



International Journal of Tourism Cities

Destinations' response to terrorism on Twitter
Danielle Barbe, Lori Pennington-Gray, Ashley Schroeder,

Article information:

To cite this document:
Danielle Barbe, Lori Pennington-Gray, Ashley Schroeder, (2018) "Destinations' response to terrorism on Twitter",
International Journal of Tourism Cities, <https://doi.org/10.1108/IJTC-04-2018-0027>
Permanent link to this document:
<https://doi.org/10.1108/IJTC-04-2018-0027>

Downloaded on: 18 August 2018, At: 23:29 (PT)
References: this document contains references to 72 other documents.
To copy this document: permissions@emeraldinsight.com
The fulltext of this document has been downloaded 15 times since 2018*



Access to this document was granted through an Emerald subscription provided by emerald-srm:264987 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Destinations' response to terrorism on Twitter

Danielle Barbe, Lori Pennington-Gray and Ashley Schroeder

Abstract

Purpose – The purpose of this paper is to understand the online communication strategies used by destination management organizations (DMOs) during a terrorist attack. In particular, this study analyzes Twitter use during seven terrorism incidents in six European cities (Paris, Brussels, Nice, Berlin, London and Barcelona) between 2015 and 2017.

Design/methodology/approach – Twitter content was collected via NCapture, a web browser extension of NVivo, one week prior to the attacks, the day of, and two weeks following to determine the timeframe in which DMOs communicated about the crisis, the types of messages being communicated, and whether these messages are effective. This study uses Coombs' Situational Crisis Communication Theory as a guide to analyzing the effectiveness of the crisis communication strategies.

Findings – The findings of this paper indicate that DMOs are not effectively using Twitter during a terrorist attack. Few tweets relating to the attacks provided tourists with information regarding their safety, with the remaining only communicating as victims. Many DMOs went offline in the days immediately following the attacks and each DMO's crisis communication on Twitter only lasted up to one week following the attacks.

Originality/value – This study provides insight into the ways DMOs are using social media for crisis communication. These results inform DMOs on their responsibility in communicating information during a terrorist attack. Messages of support are useful in the recovery stage, but tourists need information on how to stay safe and Twitter is often the first source people go to for information (Simon et al., 2014).

Keywords Social media, Tourism, Twitter, Crisis communication, Terrorism

Paper type Research paper

Danielle Barbe is based at the Department of Tourism, Recreation and Sport Management, University of Florida, Gainesville, Florida, USA.

Lori Pennington-Gray is Professor at the Department of Tourism, Recreation and Sport Management, University of Florida, Gainesville, Florida, USA.

Ashley Schroeder is based at the Department of Tourism, Recreation and Sport Management, University of Florida, Gainesville, Florida, USA.

The threat of terrorism in tourist destinations is currently at the highest level seen in years. In 2016, the number of terrorist attacks increased 14 percent worldwide (AON, 2017). Of all regions, Western countries are experiencing the greatest increase in terrorism, with an increase of 174 percent (AON, 2017). Many countries who experienced the greatest number of tourism arrivals in 2016 similarly saw increases in their terrorism risk levels. Particularly, France and the UK are now in the top 20 most terrorism-afflicted countries, with Germany also making its way up the list after experiencing 17 terrorist attacks in 2016 (AON, 2017). These incidents have left the tourism industry at a loss of words, wondering what can be done to prevent or mitigate the risk of terrorism.

When terrorism occurs, destination image is affected and, subsequently, the destination can experience a decrease in tourism arrivals. While there are many events that have negative consequences on tourism, terrorism is perhaps the most detrimental (Baker, 2014; Sönmez, 1998; Sönmez et al., 1999). Terrorism is not accidental, is difficult to prevent, and has a widespread affect, particularly when it is in a destination that attracts visitors from various parts of the world. Terrorism is an intentional act with the purpose striking fear for hopes of political gain (Sönmez, 1998; Sönmez et al., 1999). It is because of these characteristics that the risk or threat of terrorism to a destination has severe impacts on its tourism industry.

Strategies to reduce the effects of terrorism on a destination include incorporating a crisis management plan and increased marketing efforts to restore the destination's image. Both of these strategies include crisis communication tactics. Crisis communication is vital when a terrorist attack occurs as tourists will be seeking information and their safety needs to be reassured.

Received 19 April 2018
Revised 5 June 2018
Accepted 28 June 2018

© International Tourism Studies Association

While crises, such as terrorist attacks, are negative for a destination, they also provide an opportunity for the destination to increase their image and reputation by providing an appropriate response (Ulmer and Sellnow, 2002; Ulmer *et al.*, 2017).

With the proliferation of social media, platforms, such as Twitter, are becoming increasingly popular channels for organizations to communicate and engage with their stakeholders. As such, social media is also being used as a tool for crisis management, enabling organizations to detect potential crises, monitor public discourse, understand public perceptions and communicate with their stakeholders during crisis events (Liu *et al.*, 2015). Twitter, in particular, is a vital channel of communication during a crisis because it is often the first source people go to for information online (Simon *et al.*, 2014). Twitter, as a form of “news medium,” states the headlines first and provides links to other media forms for supplementary information. Twitter is known to provide faster updates than traditional media channels, allowing it to be a better communication tool during a crisis period when the most up-to-date information is needed (Simon *et al.*, 2014). Compared to Facebook, Twitter focuses on “what’s happening” (Hays *et al.*, 2013) and, as a result, is considered to be a more useful tool for crisis communication.

The purpose of this study is to understand the strategies used by destination management organizations (DMOs) on Twitter during and after a terrorist attack occurs, as well as their impact. Through an analysis of seven terrorist incidents in six different European cities, this study seeks to answer the following research questions:

- RQ1. Are DMOs using Twitter to communicate during and after a terrorist attack?
- RQ2. What crisis communication strategies are being used by DMOs on Twitter?
- RQ3. What is the time period for crisis communication on Twitter? In other words, how long are DMOs communicating about the incident?
- RQ4. How are stakeholders engaging with the messages?
- RQ5. Do the communication strategies on Twitter change in the post-crisis recovery period?

Literature review

The threat of terrorism in tourist destinations is not new and has been impacting the industry since the mid-1900s. The number of destinations being affected by terrorism, however, is increasing in recent times. Institute for Economics and Peace (IEP) (2017) found that more countries experienced at least one death from terrorism in 2016 than any time in the past 17 years. At least 106 nations experienced at least one terrorist attack, with 77 countries experiencing at least one death from terrorism. The growth in terrorism-affected countries can be seen in the comparison from 2015, where 95 countries experienced terrorism and 65 experienced at least one terrorism-related fatality (IEP, 2017). In Europe and other developed countries, 2016 was the deadliest for terrorism since 1988 (excluding the September 11 attacks).

Defining terrorism is not easy as there is no universally accepted definition. The *Merriam-Webster Dictionary* (2018) defines terrorism as “the systematic use of terror especially as a means of coercion.” In the academic literature, terrorism is defined as the premeditated use or threat of violence against civilian targets for political, religious or ideological objectives through intimidation of a large group of people (Ganor, 2002; Enders and Sandler, 2002; Lutz and Lutz, 2013; Ranga and Pradhan, 2014). Similarly, IEP’s Global Terrorism Index (GTI) defines terrorism as “the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation” (IEP, 2017). This definition sees terrorism as not only physical, but also psychological, impacting societies for years following. Furthermore, for the purpose of this study, the GTI criteria for determining what constitutes as terrorism are used to select the destinations for analysis. These criteria include the following: the incident must be intentional; the incident must involve violence or the threat of violence; the perpetrators must be sub-national actors; the act must be aimed at attaining a political, economic, religious or social goal; the act must include an intention to coerce, intimidate or convey a message to a large audience; and the act must be outside the principles of international humanitarian law (IEP, 2017).

AON partners with The Risk Advisory Group and Continuum to provide annual reports on global terrorism and political risk. For the third year in a row, there was a net growth in political violence and more countries experienced increased risk levels than decreased (AON, 2018). The global risk level in 2017 was the highest since the 2012 Arab Spring, and increased again in 2018. These scores, however, are not reflective of the number of deaths from terrorism. In fact, since the peak in 2014, the number of deaths from terrorist attacks in 2017 declined by 22 percent (AON, 2017). The increased risk levels are instead reflective of the spread of terrorism. AON's most recent report found that 40 percent of all countries were exposed to terrorism and sabotage risks, with 46 countries rated as having high or severe risk levels (AON, 2018).

