



Contents lists available at ScienceDirect

International Journal of Hospitality Management

journal homepage: www.elsevier.com/locate/ijhm

Learn from the past and prepare for the future: A critical assessment of crisis management research in hospitality

Senbeto Dagnachew Leta^a, Irene Cheng Chu Chan^{b,*}

^a Lee Shau Kee School of Business and Administration, The Open University of Hong Kong, Hong Kong

^b School of Hospitality Management, Macao Institute for Tourism Studies, Macao

ARTICLE INFO

Keywords:

Crisis
Crisis management
Hospitality
Literature review
Covid-19

ABSTRACT

Given the substantial impact of crisis on the hospitality industry, crisis and crisis management have drawn attention from scholars. While each study makes a significant contribution to the existing knowledge of crisis management in hospitality, the fragmented perspective of each study makes it difficult to identify the key findings and unsolved problems. This paper presents a synthesis and critical assessment of state-of-the-art crisis management research in hospitality. It categorizes articles based on a three-stage framework covering pre-crisis planning, mid-crisis management, and post-crisis recovery. Two main perspectives in the literature are identified: one from hospitality service providers and one from stakeholders. Core research topics and concepts in each stage and perspective are reviewed. In addition, this paper proposes four major directions for future research: crisis management from stakeholders' perspectives, integrative research, causal and behavioral research, and theoretical enhancement. It discusses the theoretical and practical implications of this study.

1. Introduction

The recent Covid-19 outbreak and the resulting restrictions, including city lockdowns, travel restrictions, social distancing, and closure orders, have caused a sharp decline in tourism (UNWTO, 2020). This has posed an existential threat to the hospitality industry, which is heavily reliant on tourist flow (The Guardian, 2020). The occupancy rate of hotels in China suffered a decline of 75 % over 2 weeks in early 2020 due to the crisis (STR, 2020). Besides pandemic-induced crises, the hospitality industry is vulnerable to other crises such as political instability (Corbet et al., 2019), terrorism (Israeli and Reichel, 2003), economic recession (Qu et al., 2002), and natural disaster (Chen, 2011). Due to the increasing occurrence and significant impacts of various crises, numerous crisis management studies have been conducted to identify the causes of crisis occurrence (e.g., Racherla and Hu, 2009; Yu, Stafford, & Armoo, 2006) and the impacts of crises on firms (Chen, 2011; Pine and McKercher, 2004). Likewise, studies have examined how firms can manage crises to mitigate the negative impacts and avoid disruption to daily operations (Henderson, 2007; Leung and Lam, 2004; Pappas, 2015).

Focusing on a particular problem or perspective, each study provides a valuable contribution to the overall understanding of crisis and crisis

management. However, as the literature on crisis research continues to grow and accumulate, it becomes increasingly difficult to grasp the central conclusion of the broad crisis management literature, and to identify areas where more research is necessary. Thus, reviewing the status and development of crisis research on a regular basis is critical for research in this area to advance with greater rigor and relevance (Lamberton and Stephen, 2016). Several researchers have attempted to do this. Mair et al. (2016) reviewed 64 articles concerning post-disaster and post-crisis recovery related to destinations and tourist flow. More recently, Jiang, Ritchie, and Benckendorff (2019) reviewed tourism crisis research by exploring its network structure using bibliometric analysis. Ritchie and Jiang (2019) reviewed 142 articles on tourism crisis and disaster management using a narrative synthesis approach. They discussed three critiques of the existing literature, including a lack of conceptual and theoretical foundations, a lack of framework testing, and unbalanced research themes. Despite their significant contribution to the crisis literature, these reviews have focused solely on the tourism industry. While hospitality is a vital component of the overall tourism experience (Davidson et al., 2010), *hospitality* and *tourism* are two closely related yet divided subfields that should be disaggregated into two distinct research areas (Jamal et al., 2008; Yuan et al., 2014). To date, no research has provided a systematic review and a synthesis of crisis

* Corresponding author.

E-mail addresses: dsenbeto@ouhk.edu.hk (S.D. Leta), irene@iftm.edu.mo (I.C.C. Chan).

<https://doi.org/10.1016/j.ijhm.2021.102915>

Received 8 June 2020; Received in revised form 13 February 2021; Accepted 10 March 2021

Available online 16 March 2021

0278-4319/© 2021 Elsevier Ltd. All rights reserved.

research with a specific focus on the hospitality field (Pennington-Gray, 2018; Racherla and Hu, 2009).

The objective of this paper is threefold. First, we review the dominant topical foci of existing crisis management research in the hospitality field and synthesize knowledge in these topics across three crisis management stages (pre-crisis, mid-crisis, and post-crisis) and two dominant perspectives (hospitality service provider and stakeholder). Second, we reveal the most commonly adopted methodologies and theories in hospitality crisis research. Our review shows an imbalance of research on these stages and perspectives, with minimal work focusing on the pre-crisis stage and originating from stakeholders' perspectives. Additionally, the stages and perspectives have primarily been explored independently. Taking this together with the findings from the theoretical and methodological review, the third objective of this study is to offer suggestions for future research directions. The Covid-19 pandemic has posed a significant threat, with a drastic decline in market demand for and disruption of operations in hospitality and tourism, which calls for immediate attention from both academia and practitioners. This study offers practical knowledge by providing an overview of the overwhelming volume of literature and presenting actionable practices that may enhance the industry's crisis resilience in general and respond effectively to the current Covid-19 pandemic in particular.

2. Crisis and crisis management

Crisis and crisis management research predominantly features a lack of fully agreed definitions. The concept of crisis has been widely used in several fields of study, and existing definitions are diverse and biased by the particular discipline under which crisis is being studied. Thus, there is no universally accepted definition of crisis. Robert et al. (2007) defined a crisis as an event that arises from unknown causes and with serious consequences. However, Santana (2004) disagreed with this definition and contended that a crisis is a process that develops by its logic as opposed to being an event. Bundy, Pfarrer, Short, and Coombs (2017) characterized crises as behavioral phenomena that are socially constructed by the actors involved and are parts of larger processes rather than separate events. The definition of crisis becomes more complex when other terms such as disaster, catastrophe, and other incidents are used interchangeably with crisis (Santana, 2004). In their distinction between crisis and disaster, Hyndman and Hyndman (2016) explained that a crisis is as an internal environment, while a disaster is an external environment that includes the occurrence of a sudden external event over which organizations have little power or control and to which they fail to respond. Despite the different perspectives on the causes of a crisis, scholars and practitioners converge on the importance, unpredictability, and disruptive nature of crisis. Thus, crisis management is an important part of overall management practices. The current study uses crisis to refer to both internal and external incidents.

Crisis management refers to the actions and communications that organizations systematically undertake to reduce the likelihood of a crisis, mitigate crisis impact, and reestablish order after a crisis (Bundy et al., 2017; Pearson and Clair, 1998). There are various crisis management lifecycle and response frameworks in the existing literature. In particular, Faulkner's (2001) seminal work proposed six sequential steps of tourism disaster management by integrating the four-stage lifecycles of Fink (1986) and Roberts (1994). Based on Faulkner's (2001) framework, Ritchie (2004) merged several stages and put forward a simplified model outlining three main stages to manage crisis strategically, namely prevention and planning, implementation, and evaluation and feedback. Recent research has aligned with this simplistic view and accepted that crisis management involves the following three key stages: (a) planning before a crisis occurs; (b) execution of a crisis management plan, response strategies, and coordination with relevant stakeholders to mitigate impacts during the crisis; and (c) taking recovery actions after the crisis (Bundy et al., 2017; Bundy and Pfarrer, 2015; Coombs and Laufer, 2018; Ott and Theunissen, 2015).

3. Methodology

3.1. Data collection

Considering that each database has its own strengths and weaknesses in terms of coverage, analytical methods, and means of linking references (Li et al., 2010), we identified and collected crisis management articles relating to hospitality from four different databases, namely Scopus, Web of Science, Google Scholar, and EBSCOhost, to enhance the comprehensiveness of the dataset and review (Benckendorff and Zehrer, 2013). Many other review studies in hospitality and tourism have also used these databases (Kim et al., 2018). We searched for a number of keywords, including *crisis*, *crises*, *crisis management*, *disaster*, *disaster management*, *hotel*, and *hospitality* in the title, abstract, and keywords section to retrieve relevant articles. We adopted a context-based approach by including all studies that considered hospitality service providers, such as hotels and restaurants, as the unit of analysis and papers from both tourism and non-tourism journals.

Initially, we retrieved over 2000 articles. We took several steps to decide whether to include or exclude each article. First, we excluded conference papers, research notes, book reviews, papers published in languages other than English, and other unpublished studies such as dissertations from the review. In addition, we only retained full-text articles. Next, the authors read each shortlisted article in detail to determine the direct relevance of each article to the topic of this study, crisis management in hospitality. In this step, we removed articles that did not primarily focus on crisis or crisis management in their research objectives or research questions, and their hypotheses or propositions (Bundy et al., 2017). Finally, we retained 88 articles from tourism and non-tourism journals for subsequent analysis and categorization.

Fig. 1 shows the distribution of crisis research publications in hospitality from 1997 to 2019. Marvel and Johnson (1997) made the first attempt to explore crisis in the hospitality context by investigating the problems and prospects of crisis in the Swiss hotel industry. Subsequently, scholars have paid greater attention to the study of crisis in hospitality, especially after the outbreak of a major crisis, such as the 9/11 attacks (Stafford et al., 2006; Yu et al., 2005), the SARS outbreak in 2003 (Kim et al., 2005; Lin et al., 2011; Pine and McKercher, 2004), and the 2008 economic recession (Mar-Molinero et al., 2017; Song et al., 2011). As such, rather than there being a steady year-on-year rise or drop in the number of publications, publications tended to accumulate during the period after each major crisis in hospitality (e.g., 2005–2006, 2009–2011). Nevertheless, scholars have shown a rising interest in crisis management in hospitality, as reflected by the significant portion of papers published from 2015 to 2019 ($n = 30$).

