in the first phase, you want to achieve a few things. What you want to achieve is that people are not in danger or that people are aware of the danger, such that you do not have extra work on people who come to watch and so on. So, your communication must be focused on that to make clear what the danger is and the risks are, no more, no less. (R1)

> With crisis communication you have to start communicating immediately, but you do not know the big story yet. You really only know what you know at that moment, but you also have to be honest about that, and you have to bring that quickly, and you must, yes, I call that, actually bring it without interpretation. (R2)

> Good crisis communication is true communication. You do not start telling stories. The ethical component is also very important, it must be empathetic, and you must take the listener into account. It is also important to take the victim and his/her environment into account. Good crisis communication starts from the needs of the listener, not from the needs of the communicator. Learning to listen and listen to what one needs is very important. (R11)

> With the gas explosion the situation was difficult because the social interest transcends identity. I know that that is a very difficult one, but we never doubted to give someone's identity. That's not my decision; that was a joint decision. I think that we as colleagues were all behind that. We only used the first names, but we did use the photos of both victims because it was such big news. At that moment it actually transcends a bit, how should I say, privacy. Of course, we provide permission the majority of the time. (R4)

Effective crisis communication – the role of social media
How does social media influence effective crisis communication? Respondents elaborated on the usefulness of digital tools for crisis communication. They made a distinction between internal and external social media. In terms of internal social media, tools such as Telegram, WhatsApp and Trello were used in accordance with traditional communication channels. Via Telegram, all internal stakeholders could inform each other of the situation and the activities

they undertook during the crisis. WhatsApp is primarily used when internal communication has to go fast, and Trello is used as a tool to monitor the entire crisis event including all internal social media.

> We, from the city of Antwerp, together with the fire brigade and the police, are on a shared Telegram channel where all sorts of information is shared so that everyone is immediately informed. [. . .] We can quickly pick up such things and see them evolve. Until a few years ago, it was more a story of when the phone rings, so that you can answer. (R8)

> We have different WhatsApp groups. We are only here with 7 people: two security advisers, the mayor, myself and the chief of cabinet. Those are the only ones who may be involved in a crisis, so WhatsApp is a useful internal tool for us. (R12)

> That WhatsApp group is used the most when we are on the move for fast communication. (R3)

> We use Trello to make crisis communication with a fixed structure, namely an IBS structure (information, behaviour, sense-making). With this we will look at our analyses to see what is already outside information, what people are doing, what they are 'sensing' and whether this is more positive or negative. Based on this, we will make recommendations to the strategist at the crisis centre to indicate what we should continue to focus on and where not. Trello gives a very clear overview of the social media and other online reporting that is monitored by our employees, and therefore we know where the need for information lies. (R7)

In terms of external social media, different respondents indicated that the monitoring of social media tools such as Twitter and Facebook is very important for effective crisis communication. Social media is used as one of the first tools to communicate with the public before there are press releases or website messages. During the crisis, there are permanent colleagues who try to constantly scan social media to monitor what the needs of different stakeholders are in terms of communication and to answer frequently asked questions. Moreover, different social media tools are used for different purposes. Twitter is mainly used to communicate quickly, almost immediately after a crisis happens. After that, other social media tools are used to share more extensive information or to refer to a website. One critical remark that respondents made throughout the interviews was that solely posting content on social media during a crisis is of little use; to ensure that a wide audience follows the official reporting during a crisis, they must also communicate before and after the crisis on a regularly basis.

> We used to start with a press release, website message and so on. Now it is first social media and then the rest. This is how we organise ourselves. So that's a big difference compared to the past. (R2)

> We try to scan via social media where the need for communication lies and what things people want to know. We really do try to monitor what is going on among people, where there are questions and what the behaviour is of people. (R10)

> We are trying to tweet validated information quickly, even though that is not much after that explosion. Fifteen minutes after the explosion you can only say 'we know that there is an explosion, so many people are present and stay away', so that's all we say, but quickly. (R6)

Conditions for crisis communication – preparation and action
Although all respondents recognised that every crisis requires a different approach, most of them agreed that preparation in the form of planning is important for effective crisis management. Different respondents have digital crisis communications plans in which fixed roles are described; employees are informed about different communication tools as well as about the procedures that have to be followed. In addition, they also contain important contact information. These plans develop under the influence of training and

post-emergency evaluation. According to several respondents, the operational assistance during the gas explosion went well because all stakeholders knew their position and their precise role. And yet two respondents indicated that a crisis plan does not work because reality is different from what is described in such a plan. A critical remark was that in terms of preparation for an emergency such as the one under study, there was no precise communication plan. That is why a communication plan was drawn up afterwards from which one can learn.