Western countries, in particular, experienced the greatest increase in terrorism violence, with a 174 percent increase in attacks and 25 percent increase in casualties. The risk scores worsened for Germany, the UK, and the USA (AON, 2017), as well as Spain (AON, 2018). In 2016, the UK was in the top 20 most terrorism-afflicted countries. Germany, however, saw one of the greatest increases with a rise from two terrorist attacks in 2015 to 17 in 2016. Four of these events resulted in 77 injuries and 14 fatalities, the worse of which occurred in Berlin on December 19. In terms of terrorist attacks, Germany is now comparable to the UK, France and Belgium (AON, 2017).

Of the 189 fatalities in Western countries in 2017, 99 (52 percent) were a result of vehicle attacks. For the first time ever, the use of vehicles as improvised weapons became the most lethal form of attack in western countries (AON, 2017). The impact of these vehicle attacks can be seen in the cases of Nice, Barcelona, Berlin and London (which represent five of the seven attacks analyzed in this study). These vehicle attacks are less sophisticated, easier to execute, and less costly, making them more difficult to detect (IEP, 2017).

Terrorism in western countries tends to occur in areas that are unsecured, crowded, can yield mass casualties, and can cause high levels of disruptions (AON, 2017). These factors cause the tourism industry to be particularly vulnerable (AON, 2017). More than 80 percent of all terrorism-related fatalities in 2017 occurred in locations with high volumes of tourists, with at least 44 attacks targeting critical sectors of the tourism industry, including hotels (20), attractions (13), transportation (6), concerts (2) and others (3). In Barcelona, 73 percent of fatalities from the vehicle attack in August 2017 were foreign tourists (AON, 2018). These attacks are having severe consequences on the industry. Destinations such as Barcelona, London and Las Vegas each experienced the economic impacts of cancellations, decreased tourist arrivals and lower ticket sales after attacks in 2017 (AON, 2018).

Terrorism and tourism

The current increase in terrorism in tourist destinations is not unwarranted. With the purpose of terrorism being to create fear among large populations, tourist destinations provide areas where a broad international audience can be reached, forcing more media coverage, political involvement and a greater overall impact. The increase in terrorism has been attributed to modernity, globalization (Dobreva, 2015) and the growth of mass communications (Sönmez and Graefe, 1998). With the purpose of terrorism being to use violence and intimidation to achieve political aims, terrorists target multiple nationalities forcing political parties from other nations to get involved. For example, citizens of countries with large political power, such as the USA and UK, are often a target for terrorism as it requires their government to step in on the issue. Similarly, targeting citizens of multiple nationalities helps guarantee that the message of their terrorist attacks gains international media attention. By providing an area for people of multiple nationalities to gather, tourism becomes vulnerable to terrorism (Tarlow, 2014).

There is a strong inverse correlation between tourism and terrorism. While terrorism benefits from targeting tourists, tourism suffers from terrorism. Dobreva (2015) states, "as the 21st century faces tourism as the leading economy, it also faces terrorism as the leading threat." An increase in terrorism increases tourists' risk perceptions and, as a result, they may change their travel plans to avoid going to certain destinations or cancel their plans completely (Sönmez and Graefe, 1998). This can significantly impact the number of tourist arrivals, affecting the economy of a destination and its host community.

The decline in tourist arrivals brings with it a vast economic impact. As a major economic industry in many countries, an attack on tourist destinations negatively impacts the country's economy. The threat of terrorism was blamed by the World Tourism Organization for \$105bn in lost tourism dollars in 1985 (Sönmez and Graefe, 1998). Two months following the attacks in Paris, hoteliers reported losing hundreds of millions of dollars, and the attacks in Brussels, Belgium are estimated to cost \$57.9m per day (Mindock, 2016). The increase in terrorism has caused high perceptions of risk in traveling to certain destinations and regions (Sönmez and Graefe, 1998), leading to declines in tourism numbers and a negative effect on the industry as a whole.

To combat the negative effects of terrorism, it is imperative that destinations invest in risk and crisis management programs. On a national level, counterterrorism approaches are aimed at increasing security measures and initiating policies to counter or prevent violent extremism. While these measures can benefit both residents and tourists, the industry also needs to be involved and reassure tourists about the safety of the destination. As terrorist attacks are unpredictable and immediate, strategic crisis communication aimed at tourists is pertinent in providing immediate, accurate information about how they can be safe. After an attack has occurred, successful crisis communication strategies can allow a destination to become more resilient to the negative effects that terrorism causes.

Crisis communication in tourism

When a crisis, such as terrorism, occurs, it is crucial that stakeholders are provided with information that ensures their safety. As the tourism industry is severely impacted by crises (Faulkner, 2001; Pforr, 2006; Ritchie *et al.*, 2004; Ritchie, 2004; Stafford *et al.*, 2002), communication is not only critical for providing information to tourists, but also in maintaining their reputation and image. Effective crisis communication can reduce the negative impacts caused by terrorism by limiting the negative media coverage and managing perceptions during as well as after the crisis occurs (Ritchie *et al.*, 2004). Strategic crisis communication presents an opportunity to help reposition the destination as safe, repairing the damage caused by the crisis (Coombs, 1999). Absence or lack of communication is viewed more negatively than providing information that could increase perceptions of risk, as it reduces the public's trust (Seeger, 2006).

Crisis communication in the tourism literature is prevalent, however, few studies have focused on DMOs as a communication source (Pennington-Gray, London, Cahyanto and Klages, 2011; Pennington-Gray, Thapa, Kaplanidou, Cahyanto and McLaughlin, 2011; Pennington-Gray *et al.*, 2009). Those that have studied DMOs focus mainly on overall crisis management and crisis planning (Avraham, 2015; Blackman *et al.*, 2011; Blackman and Ritchie, 2008; Fall, 2004; Wang and Pizam, 2011; Young and Montgomery, 1997), very few concentrate on crisis communication by DMOs (Pennington-Gray, London, Cahyanto and Klages, 2011). There is an even greater gap in the tourism literature on crisis communication during terrorism (Avraham, 2013; Mair *et al.*, 2016; Sönmez *et al.*, 1999) and even fewer look particularly at the use of Twitter for crisis communication (Pennington-Gray and Schroeder, 2013). DMOs are the organization responsible for the management and marketing of a destination (World Tourism Organization, 2004). In both their role as managers and marketers of the destination, communication is vital in ensuring the destinations' success. Additionally, due to the ability of social media to instantly distribute information to large masses (Sigala, 2011), this medium is a successful tool for crisis communication (Tourism Crisis Management Initiative, 2013).

Terrorism provides a unique frame to study crisis communication as the destination has no fault in the event and is itself a victim. This lack of responsibility for the crisis often results in a recovery-centered approach, where the destination focuses on communicating after the event occurs (Coombs, 2007a, b). However, the destination is also responsible for the safety of its guests and, therefore, needs to be proactive and provide information during the event that will increase tourists' safety. Coombs' (2014) Strategic Crisis Communication Theory (SCCT) discusses several ways in which an organization can communicate during a crisis. SCCT uses an attribution approach to understand and recommend a strategic crisis response. This study employs SCCT to understand the strategies used by DMOs on Twitter.

Coombs' (2014) SCCT suggests that there are three components which are required when communicating a strategic crisis response. First, instructing information is used to explain the crisis to stakeholders. Second, adjusting information assists stakeholders in coping with the crises. Finally, reputation management is the actual response used by the organization to address the crisis in an attempt to protect reputational assets (Coombs, 2014). Reputation management has four postures: denial, diminishment, rebuilding and bolster (Coombs, 2014). Each contains common strategies used in crisis response. Denial is an attempt to deny responsibility. Diminishment occurs when excuses and justifications are made by the organization. Rebuilding is an organization's apology for a crisis and/or allocation of some form of compensation. Lastly, bolstering occurs when the organization portrays themselves as a victim (Coombs, 2014).

Social media have significantly changed crisis communication practices (Schroeder *et al.*, 2013). With more than 1.59bn social media users (Chaffey, 2016), information can be spread at a faster rate and to larger audiences than ever before. As an electronic word-of-mouth medium, information on social media are seen as more reliable and has substantially longer carry-over than traditional information sources (i.e. news coverage) (Trusov *et al.*, 2009). Social media enables real-time communication between those providing information and those seeking it (Sigala, 2011), allowing it to be an important tool for crisis communication.

Microblogging platforms, such as Twitter, are often the first source people go to for information online. Twitter, as a form of "news medium," states the headlines first and provides links to other media forms to provide supplementary information. Previous literature has shown that Twitter is a prominent tool during terrorism. For example, Simon *et al.* (2014) found that during the Westgate Mall terrorist attack in Nairobi, Kenya, emergency responders, government agencies and security personnel each used Twitter as a predominant way to communicate information while the events were unfolding. Similarly, Cheong and Lee (2011) found that for both the terrorist attacks in Mumbai, India and Jakarta, Indonesia, Twitter was the first medium that reported news of the incident. Critical to both these cases is the need for not only timely, but also accurate information. In the study of Mumbai and Jakarta, information was led by citizens (not official sources) and, therefore, the risk of spreading misinformation to the public is greater (Wendling *et al.*, 2013). When a crisis occurs in a tourist destination, it is critical that information from the DMO is first, honest, and accurately conveyed to the visitor. Particularly, when that information involves specific instructions about area evacuations, safe locations, hotlines or emergency contact numbers.