The publications on crisis management in hospitality came from 36 different journals. The *International Journal of Hospitality Management* ($n = 15$), *Tourism Management* ($n = 12$), and the *International Journal of Contemporary Hospitality Management* ($n = 7$) contributed the highest number of publications. The *Journal of Hospitality and Tourism Management* contributed five crisis management articles in hospitality. The *Asia Pacific Journal of Tourism Research*, *International Journal of Tourism Research*, *Journal of Travel & Tourism Marketing*, and *Tourism and Hospitality Research* contributed four articles each. The remaining papers came from 28 different tourism or non-tourism journals (e.g., *Cornell Hospitality Quarterly* and *Management Decision*).

3.2. Data coding and analysis

Based on the seminal works of Ritchie (2004) and the existing review studies on crisis management (Bundy et al., 2017; Coombs and Laufer, 2018; Ritchie and Jiang, 2019), a general three-stage framework involving pre-crisis planning, mid-crisis management, and post-crisis recovery was used to guide the data coding and analysis of the current study. Overall, the data analysis process had three steps. First, the lead author read the abstract and introduction of each article to categorize

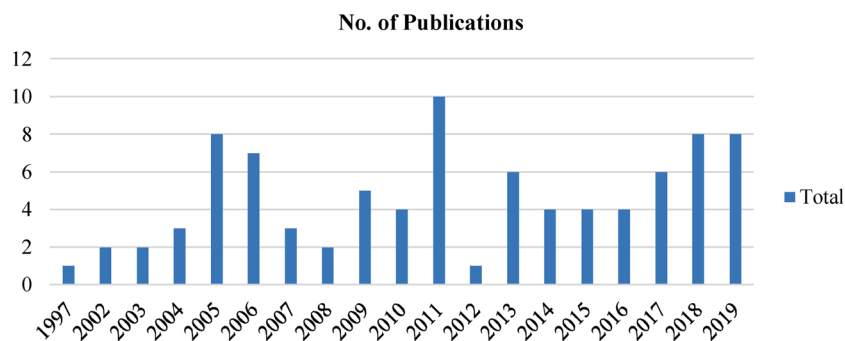


Fig. 1. Crisis research publications by year.

them into one of the three stages in the crisis management lifecycle, i.e., pre-crisis, mid-crisis, and post-crisis. For example, Wang and Wu's (2018) study was pre-crisis, since their research explored the culturally diverse approaches in hotel crisis planning. The study by Tew, Lu, Tolomiczenko, and Gellatly (2008) was post-crisis, since it reviewed the impact of SARS on tourism and summarized the lessons from that particular crisis. Studies covering more than one stage appear in all relevant categories (e.g., Okumus et al., 2005). Afterwards, both authors read and content analyzed each article to collect relevant information on the following four major aspects: (a) type of crisis, (b) theoretical foundation, (c) data collection method, and (d) topical foci. The coding and analysis of the topic foci followed other similar studies (Bundy et al., 2017; Ritchie and Jiang, 2019), and involved main categories of preparedness (readiness) and planning, response and recovery, and resolution. For topic foci that are not in existing frameworks, we created new categories, such as impact, tourists' perceptions, and tourists' responses.

4. Findings

4.1. Types of crises

Crises in the existing literature of hospitality fall broadly into two types: (a) macro-level and (b) micro-level. Macro-level crises emerge from externally driven causes beyond the control of the hospitality industry, including economic recessions, health crises, natural disasters, terrorist attacks, and political instability. Micro-level crises, on the other hand, involve service failures and organizational lack of competence that is firm-specific. With reference to Table 1, the current literature explores macro-level crises more frequently. In particular, financial and economic crises ($n = 32$) are the most frequently investigated crises in the literature, followed by health-related crises ($n = 14$) ranging from epidemics to global pandemics such as foot and mouth, Ebola, SARS, bird flu, and swine flu. Relatively less attention has gone to natural disasters ($n = 6$), terrorist attacks ($n = 5$), and political crises ($n = 4$). Only two studies have focused on micro-level crises relating to the internal business operations of hospitality firms ($n = 2$), such as service failure and technological turbulence (Mackenzie et al., 2011; Pappas, 2018; Wang and Wu, 2018). Nevertheless, around one fifth of existing

Table 1
Types of Crises Studied in Hospitality Research.

Type of Crisis	Frequency
Financial and economic	32
General	17
Health	14
Multiple	8
Natural	6
Terrorist	5
Political	4
Business and operations	2
Total	88

hospitality crisis research has focused on general crisis management, without specifying a particular crisis event, while only eight studies have investigated multiple crises.

4.2. Theoretical foundation

As Table 2 shows, most studies ($n = 69$) were not grounded in any theory or framework. Only 14 studies explicitly stated that they adopted a theory, with five studies integrating two or more theories. The theoretical foundation of crisis management research in hospitality is weak due to a paucity of utilized theories (Pennington-Gray, 2018; Senbeto and Hon, 2020). Most identified theories have been applied once, which makes it challenging to attribute a theoretical ground to the existing hospitality crisis literature. Only the situational crisis communication theory (Su et al., 2019; Seo, Jang, Maio, Almanza, & Behnke, 2013) and complexity theory (Pappas, 2018; Paraskevas, 2006) have been adopted and investigated twice in existing research. Besides, other theoretical frameworks specific to crisis management, including Faulkner's (2001) tourism disaster framework and its subsequent modification, Mayunga (2007) community disaster resilience model, and the onion model of crisis management, have been applied to extend the theoretical and practical understanding relating to the mechanism of building resilience (Sydnor-Bousoo et al., 2011), to identify the crisis response strategies

Table 2
Theoretical Foundation of Hospitality Crisis Research.

No. of Theories/Frameworks Adopted	Frequency
No theory/framework	69
One theory/framework	14
Two theories/frameworks	4
Three theories/frameworks	1
Total	88
Theories/Frameworks Adopted	Frequency
Complexity theory	2
Situational crisis communication theory	2
Agency theory	1
Attribution theory	1
Capital asset pricing model theory	1
Contingency theory	1
Dynamic capabilities	1
Faulkner's modified crisis management framework	1
Faulkner's tourism disaster management framework	1
Financial theory	1
Framing theory	1
Game theory	1
Mayunga's community disaster resilience model	1
Onion model of crisis management	1
Protection motivation theory	1
Resonance theory	1
Socialization, externalization, combination, and internalization model	1
Signaling theory	1
Theory of chaos	1
Theory of planned behavior	1
Upper echelon theory	1
Total	94

adopted across different stages of a crisis (Henderson and Ng, 2004) and to reveal factors influencing hotel crisis planning (Wang and Ritchie, 2012).

Other theories applied in existing research are grounded mainly in strategic management and economics disciplines, such as agency theory (La Rosa & Bermini, 2018) and the capital asset pricing model (Angel et al., 2018).

4.3. Methodological approaches

Table 3 depicts the data collection methods used to investigate crisis management in hospitality. Generally, secondary data is the most popular source of data (n = 42). Several studies used a variety of secondary data, such as operational statistics of hospitality firms (n = 11), financial information (n = 6), or literature (n = 6). Other studies used more than one secondary data source (n = 11). For example, Lado-Sestayo et al. (2016) used financial information and operational statistics to investigate the role of location and competitive environment in determining hotel survival during times of financial crisis.

In relation to primary sources of information, survey is a popular means of data collection (n = 20), which pursues hypotheses testing (e.g., Campo et al., 2014; G emar et al., 2016; Israeli and Reichel, 2003; Lado-Sestayo et al., 2016). Fourteen studies adopted a mixed-methods approach that involved a combination of survey and interviews (e.g., Okumus and Karamustafa, 2005; Rittichainuwat and Chakraborty, 2009). Nevertheless, quantitative approaches, in both cross-sectional and longitudinal studies, are more frequently adopted, while qualitative approaches are limited to interviews and document analysis. Ethnographic research is significantly lacking (Dahles and Susilowati, 2015).

4.4. Thematic focus of crisis research

Identifying the key themes of crisis management research in hospitality allows us to understand scholars' research focus and to identify topics that require further research. As Table 4 shows, mid-crisis management (n = 50) is the most studied stage, followed by post-crisis recovery (n = 14), and pre-crisis planning (n = 11). A small proportion of studies have covered two or three crisis management stages (n = 13). The current review shows that crisis management research considers two dominant perspectives, one from the hospitality service provider (hereafter service provider), and one from stakeholders. Service providers play a key role in determining business strategies, handling challenges, and managing the overall hospitality business environment (Harrison et al., 2019; Theodoulidis et al., 2017). However, key stakeholders often restrict the decisions of service providers, as they can influence or be influenced by the operations and achievements of these service providers (Ackoff, 1974). Stakeholders represent a group of individuals a service provider needs to exist and sustain its business

Table 3
Data Collection Methods in Hospitality Crisis Research.

Data Collection Method	Frequency
Survey	20
Mixed methods	14
Secondary data (multiple sources)	11
Secondary data (operational statistics)	11
Interview	9
Secondary data (financial information)	6
Secondary data (literature)	6
Secondary data (news)	3
Expert panel (Delphi approach)	2
Secondary data (documents)	2
Secondary data (government statistics)	2
Experiment	1
Secondary data (online reviews)	1
Total	88

Table 4
Key Themes of Crisis Management Research in Hospitality.

