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Emergency Management and Tourism Stakeholder Responses to Crises: A Global Survey

Yeganeh Morakabati[1], Stephen J. Page[1], and John Fletcher[1]

Abstract

This article examines the contested area of the responsibility for destinations and tourists, within emergency settings. It incorporates a Delphi-Scenario technique to facilitate a structured discussion of emergency management for different destination stakeholders. The Delphi exercise engaged 123 senior international stakeholders, from 9 different industry sectors, across 34 countries to provide a global perspective. The study's principal focus is on the notion of emergency management, to identify the challenges that stakeholders would face within a disaster scenario. The exercise asked stakeholders to identify with whom the responsibility rests for 18 distinct disaster-related activities. The study proposes a responsibility allocation building-block framework that could help speed up the emergency management responses by "knowing who is going to do what" with a particular focus on dealing with international tourists as a community in a disaster zone.

Introduction

Since the 1970s international emergency management and policies have developed as a result of disasters in localities and countries, which often require a response ranging from localized to planned actions, through to major international humanitarian relief efforts with multi-agency coordination and collaboration. Tourists are frequently caught up in such events although research, outside the tourism field, has not generally identified this particular group of people as a major target group for emergency planning. Tourist well-being in times of crisis is often incorporated in the emergency plans of tour operators and governments to evacuate visitors in crisis situations (e.g., the Tunisian terrorist attacks in 2015). This is in spite of the vulnerability of international visitors, who are away from their home area and have limited local knowledge of preparedness for likely eventualities as recognized by Burby and Wagner (1996), depicting the vulnerability of visitors to issues such as risks like terrorism (e.g., see Bowen, Fidgeon, and Page 2014; Fuchs and Reichel 2011; Israeli and Reichel 2003; Uriely, Maoz, and Reichel 2007). Although this is not a new issue within tourism research (e.g., Faulkner 2001; Faulkner and Vikulov 2001; Glaesser 2003; Ritchie 2004), such research, with few exceptions, has made limited inroads into the policy arena to shape and impact upon policies to help both tourists and the wider visitor economy in natural disasters. Recent studies of emergencies, across specialist management journals, highlight the key challenges facing managers generically, but there is a

dearth of research on the emergent field of study, "emergency management and tourism," since tourism academics, in the main, do not tend to be emergency management practitioners, or policy makers. Therefore, a distinct gap exists within the extant tourism literature to focus on the concept of emergency management and its application to tourism, beyond the tendency of research to focus on specific crises to inform policy making.

In its simplest form, emergency management is about the way in which organizations respond to crises such as natural disasters, terrorism, outbreaks of disease such as pandemic influenza and Ebola, as well as unforeseen impacts on business activities in destinations. Thus, emergency management tends to be involved in the development of policies and plans to cope with the expected as well as unexpected or unforeseen events.

Moreover, it is timely in this article to review the major contribution of this Journal's previous research in this field and how it contributes to the development of emergency management and where these studies have assisted in the theoretical development of the subject area. In this article,

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we adopt a holistic view of the area and argue that distinct management approaches have been developed and the main paradigm underpinning emergency management needs to be challenged as one outcome of this study. In historical terms, the field of emergency management has been covered empirically in this journal since the early 1990s within discrete areas associated with *crisis management* (e.g., Mansfeld 1999), *risk* (e.g., Roehl and Fesenmaier 1992), *terrorism* (e.g., Israeli and Reichel 2003; Leslie 1999), *natural disasters* (e.g., Cahyanto and Pennington-Gray 2015), *post-crisis recovery* (Richter 1999), and only belatedly have a number of more theoretical papers begun to address the challenges of research in this field (e.g., von Bergner and Lohmann 2014). In this respect, this article not only synthesizes the research contributions since the 1990s in emergency management but adds to the theoretical development of a more holistic body of knowledge that we need to consider when approaching this field of study within tourism. Akin to other areas of tourism research, these theoretical debates and developments are occurring through greater interdisciplinarity, and specifically in this article through the interconnections of management science, emergency management, scenario planning, and the empiricism of previous research studies in tourism.

This article also provides an important contribution to the theoretical literature on emergency planning and its application to tourism, with a particular focus on identifying the roles and responsibilities of public and private sector agencies, to create the *building-blocks* needed for more effective models of national emergency management. Using a global survey of emergency stakeholders, it provides one of the first major studies of how managers view emergency management processes when tourists are involved, drawing upon the expert knowledge of high-level stakeholders. This study extends the work of Kim (2014) around this notion of building-blocks as a mechanism to create effective management responses and draws upon emergency management and management science to understand how best to protect the well-being of tourists. Kim (2014) refers to emergency exercises as comprising three types: *Discussion based* (to develop awareness), *Table Top* (to test procedures and plan by developing scenarios), and *Live Exercises* (to test fully all aspects of disaster responses). In Kim's study of how the United Kingdom planned, conducted, and learnt from disaster planning exercises, the notion of building-blocks was employed to understand how the involvement of stakeholders could be harnessed through collaboration. The study also highlighted the need for adaptability at the scene of an emergency. While Kim's study was a national survey of emergency planning, in this study the focus is on a global analysis of one specific aspect—a Table Top exercise and its application to tourism. The main objective of the study is to understand what models of planning and management may be most appropriate to use in emergency situations involving tourists. The study challenges the conventional knowledge of emergency management, grounded in command and control models of emergency

responses, by seeking to understand how new models of collaboration may help address potential disconnects between emergencies and the responses by multiple stakeholders.

The article commences with a discussion of the emergency management paradigm and its application to tourism. It then turns to the importance of a collaborative approach to emergency management, contrasting it with the command and control model as a management tool. The article identifies the complexities of national emergency management and the theoretical analysis of human responses, suggesting that complexity modeling in emergency planning, rather than oversimplification, may help understand the etiology of disasters and how to respond over their life course. This challenges the existing paradigms of emergency management by arguing that the command and control model, which is widely applied in crisis situations to direct and manage activities, may not necessarily be the most appropriate management approach to employ. The natural corollary of this is that researchers and policy makers may need to create a framework that enables one to allocate responsibilities in an emergency setting. The next section presents an overview of the issues relating to the "collaboration *versus* command and control" approaches to emergency management. The article then moves on to explain the methodology employed in this study—the Delphi technique. The article draws upon the discussion of the results in relation to the research question and the implications of the findings, demonstrating the importance and relevance of allocating responsibilities in order to maximize business resilience. To structure the research reported in the article, the following research question is addressed:

- What are the most appropriate models of emergency management that stakeholders consensually identify to safeguard the well-being of tourists?

Literature Review: Emergency Management and Its Application to Tourism

Petak (1985) highlighted the key challenges of emergency management—in anticipating the unexpected (even though we might expect a crisis, we may not know when and how it will unfold). In dealing with the unexpected, Petak (1985) noted that policy responses tend to group around four key areas—mitigation, preparedness, response, and recovery—and so any emergency will have a distinct etiology and life. Petak's (1985) analysis of the remit of emergency management has been expanded to include "resilience," and Table 1 highlights many of the terms used throughout this article, given the overlap and the tendency for multiple terms to be used within this field.

Emergency management has seen a significant growth in activity since the 1980s, with the 1990s identified by the United Nations General Assembly as the International

Table 1. Key Definitions in the Emergency Management and Planning Literature.