As DMOs play a key role in the crisis management of a destination, assessing their online communication strategies during a terrorist attack will provide greater insight into their effectiveness in maintaining tourists' safety. Hays *et al.* (2013) explored DMOs' social media use and categorized this use into multiple categories, namely, customer service, promotion, contest-related, request for user-generated content and information providing. The researchers used both Facebook and Twitter and found that although the purpose of each platform differs, DMOs posted similarly on each platform, leading to ineffective social media strategies (Hays *et al.*, 2013). The primary strategies used by DMOs on social media were promotional and marketing.

Between 2015 and 2017, six major tourist destinations experienced a total of seven terrorist attacks that each resulted in a minimum of 5 fatalities and 50 casualties. The Twitter accounts of these DMOs were analyzed to better understand their online crisis communications strategies.

Background of cases

November 2015 attacks in Paris, France. On Friday, November 13, 2015, a series of coordinated terrorist attacks unfolded in Paris, France. All of the attacks began between 21:00 and 22:00 Central European Time and consisted of three groups of three men each. In the first attack, three suicide bombers struck outside the Stade de France football stadium during a match in which French President Francois Hollande was present. Four deaths, including the three suicide bombers, resulted (Parlapiano *et al.*, 2015). Several mass shootings and a suicide bombing followed where attackers targeted people outside restaurants and cafes (Vidon and Stanglin, 2015). The largest of these attacks occurred at the Bataclan theatre, where a death metal concert

was taking place. Three men entered the venue and began shooting at an audience of approximately 1,500 people. The attack lasted 20 minutes and the attackers then took 60 to 100 hostages (Phipps and Rawlinson, 2015).

The attacks resulted in a total of 137 fatalities and 413 injuries, 29 of whom were foreign nationals. France is consistently the most visited tourist destination in the world, with the 84.5m international arrivals in 2015 (World Tourism Organization, 2017). These terrorist attacks amounted to about €2bn in losses, largely from consumer spending and tourism (Estrada and Koutronas, 2016).

March 2016 attacks in Brussels, Belgium. On the morning of March 22, 2016, three coordinated suicide bombings occurred in Brussels, Belgium. Two of the attacks took place in the check-in area of Brussels Airport and one took place at Maalbeek metro station, near the European Commission headquarters. The attacks resulted in 35 fatalities, including the perpetrators, and 340 injuries (Drozdiak *et al.*, 2016). Over half (56.2 percent) of the deaths were foreign nationals, including four Americans. In the aftermath of these security incidents, Belgium saw a 10 percent decrease in tourist arrivals in 2016 (World Tourism Organization, 2017). According to the Visit Brussels's (2016) annual report, the city experience significant losses from March until the end of summer and did not return to normal until October.

July 2016 attacks in Nice, France. On July 14, 2016, during the Bastille Day celebrations in the popular Promenade des Anglais in Nice, France, a 19 tonne cargo truck traveling at around 90 km/h (56 mph) drove onto the pedestrian walkway killing 86 people and injuring 458 others (Breedon, 2016). Of the 86 fatalities, 43 (50 percent) were nationals of 18 countries other than France (Wright, 2016). IEP (2017) listed the attack in Nice as one of the top 20 most fatal incidents worldwide in 2016. This attack marked the beginning of a trend of vehicular attacks which occurred in the remaining incidents to be discussed.

Nice is the second most popular tourist destination in France, after Paris (Meet in Nice, 2018). The city receives around 5m visitors annually. While the economic impact of the attack in Nice alone is unknown, France experienced a 2 percent decrease in tourism arrivals in 2016 (World Tourism Organization, 2017).

December 2016 attacks in Berlin, Germany. On the evening of December 19, 2016, a truck drove deliberately through a Christmas Market in Berlin, Germany, marking the deadliest terrorist attack in Germany since 1980. A total of 12 people were killed and 56 injured (Eddy, 2016). Of the 12 victims, five were foreign nationals. Berlin is the third most popular European tourist destination, following London and Paris, attracting over 31m overnight visitors a year (Visit Berlin, 2018). Despite the terrorist attack, Berlin saw a 1.8 percent increase in visitors in 2017 (Visit Berlin, 2018).

March and June 2017 attacks in London, UK. On March 22, 2017, a car drove into pedestrians on the walkway along the side of Westminster Bridge in London, UK. The vehicle then drove into New Palace yard outside Westminster Palace, the seat of the British Parliament, where the perpetrator fatally stabbed a police officer before being shot by another officer and dying at the scene (Lawless *et al.*, 2017). A total of six people died, including the attacker, and 49 were injured. Many of those injured were foreign nationals.

Shortly after, on June 3, 2017, a similar incident occurred in which a van drove into pedestrians on London Bridge. After crashing, the three perpetrators then entered the popular Borough Market area where they began stabbing people in and around restaurants before being shot and killed by armed police officers (Dodd, 2017). The attack resulted in a total of 8 fatalities and 48 injuries, of which only one was of British citizenship. The remaining victims were Australian, Canadian, French and Spanish (Davies, 2017).

The UK is the second most popular tourist destination in the world in terms of tourism arrivals, following France (World Tourism Organization, 2017). As a result of increased terrorism threats, London's attractions industry has suffered losses in ticket sales (AON, 2018).

August 2017 attacks in Barcelona, Spain. On August 17, 2017, another vehicle attack took place, this time along the busy tourism area of La Rambla in Barcelona, Spain. A van drove into pedestrians, resulting in 13 fatalities and 130 injuries. Several other attacks occurred nearby on the same day: a

vehicle attack nearby Cambrils, an explosion in the town of Alcanar and a police shootout in Subirats. The total result of the attack included 16 fatalities and 152 injuries (Bergen and Cobain, 2017). A majority of the deceased were visitors to Barcelona. Spain is the world's third largest destination in terms of international arrivals (World Tourism Organization, 2017). According to a report by Euromonitor International (Bremner, 2017), the attack in Barcelona is likely to lead to a loss of 200,000 tourists. While Spain welcomed a record breaking 81.1bn tourists in 2017, Catalonia, the region where Barcelona resides, experienced a decline in the last three months of the year (Pellicer, 2018).

Each of these events were claimed by the Islamic State of Iraq and Levant or considered an Islamist terrorist attack. Although differing in severity, number of casualties and the type of attack, the motive of terrorism was present and resulted in severe psychological effects worldwide and economic consequences.

Method

To achieve the purpose of this study, the Twitter accounts belonging to the official DMOs of six major European tourism cities were included in a content analysis. NVIVO NCapture collected all tweets one week prior to the attack, the day of the attack and two weeks following the attack. Two weeks were used because some DMOs continued to mention the terrorism event over one week after its occurrence and many went completely offline (did not use Twitter) and did not resume social media activity until the week following the attack.

The terrorist attacks analyzed in this study were selected based on three criteria: the location in which the attack occurred must be a well-known tourist destination, seeing over 1m tourist arrivals in 2016; the incident must be characterized as terrorism (mass shootings are not included in this study); the incident must be considered large in scale, having resulted in at least 5 fatalities and 50 injured and garnered global media coverage. Each of these criteria were used to identify situations in which crisis communication to tourists is critical for ensuring their safety. Using AON's Political Risk map, seven terrorist attacks were identified in six tourism cities: Paris, Brussels, Nice, Berlin, London and Barcelona.

All of the tweets from each of the DMO Twitter accounts one week before, during, and two weeks after the terrorist attack were coded and content analyzed using IBM SPSS Statistics. All tweets were categorized by whether or not they were related to the terrorist attack. Tweets that were related to the attack were then categorized using Coombs' (2014) SCCT to assess the crisis message component (instructing information, adjusting information and responding). If the message was a form of response, then the four response strategies were analyzed (denial, diminishment, rebuilding and bolstering).

During preliminary analysis, it was found that the SCCT strategies were insufficient in understanding the communication methods used during a terrorism event. As mentioned, terrorism is a unique situation where the organization, or destination, is viewed as a victim. Therefore, the bolstering strategy was used when the DMOs communicated as a victim. However, many of the response strategies also included information and updates on closures of attractions, events, airports or other information for tourists. These were directly related to the incident, but providing information and updates is not a recovery strategy in the SCCT framework. Therefore, the coding scheme developed by Hays *et al.* (2013) in analyzing the use of Twitter by DMOs was used to understand the different types of messages (promotion, information, customer service, requesting content, contest and congratulatory). These categories were used to code all tweets, including those unrelated to the terrorist attack, to help understand how the Twitter strategies changed before-during-and after the terrorism event. Engagement with the posts (likes, retweets and comments) was also analyzed, as well as the content (use of hashtags, links, photos/videos and mention of other users).