Focus	Frequency
Mid-crisis management	50
Post-crisis recovery	14
Pre-crisis planning	11
Mid-crisis management and post-crisis recovery	7
All three stages	5
Pre-crisis planning and mid-crisis management	1
Grand Total	88

(Dunham et al., 2006). They include but are not limited to customers, employees, suppliers, creditors, shareholders, government, and communities. Considering such stakeholders in hospitality, the current review discusses crisis and crisis management issues from the perspectives of both service providers and stakeholders, and it provides suggestions for future research. The key topics covered in each crisis management

Table 5
Summary of Topical Foci in the Three Crisis Management Stages.

Stage Examined	Perspective	Topical Foci
Pre-crisis planning	Service providers	<ul style="list-style-type: none"> • The need for crisis planning • Identification of planning strategies • Factors influencing crisis planning (e.g., cultural differences, knowledge management) • Prediction of crisis • Development of crisis response system • Evaluation of the level of preparedness toward crisis
	Stakeholders	<ul style="list-style-type: none"> • Antecedents of crisis • Measurement of crisis readiness • Effect of crisis preparedness on organizational development and organizational effectiveness
Mid-crisis management	Service providers	<ul style="list-style-type: none"> • Managers' perceptions of crisis preparedness • Determinants of firms' survival • Development of crisis management framework • Factors affecting firms' response strategies • Firms' innovation and performance during crisis • Impact of advertising efforts on hotel performance • Impact of crisis on firm performance, job market, and management
	Stakeholders	<ul style="list-style-type: none"> • Identification of and comparison of response strategies • Firms' resilience and adaptation • Perceived importance of response strategies and actual actions of managers • Factors affecting consumers' attitudes during crisis • Tourists' risk perceptions in traveling during crisis
Post-crisis recovery	Service providers	<ul style="list-style-type: none"> • Public's response to crisis • Comparative impacts of different crises on hotel room demand • Comparison of factors determining risk before and after crisis • Factors affecting firms' recovery (e.g., firm characteristics and government)
	Both service providers & stakeholders	<ul style="list-style-type: none"> • Long-term impact of crisis (on performance and job market) • Response and recovery strategies • Resilience conceptualization and predictors • Perceptions of safety measures in crisis management (comparison between tourists and tourism and hospitality service suppliers)

stage and specific perspective are identified and summarized in Table 5.

4.4.1. Stage 1: pre-crisis planning

Although a lack of crisis planning and impoverished management practices may adversely impact the hospitality industry (Faulkner, 2001; Prideaux, 2004), the hospitality literature has paid inadequate attention to the pre-crisis planning stage. Pre-crisis planning research from the service providers' perspective primarily focuses on two key topics: the level of preparedness and crisis planning strategies of service providers. Preparedness is "a state of corporate readiness to foresee and effectively address internal or exogenous adversary circumstances with the potential to inflict a multidimensional crisis, by consciously recognizing and proactively preparing for its inevitable occurrence" (Sheaffer and Mano-Negrin, 2003, p. 575). Rousaki and Alcott (2007) stated that crisis readiness is a state of mind within people and organizations, which is a tangible and planned process of resource acquisition and deployment. Preparedness and readiness both relate to firms' crisis planning efforts and have been used interchangeably in existing research. The former is more related to the pre-event stage, and the latter is more connected to the warning stage and the point of the outbreak (Henderson, 2007). Scholars have stressed the importance of pre-crisis preparedness and readiness in crisis management and argued that a well-developed crisis management plan may help hospitality firms to react effectively (Gruman et al., 2011; Okumus et al., 2005; Tew et al., 2008) and to maintain future organizational development (Tavitiyaman et al., 2008). However, existing studies showed that the hospitality industry has a low level of preparedness (Bilić et al., 2017; Gruman et al., 2011; Okumus et al., 2005).

Another stream of research from the perspective of service providers focuses on identifying the factors influencing their crisis planning efforts and revealing their planning strategies. Tew et al. (2008) suggested that a crisis management plan should be developed and integrated into a hospitality firm's overall strategic planning. The crisis management plan should contain a strategic plan specifying the actions to deal with the crisis, the collaborative efforts with relevant stakeholders, a process of adaptation, and a training manual for handling crises. A number of studies revealed the factors influencing crisis planning efforts and strategies, which may explain the reasons for inadequate planning (Racherla and Hu, 2009; Wang and Ritchie, 2012; Wang and Wu, 2018). Focusing on the managers' perspective, Wang and Wu (2018) found that planning efforts may be influenced by cultural diversity and constituencies among hotels. For example, during crisis planning, Australian managers value tangible benefits and internal control, while Chinese managers focus on intangible benefits such as improving reputation and competitiveness.

Overall, crisis planning research predominantly focuses on the service providers' perspective, and three key features emerge. First, crisis preparedness and readiness function as cognitive management functions. Second, existing research advocates the benefits and significance of crisis planning and preparedness. Third, different factors may affect the planning efforts of hospitality organizations, such as culture. However, crisis planning research generally lacks specificity and materiality. In particular, empirical research investigating such overarching questions as "what are the benefits of crisis planning and preparedness efforts?" and "what are the best practices of crisis planning?" are rare. Moreover, stakeholders play a significant role in preventing the occurrence and mitigating the impacts of crises (Coombs, 2015). Thus, they should be actively engaged in the planning process. However, the perspectives of various important stakeholders, such as customers, employees, and government, have been significantly overlooked in the existing literature.

4.4.2. Stage 2: mid-crisis management

The mid-crisis management stage has received the most attention in hospitality crisis research. From the service providers' perspective, considerable attention has been devoted to identifying the impacts of crisis and effective response strategies in crisis management in the

hospitality industry. These impacts include positive and negative impacts that are mostly related to financial performance (Chen et al., 2005; Qu et al., 2002; La Rosa and Bernini, 2018; Song et al., 2011), human resource demand (Lin et al., 2011), and the management practices of hospitality firms (Campo et al., 2014; Jones et al., 2011). The most severe negative impact is the loss in revenue due to low occupancy, reduced room demand and prices, and a fall in stock prices caused by various crises such as an economic recession (Chen et al., 2005; Qu et al., 2002; Song et al., 2011), natural disaster (Chen, 2011), or health crisis (Pine and McKercher, 2004; Novelli et al., 2018). Although most studies suggested that crises tend to impact the hospitality industry negatively, some research demonstrated that crises may not bring about negative, but instead positive consequences. For example, Kilic and Okumus (2005) demonstrated that a crisis generally has a low impact on a hotel's productivity. La Rosa and Bernini (2018) found that the financial crisis did not affect the performance of small and medium-size gambling firms, and some businesses like bingo may even perform better in a time of crisis. Okumus and Karamustafa (2005) showed that Turkey's economic crisis also generated some positive outcomes, such as improved exchange rates and the introduction of new management techniques.

Some studies have noted that the type of crisis, location, geographic settings, and country of the hospitality firms determine the level and extent of crisis impacts on the hospitality industry. For example, Wu, Law, and Jiang (2010) argued that hotel location determines the impact of different crises on hotel occupancy in Hong Kong. In particular, hotels in popular tourist attractions are most likely affected by the outbreak of epidemics, and hotels located in central business districts are most affected by economic recession. On the other hand, Kubickova, Kirimhan, and Li (2019) noted that the financial crisis in 2008 had a greater negative impact on Costa Rica than the 9–11 terrorist attacks. For Honduras, both the financial crisis and the terrorist attacks had a very mild impact on the hospitality industry.

Drawing from our comprehensive and systematic review of the literature, we summarize nine crisis response strategies that hospitality firms need to consider, as shown in Table 6.

Despite the relatively reduced attention on this area, some studies in the mid-crisis management stage focused on stakeholders' perspectives, and tried to compare the perceptions and actions of managers (Israeli et al., 2011), the effect of service providers' responses to consumers' impression and future revisit intentions (Vassilikopoulou et al., 2009), tourists' perceived risk when traveling (Rittichainuwat and Chakraborty, 2009), and the public's response to the crisis (Su et al., 2019).

Overall, the literature focusing on the mid-crisis management stage may be summarized with three points. First, crises have both positive and negative impacts on hospitality firms. Second, hospitality firms may adopt a variety of response strategies. Third, a number of factors may influence the impacts of crises and the resulting response strategies. However, studies on this stage are mostly reactive and case-based: they only consider one particular crisis or hospitality firm at a time. As such, the generalizability of these studies is questionable. While various strategies have been identified, these strategies tend to be the hospitality management's functional and behavioral actions in response to a crisis. The strategic aspects of such actions have not been considered. Bundy and Pfarrer (2015) labeled response strategies that accept fewer responsibilities as defensive and those that take up more responsibilities as accommodative. Other scholars have developed various topologies of strategies (e.g., Coombs, 2006, 2007; Dawar and Pillutla, 2000), but they have rarely examined crisis response strategies in the hospitality field. Moreover, the critical role of different internal factors – such as leadership and organizational structure, and external factors such as stakeholder relationship – in enhancing the crisis management process has not been explored.

4.4.3. Stage 3: post-crisis recovery

Existing crisis research in hospitality has not paid adequate attention to the post-crisis recovery stage, and most research has focused on the

Table 6
Crisis Response Strategies.