Terms	Definitions
Business Continuity	"The capability of the organisation to continue delivery of products or services at acceptable predefined levels following a disruptive incident" (ISO 22301 and ISO 22313). This could mean an airport business staying operational after an electricity blackout as a result of terrorist attack by using its own generators.
Disaster	"A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources" (e.g., 9/11 and the Nepal Earthquake, 2015)
Hyogo Framework	"The Hyogo Framework for Action (HFA) is the key instrument for implementing disaster risk reduction, adopted by the Member States of the United Nations. Its overarching goal is to build resilience of nations and communities to disasters, by achieving substantive reduction of disaster losses by 2015" (UNISDR 2007; Sendai 2015)
Emergency Management (also stated as disaster management)	"The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. It involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs" (UNISDR). An event covered by emergency management could be a terrorist attack or natural disaster.
Resilience	"The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions" (UNISDR). It offers an alternative to a sustainability program, which essentially means the ability to respond and recover from a shock.

Source: Developed from UNISDR (2015).

Decade for Natural Disaster Reduction (IDNDR), reflecting the growing interest in the evolving field of emergency management and planning. It is natural that emergency management should take on a higher level of prominence as the world's level of connectivity increases. McEntire (2004) argues that the focus on emergency management received an added impetus through the events of 9/11. These events were a catalyst for change, accelerating interest in emergency management and leading to the development of the Hyogo framework in 2005 (see Table 1; also see Sendai 2015). National emergency management in the 21st century now involves a myriad of stakeholders, advisers, and operational teams as a function spanning the public and private sectors, seemingly labeled crisis management and planning, business continuity, business resilience, and risk management. This specialist area of research tends to adopt a reflective case study methodology, focused on settings and the practices of emergency management. The result of these studies is a consensus that there is growing complexity concerning not just the management but also with whom the responsibility of emergency management responses rests. In the United Kingdom, for example, it became mandatory for the public sector, as embodied in the 2004 Civil Contingencies Act (see Walker and Broderick 2006), to complete business continuity plans to improve resilience. Despite the growth in this field of study, Smith (2012) argues that, irrespective of an organization's best intentions, no one has complete control over its macro- or micro-environments, such as its supply chain. The implication here is that both public and private sectors need to have a business continuity planning approach that is able to accommodate different situations to ensure it can continue to operate in the face of adversity. Furthermore, the Hyogo framework in 2005 (also see Sendai 2015) has placed collaboration at the heart of its philosophy, recognizing that disasters or crises can affect everyone and therefore it is everyone's business. This is the tenet of this article, arguing that the collaboration paradigm is a particular challenge that practitioners face because of the fragmented nature of private and public sector responsibilities (Sylves 2015). This is particularly noticeable in the field of tourism where ongoing debates around the question of "whose responsibility is tourism safety and well-being?" largely remain unanswered, given the multiple levels of debate about who should be considering the transient population within areas, which can often exceed the volume of residents during the peak season. The result is a myriad of organizations having partial responsibility for visitor well-being. In a destination setting, this means that it could be a combination of national or local emergency plans that include responsibility for visitors, with tour operators and the host governments of visitors often taking a lead role (often not coordinated with any local plans that may exist) to repatriate its citizens from immediate danger and threat to life.

Within the continuum of emergency incidents that may impact tourism destinations and businesses, it is recognized (e.g., Reiser 2003) that major incidents, although of high impact (e.g., an earthquake, terrorist incident, or other disaster such as aircraft accident/ferry sinking), tend to be of low frequency with major consequences (i.e., multiple loss of life). Consequently, major bodies, responsible for international tourists' well-being, such as outbound tour operators, may have contingency plans for specific destinations when emergencies occur, such as the 2015 Tunisian terrorist attack where 3,000 UK tourists were evacuated. At a destination

level, work and expenditure on planning for, and mitigating the consequences of, emergencies has often been limited. One of the likely reasons for this is the fragmentation of responsibility, as there is often a disconnect between public sector agencies, as well as between public and private sector agents, due to the lack of formal communication and recognition of responsibilities. In some cases, the public sector and private sector may be working on opposite agendas during a disaster, where the public sector is expressing the magnitude of the disaster in a way that may optimize its international support while the private sector may be trying to minimize the apparent magnitude of the emergency to maintain some semblance of business as usual (i.e., business continuity). Disconnection between parties affects the flow of information through poor communication, which can hinder the coordination between parties that, in turn, affects the speed, efficiency, and effectiveness of emergency management and response. Such a "disconnect" tends to fracture information, communication, and coordination and lead to less than effective responses and actions. Therefore, a clear research gap exists in seeking to understand how to overcome this disconnect, given the impact it can have on human life and businesses. These issues can also affect destination reputations when major emergencies occur and organization and responses are deemed to be weak or lacking coordination. With the collaboration paradigm also being a new research focus, this study is both timely and relevant in looking at ways to address the emergency management disconnect. With the effect of 24-hour media coverage, including social media, the failure to provide a timely response during emergency situations means that the issue is on the world stage in full media view and reputational damage is possible.

Understanding the Development of Emergency Management and Planning: The Role of Collaboration

The notion of a command and control approach to national emergency management has dominated thinking on emergency management (see Rintakoski and Alho 2008) but has been losing some of its popularity as management theory has emphasized the value of more collaborative approaches (i.e., Comfort 2007; Moynihan 2005; Waugh and Streib 2006). The command and control model can be traced back to the highly ordered and rational management of Taylor (1911) with the emphasis on a mode of organization in a hierarchical manner to control activities. This article challenges this underpinning thinking by arguing that there is also a role for collaboration and consensus on some areas of emergency management. To assist in differentiating between the command and control and collaborative management approach, Table 2 provides a short summary of the principal differences between each management approach. The command and control approach that was most frequently employed

Table 2. Summary of Command and Control versus Collaborative Approaches to Emergency Management.

Command and Control Characteristics	Collaborative Characteristics
Exercise of power via authority by a single commander over subordinates	Power shared and the team is at its most powerful through consensus
Focus of the leader on planning, directing, coordinating, and determining roles, responsibilities and relationships; reliance upon the leader to find solutions or personnel to solve immediate problems	Model draws upon the transferrable skills of the team to facilitate interaction through engagement with the tasks in hand as well as problem solving as the issues arise in an emergency through collective experience
Militaristic and traditional management model for organizations that is dependent entirely on the characteristics of the leader to inspire the efforts of the subordinates	Team building and consensual management with collective effort and based on sharing knowledge and information

Source: Rintakoski et al. (2008); various sources.

resulted in a militaristic mode of emergency management, perhaps because of the need to provide a top–down planning approach where a named person is responsible for leading the emergency response rapidly. The collaborative approach suggests a relative move from a top–down to a bottom–up approach, incorporating a more dynamic and flexible network that enhances collaboration between and among public and private organizations as the emergency unfolds. This means smaller organizations and communities may not only be involved in operational issues but also taking part in decision making (Waugh 2003) as the etiology of the emergency begins to unfold and be understood as a dynamic phenomenon. Mandell and Keast (2007) suggest that collaboration and sharing leadership and resources may be a better approach given that emergencies develop their own life and pathway.