> We have also recently started working with the principle that everyone has fixed roles. You actually have to bring structure. It is not so much about the 'what' but more about the 'how' because every situation is different. It is important that we as a team know how we will organise ourselves if something happens, who does the talking, and we have defined a number of fixed roles for that. (R7)

> Yes, there is a sort of communication plan with all sorts of written procedures from whom to be notified, what to do. They all have their own specialisation. The person who works on the web does not have the access codes of the social media of the city. All those procedures are there, plus a lot of useful telephone numbers. [. . .] That's all digital now that we make that available. Why? Because all those procedures are also reviewed annually, new things are added and so on. (R2)

> The point is, I do not believe in planning. A crisis plan does not work. I have seen dozens even though it has been no more than a hundred real crises in the last 10–15 years. Then everyone comes in with a thick folder under his arm. That is them there on the table and that does not open. (R5)

Besides planning, respondents unanimously stated that training and rehearsal are very instructive to effectively prepare for a crisis. Different training and rehearsal exercises are organised by the emergency planning department and the communication officer of the city of Antwerp. They organise, for example, round-table exercises or exercises on-site such as an evacuation or a terrorist exercise. During these trainings, crisis communication always takes a prominent place. Scenarios are devised in which different stakeholders play a role in improving internal cooperation. Depending on the exercise, external public partners such as schools or external private partners are also involved.

> For me, the whole process of planning is much more important than the plan itself because it makes you think "how does that work in practice?" Let's test that. During an exercise, exercise goals are always determined in advance so that people say "okay, it should not be all, but we are now going to look specifically at how it works." That can be communication but also operational matters. So that's why an exercise is much more important, I think. (R5)

> A lot of exercises are done at the police, fire department and other disciplines of the city of Antwerp, and we always try to add a part of communication to that. Since last year we have also been trying to do one explicit communication exercise, in which we test the entire structure separately from all other disciplines to see where the communication itself goes wrong. (R7)

> You learn a lot from exercises and one of the most important things is that you learn to respond to each other, and you master certain actions. An exercise is built according to a certain time schedule, so there is a certain predictability in it, which of course you never have in a crisis situation. But exercises are useful anyway to come back to later. Debriefing and reflection are very important. A crisis moment will always be something that you can never prepare to perfection. (R12)

The necessity of taking the needs of different stakeholders into account to create effective crisis communication as well as the role of social media for effective crisis communication and the usefulness of training and rehearsal was confirmed during the participant observation. Observation of a training showed that during the first stage of the rehearsal, the communication team contacts the signal room to ask what is going on. It is their job to further communicate internally with the other stakeholders. For internal communication, they rely

on social media tools such as Trello and Telegram. During the exercise, a simulator is used for external social media communication. They use Twitter to report that the fire brigade and police are on-site. When more information is available, they use Twitter to send the message that people need to be evacuated. The communication team noticed via the simulator that speculation on social media is going on and that there is a new crisis—a bomb alarm in a neighbouring supermarket—but they cannot confirm or invalidate these online speculations. In addition, they also need to deal with some online feedback they received on the poor communication with the residents' families, and the on-site team is asked to take this into account.

During the crisis event, two people from the communication team go on-site and one person stays inside to deal with social media and to prepare a press release. All this information is also posted on the internal social media tool Telegram. All emergency services are on-site, including the police, fire brigade, civil protection and the medical team. The municipal emergency plan is announced, so this means that there is a command bus on-site which is used as a critical centre to manage the crisis. The different stakeholders come together during the crisis consultation on the bus to inform each other about which actions they are working on in order to be able to divide further tasks. The final part of the training is a table exercise where the rehearsal coordinator reflects, together with all participants, on the training. The state of affairs is discussed as well as the actions that must be taken for the follow-up of the incident. Among other things, they discuss what solutions should be provided for victims.

Implications, discussion and conclusion

How is effective crisis communication in multistakeholder public emergencies characterised?
Based on a post-crisis analysis of a gas explosion and the analysis of participant observation data during a crisis training and rehearsal, three implications can be made. A first implication is that the main condition for public crisis communication to be considered as effective is, if any kind of harm to the public is avoided. Therefore, public crisis communication has to be honest, correct, empathic and fast. To make sure crisis communication is effective and harm to the public is avoided, preparation in the form of planning is necessary. Nowadays, crisis communication plans are written in a digital form in which fixed roles are described, employees are informed about different communication tools as well as about the procedures that have to be followed. What is more is that besides planning, training and rehearsal are necessary to effectively prepare for a crisis. A second implication is that it is relevant to adapt all communication to the specific characteristics and information needs of different stakeholders. Effective crisis communication is communication that starts from the needs of the listeners. A third implication is that digital communication tools such as social media are complementary to more traditional communication tools such as newspapers. Constantly monitoring both is relevant for effective crisis communication. Whereas social media is used for fast communication and for monitoring the needs of different stakeholders, more elaborative information can be spread via press releases or website messages. One critical remark is that to ensure that a wide audience follows the official reporting during a crisis, it is important that communication is established on a regularly basis.