Focus	Topical Foci
Human resources	<ul style="list-style-type: none"> • Offering unpaid leave • Freezing pay rates • Reducing the number of workdays • Increasing outsourcing • Staff training and skill development • Replacing high- with low-paid employees • Upgrading product packages and improving service quality
Service provision	<ul style="list-style-type: none"> • Implementing technological solutions • Reducing prices • Exploring new products (e.g., family events, catering) • Providing limited services • Revisiting cancellation policies • Differentiating image • Enhancing branding • Increasing niche marketing • Cooperative marketing campaigns with other countries or regions
Marketing	<ul style="list-style-type: none"> • Exploring new markets • Focusing on local and domestic markets • Stressing safety and the location's distinctive features in marketing campaigns • Generating innovative marketing ideas • Implementing loyalty programs and developing exclusive clubs • Maintaining relationships with loyal customers
Customer relations and communications	<ul style="list-style-type: none"> • Communicating with customers both online and in traditional media • Assigning social media personnel • Monitoring customer comments on social media platforms • Offering sympathy and support for local communities and care for victims
Corporate social responsibility	<ul style="list-style-type: none"> • Offering complementary products (e.g., free night stays and leisure activities) • Encouraging volunteer work by staff
Finance	<ul style="list-style-type: none"> • Extending credit or postponing payments • Evaluating the firm's credit and debit • Controlling/reducing costs
Strategic planning	<ul style="list-style-type: none"> • Postponing maintenance projects and new investments
Government assistance	<ul style="list-style-type: none"> • Requesting government support on tax relief and expenses
Other operational practices	<ul style="list-style-type: none"> • Setting up warning systems and ensuring the safety of guests and staff

service providers' perspective. Popular topics in this stage include the performance of hospitality firms after crisis as well as their recovery strategies (Chen, 2011; Henderson, 2007; Kubickova et al., 2019; Lee and Warner, 2005, 2006; Perles-Ribes et al., 2016). Scholars are also interested in understanding how long hospitality firms need to recover from a certain crisis. For example, Seo et al. (2013) showed that the negative impacts of a food safety crisis on restaurants diminished around 2 months after the outbreak, and that restaurants fully recovered after a year. Studies of the post-crisis recovery stage advocated the importance of building resilience in hospitality firms (Brown et al., 2018, 2017; Dahles and Susilowati, 2015; Pappas, 2018; Sydnor-Bouso et al., 2011). Resilience refers to a firm's ability to assess, adapt, innovate, and overcome disruptions triggered by a crisis or a disaster, thereby mitigating potential negative consequences (Brown et al., 2017). Crisis studies relating to resilience have predominantly focused on its conceptualization and identifying its predictors (Brown et al., 2017, 2018; Pappas, 2018; Sydnor-Bouso et al., 2011).

Resilience can be conceptualized as either trait based or process based (DesJardine et al., 2019; Holling, 1973; Williams et al., 2017). Trait-based resilience refers to the unique strength, competitive advantage, or ability of the firm to return to an equilibrium state, while a process-based view explains the continuous effort, response, and reaction of an organization to bounce back from challenges and turbulent

business environments. Process-based resilience stresses the importance of maintaining resilience through learning, scanning the business environment, and making positive adjustments to overcome challenges. Brown et al. (2017) merged trait-based and process-based views by defining resilience in the hospitality sector as "a dynamic condition describing the capacity of a hotel, together with its stakeholders (staff, guests, the local community), to assess, innovate, adapt, and overcome possible disruptions that are triggered by a disaster" (p. 365). As such, a resilient service provider has both the resources and the capabilities to leverage such resources to withstand the difficult circumstances created by a crisis. Sydnor-Bouso et al. (2011) showed that higher levels of physical, human, and social capital would lead to higher community resilience after a natural disaster. From a broader perspective, Brown et al. (2018) identified six key predictors of resilience, namely economic, social, human, physical, natural, and cultural capital. Brown et al. (2017) suggested that a service provider should build its adaptive capacity, enhance its flexibility, and foster a culture that promotes innovation, encourages self-efficacy, and challenges the current status of the firm to improve its resilience. Nevertheless, the involvement of stakeholders is very important in the resilience building process.

Post-crisis research generally focuses on performance and resilience as the critical outcomes of crisis. Thus, it adopts a restorative perspective that focuses on getting hospitality firms back to normal, rather than adopting a learning and adaptive lens that values the firms' changes as a result of the crises (Bundy et al., 2017). While organizational learning and knowledge management have been investigated in tourism crisis studies (Ritchie and Jiang, 2019), they are largely absent from hospitality crisis research, as shown in the current review. As with the preceding two stages, there are few evaluations of firms' performance and recovery efforts from the stakeholders' perspective.

5. Future research agenda

Crises of all kinds have significant implications for hospitality service providers and their stakeholders. The current review shows that the existing hospitality crisis literature predominantly focuses on macro-level crisis, overlooking micro-level ones, which relate to the internal business operations of service providers. This may be attributed to the inconsistent use and definitions of the terms *crisis* and *disaster*. While there is extensive research on service failure, considering service failure and recovery as a type of crisis and crisis management is less common in the hospitality literature (Lai et al., 2018). Thus, further conceptualizations and categorizations of crisis type based on the level of impact, severity, and responsibility and attention from the service providers may be developed in future crisis and crisis management research.

Like the approach of Ritchie and Jiang (2019), we categorized hospitality crisis research into three different phases: pre-crisis planning, mid-crisis management, and post-crisis resolution. The previous section identified and presented prominent research topics in each stage and perspective. This study reveals that hospitality crisis research is somewhat fragmented, as the existing literature describes each stage of crisis management in isolation, either from the service providers' or the stakeholders' perspective. In our attempt to encourage more generalizable and integrated research in the future, we argue that four main areas need to be addressed to advance hospitality crisis research to the next phase of more rigorous, relevant, and academically sound research. First and foremost is the exploration and investigation of crisis and crisis management from the stakeholders' perspective. The second relates to the adoption of an integrative perspective when conducting crisis research, integrating the multiple perspectives of service providers and relevant stakeholders, multiple levels of analysis (e.g., individual, organizational, and national), and multiple stages in the crisis management framework. Third, future researchers may consider adopting a causal and behavioral research approach, focusing on instrumental relationships among crisis variables and supplier/stakeholders' behaviors. Last, scholars should seek to enhance the theoretical and conceptual

underpinnings of crisis research by contemplating crisis management as a multidisciplinary domain. The following subsections discuss each area of future research in detail and a list of related research questions follows in Table 7.

5.1. Crisis management from stakeholders' perspectives

The current review shows that existing crisis management research in hospitality predominantly focuses on the service providers' perspective across all three stages. Despite the relevance and importance of managing stakeholders in prevention and management of crisis as emphasized by existing scholars (Coombs, 2015), there have been few empirical studies. From a stakeholder perspective, the hospitality business is about how the service provider interacts with different stakeholders to create value and avoid failures jointly (King et al., 2019; Pizam and Tasci, 2019). Thus, actively analyzing and managing the relationships with these stakeholders, who have direct or indirect interests in the business of the service provider and therefore are affected by the service provider, may enhance the capability of the service

Table 7
Future Research Directions.

Research Foci	Research Questions
Stakeholders' perspectives	<ul style="list-style-type: none"> • What are the different roles played by the stakeholders in crisis planning, management, and recovery? Who are more influential at each crisis management stage? • How do the perceptions of employees, managers, customers, and residents change over the three stages of crisis management? • What are the antecedents of employees' resilience toward crisis? • What is the consumption pattern of customers during crisis? Does it change in different stages of crisis?
Integrative research	<ul style="list-style-type: none"> • How effective is each response strategy for consumers? • How do customers' expectations, preferences, and satisfaction change from the pre-crisis to mid-crisis and post-crisis stage? • How is crisis resilience related to hospitality firms' crisis planning effort and level of crisis preparedness? • How does knowledge from a former crisis inform current crisis planning and response practices? • How do response strategies influence the hospitality firm's relationships with its stakeholders? • How do individual employees view and respond to management's use of crisis response strategies? • What are the main features and distinction between multinational and local hospitality businesses in dealing with crises?
Causal and behavioral research	<ul style="list-style-type: none"> • Do hotels with a crisis management plan in place recover faster than those without a plan? • Why are some hospitality firms more prepared than others? • What are the drivers and inhibitors that influence proactive crisis planning efforts? • How do crisis management practices in the hospitality industry change over time? • What type of leadership is important for ensuring appropriate crisis management planning and implementation strategies?
Theoretical and conceptual enhancement	<ul style="list-style-type: none"> • How do organizations arrive at the decision to undertake certain response strategies but not others? What roles do different stakeholders play in this process? • What role does each stakeholder assume in the crisis planning and management process? • How can technologies be used to handle a crisis, communicate with customers, and maintain a relationship with customers during a crisis?

provider in dealing with a crisis (Xu and Gursoy, 2015). Internally, managers and employees are important stakeholders since they actualize the crisis planning, management, and recovery efforts. Some researchers have attempted to understand crisis preparedness and response strategies from managers' perspective (Israeli et al., 2011; Wang and Wu, 2018). Externally, customers are the key stakeholders due to their decisive role in the hospitality industry's market demand, success, and sustainability. From the consumers' perspective, Vassilikopoulou et al. (2009) showed that media reputation, external effects, and organizational response significantly influence consumers' perceptions of a hotel during a crisis, while social responsibility affects their revisit intention. Likewise, the role of residents is important in developing and managing the hospitality business, since their support for tourism and attitude toward tourists affect the destination and the tourist market (Gursoy et al., 2019a; 2019b). Su et al. (2019) found that the public's view of service failures in a hotel changes as reflected in the different topics and intensity in their online discussion. Governance bodies and destination management authorities are also key stakeholders since they are involved in policy formation that will eventually influence the hospitality industry.

The current review encourages future research to examine crisis and crisis management research in hospitality from the perspectives of these stakeholders, especially employees, customers, residents, and governing authorities. The roles played by these key stakeholders in the crisis planning, response, and recovery process should be investigated. Future research should pay more attention to how stakeholders react toward different response strategies, and how their perceptions and emotions influence the effectiveness of these strategies. Future research may also analyze how stakeholders' perceptions and expectations on hospitality service providers change before, during, and after crisis. From employees' perspective, concepts related to organizational behavior, such as leader-member exchange, leadership style (e.g., transformational and servant leadership), and organizational culture, may be used to investigate employees' own resilience to crisis. For customers and residents, more research is needed to understand their risk perceptions, feelings and emotions, and consumption behaviors during crisis. Enhanced understanding of crisis and crisis management research from the stakeholders' perspective will allow the hospitality service providers to effectively communicate and maintain relationships with these stakeholders, which will likely lead to the successful management of crises.