The argument put forward in favor of collaboration tends to be based on the recognition that national emergencies occur in what is essentially an "open system" where events are exposed to a myriad of causes and consequences and where authority is shared, responsibility is dispersed, and resources scattered. Under such circumstances, a pure command and control approach is neither efficient nor effective in accessing these resources. Patton (2007) focuses on the positive outcomes of collaboration by arguing that social relationships can significantly increase the speed of collaborative decision making. However, these views are challenged by Kapucu, Arslan, and Demiroz (2010), who suggest that a collaborative approach may not be suitable when speed

is of essence to kick-start a relief effort, where there is a need for rapid, clear, and authoritative decision making. Yet, Kapucu (2006) also argues in favor of a shared responsibility suggesting that the emergency management network needs to retain its connectivity, making sure that information flows continue and suggesting a hierarchy and a command and control approach. Moynihan (2005) recognizes that in spite of the support for collaboration, there might still be a role for a command and control approach with respect to successful emergency management, in an adaptable format (Rintakoski and Alho 2008). Moynihan (2008) and Waugh and Streib (2006) argue that a hybrid of collaboration and command and control would be more successful than adopting just one of these approaches.

Comfort (2007) and Selves (2008) highlight the importance of cognition, communication, flexibility, and innovative thinking, as opposed to a command and control approach to accommodate the unfolding etiology of the emergency. The challenge to all of these arguments may, to some extent, depend on the relevant factors one emphasizes in the debate, such as the circumstances of the emergency situation, the specific vertical and horizontal organizational structure of the public and private sectors, access to resources for emergency management and, last but not least, the culture of the affected area. Collaboration may be more difficult to achieve in an international or multicultural context, where there are large numbers of stakeholders, each with different sets of interest as sometimes exists with international aid agencies/ NGOs and relief efforts structured around a common humanitarian focus. Even if the cultures were homogeneous, humans are not always rational and their irrationality may be expected to increase in times of stress, pressure, and uncertainty. Fear of the unknown (such as during an emergency) can be a breeding ground for irrationality, and irrationality is not a sound platform for decision making. The more partners there are in any emergency setting, the more the advantages of enhanced capability through collaboration may be tempered by the increasing complexities, especially with respect to communication and coordination. Waugh (2003) suggests that collaboration can reduce the risks associated with handling a disaster situation when local capabilities might not be able to cope and, thus, there is undoubtedly a need for national emergency management.

Thus, while the literature may provide a sound argument for a joint/collaborative effort when implementing national emergency management, it does not help identify, within that collaboration, which stakeholders should be responsible for specific activities. If it is not possible to attribute responsibilities, then emergency management may be inefficient (especially at a national scale), ineffective, or even chaotic, so that any response becomes stilted. When looking at the core activities of national emergency management (as discussed earlier with reference to Petak 1985), it may be possible to identify some activities being clearly the responsibility of the government (public sector responsibilities), some

where the responsibility lies within the bailiwick of private sector entities (private sector responsibilities) and some activities where the responsibility should be shared. The next section examines whether it is feasible, within a complex system, to create a framework that allocates responsibilities according to the shared perceptions of the stakeholders engaged in national emergency management when responding to a disaster.

Complexity and Modeling in Emergency Management

Waugh and Streib (2006) refer to modern emergency management as being paradoxical. This is because there is pressure to plan and be prepared, yet disasters are impulsive and unpredictable and rarely unfold in the way in which planners conceive. Therefore, emergency managers have to be flexible, adaptive, and innovative, regardless of the planning processes with which they engage. The argument that complexities increase in emergency environments (Coskun and Ozceylan 2011) is compelling, and the literature has linked the relevance of complexity theory to emergency management for disasters (Gilpin and Murphy 2008; Hilhorst 2003; Ramalingam 2013). The literature has highlighted key concepts, such as intergovernmental crisis planning as a complex adaptive system (Comfort, Boin and Demchak 2008) or emergent human behavior during crises (Provitolo, Dubos-Paillard, and Muller 2011). This latter area draws upon what Hayek (1967) referred to as systems based on *organized complexity*. The term "organized complexity" (referred to as complex systems in this discussion) embodies a multitude of concepts that involves "dealing simultaneously with a sizeable number of factors that are interrelated into an organic whole" (Hayek 1967, 69). One of the main issues for this type of system is the degree of explanation that arises in an emergency, where thinking and response times are critical and reflection is a luxury that is often a function of hindsight. The use of a command and control or collaborative approach is largely bound up in the theoretical perspective adopted by emergency planners and management structures that they employ and the former tends to be a traditional management model where cause and effect are closely correlated in their views of how to manage in an emergency.

Within social science, complex systems challenge Taylorist (1911) management views of the world, whereby a scientific planning approach leads to the possibility of a clear outcome from a plan, a feature that is often embodied in command and control approaches, with order being brought to chaotic situations. Over four decades ago, Churchman (1967) and Rittle and Webber (1973) suggested that the search to scientifically solve problems within social science will inevitably fail because they are "wicked" problems as opposed to the "tame" problems within science. In this sense, a tame problem is one that can be solved in a linear fashion,

a mathematical example of this could be solving an equation, where the mission is clear and one would know if the equation has been solved. In contrast, wicked problems lack clarity and goals and so are either unknown or ambiguous (like an emergency or crisis). Wicked problems rely on a number of "elusive political judgments" as Rittle and Webber (1973, 160) posit. In other words, the classical paradigm of science and engineering is not applicable to open societal systems because the theory is inadequate to help us understand or predict the outcomes. The complexity of objectives, shrouded by the complexity of politics, makes it almost impossible to examine unitary aims in open systems. Snowden (2005) suggests that complex problems question the "probity of order." In the Taylorist (1911) world of scientific management, everything should be explainable, but even within sciences, the discovery of a new law is quite a rarity. Essentially because of the cognitive limitations of the human brain, one is not able to see the outcome of a complex system and fully understand it.

These arguments are supported by critical realism (Sayer 1984; Yeung 1997; de Roo, Hillier, and Van Wezemael 2012) which argues that inherent limitations in the ability of the human brain make it difficult to understand all outcomes, so we have a filtered knowledge upon which to make decisions. Hayek argued that because one does not know the law, one cannot predict the outcome (Chettiparamb 2013; Gilpin and Murphy 2008; Sayer 1984; Yeung 1997), and because in practice it might be impossible to test all possible combinations of factors involved, the observation of complex facts will not lead to the invention of new hypotheses from which one can predict outcomes. Deleuze and Parnet (2002) add a further twist to this debate, by arguing that complexities exist because of the alternating relationships between entities (e.g., variables and individuals). They challenge an essential theory of relations. Relations are not part of "things"; instead, they come into play as a result of practice. Relations change while entities remain the same. Kwa (2002) suggested that even if patterns exist in such systems, they are short-term and not sustainable, and elements can form many different types of relationships. Thus, in the context of management, social interactions challenge outcomes and relationships combine politics and power (Hiller 2012). Their view implies that we may get an insufficient response in emergency planning by assuming linear relationships and we need more informed and judgmental forms of decision making, that go beyond the known and more well-known approaches used in social science. Lin and Song (2015) argued that there are four normal methods of seeking to understand a future situation (i.e., a wicked problem such as an emergency); these involve asking stakeholders, asking experts (using approaches such as the Delphi technique), and asking the public through surveys and judgment-aided methods such as scenario writing.