Thus, following the synthesis model of Horsley and Barker (2002) for handling crisis communication in the public sector, all steps of the theoretical model can be considered as relevant for the effective management of the crisis under study but that the model has to be elaborated upon to include the different roles of stakeholders and the role of social media for effective crisis communication. More precisely, regarding effective crisis communication, this paper follows the work of Reynolds and Seeger (2005) and Coombs (2007b) state that it

is a challenge to accurately communicate during a crisis because a crisis develops and they further stipulate that what is needed from crisis communication differs for every crisis stage. For example, the results are in line with the work of Coombs (2007b) that protecting stakeholders from any harm is the main concern during the first stage of a crisis. Furthermore, results follow the synthesis model of Horsley and Barker (2002) for handling crisis communication in the public sector and the work of Snoeijers and Poels (2018) and Andrade *et al.* (2020), showing that a lack of communication or waiting too long to communicate has a negative impact on effective crisis communication. Hence, it is important that the organisation fills the first information need itself. Additionally, the empirical analysis agrees with the work of Holmes *et al.* (2009) that carefully communicating about what you do not know can increase trust and credibility in the long term. Also, a post-crisis stage is characterised by reflection and learning about how new risks can be tackled. The latter is in line with the work of Reynolds and Seeger (2005). Despite the importance of diversification in crisis communication conforming to the different stage of the crisis, this paper's findings also indicate that effective crisis communication always starts from the different needs of stakeholders, not the need of the communicators, which follows the work of Wallström *et al.* (2015), Herovic *et al.* (2019) and Chon (2019).

What is more is that "digital" has an impact on effective crisis communication. Following Yi and Kuri (2016), Stewart and Young (2018) and Coombs (2020) for crisis communication to be effective, social media tools have to be part of communication strategies. More precisely, this papers' findings show that there is a distinction between social media tools used for internal communication and those that are used for external communication. Whereas internal social media tools are used to quickly spread necessary information to solve the crisis, external social media tools such as Twitter and Facebook are useful to provide civilians with a first stream of information in which honesty and speed are priorities. In addition, this paper follows Eriksson and Olssen (2016) and Stewart and Young (2018) who state that different social media tools such as Twitter and Facebook are used to accomplish a different crisis communication goal. Furthermore, the results are in line with the work of Coombs and Holladay (2012) and Panagiotopoulos *et al.* (2016) in that social media are relevant for crisis communication but that the impact is not completely revolutionary since it does not entirely rule out valuable crisis communication insights before the presence of social media.

Finally, this paper supports the argument of Reynolds and Seeger (2005) that effective crisis communication begins long before the crisis occurs and continues after the threat has been managed. More precisely, the results are similar to the empirical findings of Herovic *et al.* (2019) as well as the work of Andrade *et al.* (2020) that specify that inadequate crisis preparation in the form of a lack of planning and training has a negative impact on crisis management. Hence, effective pre-crisis campaigns have to include an experiential drill and practical training component. The findings and data analysis show that different emergency services have flexible intervention plans containing information on communication, their task and role as well as formal rules but that solely focusing on planning is not sufficient anymore; training and rehearsal is absolutely necessary too. It is these exercises that provide the different stakeholders with the necessary skills to work together and to overcome a crisis. Thus these findings support the work of Snoeijers and Poels (2018) who clarify that training and exercises are relevant in putting theory into practice. Hence, planning, exercises and retrospective reflection are necessary. These steps are not linear; all three can occur before or after each other, depending on the type of crisis. The observation of a training and rehearsal was a useful addition to the semi-structured interviews, as it allowed us to see how preparation was put into action and how internal and external communication between the different stakeholders unfolds.

Despite these useful insights, several limitations have to be taken into account, and more research is necessary to further specify the crisis communication model for public organisations. For example, data were collected three months post-crisis, thereby introducing potential recall bias among respondents. Also, this paper solely focused on a single emergency and a single training or rehearsal in a local public environment. Hence, this paper is another example of a case study. It has been argued that crisis communication research is dominated by case studies, which makes generalisation difficult (Manias-Muñoz *et al.*, 2019). The main argument for elaborating upon this research in different settings is because there is no one type of communication that is sufficient for all crises; different forms of threat require different forms of communication (Reynolds and Seeger, 2005). Furthermore, elaboration on the consequences of social media use in crisis communication is necessary to make the impact of digitisation on emergency and communication as efficient and effective as possible by gaining more insight into the interactive elements of crisis communication. What can be useful is to integrate the synthesis model of Horsley and Barker (2002) for the public sector with the Crisis and Emergency Risk Communication model of Sellnow and Seeger (2013) because the latter provides more insight into different communication strategies throughout the life cycle of a crisis.

In conclusion, this paper started with the identification of crisis communication in the public sector, using public sector crisis communication models since public organisations differ from corporate organisations (Horsley and Barker, 2002; Avery *et al.*, 2016; Manias-Muñoz *et al.*, 2019). In addition, this paper implemented a more multiple-actor approach to gain insight into crisis communication planning and training instead of an organisation-centred approach, and it focused on the role of social media before, during and after a crisis. Findings indicate the particular relevance of public sector organisations and crisis communication planning, especially multistakeholder trainings and exercises for effective crisis management. This paper also stresses the relevance of social media for public sector crisis communication. Thus, it offers a better understanding of public sector crisis communication by focusing on multiple actors and information sharing via diverse tools thus providing insights into and extending the literature on emergency and crisis management.

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