5.2. Integrative research

The current review indicates that a diverse range of topics has been investigated across various stages of crises, and from either the service providers' or stakeholders' perspective. However, hospitality crisis research tends to take place in isolation, with limited efforts to integrate more than one perspective and stage in a single study. Of the 88 analyzed articles, only one investigated both perspectives from suppliers and customers, spanning the mid-crisis and post-crisis stages. Specifically, Rittichainuwat (2013) compared the perceptions of tourists and service providers on the safety measures during and after a tsunami. Fragmentation also exists in the levels of analysis, with a dominant focus on organizational (Campo et al., 2014), sectoral (del Mar Alonso-Almeida and Bremser, 2013; Israeli and Reichel, 2003; Lado-Sestayo et al., 2016; Mackenzie et al., 2011), and regional or country levels (Kilic and Okumus, 2005; Lin et al., 2011; Qu et al., 2002; Song et al., 2011; Wu et al., 2010). Limited consideration has gone to other levels of analysis, such as individual and departmental, or to how these different levels may interact. However, crisis management may also encompass individual-level experiences, which may be more influential than macro-level strategies (Bundy et al., 2017). For example, Israeli et al. (2011) focused on individual employees, and showed that the importance employees assign to a certain crisis management practice has a positive relationship with the usage level of that practice. On the other hand, how service agents respond to and handle customer queries

during a crisis may be more important and relevant to customers than how the organization and hotel sector generally respond to the public. Also, how individual managers internalize the overall crisis management strategy of the organization, communicate the strategy with their subordinates, and actualize it in their operations will likely affect the effectiveness of the strategy.

Therefore, the research foci identified in the current review do not fully reflect the dynamic nature of a crisis and crisis management. This creates numerous opportunities for future research to adopt an integrative and configurational approach to contemplate and explicate crisis management as a dynamic process that simultaneously affects different stakeholders across different levels of analysis. Each stage in the crisis management framework should be considered as interdependent, so that one variable appearing in the pre-crisis planning stage will affect another variable in the mid-crisis management stage or post-crisis recovery stage. In other words, an integrative model that links different crisis components and concepts together, such as crisis preparedness, responses, and resilience, will be valuable. The collective and simultaneous consideration of these individual components will generate an entirely new set of research questions related to crisis management (some examples are in Table 7).

5.3. Causal and behavioral research

Like the study of Ritchie and Jiang (2019), the current study showed that most empirical hospitality crisis research adopted a case study approach, limited to either a single crisis incident (e.g., the 2008 financial crisis, 9–11 terrorist attacks, 2003 SARS, Indian Ocean tsunami), and/or a single geographical location (e.g., Thailand, Hong Kong, Singapore, United States). Studies using multiple cases mainly focused on comparing how different hotels or restaurants responded to or recovered from crises (Koh et al., 2013; Vivel-Búa et al., 2019; Wu et al., 2010; Yu et al., 2005). Fewer studies have adopted multiple cases to conduct comparative analyses on the impact of different types of crisis or how different countries or regions respond to or recover from crises (Chen, 2011; Chen et al., 2005).

In contrast to tourism crisis research, which is dominated by qualitative methodologies (Ritchie and Jiang, 2019), hospitality crisis research has mostly embraced a quantitative approach, though a large proportion of studies have used cross-sectional surveys limited to one-off or one-time research (Alonso-Almeida & Bremser, 2013; Campo et al., 2014; Israeli et al., 2011; Israeli and Reichel, 2003; Kilic and Okumus, 2005; Martínez-Martínez et al., 2015), some scholars have used time-series data of hotel operational statistics and financial performance data to assess the longitudinal effects of a crisis on the hospitality industry (Chen and Yeh, 2012; Jeon et al., 2006; Lado-Sestayo et al., 2016; Perles-Ribes et al., 2016; Qu et al., 2002; Wu et al., 2010). Qualitative methods, such as interviews, have been used to explore concepts and reveal practitioners' existing practices and perceptions (Kim et al., 2005; Mackenzie et al., 2011; Mansour et al., 2019; Okumus and Karamustafa, 2005).

Due to the heavy reliance on a single-case study approach, hospitality crisis research faces criticisms in terms of its replicability and generalizability. Most of the time, results from single-case studies may only be generalized to theories, but not other crises (Xiao and Smith, 2006; Yin, 2003). Moreover, the use of cross-sectional surveys, longitudinal data, and interviews constrained hospitality crisis research to remain predominantly exploratory and descriptive (Sreejesh et al., 2014). These studies do not go beyond empirical generalizations and thus cannot discern causality (Dolnicar and Ring, 2014). Future exploratory and descriptive studies should be undertaken carefully and selectively to avoid conducting similar studies with similar objectives under a different context, which contribute limited theoretical knowledge to advance the field. Besides using multiple case studies to improve the generalizability of hospitality crisis research to other crises, we encourage future researchers to adopt experimental designs to examine

different research questions and to generate more knowledge on the causal relationships among established crisis-related constructs. This advocacy of experimental research does not necessarily imply a further push toward quantitative approaches, but a goal to provide clear "if, do" recommendations to hospitality practitioners (Dolnicar and Ring, 2014). For example, by investigating the effects of different response strategies on consumers' perceptions of hospitality firms using an experimental approach, scholars provide actionable evidence to practitioners in terms of the most effective response strategies to generate positive consumer response.

Technological applications and advancements have enabled real-time exchange and interactions between firms and consumers, as well as among consumers on various online platforms. Researchers have access to these interactions as user-generated contents. Leveraging this valuable data source and more novel data analytic techniques that are currently absent in the crisis research would provide excellent research opportunities to reveal the actual emotions, attitudes, and behaviors of service providers and stakeholders.

5.4. Theoretical and conceptual enhancement

The current review shows that most existing crisis research in hospitality is not theoretically grounded. As such, a solid theoretical foundation is lacking. While Faulkner's (2001) disaster management framework has been employed to investigate tourism crisis management at the macro-level (Jiang et al., 2019; Ritchie and Jiang, 2019), this paper revealed that Faulkner's (2001) framework has rarely been applied in hospitality crisis management. Henderson and Ng (2004) have applied the six-phase framework to investigate how the hotel sector in Singapore responded to SARS at each stage of the health crisis. Signs of developing or advancing the framework only came to light recently when Hao et al. (2020) extended it to form a Covid-19 management framework by considering anti-pandemic strategy principles at each phase of crisis management. Nevertheless, empirical efforts to test and refine the crisis management framework are significantly lacking. In particular, the framework suggests that crisis management includes the six phases of pre-event, prodromal, emergency, intermediate, long-term recovery, and resolution. The phase after resolution and prior to the next pre-event may be a cool-down period from crisis, but it represents a potential step in which strategies may be taken to prepare hospitality firms for future crises. Further refinements and development of existing crisis management frameworks should take place by leveraging the extensive experience gained over the past 2 decades in which the hospitality industry has overcome a few major crises.

Besides the lack of evolution of existing frameworks, hospitality crisis research has not sufficiently discussed, applied, and extended theoretical aspects of crisis management. Over-reliance on descriptive and exploratory case studies, as mentioned earlier, has contributed to limited theoretical activity (Ashworth and Page, 2011). According to Bramwell (2015), theoretical activity refers to any explanatory approach that deals with abstract ideas, notions, or concepts to explain the world. Theoretical activities in research involve a range of actions from working with conceptual frameworks and strategies to conceptualizing processes and relationships, explicating issues from new perspectives, and evaluating existing concepts to developing new concepts.

The current review of the literature shows that concepts specific to crisis management are limited to crisis planning, crisis preparedness, crisis readiness, and resilience. This provides tremendous opportunities for future research to engage in more theoretical activities by integrating concepts and frameworks from other disciplines (Bramwell, 2015). Essentially, ideas from multiple fields, such as environmental, cultural, socioeconomic, and governance may be integrated to advance understanding of crisis research, which is a multidisciplinary area (Amore et al., 2018). Situational theories that originate from the communication field could be applied together with a longitudinal design to explain different layers of crisis management approaches better, such as

problem identification, information seeking, and level of involvement. The application of psychological theory may advance our knowledge on managing customer behavior and experience in a crisis setting by characterizing risk perception and cognitive and affective issues like fear, empathy, and worry. In a similar vein, studies have suggested expected utility theory (Pettigrew, 2015) and prospect theory (Xu et al., 2011) to examine the relative conditions between certainty and uncertainty and their influence on the decision-making process of tourism service suppliers when opting for response strategies. Resource-based views and dynamic capabilities theory may be useful to examine the preparedness and response strategies of hospitality firms (Barney, 1991; Wernerfelt, 1984). In particular, is the low level of crisis preparedness due to inadequate resources and capabilities in hospitality firms? The stakeholder theory may provide an appropriate theoretical ground to understand the roles of different stakeholders in crisis planning.

The outbreak of Covid-19 will likely prompt a substantial rise in crisis management literature in both hospitality and tourism in the coming years. Against this backdrop, this study suggests that forthcoming crisis studies, especially those relating to the impacts of and responses to Covid-19, focus on grounding their study in various theories. For example, the psychological impacts of the lock-down and social distancing due to the pandemic may be explored using the theory of loneliness (Peplau and Perlman, 1979). Furthermore, the niche construction theory may be useful to explore the reconstruction process of the hospitality industry during and after the Covid-19 pandemic (Faisal et al., 2020).