Hayek (1967) argued that it was possible to reverse engineer complex situations, drawing from practice in pure science. This means proceeding from deduction, instead of from hypothesis to deduction, proceeding from the known to the unknown using judgmental methods, a practice that is perhaps most widely used in scenario planning, where the future is uncertain and unpredictable. In the context of emergency management, there are three types of future we need to understand: *what may happen* (possible futures), *what is likely to happen* (probable futures), and *what we would prefer to happen* (preferable futures). The move from deduction means we may approach a given problem, such as a future event, by selecting elements relating to what is known about that event and then determining whether the factors selected are sufficiently present and relevant to the event that one is attempting to explain. Essentially, this is what we describe as a "building-blocks plan" (Kim 2014) for handling national emergencies.

The explanation of principles (Sommerhoff 1950) might yield an easier way of explaining what Hayek argued as going from the known to the unknown, which is why futuring techniques like building scenarios and using judgmental research methods, may help understand the intricacies of how to manage the etiology of an emergency. These research methods neither aim for prediction of specific events, nor are hypothesis-based, which has to be confirmed or rejected. However, it does define a range of possibilities where some are permitted and some are forbidden, in much the same way within scenario planning exercises, where specific rules are introduced. One of the challenges in using such research methods is that while one might be able to explain some of the outcomes, the task of establishing whether or not these outcomes are the result of the operation of certain inputs is more challenging. This is because of the simultaneity of observable and/or unobservable variables involved.

With this discussion in mind and given no one single agent ever has full control during emergencies, this study employs a Delphi technique to seek the views of a group of experts, using their combined accumulated knowledge on managing emergencies, in relation to the challenges and the attribution of responsibility. The purpose was to construct a holistic view that is often used in systems thinking. This study adopts a systematic approach to the views of emergency management in tourism, moving beyond the limitations of individual case studies and the reflective insights often derived from such research methods, to adopt a global multistakeholder approach to derive an understanding of emergency management and its application to tourism. The prime reasoning for this approach was to adopt a more dynamic framework across different organizations and countries to understand the consensual factors at work, as well as the differences that exist between various types of stakeholders in different settings.

Methodology

Disasters, by their very nature can never be accurately or completely known, and most expert and emergency managers reject

the idea of a single most likely scenario in the future (Rikkonen, Kaivo-oja, and Aakkula 2006). For this reason, it was decided to use a research method that draws upon the knowledge and judgment of experts. In this case, a Delphi-Scenario Technique was the most suitable approach to derive expert opinion, globally, from a diverse range of stakeholders. The major methodological contribution in this article is in the combination of scenario planning (see Orchiston 2012; Page and Yeoman 2007; Page et al. 2006; Page et al. 2010; Yeoman, Lennon, and Black 2005; Yeoman et al. 2007 for the application to tourism), with the Delphi Technique as a relatively novel way to bring together the consideration of possible futures (i.e., from scenario planning[1]) with a greater degree of plausibility from stakeholder views through the Delphi technique. The Delphi technique is described by Ng (1984, 48) as a "systematic utilisation of the judgement of experts [that] aims to obtain consensus among judges on informed prediction of future events," which in this case is the behavior and response to a specific crisis-related scenario to understand the most suitable model for managing such an event. Among the key characteristics of the Delphi approach outlined by Lin and Song (2015, 305) are the "anonymity of responses, the iterative nature of the process, controlled feedback, convergence in the distribution of opinions as a consequence of information and a statistical group response." There remains considerable debate over the use of the Delphi technique such as the identification of panel members with the knowledge and expertise, how much iteration to use (which can typically range from 1 to 4 rounds often depending on the resources available), and how far it is possible to achieve consensus. One of the main challenges is the fact that response rates drop with the passing of each round and consensus building will rely on less responses in a later round than they were in the earlier rounds. However, it has been widely used within tourism research for a long period of time (e.g., see a review by Green et al. 1990) and most recently, it was used to assess the future challenges to tourism in a global setting, much along the lines of this study (see von Bergner and Lohmann 2014). A number of emergency management studies have employed the Delphi technique (e.g., Alexander 2002; Hurworth 2005; O'Connor 2007) specifically for tourism and risk studies. This study employs the Delphi technique to identify the challenges that face different stakeholders when handling a natural disaster and to identify who is responsible for managing such a situation.

Survey Design and Procedure

The survey targeted 534 key individuals, in part provided by the UNWTO, who were invited to participate as Delphi panel members (see Figure 1). The database was constructed by the researchers and through the interaction, at a senior level, by the UNWTO with governments and other bodies. The individuals represented senior professionals from a wide cross section of industry sectors (airlines, airports, tour operators, hotels, cruise ships, tourism ministries, civil protection agencies, cabinet offices, university academics, and relevant consultancies) across all continents. In order to increase response rates, an e-mail was sent by UNWTO, to participants explaining the importance of their participation and inviting their responses.

Of the 534 people contacted, 195 agreed to participate and their sector and location details were analyzed to ensure that the distribution still had representative integrity, by sector, country, and continent. A pilot survey led to refining a number of statements on the survey instrument and some additions. An e-mail with a link to the online survey was then sent to each individual on July 2011 in order to maintain anonymity. From the first round, there were 123 responses,[2] from 34 countries, ranging from low to high income and across all continents (see Table 3).

The sample was dominated by responses from Europe (58.5%) and Oceania (15.3%), although smaller numbers of representatives were available from most other regions of the world (e.g., South America, North America, East and Central Asia, East Africa, South Asia), and only three respondents did not provide full details. Two organizations were global in their remit, so their unique status meant they could not be allocated to one specific region.

To add a degree of realism, the study used a scenario and included 18 linguistic variables[3] relating to it (to focus attention on how to respond in an emergency) as well as demographic questions such as the respondent's details and sector in which they worked. Respondents were presented with a COBRA-type scenario (see Seymour and Moore 2000)[4] or the "victim" type scenario according to Coombs (2004).[5] The scenario was designed to focus on a natural disaster and respondents were asked to respond to one situation as outlined in Table 4. However, the focus of this article is on the survey component and how the respondents assessed the management issues.

The 18 linguistic variables (see Table 5) used were based on emergency-related activities, and respondents were asked to identify who should take responsibility for each. We defined a consensus as being reached using the interquartile deviation (IQD). Where a difference equal to 1 or less between the 25th and 75th percentiles was achieved, it was deemed to be a consensus (Raskin 1994). However, given the rather mechanical nature of IQDs, and the ordinal nature of the variables being considered, the distribution of responses on their own merits was also taken into account as a way of establishing when a consensus was achieved.

Findings

After the first round of the Delphi data collection, half of the statements had achieved the consensus threshold, leaving the other half (9) showing a deviation of more than 1, between the 25th and 75th percentiles (3, 4, 5, 1.8, 10, 11, 14, 15, 16, and 17). These 9 questions were then asked again in the second round of the Delphi to try and reach a possible consensus. The second round took place on November 15, 2011, and the survey closed on December 16, 2012.
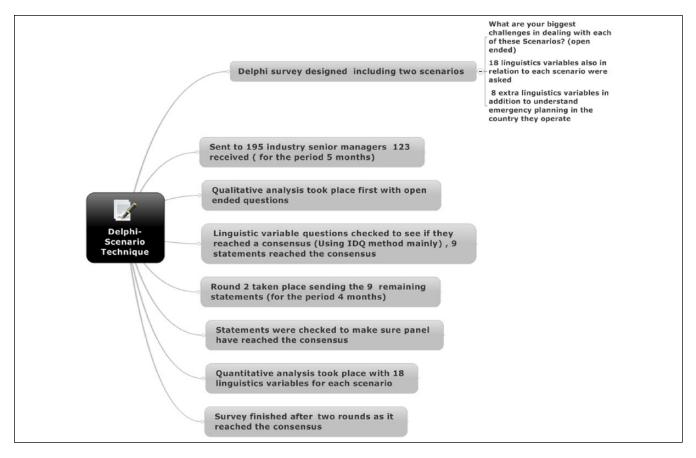
Figure 1. The Delphi process.