Results

As of October 2017, each of the DMOs actively used Twitter and engaged with at least 10,000 followers (Table I). A total of 745 tweets were collected from the DMOs' Twitter accounts.

Table I Twitter background

| City | Name of DMO | Handle | Joined date | Number of tweets (000s) | Number of followers (000s) |
|-----------|-----------------|----------------|----------------|-------------------------|----------------------------|
| Paris | Paris CVB | @ParisJetaime | June, 2009 | 3.4 | 92.5 |
| Brussels | Visit Brussels | @visitbrussels | February, 2009 | 15.4 | 79.0 |
| Nice | Nice Tourisme | @Nice_Tourisme | March, 2011 | 7.6 | 12.2 |
| Berlin | Visit Berlin | @visitberlin | January, 2009 | 14.4 | 78.3 |
| London | Visit London | @visitlondon | April, 2009 | 48.3 | 578.0 |
| Barcelona | Visit Barcelona | @VisitBCN_EN | July, 2010 | 8.3 | 14.1 |

London's Twitter account was the most active, with 224 tweets within the study period for the June 2017 attack and 155 tweets within the study period for the March 2017 attack. Berlin ($n = 54$) and Nice ($n = 55$) were the least active. As shown in Table II, most of the content from the DMOs were original posts, with the exception of Visit Barcelona who retweeted as often as they posted original content.

In regards to the message content, 472 posts (63.4 percent) contained at least one hashtag, 382 posts (51.3 percent) mentioned (@_____) other Twitter users, 465 (62.4 percent) included a web link to external content and 632 (84.8 percent) included a photo or video. The most used hashtags were related to the city, with #London and #Brussels both being used over 50 times. Nice Tourisme used hashtags and photos/videos the least. However, 60 percent of their tweets contained a link (Table III).

Using the Hays *et al.* (2013) message-type classifications, most of the posts were promotional (79.5 percent), followed by information (8.2 percent) and customer service (7.4 percent). Over half (57.3 percent) of all information-related messages were from Paris CVB. Similarly, both Nice Tourisme (29.1 percent) and Visit Brussels (27.2 percent) used more customer service strategies on Twitter than the other DMOs. In June, Visit London demonstrated strong promotional efforts

Table II Number of tweets in study period

| | Original posts | RTs | <i>n</i> | % |
|----------------------|----------------|-----|----------|------|
| Paris CVB | 93 | 5 | 98 | 13.2 |
| Visit Brussels | 71 | 1 | 72 | 9.7 |
| Nice Tourisme | 46 | 9 | 55 | 7.4 |
| Visit Berlin | 48 | 6 | 54 | 7.2 |
| Visit London (March) | 151 | 4 | 155 | 20.8 |
| Visit London (June) | 222 | 2 | 224 | 30.1 |
| Visit Barcelona | 43 | 44 | 87 | 11.7 |
| Total | 674 | 71 | 745 | 100 |

Table III Number of tweets total

| DMO | Contains Hashtag | | Contains link | | Photo/video | | Total | |
|----------------------|------------------|------|---------------|------|-------------|------|----------|-------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| Paris CVB | 56 | 57.1 | 55 | 56.1 | 69 | 70.4 | 98 | 100.0 |
| Visit Brussels | 63 | 87.5 | 44 | 61.1 | 61 | 84.7 | 72 | 100.0 |
| Nice Tourisme | 10 | 18.2 | 33 | 60.0 | 13 | 23.6 | 55 | 100.0 |
| Visit Berlin | 34 | 63.0 | 28 | 51.9 | 52 | 96.3 | 54 | 100.0 |
| Visit London (March) | 88 | 56.8 | 107 | 69.0 | 145 | 93.5 | 155 | 100.0 |
| Visit London (June) | 157 | 70.1 | 151 | 67.4 | 213 | 95.1 | 224 | 100.0 |
| Visit Barcelona | 64 | 73.6 | 47 | 54.0 | 79 | 90.8 | 87 | 100.0 |
| Total | 472 | 63.4 | 465 | 62.4 | 632 | 84.8 | 745 | 100.0 |

(89.7 percent of all of Visit London's posts during the June study period were promotional). The DMO also used their Twitter the most frequently for requesting user-generated content (85.8 percent) and contests (61.5 percent):

RQ1. Are DMOs using Twitter to communicate during and after a terror attack?

Of the 745 total tweets collected, 87 (11.7 percent) were related to a terror attack. Paris CVB had the most terrorism-related tweets (35.6 percent), followed by Nice Tourisme (26.4 percent) and Visit Brussels (19.5 percent). As shown in Table IV, a majority of the DMOs' tweets about the attacks (85.1 percent) were in the days after the incident had occurred. Paris, Brussels and Barcelona were the only DMO accounts who communicated about the crisis as it was occurring:

RQ2. What crisis communication strategies are being used by DMOs on Twitter?

Consistent with the finding that a majority of terrorism-related messages took place after the terrorist attacks, the most frequently used SCCT strategy was "Response" (86.2 percent). Instructing information (12.6 percent) was used during the attacks to provide information on tourist safety. The SCCT strategy of adjusting information was used once (1.1 percent). Of the tweets that used the response strategy, 48 (65 percent) were bolstering messages. In these cases, the DMO communicated as a victim. For example, Paris CVB tweeted "Moved by the support from all around the world. Thank you dear friends."

Only three of the five message-type classifications were used in the DMOs' terrorism-related tweets: information (44.5 percent), customer service (35.6 percent) and promotional (19.5 percent). Many of the SCCT response strategy tweets provided information to tourists. Examples include:

#Brussels #museums & cultural institutions are back on track! <https://visit.brussels/en/>
@BrusselsMuseums #Bruxelles. @VisitBrussels

RT @BarcelonaInfoEN: Our Call Centre is answering all those affected by the #TerroristAttack in Barcelona (24 hours) 932853832 y 932853834. @VisitBCN_EN

Similarly, many DMOs also used Twitter to provide customer service to their followers in relation to the terrorist attack. For example, Nice Tourisme tweeted "@jackietvpsychic @touristissimo Hi Jackie thank you very much for your love and support." The differences based on the message type for terrorism-related tweets and non-terrorism-related tweets were significant ($\chi^2(5) = 317.386, p < 0.001$) for information and customer service messages, with more than expected present for terrorism-related messages.

In terms of characteristics of the terrorism-related messages, 40.5 percent contained hashtags, 43.7 percent mentioned other users in the tweet, 28.7 percent contained a link and 37.9 percent contained a photo or video. χ^2 analysis indicated that there were significant differences between messages that were related to the attacks and those that were not in terms of their use of hashtags ($\chi^2(1) = 22.691, p < 0.001$), links ($\chi^2(1) = 47.633, p < 0.001$) and photos/videos ($\chi^2(1) = 168.397, p < 0.001$). Each of these were included less in terrorism-related tweets than expected:

RQ3. What is the time period for crisis communication on Twitter?

Table IV Crisis-related messages by DMOs

| DMO | During | | After | | Total | |
|----------------------|----------|------|----------|-------|----------|-------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| Paris CVB | 6 | 19.4 | 25 | 80.6 | 31 | 100.0 |
| Visit Brussels | 3 | 17.6 | 14 | 82.4 | 17 | 100.0 |
| Nice Tourisme | 0 | 0.0 | 23 | 100.0 | 23 | 100.0 |
| Visit Berlin | 0 | 0.0 | 2 | 100.0 | 2 | 100.0 |
| Visit London (March) | 0 | 0.0 | 6 | 100.0 | 6 | 100.0 |
| Visit London (June) | 0 | 0.0 | 1 | 100.0 | 1 | 100.0 |
| Visit Barcelona | 4 | 57.1 | 3 | 42.9 | 7 | 100.0 |
| Total | 13 | 14.9 | 74 | 85.1 | 87 | 100.0 |

Each of the DMOs resumed their regular Twitter activity within five to seven days following the attack (Table V). The attack in Paris occurred on November 13, 2015. Between then and November 18, 2015, Paris CVB tweeted a total of 34 times and 29 (85.3 percent) of those posts were related to the attack. Between November 14 and November 18, all but one of Paris CVB's tweets were terrorism related. On November 19, six days following the attack, the DMO began resuming their regular activities with four tweets, all unrelated to the terrorist attack. Similarly, from the day the attack occurred in Brussels until March 27, all of Visit Brussels' posts were terrorism related. On March 29, one week later, Visit Brussels stopped tweeting about the attack.