6. Conclusions

A review of the existing literature forms a strong foundation for future development of theoretical knowledge (Denyer and Tranfield, 2009). Harnessing a systematic review of 88 articles, the state-of-the-art literature related to hospitality crisis management research is presented. In particular, the usage level of theoretical frameworks and the most commonly adopted methods have been assessed. The prominent topics discussed under each stage of the crisis management framework have been synthesized, and the key critiques have been provided. We contribute to the existing literature by providing an overview of how crisis research in hospitality has been developing since its emergence. We also supplement the two perspectives (i.e., service providers and stakeholders) from which crisis management may be contemplated. Another theoretical contribution of this study is the development of a future research agenda. As indicated in Section 5, future research on hospitality crisis management research will benefit from viewing existing problems from the perspective of stakeholders, adopting an integrative approach to research across multiple crisis stages, perspectives, and levels of analysis, undertaking research that focuses on revealing causal relationships and actual behaviors, and tapping into the multi-disciplinary nature of and theoretical aspect of crisis research in hospitality.

This study also has practical implications. The nine response strategies covering human resource, service provision, marketing, customer relations and communications, corporate social responsibility, finance, strategic planning, government assistance, and other operational strategies identified in this study serve as an initial point of reference for hospitality practitioners to plan for their response and recovery strategies for current and future crises, such as Covid-19. Regarding human resource practices, hospitality firms may adopt relevant approaches to reduce human resource costs, such as freezing pay rates, replacing high-paid employees with low-paid ones, and requesting employees to take unpaid leaves. However, firms need to fulfil their ethical obligations to employees and to avoid harming employees' morale. Providing online training opportunities may be a way to develop stronger human capital, organizational resilience, and employee resilience during the crisis. Since hotel occupancies are being tremendously affected, hotels may offer free stays and leisure activities as employee benefits during this

crisis. In relation to service provision strategies, the feasibility of applying technologies to minimize social interactions and enhance disinfection of facilities in hospitality firms should be widely explored, but customers' perceptions on this should not be overlooked (Kim, Kim et al., 2020). Considering that travel bans may continue for some time, the focus of marketing strategies and development of new product packages should be directed towards domestic and local markets. Nevertheless, measures ensuring customer safety should be implemented and communicated during Covid-19. When dealing with Covid-19 and future crises, hospitality managers and marketers should maintain a flexible attitude and innovative mindset to pursue the appropriate contingency strategies.

Compared to previous pandemics, such as the 2009 swine flu and SARS, Covid-19 has brought and will bring even more impacts on the hospitality industry by constraining its operations and social contacts (China Hospitality Association, 2020), limiting its labor supply, and delaying expansion projects (Elena, 2020). The poor financial performance of the firms, the continued travel ban, and social distancing will lead to further layoffs, unemployment, unpaid leaves, and other social problems (Biscayart et al., 2020; Chen, 2011; Novelli et al., 2018; Pine and McKercher, 2004). While this study makes both theoretical and practical contributions to the crisis literature, the Covid-19 pandemic in turn will affect future research and practices in crisis management, which should not be overlooked. In particular, there will be major changes in various aspects of the business from service providers' perspective, such as operating procedures and standards, which represent higher costs and requirements of know-how, industry structure, including competition and collaboration, and the labor market. On the demand side, consumers will vary widely in their behaviors, such as how they make decisions on hospitality and tourism products, and how they experience those products. Future research will gradually reflect such changes in service providers, consumers, and other stakeholders, but it will have to adopt a transformative approach to reconsider the elements in each stage of the crisis management framework to lead crisis research in hospitality to the next level. The current review presents a first step.

Like other studies, this study has its limitations. First, studies that do not contain the keyword *crisis* but cover crisis issues were left out. Hence, some valuable findings and information might have been unintentionally omitted. In response to such limitations, future similar studies could include mainstream journals to extend the scale of the current study and uncover potential differences between tourism and non-tourism fields. To have a complete understanding of crisis research in hospitality, further reviews based on meta-analysis and/or systematic review of the general and different domains of the hospitality industry are needed. Reviews on specific topics related to crisis management, such as resilience and risk, may also be performed to allow more in-depth analysis and discussion.

Acknowledgements

The authors would like to thank the Institute of International Business and Governance, established with the substantial support of a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (UGC/IDS16/17), for its support. The authors would like to thank the three anonymous reviewers, guest editor, and editor-in-chief for their constructive comments on improving an early version of this paper.

References

- Ackoff, R.L., 1974. *Redesigning the Future*. John Wiley & Sons, New York & London.
- Amore, A., Prayag, G., Hall, C.M., 2018. Conceptualizing destination resilience from a multilevel perspective. *Tour. Rev. Int.* 22 (3–4), 235–250.
- Angel, K., Menéndez-Plans, C., Orgaz-Guerrero, N., 2018. Risk management: comparative analysis of systematic risk and effect of the financial crisis on US tourism industry. *Int. J. Contemp. Hosp. Manage.* 30 (3), 1920–1938.