Table 3. Distribution of Types of Respondents.

Types of Organizations	Percentage
Government/crisis planning organization	27.7
Tour operators	26.1
Ministries of tourism	17.6
Universities	8.4
Airlines	5.9
Consultancies	4.2
Airports	4.2
Tourism associations	3.4
Hotels	2.5

The respondents were sent an e-mail providing a brief summary of the outcome from the first round, and a link for the second round. Following the second round of responses, the IQD deviation was more than 1 on only four remaining questions (4, 14, 15, 17); despite this, the distribution of responses showed strong support for a consensus in those four.

Analysis

The descriptive statistics show that out of a total of 123 completed responses 61.7% were from the public sector compared with 38.3% from private sector respondents. In terms of the economic status of the destinations being considered, 78.4% were from respondents based in countries considered to be developed, 19% were based in developing countries, and 2.6% were island states. It was interesting to note that only 52% of all respondents (67.7% public and 31.3% private sector) agreed that national emergency management plans are in place in the countries in which they operate (see Table 6). The proportion of public sector respondents aware of national emergency plans could be partly related to the greater awareness of emergency planning in the public sector. The majority (88%) of respondents agreed that during a disaster it is important to use the resources of the travel and tourism businesses in order to respond effectively and, at the other end of the spectrum, only 21.5% agreed that the national tourism organizations (private sector) were the most appropriate organizations to provide a single point of contact between national emergency management agencies and the travel and tourism industry during a major disaster (see Table 6[6]).

There were positive Spearman correlations between staff knowledge and existence of national emergency planning ($r_S = 0.342, p < 0.001$), existence of national emergency planning and training exercise ($r_S = 0.231, p = 0.012$), and staff knowledge and training ($r_S = 0.299, p = 0.01$). The three areas are linked and hence it is not surprising that all three

Table 4. The Two Scenarios.

Scenario A

It is the main tourist season and an earthquake measuring 8.4 on the Richter scale is recorded with its epicenter close to the main tourist area of the country in which you operate. The information you are receiving is scant and lacking detail. In particular, we still do not have reliable estimates of casualties and destruction. However, you do receive reports indicating that the event is serious with deaths reported and significant damage to infrastructure and superstructure. You also are led to believe that some tourists are included amongst the casualties. You have 1,340 customers/tourists in the immediate vicinity plus a further 480 customers/tourists who are scattered throughout the country in remote rural areas.

The main airport remains open with limited services available; many highways and arterial roads are closed as a result of earthquake damage. Power supplies have been interrupted and fires, gas leaks and local flooding are prevalent. Reports are coming in of frequent aftershocks ranging from 4.2 to 5.6 making rescue attempts difficult.

Scenario B

A tourism destination in which you are located/operate has received a weather forecast that suggests that a severe and large tropical Cyclone/Hurricane with wind speeds of up to 240 kilometers per hour is heading in that direction. The system is expected to reach the coastal areas sometime within the next 48 hours, combining with high tide creating a significant storm surge and major flooding to all low-lying areas. The high winds are expected to cause considerable damage to properties. It is peak tourist season and hotels are running at near full capacity, and there are an estimated 3,500 tourists directly in the path of the cyclone and a further 1,350 tourists located in more rural areas in and around the coastal region. The high winds and floods are expected to close the international airport within the next 16 to 18 hours and the main arterial roads to and from the region are blocked as a result of flooding from recent rain and the evacuating population. The power supplies have been intermittent as the high winds have brought down cables.

Table 5. The 18 Linguistic Questions in the Delphi Exercise.

1. Immediately contact tourists in the affected area	10. Contact and liaise with families of own affected staff
2. Arrange travel to repatriate tourists from affected area	11. Set up emergency operations room & crisis planning team (in country/at headquarters)
3. Liaise with hospitals and medical centers where tourists have been taken	12. Regularly update key stakeholders, the media, wider stakeholders
4. Liaise with embassies of affected tourists to assist in identification and repatriation	13. Provide regular information updates to tourists
5. Arrange alternative emergency accommodation for all affected tourists	14. Establish public information call center for tourists' friends and relatives
6. Assist during a post-crisis/disaster investigation by coordinating input from travel and tourism agencies	15. Identification of tourists confirmed missing
7. Coordinate the use of any resources (private and public) by national emergency services (e.g., transport)	16. Identification of tourists confirmed dead
8. Manage internal HR issues to ensure continuing ability to respond—resilience	17. Liaise with religious/faith organizations
9. Assess impact of scenario on destination's ability to perform—reputation	18. Financial assistance arrangements for affected tourists

Note: Private = 1; private more than public = 2; both equally = 3; public more than private = 4; public = 5. (the private sector: national tourist associations, airlines, hotels and hotel associations, tour operators, etc.; the public sector: ministries such as tourism, foreign affairs, health and internal affairs; national, regional, and local emergency services/agencies and tourism authorities).

were correlated, but one might have expected the correlation coefficients to be higher. Overall, these results provide sufficient confidence levels to move on and build the Table Top exercise. This is because there was enough awareness among the respondents regarding the importance of disaster procedures, so awareness raising was not necessary in this instance.

As the primary objective of this study was to allocate responsibilities, respondents were required to identify with whom the main responsibilities should lay for each activity listed in the 18 linguistics variables (see Table 5). The 5-point Likert-type scale for the linguistic variables was collapsed into three to identify (1) private sector responsibility only; (2) shared responsibility, to varying degrees; and (3) public sector responsibility only. The logic of collapsing the scale being based on the fact that it was important to identify which activities should be carried out by "both" private and public sector organizations and which were private or public sector only. Interestingly, by collapsing the responses down

to three categories, the results closely matched those derived from the IQD results. This analysis shows a strong central tendency, suggesting that the majority of respondents feel that there is scope for collaborative responsibilities for the majority of activities (see Table 7), with the exception of tourists confirmed dead, which was felt to be a public sector responsibility compared to tourist search, coordination, communication, and repatriation.

As the data were collected from both public and private sectors, it was important to assess if there was a different perception toward allocating responsibilities between the two sets of respondents. Therefore, respondents were separated into two groups, public or private sector, and a Mann–Whitney (MW) test was used to test the equality of the median of responses according to group. These are all responsibilities, which showed differences between public and private sector responses.

Table 6. Respondents' Attitudes to Emergency Management.

	Percentage of Agreement	Mean
During a crisis, it is important to use the resources of the travel and tourism businesses in order to respond effectively.	88.1	4.10
Our staff know whom to contact at the national regional and local levels when seeking to coordinate disaster management responses during a crisis.	56.9	3.50
National emergency management plans are in place in the country(ies) in which we operate	52.1	3.54
National tourist organizations (public sector) are the most appropriate organizations to provide a single point of contact between national emergency management agencies and the travel and tourism industry during a major crisis	47.9	3.36
I have not seen the national emergency plans for the country(ies) in which I operate	43.9	3.05
We regularly run crisis simulation exercises involving the participation of emergency services public sector and the private sector	39.8	3.05
The majority of tourism businesses in the country(ies) in which we operate are too small to have the skill sets or time to deal with crisis planning	32.2	2.70
National tourist associations (private sector) are the most appropriate organizations to provide a single point of contact between national emergency management agencies and the travel and tourism industry during a major crisis	21.5	2.70

Table 7. Allocation of Responsibilities in Emergency Management: Who Should Be Responsible for What Functions?