In contrast to the aforementioned DMOs, Nice did not tweet about the crisis on the day that it occurred. However, all but one of their tweets were terrorism related from July 15 to July 21. The account then went silent on July 22, eight days after the attack. When they returned on July 25, they tweeted once about the attack and then the following tweets were no longer terrorism related. Likewise, Berlin did not post about the terrorist attack on the day that it occurred. However, the day following the attack, Visit Berlin tweeted twice. Both tweets were terrorism related. The account

Table V Timelines of Twitter use during terrorism

| DMO | Date of tweets | Crisis-related message | | | | Total | |
|-----------------------------|--|------------------------|-------|---------|-------|-------|-------|
| | | Unrelated | | Related | | n | % |
| | | n | % | n | % | n | % |
| <i>Paris CVB</i> | | | | | | | |
| Before | November 6, 2015 to November 12, 2015 | 26 | 100.0 | 0 | 0.0 | 26 | 100.0 |
| During | November 13, 2015 | 4 | 40.0 | 6 | 60.0 | 10 | 100.0 |
| After (week 1) | November 14, 2015 to November 18, 2015 | 1 | 4.2 | 23 | 95.8 | 24 | 100.0 |
| After (week 2) | November 19, 2015 to November 27, 2015 | 36 | 90.0 | 2 | 10.0 | 40 | 100.0 |
| <i>Visit Brussels</i> | | | | | | | |
| Before | March 15, 2016 to March 20, 2016 | 37 | 100.0 | 0 | 0.0 | 37 | 100.0 |
| During | March 22, 2016 | 0 | 0.0 | 3 | 100.0 | 3 | 100.0 |
| After (week 1) | March 23, 2016 to March 27, 2016 | 0 | 0.0 | 14 | 100.0 | 14 | 100.0 |
| After (week 2) | March 29, 2016 to April 5, 2016 | 18 | 100.0 | 0 | 0.0 | 18 | 100.0 |
| <i>Nice Tourisme</i> | | | | | | | |
| Before | July 7, 2016 to July 13, 2016 | 22 | 100.0 | 0 | 0.0 | 22 | 100.0 |
| During | July 14, 2016 | 1 | 100.0 | 0 | 0.0 | 1 | 100.0 |
| After (week 1) | July 15, 2016 to July 21, 2016 | 1 | 4.3 | 22 | 95.7 | 23 | 100.0 |
| After (week 2) | July 25, 2016 to July 28, 2016 | 8 | 98.9 | 1 | 11.1 | 9 | 100.0 |
| <i>Visit Berlin</i> | | | | | | | |
| Before | December 12, 2016 to December 18, 2016 | 45 | 100.0 | 0 | 0.0 | 45 | 100.0 |
| During | December 19, 2016 | 3 | 100.0 | 0 | 0.0 | 3 | 100.0 |
| After (week 1) | December 20, 2016 | 0 | 0.0 | 2 | 100.0 | 2 | 100.0 |
| After (week 2) | December 24, 2016 to January 2, 2017 | 4 | 100.0 | 0 | 0.0 | 4 | 100.0 |
| <i>Visit London (March)</i> | | | | | | | |
| Before | March 15, 2017 to March 21, 2017 | 94 | 100.0 | 0 | 0.0 | 94 | 100.0 |
| During | March 22, 2017 | 7 | 100.0 | 0 | 0.0 | 7 | 100.0 |
| After (week 1) | March 27, 2017 | 6 | 85.7 | 1 | 14.3 | 7 | 100.0 |
| After (week 2) | March 28, 2017 to April 5, 2017 | 116 | 100.0 | 0 | 0.0 | 116 | 100.0 |
| <i>Visit London (June)</i> | | | | | | | |
| Before | May 27, 2017 to June 2, 2017 | 86 | 100.0 | 0 | 0.0 | 86 | 100.0 |
| During | June 3, 2017 | 6 | 100.0 | 0 | 0.0 | 6 | 100.0 |
| After (week 1) | June 4, 2017 to June 5, 2017 | 0 | 0.0 | 4 | 100.0 | 4 | 100.0 |
| After (week 2) | June 9, 2017 to June 13, 2017 | 57 | 96.6 | 2 | 3.4 | 59 | 100.0 |
| <i>Visit Barcelona</i> | | | | | | | |
| Before | August 10, 2017 to August 16, 2017 | 29 | 100.0 | 0 | 0.0 | 29 | 100.0 |
| During | August 17, 2017 | 6 | 66.6 | 3 | 33.3 | 9 | 100.0 |
| After (week 1) | August 18, 2017 | 0 | 0.0 | 3 | 100.0 | 3 | 100.0 |
| After (week 2) | August 22, 2017 to August 31, 2017 | 45 | 97.8 | 1 | 2.2 | 46 | 100.0 |
| Total | | 658 | 88.3 | 87 | 11.7 | 745 | 100.0 |

was not used again until December 24, when an unrelated message was tweeted. Likely due to the holiday season, Visit Berlin's account was not used again until December 31.

The first attack in London occurred on March 22, 2017. Visit London's Twitter account went silent for four days following the attack. Then, on March 27, they tweeted seven times. Only one tweet was terrorism related. This was the only terrorism-related message by Visit London. The response to the second attack in London (on June 3, 2017) was very similar. However, the DMO's crisis communication strategies were slightly improved. Visit London did not tweet on the day of the attack, but they tweeted four times in the following two days. All of these tweets were terrorism related. Then the account fell silent again for three days. When the account resumed activity on June 9, 2 of their 11 messages were terrorism related. Thereafter, all messages were unrelated to the terrorist attack.

Finally, the attack in Barcelona occurred on August 17, 2017. On this day, Visit Barcelona tweeted about the attack three times. Another three tweets were posted the following day, before falling silent from August 19 to August 21. On August 22, the DMO tweeted once about the attack. On August 23, one week after the attack, regular (non-terrorism related) Twitter activity resumed:

RQ4. How are stakeholders engaging with the messages?

Independent-samples *t*-tests were conducted to compare engagement in DMO tweets related to the attacks and tweets that were unrelated. Engagement was measured through the number of retweets, likes and comments. There was a significant difference in the scores for the number of retweets and likes. The mean number of retweets was significantly greater for tweets related to the attacks ($M = 44.5$, $SD = 62.6$) than tweets unrelated to the attacks ($M = 17.9$, $SD = 21.9$); $t(741) = -7.864$, $p = 0.00$). The mean number of likes was also significantly greater for tweets related to the attacks ($M = 63.3$, $SD = 105.0$) than tweets unrelated to the attacks ($M = 46.3$, $SD = 62.4$); $t(741) = -2.158$, $p = 0.03$). When assessing the differences in engagement across the SCCT strategies, MANOVA indicated that the differences were not statistically significant: $F(6, 160) = 2.5$, $p = 0.024$; Wilk's $\Lambda = 0.8$, partial $\eta^2 = 0.08$.

To understand whether user engagement with the DMO's Twitter content changed following the attacks, a one-way ANOVA was conducted to compare measures of engagement before, during, and after the attacks. The homogeneity of variance assumption was tested and considered not satisfied, as Levene's *F*-tests were statistically significant ($p > 0.05$) for both the number of retweets and likes. Therefore, Welch tests were used to test significance. These tests indicated that although there were differences in the variances between groups, the differences in the mean number of likes and the mean number of retweets were statistically significant before, during, and after the attacks. Specifically, the mean number of retweets ($F(2,34.3) = 16.4$, $p = 0.000$) was significantly greater during the attacks than before and after, while the mean number of retweets after the attacks was significantly greater than before. Interestingly, the mean number of likes ($F(2,36.4) = 3.8$, $p = 0.032$) were significantly greater after the attacks than before. Although the mean number of likes were greater during the attack, the results were not statistically significant when compared against those before or after:

RQ5. Do the communication strategies on Twitter change in the post-crisis recovery period?

Following a crisis, destinations may engage in strategies to reduce the impact of the crisis. To understand if the DMOs in this study altered their messaging strategies post-crisis, χ^2 analyses were conducted to test differences between message type and stage of the event. Terrorism-related messages were excluded from this analysis to provide a better understanding of the differences in Twitter communication before the terrorist attacks and after. There were significant differences between the observed and expected variables before and after an attack ($\chi^2(10) > 31.5$, $p < 0.001$). Information and customer service tweets were lower than expected after the attack. Promotional and congratulatory tweets were higher than expected after the attack. Table VI displays the differences in messages for each DMO.