- Ashworth, G., Page, S., 2011. Urban tourism research: recent progress and current paradoxes. *Tour. Manag.* 32 (1), 1–15.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *J. Manage.* 17 (1), 99–120.
- Benckendorff, P., Zehrer, A., 2013. A network analysis of tourism research. *Ann. Tour. Res.* 43, 121–149.
- Bilić, I., Pivčević, S., Čevra, A., 2017. Crisis management in hotel business—Insights from Croatia. *Commun. Manag. Rev.* 2 (02), 100–118.
- Biscayart, C., Angeleri, P., Lloveras, S., Chaves, T.D.S.S., Schlagenhaut, P., Rodríguez-Morales, A.J., 2020. The next big threat to global health? 2019 novel coronavirus (2019-nCoV): what advice can we give to travellers? - Interim recommendations January 2020, from the Latin American society for travel medicine (SLAMVI). *Travel Med. Infect. Dis.* <https://doi.org/10.1016/j.tmaid.2020.101567> (in press).
- Bramwell, B., 2015. Theoretical activity in sustainable tourism research. *Ann. Tour. Res.* 54, 204–218.
- Brown, N.A., Rovins, J.E., Feldmann-Jensen, S., Orchiston, C., Johnston, D., 2017. Exploring disaster resilience within the hotel sector: a systematic review of literature. *Int. J. Disaster Risk Reduct.* 22, 362–370.
- Brown, N.A., Orchiston, C., Rovins, J.E., Feldmann-Jensen, S., Johnston, D., 2018. An integrative framework for investigating disaster resilience within the hotel sector. *J. Hosp. Tour. Manag.* 36, 67–75.
- Bundy, J., Pfarrer, M.D., 2015. A burden of responsibility: the role of social approval at the onset of a crisis. *Acad. Manag. Rev.* 40 (3), 345–369.
- Bundy, J., Pfarrer, M.D., Short, C.E., Coombs, W.T., 2017. Crises and crisis management: integration, interpretation, and research development. *J. Manage.* 43 (6), 1661–1692.
- Campo, S., Díaz, A.M., Yagüe, J.M., 2014. Hotel innovation and performance in times of crisis. *Int. J. Contemp. Hosp. Manag.* 26 (8), 1292–1311.
- Chen, M.-H., 2011. The response of hotel performance to international tourism development and crisis event. *Int. J. Hosp. Manag.* 30, 200–212.
- Chen, C.M., Yeh, C.Y., 2012. The causality examination between demand uncertainty and hotel failure: a case study of international tourist hotels in Taiwan. *Int. J. Hosp. Manag.* 31 (4), 1045–1049.
- Chen, M.H., Kim, W.G., Kim, H.J., 2005. The impact of macroeconomic and non-macroeconomic forces on hotel stock returns. *Int. J. Hosp. Manag.* 24 (2), 243–258.
- China Hospitality Association, 2020. The Impact of COVID-19 on China's Lodging Industry. Retrieved on 19 September 2020 from. http://www.xinhuacnet.com/food/2020-03/02/c_1125652997.htm.
- Coombs, W.T., 2006. The protective powers of crisis response strategies: managing reputational assets during a crisis. *J. Promot. Manag.* 12 (3–4), 241–260.
- Coombs, W.T., 2007. Protecting organization reputations during a crisis: the development and application of situational crisis communication theory. *Corp. Reput. Rev.* 10 (3), 163–176.
- Coombs, W.T., 2015. The value of communication during a crisis: insights from strategic communication research. *Bus. Horiz.* 58 (2), 141–148.
- Coombs, W.T., Laufer, D., 2018. Global crisis management – current research and future directions. *J. Int. Manag.* 24 (3), 199–203.
- Corbet, S., O'Connell, J.F., Efthymiou, M., Guiomard, C., Lucey, B., 2019. The impact of terrorism on European tourism. *Ann. Tour. Res.* 75, 1–17.
- Dahles, H., Susilowati, T.P., 2015. Business resilience in times of growth and crisis. *Ann. Tour. Res.* 51, 34–50.
- Davidson, M.C.G., Timo, N., Ying, W., 2010. How much does labour turnover cost? A case study of Australian four- and five-star hotels. *Int. J. Contemp. Hosp. Manag.* 22 (4), 451–466.
- Dawar, N., Pillutla, M.M., 2000. Impact of product-harm crisis on brand equity: the moderating role of consumer expectations. *J. Mark. Res.* 37 (2), 215–226.
- del Mar Alonso-Almeida, M., Bremser, K., 2013. Strategic responses of the Spanish hospitality sector to the financial crisis. *Int. J. Hosp. Manag.* 32, 141–148.
- Denyer, D., Tranfield, D., 2009. Producing a systematic review. In: Buchanan, D.A., Bryman, A. (Eds.), *The Sage Handbook of Organizational Research Methods*. Sage Publications Ltd, pp. 671–689.
- DesJardine, M., Bansal, P., Yang, Y., 2019. Bouncing back: building resilience through social and environmental practices in the context of the 2008 global financial crisis. *J. Manage.* 45 (4), 1434–1460.
- Dolnicar, S., Ring, A., 2014. Tourism marketing research: past, present and future. *Ann. Tour. Res.* 47, 31–47.
- Dunham, L., Freeman, R.E., Liedtka, J., 2006. Enhancing stakeholder practice: a particularized exploration of community. *Bus. Ethics Q.* 23–42.
- Elena, 2020. The Q1 RevPAR of Huazhu Hotel Dropped by More Than Half, and the RevPAR of Deutsche Hotel Dropped by 21%. Retrieved on 19 September 2020 from. <http://traveldaily.net/article/137334>.
- Faisal, A., Albrecht, J.N., Coetzee, W.J.L., 2020. (Re)creating spaces for tourism: spatial effects of the 2010/2011 Christchurch earthquakes. *Tour. Manag.* 80, 104102.
- Faulkner, B., 2001. Towards a framework for tourism disaster management. *Tour. Manag.* 22 (2), 135–147.
- Fink, S., 1986. *Crisis Management*. American Management Association, New York.
- Gémar, G., Moniche, L., Morales, A.J., 2016. Survival analysis of the Spanish hotel industry. *Tour. Manag.* 54, 428–438.
- Gruman, J.A., Chhiner, N., Smith, G.W., 2011. An exploratory study of the level of disaster preparedness in the Canadian hospitality industry. *Int. J. Hosp. Tour. Adm.* 12 (1), 43–59.
- Gursoy, D., Boğan, E., Dedeoğlu, B.B., Çalışkan, C., 2019a. Residents' perceptions of hotels' corporate social responsibility initiatives and its impact on residents' sentiments to community and support for additional tourism development. *J. Hosp. Tour. Manag.* 39, 117–128.
- Gursoy, D., Ouyang, Z., Nunkoo, R., Wei, W., 2019b. Residents' impact perceptions of and attitudes towards tourism development: a meta-analysis. *J. Hosp. Mark. Manage.* 28 (3), 306–333.
- Hao, F., Xiao, Q., Chon, K., 2020. COVID-19 and China's hotel industry: impacts, a disaster management framework, and post-pandemic agenda. *Int. J. Hosp. Manag.* 102636.
- Harrison, J.S., Barney, J.B., Freeman, R.E., Phillips, R.A. (Eds.), 2019. *The Cambridge Handbook of Stakeholder Theory*. Cambridge University Press.
- Henderson, J.C., 2007. Managing crises: UK civil aviation, BAA airports and the August 2006 terrorist threat. *Tour. Hosp. Res.* 8 (2), 125–136.
- Henderson, J.C., Ng, A., 2004. Responding to crisis: severe acute respiratory syndrome (SARS) and hotels in Singapore. *Int. J. Tour. Res.* 6 (6), 411–419.
- Holling, C.S., 1973. Resilience and stability of ecological system. *Annu. Rev. Ecol. Syst.* 4 (1), 1–23.
- Hyndman, D., Hyndman, D., 2016. *Natural Hazards and Disasters*. Cengage Learning, Boston.
- Israeli, A.A., Reichel, A., 2003. Hospitality crisis management practices: the Israeli case. *Int. J. Hosp. Manag.* 22 (4), 353–372.
- Israeli, A.A., Mohsin, A., Kumar, B., 2011. Hospitality crisis management practices: the case of Indian luxury hotels. *Int. J. Hosp. Manag.* 30, 367–374.
- Jamal, T.B., Smith, B., Watson, E., 2008. Ranking, rating, and scoring of tourism journals: interdisciplinary challenges and innovations. *Tour. Manag.* 29, 66–78.
- Jeon, S., Kim, J., Lee, S., 2006. The persistence of abnormal earnings and systematic risk. *Tour. Manag.* 27 (5), 867–873.
- Jiang, Y., Ritchie, B.W., Benckendorff, P., 2019. Bibliometric visualisation: an application in tourism crisis and disaster management research. *Curr. Issues Tour.* 22 (16), 1925–1957.
- Jones, D.L., Lee, A., Chon, K., 2011. Future issues in sales, marketing, and revenue management in greater China: What keeps you up at night? *J. Travel Tour. Mark.* 28, 598–614.
- Kilic, H., Okumus, F., 2005. Factors influencing productivity in small island hotels: evidence from Northern Cyprus. *Int. J. Contemp. Hosp. Manag.* 17 (4), 315–331.
- Kim, S.S., Chun, H., Lee, H., 2005. The effects of SARS on the Korean hotel industry and measures to overcome the crisis: a case study of six Korean five-star hotels. *Asia Pacific J. Tour. Res.* 10 (4), 369–377.
- Kim, C.S., Bai, B.H., Kim, P.B., Chon, K., 2018. Review of reviews: a systematic analysis of review papers in the hospitality and tourism literature. *Int. J. Hosp. Manag.* 70, 49–58.
- Kim, S.S., Kim, J., Badu-Baiden, F., Giroux, M., Choi, Y., 2020. Preference for robot service or human service in hotels? Impacts of the COVID-19 pandemic. *Int. J. Hosp. Manag.* 93, 102795.
- King, C., Murillo, E., Wei, W., Madera, J., Tews, M.J., Israeli, A.A., Kong, L., 2019. Towards a shared understanding of the service experience – a hospitality stakeholder approach. *J. Serv. Manag.* 30 (3), 410–428.
- Koh, Y., Lee, S., Choi, C., 2013. The income elasticity of demand and firm performance of US restaurant companies by restaurant type during recessions. *Tour. Econ.* 19 (4), 855–881.
- Kubickova, M., Kirimhan, D., Li, H., 2019. The impact of crises on hotel rooms' demand in developing economies: the case of terrorist attacks of 9/11 and the global financial crisis of 2008. *J. Hosp. Tour. Manag.* 38, 27–38.
- La Rosa, F., Bernini, F., 2018. Corporate governance and performance of Italian gambling SMEs during recession. *Int. J. Contemp. Hosp. Manag.* 30 (3), 1939–1958.
- Lado-Sestayo, R., Vivel-Búa, M., Otero-González, L., 2016. Survival in the lodging sector: an analysis at the firm and location levels. *Int. J. Hosp. Manag.* 59, 19–30.
- Lai, I.K., Hitchcock, M., Yang, T., Lu, T.W., 2018. Literature review on service quality in hospitality and tourism (1984–2014). *Int. J. Contemp. Hosp. Manag.* 30 (1), 114–159.
- Lamberton, C., Stephen, A.T., 2016. A thematic exploration of digital, social media, and mobile marketing: research evolution from 2000 to 2015 and an agenda for future inquiry. *J. Mark.* 80 (6), 146–172.
- Lee, G.O.M., Warner, M., 2005. Epidemics, labour markets and unemployment: the impact of SARS on human resource management in the Hong Kong service sector. *Int. J. Hum. Resour. Manag.* 16 (5), 752–771.
- Leung, P., Lam, T., 2004. Crisis management during the SARS threat: a case study of the metropole hotel in Hong Kong. *J. Hum. Resour. Hosp. Tour.* 3 (1), 47–57.
- Li, J., Burnham, J.F., Lemley, T., Britton, R.M., 2010. Citation analysis: comparison of web of science, Scopus, scifinder, and google scholar. *J. Electron. Resour. Med. Libr.* 7, 196–217.
- Lin, L., Horng, J.-S., Chen, Y.-C., Tsai, C.-Y., 2011. Factors affecting hotel human resource demand in Taiwan. *Int. J. Hosp. Manag.* 6 (2), 102–112, 30, 312–318.
- Mackenzie, M., Cheung, C., Law, R., 2011. The response of hotels to increasing food costs due to food shortages. *Asia Pacific J. Tour. Res.* 16 (4), 395–416.
- Mair, J., Ritchie, B.W., Walters, G., 2016. Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: a narrative review. *Curr. Issues Tour.* 19 (1), 1–26.
- Mansour, H.E., Holmes, K., Butler, B., Ananthram, S., 2019. Developing dynamic capabilities to survive a crisis: tourism organizations' responses to continued turbulence in Libya. *Int. J. Tour. Res.* 21 (4), 493–503.
- Mar-Molinero, C., Menéndez-Plans, C., Orgaz-Guerrero, N., 2017. Has the 2008 financial crisis changed the factors determining the systematic risk of shares in the "European Hospitality Industry"? (2003–2013). *J. Hosp. Tour. Manag.* 31, 59–69.
- Martínez-Martínez, A., Cegarra-Navarro, J.-G., García-Pérez, A., 2015. Environmental knowledge management: a long-term enabler of tourism development. *Tour. Manag.* 50, 281–291.
- Marvel, W.M., Johnson, C.B., 1997. A crisis of currency or creativity? Problems and prospects for the Swiss hotel industry. *Int. J. Hosp. Manag.* 16 (3), 279–288.