	Private	Both	Public
Identification of tourists confirmed dead	0.8	37.5	61.7
Identification of tourists confirmed missing	0.8	49.2	50.0
Coordinate the use of any resources (private and public) by national emergency services (e.g., transport)	0.8	51.3	47.9
Liaise with religious/faith organizations	1.7	62.8	35.5
Establish public information call center for tourists' friends and relatives	3.3	64.2	32.5
Set up emergency operations room and crisis management team (in country/at headquarters)	7.6	70.6	21.8
Regularly update key stakeholders, the media, wider stakeholders	5.0	71.7	23.3
Liaise with embassies of affected tourists to assist in identification and repatriation	0.8	72.5	26.7
Manage internal HR issues to ensure continuing ability to respond—Resilience	16.0	74.8	9.2
Arrange alternative emergency accommodation for all affected tourists	7.5	85.8	6.7
Provide regular information updates to tourists	3.4	86.3	9.4
Immediately contact tourists in the affected area	5.8	90.9	3.3
Arrange travel to repatriate tourists from affected area	5.8	91.7	2.5

Private sector respondents view the public sector as being more responsible for assessing the destination's ability to perform emergency management tasks. In other words, destination business continuity was seen as an activity for the public sector to lead on, with their holistic understanding of how to keep the destination operating. Similar results exist for communicating information, where private sector respondents attributed responsibility to the public sector, with their public relations and marketing functions with the global media to provide a consistent message on behalf of all stakeholders. While all respondents agreed that the identification of dead tourists was a public sector responsibility indicating an underlying responsibility for visitors.

The level of economic development might influence respondents' allocation of responsibilities to the public or private sector because developing countries may not have an abundance of large companies that could take responsibility for emergency management activities, and if they do they may well be foreign-owned companies. Therefore, the level of privatization and foreign direct investment could impact upon the allocation of responsibility. Respondent's countries were divided into three groups: developing, developed, and small island developing states (SIDS). However, given the small sample of SIDS respondents, it was decided to look at just two groups, developed and developing countries. MW tests were run to test the significant differences in the sample. The results suggest that those from developing economies allocated more responsibilities to the public sector than those from developed economies, supporting the view expressed above and underlining the lack of private sector infrastructure and resources in these developing status destinations.

Table 8. Total Variance Explained in the Components.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.680	28.308	28.308	3.680	28.308	28.308	2.127	16.361	16.361
2	2.010	15.464	43.772	2.010	15.464	43.772	2.120	16.306	32.666
3	1.420	10.922	54.694	1.420	10.922	54.694	2.092	16.089	48.755
4	1.137	8.747	63.441	1.137	8.747	63.441	1.909	14.686	63.441
5	0.842	6.480	69.921						
6	0.732	5.627	75.548						
7	0.637	4.901	80.449						
8	0.588	4.524	84.973						
9	0.535	4.118	89.090						
10	0.457	3.516	92.607						
11	0.400	3.075	95.682						
12	0.342	2.627	98.309						
13	0.220	1.691	100.000						

The analysis shows that there are differences between the activities being allocated to public and private sectors. The process leading to the 18-item questionnaire was structured by the intention of measuring four conceptual entities (identification, coordination, tourism support, and communication), which were too amorphous to approach directly. A Cronbach's alpha test was employed to ensure the reliability of the index for overall risk perceptions. The Cronbach's alpha over all of the risk questions was 0.812, and it was noted that deleting one of the questions did not significantly improve the alpha score. To establish if these four conceptual entities could be retrieved as latent variables (factors) from the responses, principal component analysis (PCA)[7] was undertaken. In doing so, five variables (3, 5, 9, 10, 18; see Table 2) were eliminated because their communalities loading were lower than 0.5. The correlation coefficients were then examined to ensure there were variables with a correlation higher than 0.3, MSA = 0.728 > 0.05. This is because if the relationships between the variables are weak, PCA will not help to reduce the data. Bartlett's test examines if the null hypothesis that the original correlation matrix is an identity matrix. If the p value is significant ($p < 0.05$), it tells us that the R matrix is not an identity matrix, and so there are some relationships between variables that we would like to include in the analysis. The p value associated with the Bartlett's test of sphericity was determined to see if it was smaller than 0.05 ($p = 0.0001$). The eigenvalues related with each factor indicate the variance explained by that particular linear component (Field 2005). SPSS then extracts all factors with an eigenvalue of more than 1, which generated four factors as shown in Table 8.

Table 9 shows the rotated component matrix. It is worth mentioning that the rotated matrix distributed the variance reasonably equitably among the factors; so they can now be taken as of roughly equal importance. In a rotated component matrix, to help with data interpretation, the absolute

values less than 0.4 were suppressed, although it is merely an instruction to print values >0.4 to the output file (Field 2003). The rotated component matrix extracted four components (see Table 9). This matrix contains the loadings of each variable onto each factor. Both observation of the eigenvalues and factor loading in the rotated component matrix have led to the identification of four distinct components in this matrix. Table 9 shows the factor matrix for the four-factor rotated matrix; each factor accounts for about 16% of the variance explained by this model. Only those factor loadings greater than 0.4 are shown, to emphasize the variables contributing most to the interpretation of each factor.

The components extracted can be summarized as follows:

- Component 1 is labeled as identification activities that are concerned with locating people after an emergency;
- Component 2 can be identified as being focused on coordination activities;
- Component 3 is labeled tourism support activities; and
- Component 4 is focused on the theme of information (communication) activities.

This reinforces the broad findings, with the exception of statement 13, which created some noise in the data. The loading is relatively strong in two factors, instead of the remaining factors, which group into a single component, with the majority loading more than 0.6.

Figure 2 is a three-dimensional graph of the factor results, and each axis represents the level of agreement between participants on the allocation of responsibility (public, private, shared) for each of the 13 variables included in the four factors of the PCA. The 13 small symbols are the 13 variables, coded to identify the factor they are most strongly associated

Table 9. Rotated Component Matrix.[a]

		Component			
		1	2	3	4
1.	Immediately contact tourists in the affected area			.739	
2.	Arrange travel to repatriate tourists from affected areas			.830	
4.	Liaise with embassies of affected tourists to assist in identification and repatriation		.502		
5.	Arrange alternative emergency accommodation for all affected tourists			.760	
7.	Coordinate the use of any resources (private and public) by national emergency services (e.g., transport)	.725			
8.	Manage internal HR issues to ensure continuing ability to respond—resilience		.831		
11.	Set up emergency operations room and crisis planning team (in country/at headquarters)		.693		
12.	Regularly update key stakeholders, the media, wider stakeholders		.702		
13.	Provide regular information updates to tourists			.404	.610
14.	Establish public information call center for tourists' friends and relatives				.718
15.a.	Identification of tourists confirmed missing	.784			
16.a.	Identification of tourists confirmed dead	.836			
17.	Liaise with religious/faith organizations				.672