Discussion

The results show that terrorism-affected DMOs are using Twitter for crisis communication. However, some accounts were used more effectively than others. Although Visit London had the

Table VI Message type differences pre- and post-terror attack

| <i>DMO twitter account</i> | <i>Type of message</i> | <i>Before</i> | | <i>After</i> | | <i>Total</i> | |
|----------------------------|------------------------|---------------|----------|--------------|----------|--------------|----------|
| | | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> |
| Paris 2015 Attack | Customer service | 0 | 0.0 | 3 | 8.1 | 3 | 4.5 |
| | Promotional | 19 | 65.5 | 26 | 70.3 | 45 | 68.2 |
| | Contest | 2 | 6.9 | 0 | 0.0 | 2 | 3.0 |
| | Request of UGC | 1 | 3.4 | 0 | 0.0 | 1 | 1.5 |
| | Information | 6 | 20.7 | 5 | 13.5 | 11 | 16.7 |
| | Congratulatory | 1 | 3.4 | 3 | 8.1 | 4 | 6.1 |
| Brussels 2016 Attack | Total | 29 | 100.0 | 37 | 100.0 | 66 | 100.0 |
| | Customer service | 6 | 16.2 | 0 | 0.0 | 6 | 10.9 |
| | Promotional | 29 | 78.4 | 17 | 94.4 | 46 | 83.6 |
| | Contest | 0 | 0.0 | 1 | 5.6 | 1 | 1.8 |
| | Request of UGC | 1 | 2.7 | 0 | 0.0 | 1 | 1.8 |
| | Information | 1 | 2.7 | 0 | 0.0 | 1 | 1.8 |
| Nice 2016 Attack | Total | 37 | 100.0 | 18 | 100.0 | 55 | 100.0 |
| | Customer service | 1 | 4.3 | 0 | 0.0 | 1 | 3.1 |
| | Promotional | 20 | 87.0 | 8 | 88.9 | 28 | 87.5 |
| | Information | 2 | 8.7 | 1 | 11.1 | 3 | 9.4 |
| Berlin 2016 Attack | Total | 23 | 100.0 | 9 | 100.0 | 32 | 100.0 |
| | Customer service | 0 | 0.0 | 1 | 25.0 | 1 | 1.9 |
| | Promotional | 42 | 87.5 | 2 | 50.0 | 44 | 84.6 |
| | Information | 5 | 10.4 | 1 | 25.0 | 6 | 11.5 |
| | Congratulatory | 1 | 2.1 | 0 | 0.0 | 1 | 1.9 |
| London March 2017 Attack | Total | 48 | 100.0 | 4 | 100.0 | 52 | 100.0 |
| | Customer service | 3 | 3.3 | 2 | 3.5 | 5 | 3.4 |
| | Promotional | 86 | 93.5 | 54 | 94.7 | 140 | 94.0 |
| | Contest | 2 | 2.2 | 1 | 1.8 | 3 | 2.0 |
| | Congratulatory | 1 | 1.1 | 0 | 0.0 | 1 | 0.7 |
| London June 2017 Attack | Total | 92 | 100.0 | 57 | 100.0 | 149 | 100.0 |
| | Customer service | 3 | 3.0 | 2 | 1.6 | 5 | 2.2 |
| | Promotional | 86 | 85.1 | 109 | 89.3 | 195 | 87.4 |
| | Contest | 5 | 5.0 | 5 | 4.1 | 10 | 4.5 |
| | Request of UGC | 7 | 6.9 | 5 | 4.1 | 12 | 5.4 |
| | Congratulatory | 0 | 0.0 | 1 | 0.8 | 1 | 0.4 |
| Barcelona 2017 Attack | Total | 101 | 100.0 | 122 | 100.0 | 223 | 100.0 |
| | Customer Service | 2 | 5.7 | 1 | 2.2 | 3 | 3.8 |
| | Promotional | 33 | 94.3 | 44 | 97.8 | 77 | 96.3 |
| Total | Total | 35 | 100.0 | 45 | 100.0 | 80 | 100.0 |
| | Customer Service | 15 | 4.1 | 9 | 3.1 | 24 | 3.7 |
| | Promotional | 315 | 86.3 | 260 | 89.0 | 575 | 87.5 |
| | Contest | 9 | 2.5 | 7 | 2.4 | 16 | 2.4 |
| | Request of UGC | 9 | 2.5 | 5 | 1.7 | 14 | 2.1 |
| | Information | 14 | 3.8 | 7 | 2.4 | 21 | 3.2 |
| | Congratulatory | 3 | 0.8 | 4 | 1.4 | 7 | 1.1 |
| | Total | 365 | 100.0 | 292 | 100.0 | 657 | 100.0 |

greatest number of tweets within the study period for both events studied, they were the least active when it was related to the attack. Paris CVB, on the other hand, was the most effective at communicating during and after a terrorist attack. Surprisingly, looking at the background of Paris CVB's Twitter account, they had the least number of total tweets as of October 2017. This indicates that they were less active on the social media platform than the other DMOs. However, during the study period, Paris CVB tweeted the most and had the most terrorism-related tweets. Visit Berlin was the least active in the study period. However, the terrorist attacks in Berlin took place so close to the holiday season that this may not be attributed to lack of communication, but lack of available personnel.

Many of the DMOs posted original content within the study period, with the exception of Barcelona. A deeper look into the content of the tweets shows that a majority of Paris CVB's retweets were during the terrorist attacks – sharing information posted by the Paris Police on

closures and areas to avoid. This is another way in which Paris engaged in effective crisis communication. By sharing safety information from official accounts, the credibility and trust in the messages, as well as in Paris CVB are increased (Westerman *et al.*, 2014). Barcelona also retweeted (shared) information from official sources related to the attack. However, a majority of their retweets (like the other DMOs) were promotional – sharing photos and videos of the destination posted by others.

In regards to the SCCT strategy used, it is not surprising that a majority of Twitter accounts' communication utilized a "response" strategy and bolstering. While the destination is a victim of the attack and communicating their gratitude for support from around the world is an appropriate strategy following the attacks and in the recovery stage, the lack of instructing information and adjusting information during the attacks indicates that there is still room for improvement. Proactive, real-time communication to tourists will not only help in ensuring their safety, but will also assist the destination in recovering faster because the visitors will feel that the destination is making their safety a priority (Mair *et al.*, 2016).

On Twitter, hashtags act as a keyword link for users to narrow down search about a specific topic (Kwak *et al.*, 2010). When tweets were not related to the terrorist attacks, the DMOs successfully used hashtags with their destination name or other promotional hashtags to attract visitors to their content. However, the lack of hashtags in content relating to the attacks is problematic, especially when the tweets contain important information and instructions on how tourists can remain safe. The lack of hashtag use can make it difficult for the tourist to locate this information online, particularly when they are not already following the DMO's Twitter account, as hashtags have been found to increase the likelihood of reaching a wider audience (MacKay *et al.*, 2017).

For tourists who may not speak the language of the destination, finding and understanding information may be difficult. While official police and security accounts may provide more detailed and timely information, DMOs can and should share this information and provide translations for tourists who are unable to understand the host destination's language. Similarly, when searching about a topic, the information may be cluttered with unofficial sources. This may result in obtaining misinformation. For example, during the Westgate terrorist attacks, the many different accounts on Twitter each provided different information. This made it difficult for the public to follow and led to security breaches and misinformation being disseminated to the public (Simon *et al.*, 2014).

Twitter is restricted in the amount of characters a message can contain. Having a link to external content from an official information source (or even to the DMO's website) allows the source to provide more details and would be an effective way to surpass the character restrictions. DMOs should consider having a webpage where they can direct tourists from social media so that they can provide information on safe locations, emergency hotlines, closures, protective measures and other critical safety information.

The timeline of crisis communication on Twitter provided valuable insight as to what is currently deemed an appropriate amount of time to communicate about a terrorist attack. Each of the accounts used roughly the same one-week span before they returned to their normal Twitter activity. This is likely attributed to the "here and now" essence of Twitter (MacKay *et al.*, 2017), as the platform is centered on the exchange of real-time messages that create immediate awareness of issues (Kietzmann *et al.*, 2011). However, many DMOs violated this real-time immediacy of Twitter when they did not tweet in the days following the attacks; thereby providing no information to tourists.

A major finding was the increased engagement the DMOs received on their Twitter content following the attacks. Both the average number of retweets and likes per post increased for the terrorism-related messages and for the non-terrorism-related messages following the attacks. This could be a result of increased followers on the DMO's Twitter account or increased exposure from users searching for updates on the attacks and coming across the DMO's content. This increased exposure provides an advantage to the DMOs in their post-crisis recovery efforts, as they can utilize marketing tactics which highlight the safety of the destination and attempt to lure visitors. This ultimately has the potential of limiting the negative outcomes of terrorism on the affected destination.