- Mayunga, J.S., 2007. Understanding and Applying the Concept of Community Disaster Resilience: a Capita-based Approach (working Paper for Summer Academy for Social Vulnerability and Resilience Building. Munich, Germany. Retrieved from. <http://theismr.org/documents/Mayunga%20%282007%29%20Understanding%20and%20Applying%20the%20Concept%20of%20Community%20Disaster%20Resilience%20-%20A%20Capital-Based%20Aproach.pdf>.
- Novelli, M., Burgess, L.G., Jones, A., Ritchie, B.W., 2018. 'No Ebola ... still doomed' – The Ebola-induced tourism crisis. *Ann. Tour. Res.* 70, 76–87.
- Okumus, F., Karamustafa, K., 2005. Impact of an economic crisis - evidence from Turkey. *Ann. Tour. Res.* 22 (4), 942–961.
- Okumus, F., Altınay, M., Arasli, H., 2005. The impact of Turkey's economic crisis of February 2001 on the tourism industry in Northern Cyprus. *Tour. Manag.* 26, 95–104.
- Ott, L., Theunissen, P., 2015. Reputations at risk: engagement during social media crises. *Public Relat. Rev.* 41 (1), 97–102.
- Pappas, N., 2015. Achieving competitiveness in Greek accommodation establishments during recession. *Int. J. Tour. Res.* 17, 375–387.
- Pappas, N., 2018. Hotel decision-making during multiple crises: a chaotic perspective. *Tour. Manag.* 68, 450–464.
- Paraskevas, A., 2006. Crisis management or crisis response system?: a complexity science approach to organizational crises. *Manage. Decis.* 44 (7), 892–907.
- Pearson, C.M., Clair, J.A., 1998. Reframing crisis management. *Acad. Manag. Rev.* 23 (1), 59–76.
- Pennington-Gray, L., 2018. Reflections to move forward: where destination crisis management research needs to go. *Tourism Manage. Perspect.* 25, 136–139.
- Peplau, L.A., Perlman, D., 1979. Toward a social psychological theory of loneliness. In: Cook, M., Wilson, G. (Eds.), *Love and Attraction*. Pergamon, Oxford, England, pp. 99–108.
- Perles-Ribes, J.F., Ramón-Rodríguez, A.B., Rubia-Serrano, A., Moreno-Izquierdo, L., 2016. Economic crisis and tourism competitiveness in Spain: permanent effects or transitory shocks? *Curr. Issues Tour.* 19 (12), 1210–1234.
- Pettigrew, R., 2015. Risk, rationality and expected utility theory. *Can. J. Philos.* 45 (5), 798–826.
- Pine, R., McKecher, B., 2004. The impact of SARS on Hong Kong's tourism industry. *Int. J. Contemp. Hosp. Manage.* 16 (2), 139–143.
- Pizam, A., Tasci, A.D., 2019. Experienscape: expanding the concept of servicescape with a multi-stakeholder and multi-disciplinary approach (invited paper for 'luminaries' special issue of International Journal of Hospitality Management). *Int. J. Hosp. Manag.* 76, 25–37.
- Prideaux, B., 2004. The need to use disaster planning frameworks to respond to major tourism disasters. *J. Travel Tour. Mark.* 15 (4), 281–298.
- Qu, H., Xu, P., Tan, A., 2002. A simultaneous equations model of the hotel room supply and demand in Hong Kong. *Int. J. Hosp. Manag.* 21, 455–462.
- Racherla, P., Hu, C., 2009. A framework for knowledge-based crisis management in the hospitality and tourism industry. *Cornell Hosp. Q.* 50 (4), 561–577.
- Ritchie, B.W., 2004. Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry. *Tour. Manag.* 25 (6), 669–683.
- Ritchie, B.W., Jiang, Y., 2019. A review of research on tourism risk, crisis and disaster management: launching the annals of tourism research curated collection on tourism risk, crisis and disaster management. *Ann. Tour. Res.* 79, 102812.
- Rittichainuwat, B.N., 2013. Tourists' and tourism suppliers' perceptions toward crisis management on tsunami. *Tour. Manag.* 34, 112–121.
- Rittichainuwat, B.N., Chakraborty, G., 2009. Perceived travel risks regarding terrorism and disease: the case of Thailand. *Tour. Manag.* 30, 410–418.
- Robert, K.H., Madsen, P., Desai, V., 2007. Organizational sensemaking during crisis. In: Pearson, C.M., Roux-Dufort, C., Clair, J.A. (Eds.), *International Handbook of Organizational Crisis Management*, 1st ed. Sage, Los Angeles, CA, pp. 107–122.
- Roberts, V., 1994. Flood management: bradford paper. *Disaster Prev. Manag.* 3 (2), 44–60.
- Rousaki, B., Alcott, P., 2007. Exploring the crisis readiness perceptions of hotel managers in the UK. *Tour. Hosp. Res.* 7 (1), 27–38.
- Santana, G., 2004. Crisis management and tourism. *J. Travel Tour. Mark.* 15 (4), 299–321.
- Senbeto, D.L., Hon, A.H., 2020. The impacts of social and economic crises on tourist behaviour and expenditure: an evolutionary approach. *Curr. Issues Tour.* 23 (6), 740–755.
- Seo, S., Jang, S., Miao, L., Almanza, B., Behnke, C., 2013. The impact of food safety events on the value of food-related firms: an event study approach. *Int. J. Hosp. Manag.* 33, 153–165.
- Sheaffer, Z., Mano-Negrin, R., 2003. Executives' orientations as indicators of crisis management policies and practices. *J. Manag. Stud.* 40, 573–606.
- Song, H., Lin, S., Witt, S.E., Zhang, X., 2011. Impact of financial/economic crisis on demand for hotel rooms in Hong Kong. *Tour. Manag.* 32, 172–186.
- Sreejesh, S., Mohapatra, S., Anusree, M.R., 2014. Business research design: exploratory, descriptive and causal designs. *Business Research Methods*. Springer, Cham, pp. 25–103.
- Stafford, G., Yu, L., Armo, A.K., 2006. Crisis Management and Recovery: how Washington DC, Hotels Responded to Terrorism. *Tourism, Security & Safety: From Theory to Practice*, pp. 291–312.
- STR, 2020. Coronavirus: Hotel Performance Analysis, Data Reporting. Retrieved on 14 April 2020 from. <https://str.com/data-insights-blog/coronavirus-hotel-performance-analysis-data-reporting>.
- Su, L., Stepchenkova, S., Kirilenko, A.P., 2019. Online public response to a service failure incident: implications for crisis communications. *Tour. Manag.* 73, 1–12.
- Sydnor-Bouso, S., Stafford, K., Tews, M., Adler, H., 2011. Toward a resilience model for the hospitality & tourism industry. *J. Hum. Resour. Hosp. Tour.* 10 (2), 195–217.
- Tavitiyaman, P., Leong, J.K., Dunn, G.E., Njite, D., Neal, D.M., 2008. The effectiveness of lodging crisis management plans. *J. Qual. Assur. Hosp. Tour.* 8 (4), 24–60.
- Tew, P.J., Lu, Z., Tolomiczenko, G., Gellatly, J., 2008. SARS: lessons in strategic planning for hoteliers and destination marketers. *Int. J. Contemp. Hosp. Manage.* 20 (3), 332–346.
- The Guardian, 2020. Coronavirus Poses Existential Threat, Says Hospitality Industry. Retrieved on 14 April 2020 from. <https://www.theguardian.com/world/2020/mar/16/coronavirus-business-leaders-call-for-dramatic-rise-in-emergency-support>.
- Theodoulidis, B., Diaz, D., Crotto, F., Rancati, E., 2017. Exploring corporate social responsibility and financial performance through stakeholder theory in the tourism industries. *Tour. Manag.* 62, 173–188.
- UNWTO, 2020. U.S. Hotel RevPAR Forecasted to Drop 50.6% for 2020. Retrieved September 8, 2020 from. <https://www.unwto.org/news/international-tourism-arrivals-could-fall-in-2020>.
- Vassilikopoulou, A., Siomkos, G., Chatzipanagiotou, K., Triantafyllidou, A., 2009. Hotels on fire: investigating consumers' responses and perceptions. *Int. J. Contemp. Hosp. Manag.* 21 (7), 791–815.
- Vivel-Búa, M., Lado-Sestayo, R., Otero-González, L., 2019. Influence of firm characteristics and the environment on hotel survival across MSMES segments during the 2007–2015 period. *Tour. Manag.* 75, 477–490.
- Wang, J., Ritchie, B.W., 2012. Understanding accommodation managers' crisis planning intention. An application of the theory of planned behaviour. *Tour. Manag.* 33, 1057–1067.
- Wang, J., Wu, X., 2018. Top-down or outside-in? Culturally diverse approaches to hotel crisis planning. *J. Hosp. Tour. Manag.* 36, 76–84.
- Wernerfelt, B., 1984. A resource-based view of the firm. *Strateg. Manag. J.* 5 (2), 171–180.
- Williams, T.A., Gruber, D.A., Sutcliffe, K.M., Shepherd, D.A., Zhao, E.Y., 2017. Organizational response to adversity: fusing crisis management and resilience research streams. *Acad. Manag. Ann.* 11 (2), 733–769.
- Wu, E.H.C., Law, R., Jiang, B., 2010. Data mining for hotel occupancy rate: an independent component analysis approach. *J. Travel Tour. Mark.* 27, 426–438.
- Xiao, H., Smith, S.L.J., 2006. Case studies in tourism research: a state-of-the-art analysis. *Tour. Manag.* 27 (5), 738–749.
- Xu, X., Gursoy, D., 2015. Influence of sustainable hospitality supply chain management on customers' attitudes and behaviors. *Int. J. Hosp. Manag.* 49, 105–116.
- Xu, H., Zhou, J., Xu, W., 2011. A decision-making rule for modeling travelers' route choice behavior based on cumulative prospect theory. *Transp. Res. Part C Emerg. Technol.* 19 (2), 218–228.
- Yin, R., 2003. *Case Study Research: Design and Methods*, 3rd ed.). Sage, Thousand Oaks.
- Yu, L., Stafford, G., Armo, A.K., 2005. A study of crisis management strategies of hotel managers in the Washington, DC metro area. *Tourism Crises: Manag. Responses Theor. Insight* 91 (2–3), 91–105.
- Yuan, Y.Y., Tseng, Y.-H., Chang, C.-Y., 2014. Tourism subfield identification via journal clustering. *Ann. Tour. Res.* 47, 77–95.