Note: Extraction method: principal component analysis; rotation method: varimax with Kaiser normalization.
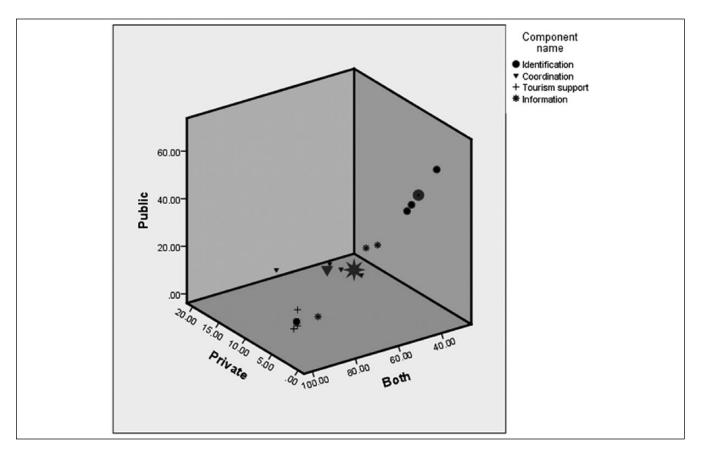

Figure 2. Allocation of responsibilities by each component.

with. The four larger symbols represent the interparticipant responsibility type averaged over within-factor variables.

Figure 2 suggests that there are four distinct groups of responsibilities based on the allocation of responsibility to the private sector, shared responsibilities, and the public sector agencies. While tourist identification clearly falls within the remit of the public sector, the coordination and information (communication) clearly sits as a shared responsibility,

with information sharing also seen as being more a public sector responsibility compared with coordination. Tourism support was found to be relatively aligned toward the private sector.

Summary of Findings, Discussion, and Implications

Earlier in this article, a number of key studies posited the case for collaboration in emergency management (i.e., Comfort 2007; UNISDR 2005; Kapucu 2006; Moynihan 2005; Patton 2007; Smith 2012; Waugh 2003; Waugh and Streib 2006), although these studies do not map to the allocation of responsibilities, particularly when tourism is one of the stakeholders. The argument presented from a theoretical perspective is that we need to focus on explaining the principles for (see Hayek 1967) emergency management rather than on detailed planning measures. Then, through the use of a building-block approach (see, e.g., Kim 2014; Overy 1993; Perry 2004), we set up a Table Top exercise in order to allocate the responsibilities, having designed a COBRA scenario (see Table 4) in a relatively simple form using the Delphi approach.

Within Table 5, a total of 18 responsibilities were examined to see if there was a different perception toward allocating responsibilities between agents in the public and private sectors. The outcome suggested that only in three areas were there differences between them. In terms of the impact of the scenario on the destination, the role of constructing and disseminating information to tourists and the private sector is perceived to be a public sector responsibility. On the other hand, the public sector perceived the role of identifying tourists confirmed missing as mainly their own responsibility. Overall differences in all three statements proposed that more responsibility should be perceived to be the public sector's.

Some 18 responsibilities were assessed in relation to the respondents' locations, but there was disagreement in two statements where developing counties saw responsibility for the repatriation of tourists and coordination of resources as a public sector responsibility. These findings emphasize that there are very few differences between the stakeholders in relation to the allocation of responsibilities. However, this is not a universal view, because the resource base of developing countries suggests a greater dependence on the public sector, which, under such circumstances, is perceived as the lead organization having access to resources. Contingency theory (see Fielder 1964) suggests that things change, and different environments (i.e., different cultures among stakeholders) place various requirements on an organization. Emergencies create a situation of increased uncertainty and, for example, in a high uncertainty avoidance culture, a collaborative communication approach might fail (Guirdham 2011). It is unrealistic to have a one-size-fits-all management model for countries with different political, organizational, and geographical boundaries (i.e., a country comprising multiple islands vs. a land-locked country). Different countries are likely to have various solutions to the allocation of responsibility for handling tourists and tourism within a wider national emergency management response framework. Some governments have included such a responsibility within the overall remit of the national emergency management agency or ministry. Others may allocate the responsibility within the remit of the Police or Civil Protection agencies.

In addition and perhaps more importantly, despite agreement on the principle of how both public and private sector agents would translate this agreement into action, in reality it could only be seen in a live exercise or real situation. Different bodies have different agendas, which could affect this initial agreement. Despite this, an average of 71% of the respondents felt a collaborative approach to be appropriate while allocating more weight toward public sector responsibility. That is a seed change from command and control to a more flexible collaborative approach (Comfort 2007; Selves, 2008). Therefore, the analysis moved on to create the model on the basis of the overall allocation of responsibilities, as there were few differences between private and public sectors. The outcome of the PCA (see Table 9) shows that there were four dimensions: identification, coordination, communication, and tourism support. Responsibilities were allocated to these dimensions on the basis of the level of agreement among the participants and between the private and public sector agents, and the results are shown in a three-dimensional pattern (see Figure 2). Tourism identification was clearly associated with the public sector, coordination and information was seen to be a shared responsibility, with information leaning more toward the public sector and tourism support in the hands of the private sector as part of this Table Top exercise.

The literature suggests that emergency management shares its characteristics with complex systems, with the degree of explanation scarce in general and solutions often seen in hindsight. In this sense, the prediction of the entire outcome seems challenging (de Roo et al. 2012; Sayer 1984; Snowden 2005; Yeung 1997) as the problems themselves often lack clarity. At the same time, business continuity for both public and private sectors requires planning for the unexpected (Petak 1985), which makes detailed planning a fluid and ever-changing notion. In contrast, some researchers (e.g., Israeli and Reichel 2003; Mansfeld 1999; Okumus and Karamustafa 2005) suggest that a more proactive approach to emergency management is necessary while arguing that almost nothing can be learned from one disaster to another (Mansfeld 1999). Of course, one could be prepared for particular types of emergencies (e.g., London 7/7 July) that could partly be a matter of good fortune where a team is prepared for an emergency situation that actually happens. Building an approach that one could apply to different types of emergencies means that one has to go from the known to the unknown for the explanation of principles as advocated

by Sommerhoff (1950). This means allocating the overall responsibilities without predicting the outcome in advance and being "more flexible," an approach also popularized by Comfort (2007) and Selves (2008)).

The findings illustrate a germane theme from the extant literature on emergency planning relating to the significance of shared responsibility in both coordination and information sharing, and the need for allocated responsibilities for partners to work collaboratively, although with limitations. The distribution of appropriate information to the collaborating partners in emergencies is a complicated issue, and effective coordination is highly dependent on information sharing, which Kapucu (2006) recognizes as an ongoing problem in emergency management. In this sense, our solution could also be a problem. This assumes an even greater significance for international tourists, who may be in an unfamiliar locality where information and knowledge of the host country is scarce and the media becomes the main purveyor of knowledge in the absence of accurate knowledge. Within the destination, the lack of information could create duplication of activities (McEntire 2007), which can be time consuming, misleading and, at times, very costly in human, financial, and reputational terms. Therefore, where responsibilities are shared, communication between the private and public sectors is a critical one where social media has given an ever-increasing power to the public to communicate among themselves, requiring a speedy response from organizations in emergency situations.