Conclusion

Overall, more negatives than positives were found in the analysis of DMO's Twitter use in times surrounding terrorist attacks. While DMOs actively communicated about the crisis, the strategy most commonly used reflected a more reactive approach to crisis communication than a proactive one. The lack of communication by several of the DMOs immediately following the attacks reflected their reactive responses. Although times surrounding a terrorist attack are difficult and the destination may be apprehensive in discussing the attacks to avoid negative consequences on their image, not communicating may show lack of concern or consideration on part of the destination. In order to address this reactive approach, DMOs should prepare themselves for not only the management of the destination during a terrorist attack, but also to communicate effectively with tourists who are in their city at the time of the attack. DMOs need to have crisis communication plans prepared prior to the event of a terrorist attack. They should consider who should be responsible for communicating, when and how often they should be communicating, where the information should be communicated, and what types of basic information tourists might need (e.g. contact information for the DMO, emergency services, maps of the affected area, etc.). By preparing before a terrorist attack occurs, it is more likely that the affected DMO will be among the first to respond when an attack does occur (which is a hallmark of effective crisis communication).

This study also shows that social media can be an effective tool for real-time communication in the event of a crisis. However, DMOs first need to realize the benefits that social media platforms offer in providing real-time, immediate communication that can reach large audiences. In the event of a terrorist attack, social media can be extremely efficient in proactively communicating to tourists because it increases the likelihood of the message being received. This is particularly true if hashtags are used and if the DMO retweets information from other sources that are deemed as being credible (e.g. local police, government, etc.).

A limitation of this study was the analysis of one social media platform. Future research should consider the use of multiple platforms, such as Facebook and Instagram, to assess whether different strategies are used on different platforms. Future research should also explore the effects of previous exposure to terrorism on DMOs' crisis communication tactics. In this study, Paris CVB was the most effective in communicating. However, the destination has been exposed to terrorism in the past and may have a more concrete crisis communication strategy in place as a result. Exploring the influence of past exposure to terrorism on crisis communication could provide insight into whether DMOs have adapted their practices based on their previous experience. Lastly, future research should explore if and how different stakeholders in the destination may use a consistent message when a terrorist attack occurs in their city. This research should focus on the crisis communication network structure and include both stakeholders within and outside of the tourism industry.

References

- AON (2017), "AON 2017 risk maps", available at: www2.riskadvisory.net/aon_report_2017 (accessed November 17, 2017).
- AON (2018), "AON 2018 risk maps", available at: www.aon.com/2018-political-risk-terrorism-and-political-violence-maps/ (accessed March 2, 2018).
- Avraham, E. (2013), "Crisis communication, image restoration, and battling stereotypes of terror and wars: media strategies for attracting tourism to middle eastern countries", *American Behavioral Scientist*, Vol. 57 No. 9, pp. 1350-67.
- Avraham, E. (2015), "Destination image repair during crisis: attracting tourism during the Arab spring uprisings", *Tourism Management*, Vol. 47 No. 1, pp. 224-32.
- Baker, D.M.A. (2014), "The effects of terrorism on the travel and tourism industry", *International Journal of Religious Tourism and Pilgrimage*, Vol. 2 No. 1, pp. 58-67.
- Bergen, S. and Cobain, I. (2017), "Barcelona attack: four suspects face court after van driver is shot dead", *The Guardian*, available at: www.theguardian.com/world/2017/aug/21/police-searching-barcelona-van-driver-shoot-man (accessed November 17, 2017).

Blackman, D. and Ritchie, B.W. (2008), "Tourism crisis management and organizational learning: the role of reflection in developing effective DMO crisis strategies", *Journal of Travel & Tourism Marketing*, Vol. 23 Nos 2-4, pp. 45-57.

Blackman, D., Kennedy, M. and Ritchie, B. (2011), "Knowledge management: the missing link in DMO crisis management?", *Current Issues in Tourism*, Vol. 14 No. 4, pp. 337-54.

Breeden, A. (2016), "News of the attack in Nice, France", *The New York Times*, available at: www.nytimes.com/live/truck-plows-into-crowd-in-nice-france/police-find-cache-of-weapons-inside-truck/auth/growl (accessed November 17, 2017).

Bremner, C. (2017), *Barcelona Terror Attack – Impact on Tourism in Spain*, Euromonitor International, London, available at: <https://blog.euromonitor.com/2017/08/barcelona-terror-attack-impact-tourism-spain.html> (accessed November 17, 2017).

Chaffey, D. (2016), *Global Social Media Research Summary 2016*, Smart Insights: Social Media Marketing, Leeds.

Cheong, M. and Lee, V.C. (2011), "A microblogging-based approach to terrorism informatics: exploration and chronicling civilian sentiment and response to terrorism events via Twitter", *Information Systems Frontiers*, Vol. 13 No. 1, pp. 45-59.

Coombs, W.T. (1999), "Information and compassion in crisis responses: a test of their effects", *Journal of Public Relations Research*, Vol. 11 No. 2, pp. 125-42.

Coombs, W.T. (2007a), "Attribution theory as a guide for post-crisis communication research", *Public Relations Review*, Vol. 33 No. 2, pp. 135-9.

Coombs, W.T. (2007b), "Protecting organization reputations during a crisis: the development and application of situational crisis communication theory", *Corporate Reputation Review*, Vol. 10 No. 3, pp. 163-76.

Coombs, W.T. (2014), *Ongoing Crisis Communication: Planning, Managing, and Responding*, Sage Publications, Thousand Oaks, CA.

Davies, C. (2017), "London bridge attack: last of eight victims identified as Xavier Thomas", *The Guardian*, available at: www.theguardian.com/uk-news/2017/jun/07/london-bridge-attack-last-of-eight-victims-identified-as-xavier-thomas (accessed November 17, 2017).

Dobрева, H. (2015), "Tourism and terrorism: the case of Bulgaria", *Trakia Journal of Sciences*, Vol. 13 No. 1, pp. 107-14.

Dodd, V. (2017), "London bridge attack: CCTV shows fatal clash with police", *The Guardian*, available at: www.theguardian.com/uk-news/2017/jun/07/london-bridge-attack-cctv-shows-fatal-clash-between-police-and-terrorists (accessed November 17, 2017).

Drozdiak, N., Steinhäuser, G. and Verbergt, M. (2016), "Brussels rocked by terrorist attacks, killing at least 27 people", *Wall Street Journal*, available at: www.wsj.com/articles/people-injured-after-explosion-at-brussels-airport-police-say-1458632527 (accessed November 17, 2017).

Eddy, M. (2016), "Germany seeks Tunisian tied to Berlin Christmas market attack", *The New York Times*, available at: www.nytimes.com/2016/12/21/world/europe/berlin-christmas-market-attack.html (accessed November 17, 2017).

Enders, W. and Sandler, T. (2002), "Patterns of transnational terrorism, 1970-1999: alternative time-series estimates", *International Studies Quarterly*, Vol. 46 No. 2, pp. 145-65.

Estrada, M.A.R. and Koutronas, E. (2016), "Terrorist attack assessment: Paris November 2015 and Brussels March 2016", *Journal of Policy Modeling*, Vol. 38 No. 3, pp. 553-71.

Fall, L.T. (2004), "The increasing role of public relations as a crisis management function: an empirical examination of communication re-strategising efforts among destination organisation managers in the wake of 11th September, 2001", *Journal of Vacation Marketing*, Vol. 10 No. 3, pp. 238-52.

Faulkner, B. (2001), "Towards a framework for tourism disaster management", *Tourism Management*, Vol. 22 No. 2, pp. 135-47.

Ganor, B. (2002), "Defining terrorism: is one man's terrorist another man's freedom fighter?", *Police Practice and Research*, Vol. 3 No. 4, pp. 287-304.

Hays, S., Page, S.J. and Buhalis, D. (2013), "Social media as a destination marketing tool: its use by national tourism organisations", *Current issues in Tourism*, Vol. 16 No. 3, pp. 211-39.