Turning the focus to more tourism-specific challenges, under the scenario presented two main sets of components were identified; tourism identification and tourism support (see Table 9). Tourism identification included finding missing and dead tourists and liaising with religious faith groups and other agencies (i.e., the Red Cross), which are NGOs, and the coordination of the use of any resources. This, it is suggested is a public sector responsibility. Although recovering bodies could take up to weeks, the rapid recovery of dead bodies is essential and requires expertise, including counseling services to address the psychological effects, forensic services to identify the condition of bodies, and confidentiality in handling these issues. Therefore, attributing the responsibility to one sector instead of multiple sectors could speed up procedures and provide the necessary consistency (Kapucu 2010; Moynihan 2005). There is an assumption among emergency managers that the needs of tourists can be addressed in the same way as dealing with the needs of the local community. But in terms of international tourism, the visitors (both the living and those injured/deceased) need to be repatriated and the dead not buried, as seen in the case of the Mecca stampede, otherwise they get incorporated in the list of missing persons. Tourists' dead bodies present further challenges when their families might need to visit the destination to identify bodies. Other issues such as language and the lack of shelter and medical infrastructure may not exist in areas close to where mass tourism takes place. Thus, care

must be taken by local emergency planners to ensure that all citizens, including tourists and those that work in the tourism industry, have access to medical assistance in an emergency.

In contrast, respondents felt that tourist support, such as repatriation, finding alternative accommodation, and dealing with active living persons were more the responsibility of the private sector, such as airlines, hotels, and tour operators. These organizations often have evacuation plans prepared in the country from which the tourists originated (largely in developed nations). The recent terrorist attack in Tunisia shows that evacuation was heavily dependent on tour operators to repatriate visitors via flights they organized in their emergency plans (Killelea 2015); those who were wounded or dead were brought back home by military aircraft.

Conclusion

The purpose of this study was to allocate emergency management–related responsibilities between public and private sector agents, during a COBRA-type scenario where tourism is a major component. Using a Table Top approach, the findings distinguished between those responsibilities that are capable of being managed in a command and control model and other areas that were seen to require a collaborative approach. These findings demonstrated more accurately where the allocation of responsibilities should lie while providing empirical support for the theoretical arguments of using building-blocks as the most effective way to create emergency planning models (Kim 2014). This approach combines a greater degree of collaboration and judgmental thinking to be more responsive to the etiology of emergencies that have their own life cycle.

The purpose of this study was not to offer detailed planning solutions for emergency management situations. Instead, it adopted a more theoretical approach derived from the seminal study by Hayek (1967) that conceptualizes the journey in emergency management as one of going from the known to the unknown, in order to deal with the wicked problems (Rittle and Webber 1973; Snowden 2005) rather than adopting the more conventional Taylorist models. This illustrates the interdisciplinary contribution of management thinking and the need to re-evaluate how we approach the subject using empirical justification. Yet what such management thinking demonstrates is that because one does not know the cause, one cannot know the effect in an emergency management setting, a Taylorist model is not necessarily the most suitable paradigm. Taylorist models may appear very rational; human beings by their very nature are susceptible to shocks, to varying degrees, from which irrational responses may emerge through fear and the irregularities of crises. This makes the planning process challenging, and collaboration presents the potential for a fluid process that ebbs and flows through the etiology of an emergency. The article provides a methodology that creates a conceptual framework, where countries can adapt to their own settings and situation, or at

least be aware of the main challenges that could help determine the allocation of responsibilities, which again are determined by the nature of the emergency.

There are limitations to this study that could, in future, be tested in order to see if the outcomes are similar to those achieved here. Popper (1957) pointed out that every genuine test of a theory is an attempt to falsify it. The limitations of this study arise from the fact that 78.4% of respondents were based in the developed world, and of the remaining 21.6%, only 2.6% were from SIDS. Given that the allocation of resources in the public and private sectors in the developing world are markedly different, it would have been better if we had had a larger sample, as ignoring specific challenges, particularly with respect to small islands, could limit the general applicability of our findings. In spite of the good response rate, the sampling frame was not large and therefore it may have affected the statistical power of the analyses. The study used two scenarios but only one of which was in this study; the outcome could have been different if the scenario set was different. It is advisable to road test scenarios using different samples of emergency managers in specific countries in order to test the reliability of the outcomes for any given destination.

To develop this strand of thinking, an important follow-up study would be to evaluate the nature of country-specific plans and the manner in which they are regularly road tested and challenged, by drawing on best practice across this emerging sector of research, as outlined by Kim (2014) in the UK context. For destinations with established emergency plans, the results help question whether those existing plans are robust and workable if the responsibilities are fragmented or if the risks of emergencies are heightened by very large gatherings of tourists (e.g., the Hajj stampede in 2015). This study used a macro approach to emergency management, testing, and only one type of scenario, which means that other forms of research on other types of scenarios, both at the micro and macro level, would be valuable to examine other implications. Furthermore, more theoretically informed research could examine network theories and their relationship with respect to the collaboration aspects of emergencies, such as communication between and among stakeholders, where social media gives power to voluntary members of the media (public) and communication becomes both a problem and a solution. In addition, the cultural dimensions of these communication forms could be taken into account to see if a collaborative approach could be useful in every case.

Emergency planning and management is growing in significance globally and this study emphasizes the anchor role of the public sector as the arbiter of tourist well-being in emergency situations. A command and control model may not necessarily be the most effective approach, given the breadth and scope of possible emergencies, and it needs to be recognized that no one individual can possibly grasp or comprehend or be prepared for all eventualities. Drawing on collective knowledge and expertise to derive intellectual collateral and knowledge appears to be the most effective model where a greater team effort can be built to allow greater adaptability and fluidity as emergencies unfold and develop.

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Notes

1. Scenario planning helps to create choices based on looking at alternative possibilities framed around three questions: *what may happen* (possible futures), *what is likely to happen* (probable futures), and *what we would prefer to happen* (preferable futures).
2. The sample included in Table 3 were senior managers, with 33% of them female respondents. The sample included major international airlines. The airports included major hubs throughout Europe, the United States, and those based in the Southern Hemisphere. The major tour operators included companies responsible for a large proportion of European and American travelers, including more specialist tour operators as well as large cruise ship organizations. The emergency services and governments included heads of police forces, attorney generals, heads of emergency management institutes, cabinet offices, national disaster management organisations, government foreign offices, a capital city resilience team, and the European Commission's DG ECHO–Emergency Response Unit.
3. A linguistic variable is one whose values are composed of words or phrases. In this article, a Likert scale was assigned to linguistic variables, for example, Private only = 1, Private more than Public = 2, and so forth).
4. COBRA: This represents the type of negative event that strikes with little or no warning, such as the case of a terrorist attack or an earthquake. Thus, except for risk reduction strategies and disaster management planning and simulation exercises, there are no specific activities involved until the occurrence of the event. From that time forward, the activities will be either response orientated and/or recovery strategies.
5. Coombs (2004) proposed a crisis attribution theory based on attributions of responsibility.

6. The targeted selection of participants and the participative and iterative nature of the process results in a sampling procedure that meets few of the assumptions required by the inferential analyses and models reported in this section. Caution must, therefore, be exercised in the literal interpretation of these results. However, the variables used in Table 6 were established in the first round of consensus building, and analyses involving them are likely to be moderately generalizable.

7. Design and sampling concerns (see PCA) are more important in this context, as iterative adjustments may influence patterns of covariance between variables repeatedly considered by participants. The analysis reported is one of three analyses that were carried out to estimate the importance of these concerns: first iteration variables, second iteration variables (the reported analysis), and variables averaged over both iterations.

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