- Institute for Economics and Peace (IEP) (2017), *Global Terrorism Index 2017: Measuring and Understanding the Impact of Terrorism*, Institute for Economics and Peace, Sydney.
- Kietzmann, J.H., Hermkens, K., McCarthy, I.P. and Silvestre, B.S. (2011), "Social media? Get serious! Understanding the functional building blocks of social media", *Business Horizons*, Vol. 54 No. 3, pp. 241-51.
- Kwak, H., Lee, C., Park, H. and Moon, S. (2010), "What is Twitter, a social network or a news media?", *Proceedings of the 19th International Conference on World Wide Web, ACM*, pp. 591-600.
- Lawless, J., Dodds, P. and Kirka, D. (2017), "5 Dead in London vehicle and knife attack, Including police officer, attacker; 40 hurt", *Tribune*, Chicago, IL, available at: www.chicagotribune.com/news/nationworld/ct-british-parliament-attack-20170322-story.html (accessed November 17, 2017).
- Liu, B., Kim, H. and Pennington-Gray, L. (2015), "Responding to the bed bug crisis in social media", *International Journal of Hospitality Management*, Vol. 47 No. 1, pp. 76-84.
- Lutz, J. and Lutz, B. (2013), *Global Terrorism*, Routledge, New York, NY.
- MacKay, K., Barbe, D., Van Winkle, C.M. and Halpenny, E. (2017), "Social media activity in a festival context: temporal and content analysis", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 2, pp. 669-89.
- Mair, J., Ritchie, B.W. and Walters, G. (2016), "Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: a narrative review", *Current Issues in Tourism*, Vol. 19 No. 1, pp. 1-26.
- Meet in Nice (2018), "Key figures", available at: <http://en.meet-in-nice.com/key-figures> (accessed March 3, 2018).
- Merriam-Webster (2018), "Terrorism", available at: www.merriam-webster.com (accessed April 2, 2018).
- Mindock, C. (2016), "Belgium tourism economy 2016: after Brussels terror attacks, will city struggle to draw tourists?", *International Business Times*, available at: www.ibtimes.com/belgium-tourism-economy-2016-after-brussels-terror-attacks-will-city-struggle-draw-2341084 (accessed November 17, 2017).
- Parlapiano, A., Andrews, W., Park, H., Buchanan, L. and Almukhtar, S. (2015), "Finding the links among the Paris attackers", *The New York Times*, available at: www.nytimes.com/interactive/2015/11/15/world/europe/manhunt-for-paris-attackers.html (accessed November 17, 2017).
- Pellicer, L. (2018), "Tourist arrivals in Catalonia see 13.9% year-on-year fall in December", *El Pais*, available at: https://elpais.com/elpais/2018/01/31/inenglish/1517395966_865242.html (accessed March 3, 2018).
- Pennington-Gray, L. and Schroeder, A. (2013), "The social media capital of the universe: what does this mean for Brazilian tourists to the us?", *Tourism Culture & Communication*, Vol. 13 No. 1, pp. 43-59.
- Pennington-Gray, L., London, B., Cahyanto, I. and Klages, W. (2011), "Expanding the tourism crisis management planning framework to include social media: lessons from the Deepwater horizon oil spill 2010", *International Journal of Tourism Anthropology*, Vol. 1 Nos 3-4, pp. 239-53.
- Pennington-Gray, L., Thapa, B., Kaplanidou, K., Cahyanto, I. and McLaughlin, E. (2011), "Crisis planning and preparedness in the United States tourism industry", *Cornell Hospitality Quarterly*, Vol. 52 No. 3, pp. 312-20.
- Pennington-Gray, L., Cahyanto, I., Thapa, B., McLaughlin, E., Willming, C. and Blair, S. (2009), "Destination management organizations and tourism crisis management plans in Florida", *Tourism Review International*, Vol. 13 No. 4, pp. 247-61.
- Pforr, C. (2006), "Tourism in post-crisis is tourism in pre-crisis: a review of the literature on crisis management in tourism", Working Paper Series No. 2006:1, Curtin University of Technology, School of Management, Perth.
- Phipps, C. and Rawlinson, K. (2015), "Paris attacks kill more than 120 – as it happened", *The Guardian*, available at: www.webcitation.org/6d26n1pa6?url=; www.theguardian.com/world/live/2015/nov/13/shootings-reported-in-eastern-paris-live (accessed November 17, 2017).
- Ranga, M. and Pradhan, P. (2014), "Terrorism terrorizes tourism: Indian tourism effacing myths?", *International Journal of Safety and Security in Tourism*, Vol. 5, pp. 26-39.

- Ritchie, B.W. (2004), "Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry", *Tourism Management*, Vol. 25 No. 6, pp. 669-83.
- Ritchie, B.W., Dorrell, H., Miller, D. and Miller, G.A. (2004), "Crisis communication and recovery for the tourism industry: lessons from the 2001 foot and mouth disease outbreak in the United Kingdom", *Journal of Travel & Tourism Marketing*, Vol. 15 Nos 2-3, pp. 199-216.
- Schroeder, A., Pennington-Gray, L., Donohoe, H. and Kiouisis, S. (2013), "Using social media in times of crisis", *Journal of Travel & Tourism Marketing*, Vol. 30 Nos 1-2, pp. 126-43.
- Seeger, M.W. (2006), "Best practices in crisis communication: an expert panel process", *Journal of Applied Communication Research*, Vol. 34 No. 3, pp. 232-44.
- Sigala, M. (2011), "Social media and crisis management in tourism: applications and implications for research", *Information Technology & Tourism*, Vol. 13 No. 4, pp. 269-83.
- Simon, T., Goldberg, A., Aharonson-Daniel, L., Leykin, D. and Adini, B. (2014), "Twitter in the cross fire – the use of social media in the Westgate Mall terror attack in Kenya", *PloS One*, Vol. 9 No. 8, pp. 1-11.
- Sönmez, S.F. (1998), "Tourism, terrorism, and political instability", *Annals of Tourism Research*, Vol. 25 No. 2, pp. 416-56.
- Sönmez, S.F. and Graefe, A.R. (1998), "Influence of terrorism risk on foreign tourism decisions", *Annals of Tourism Research*, Vol. 25 No. 1, pp. 112-44.
- Sönmez, S.F., Apostolopoulos, Y. and Tarlow, P. (1999), "Tourism in crisis: managing the effects of terrorism", *Journal of Travel Research*, Vol. 38 No. 1, pp. 13-8.
- Stafford, G., Yu, L. and Armoo, A.K. (2002), "Crisis management and recovery: how Washington, DC, hotels responded to terrorism", *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 43 No. 5, pp. 27-40.
- Tarlow, P. (2014), "Reflective epilogue: concerns in tourism safety", *International Journal of Religious Tourism and Pilgrimage*, Vol. 2 No. 1, pp. 68-70.
- Tourism Crisis Management Initiative (2013), "Tourism crisis management institute 2012-2013 annual report", available at: http://tcmi.hhp.ufl.edu/wp-content/uploads/TCMI_Sixth_Annual_Report.pdf (accessed April 16, 2017).
- Trusov, M., Bucklin, R.E. and Pauwels, K. (2009), "Effects of word-of-mouth versus traditional marketing: findings from an internet social networking site", *Journal of Marketing*, Vol. 73 No. 5, pp. 90-102.
- Ulmer, R.R. and Sellnow, T.L. (2002), "Crisis management and the discourse of renewal: understanding the potential for positive outcomes of crisis", *Public Relations Review*, Vol. 28 No. 4, pp. 361-5.
- Ulmer, R.R., Sellnow, T.L. and Seeger, M.W. (2017), *Effective Crisis Communication: Moving from Crisis to Opportunity*, Sage Publications, Thousand Oaks.
- Vidon, M. and Stanglin, D. (2015), "Scores killed in Paris terror attacks at six separate sites", *USA Today*, available at: www.usatoday.com/story/news/world/2015/11/13/multiple-deaths-reported-after-shootings-explosions-paris/75727746/ (accessed November 17, 2017).
- Visit Berlin (2018), "Tourism statistics 2017", available at: <https://about.visitberlin.de/en/materialien/toolkit/tourism-stats> (accessed March 3, 2018).
- Visit Brussels (2016), "Annual report of the Brussels tourism observatory", available at: https://visit.brussels/site/binaries/content/assets/pdf/rapport_activite_2016_en.pdf (accessed November 17, 2017).
- Wang, Y. and Pizam, A. (Eds), (2011), *Destination Marketing and Management: Theories and Applications*, Cabi, Oxfordshire.
- Wendling, C., Radisch, J. and Jacobzone, S. (2013), "The use of social media in risk and crisis communication", OECD Working Papers on Public Governance, No. 24, OECD Publishing, Paris, available at: <http://dx.doi.org/10.1787/5k3v01fskp9s-en>
- Westerman, D., Spence, P.R. and Van Der Heide, B. (2014), "Social media as information source: recency of updates and credibility of information", *Journal of Computer-Mediated Communication*, Vol. 19 No. 2, pp. 171-83.
- World Tourism Organization (2004), *Survey of Destination Management Organisations*, World Tourism Organization, Madrid.

World Tourism Organization (2017), "UNWTO annual report 2016", available at: www.e-unwto.org/doi/pdf/10.18111/9789284419029 (accessed November 17, 2017).

Wright, B. (2016), "Nice terror attack victims' names and nationalities revealed after France bastille day massacre", *International Business Times*, available at: www.ibtimes.com/nice-terror-attack-victims-names-nationalities-revealed-after-france-bastille-day-2391948 (accessed November 17, 2017).

Young, W.B. and Montgomery, R.J. (1997), "Crisis management and its impact on destination marketing: a guide for convention and visitors bureaus", *Journal of Convention & Exhibition Management*, Vol. 1 No. 1, pp. 3-18.

Corresponding author

Danielle Barbe can be contacted at: dbarbe@ufl.edu

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com