The AH1N1 Influenza crisis in Mexico: A critique of contemporary tourism crisis and disaster management models and frameworks

by

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Student Declaration

I declare that no material contained in the thesis has been used in any other submission for an academic award and is solely my own work

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Abstract

Tourism experts appear to agree that at some point in time each individual tourism destination will eventually encounter disruption, in the form of a crisis or a disaster. The subsequent negative impacts will threaten the destination's stability and immediate future. Crisis management models and frameworks are provided to assist tourism managers to prepare and cope with this apparent inevitability; however, it seems that these models are somewhat flawed in that they display several weaknesses and limitations; that is, certain important issues appear to have been neglected during their construction. Such concerns relate to the unpredictability of tourism crises and disasters, the rigid, prescriptive nature of the models, the cultural context of crises, and certain realities affecting small tourism businesses. The possibilities which could arise from the application of chaos theory are also overlooked, in favour of a traditional, pedantic approach which perhaps stifles innovation.

The AH1N1 Influenza crisis, which afflicted Mexico in 2009, provides a useful case study with which to conduct a qualitative investigation openly challenging contemporary tourism crisis management theory. Furthermore, it offers an opportunity to apply an alternative tourism crisis management model based on chaos theory. A series of semi-structured interviews were undertaken with key players from the Mexican tourism industry along with an analysis of government and media documentation. The process served to substantiate the doubts cast regarding the restrictions associated with contemporary models, as the flaws referred to above were apparent throughout the crisis. On a more positive note, also noticeable were various elements of chaos theory, whose recognition can serve to generate alternative tourism crisis management strategies which are perhaps more suitable and effective to the situation at hand. It is suggested that this empirical study utilising chaos theory, the first of its kind concerning a tourism destination, be used as the springboard for further research into the possibilities offered by chaos theory to the management of tourism crises and disasters.

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Interview List

All interviews took place in Mexico between June 2010 and February 2011.

Juan Carlos Monterrubio: Tourism Academic (Universidad Autónama del Estado de México)

Carlos Amaya Molinar: Tourism Academic (Universidad de Colíma) (formerly worked in the CPTM)

José Raúl Sánchez: Director of Technology, SECTUR

Adriana Uribe Pérez: Sub Director of Statistical Operations, SECTUR

Walter Dagri: Sales Manager of Real Resorts hotels in Playa del Carmen

Adolfo Crespo: Vice President Customer Service and Corporate Communications, Mexicana Airlines

María Teresa Solís Trejo: Director of Vantage Strategy Consulting (Mexico) (formerly worked in SECTUR and the CPTM)

Kenneth Johnson: Owner and General Manager of Ecocolors tour business, Cancun

Braulio Cárdenas: National President of the National Chamber for the Restaurant and Food Industry

Alejandro Rojas: Secretary of Tourism for Mexico City

Fernando Betzano: Member of the National Confederation of Mexican travel agents

José Alberto García: CPTM employee

Bruce Broughton: Canadian tourist

Abbreviations

SECTUR: Secretaría de Turismo   Mexican Ministry of Tourism

CPTM: Consejo de Promoción Turistica   Mexican Tourism Board

FONATUR: Fondo Nacional de Fomento al Turismo   National Trust Fund for Tourism Development

Chapter 1

A critique of contemporary tourism crisis and disaster management models and frameworks: an introduction

Tourism contributes to the economic development of many countries. It is a valuable source of income, foreign exchange and employment and it is predicted to soon become the world's most 'significant industry' (Glaesser, 2006:1). It is anticipated that growth will continue, the most important regions being Europe, the Americas, and East Asia and the Pacific, and tourist arrivals are expected to reach 1.6 billion by 2020 (UNWTO, 2010).

Nevertheless, despite (or, perhaps, because of) the growth in its scale and economic importance, tourism could be described as a volatile and fragile industry 'that can be greatly influenced by natural, economic, safety and health issues' (Monterrubio, 2010: 2). Thus, a key element of success or failure is, according to Volo (2007), a tourism destination's ability to provide a safe, predictable and secure environment for its visitors. However, safety and security can be compromised in the form of crises and disasters which can arrive without warning and often cause immense tangible and intangible damage to tourism destinations (Xu and Grunewald, 2009). At the same time, the inevitable media attention that accompanies such events serves to heighten the risk perception of potential tourists, who often decide not to visit the affected destination as a result of their feelings of insecurity (Santana, 2003), and consequently, such disruption can have serious effects on a nation's economy (Volo, 2007). Along with these economic effects, environmental consequences and major socio-cultural impacts may also occur, particularly if the destination is reliant on tourism, as is the case in many developing countries (Ritchie, 2008).

The susceptibility of tourism destinations to crises and disasters is widely addressed within the literature (Cioccio and Michael, 2005; Evans and Elphick, 2005; de Sausmarez, 2007; Kuo et al., 2008). Mao *et al.* (2009) discuss the vulnerability of tourism to political situations, natural disasters and epidemics, highlighting the decline in arrivals following various disasters, including SARS and the Asian Tsunami; Ritchie notes the increase in biosecurity risks and health scares (2008), while Wang (2009) observes how various studies have indicated that tourism demand is directly related to the effects of natural and human disasters.

This inherent vulnerability of tourism has been starkly evident in recent years. In particular, significant media attention has been paid to a number of crisis events, such as the terrorist attacks in New York, Bali, and London, the UK Foot and Mouth outbreak, the SARS outbreak, the Indian Ocean tsunami, and hurricanes in the Gulf of Mexico, and although not all of these events can be linked directly with tourism, nevertheless they have all affected the tourism industry on a national and international scale.

Such disruptions are not, however, an entirely new phenomenon; 'To the casual observer exposed to the plethora of media that currently inform our daily lives, it appears that we live in an increasingly disaster prone world' is how Faulkner (2001: 135) began his hugely influential paper, '*Towards a Framework for Tourism Disaster Management*' more than a decade ago. Faulkner had noticed an increase in tourism crises and disasters even before the turn of the millennium and he was voicing concern that poor disaster management planning and preparation (along with a lack of systematic research in the field analysing the impacts of such events and industry responses) meant that destinations were unprepared to respond effectively when confronted with a crisis situation. Thus, drawing on elements of existing crisis management theory and tourism disaster management strategy, Faulkner developed and consequently presented a "generic framework for tourism disaster strategies." (2001: 143).

Perhaps as a result of Faulkner's (2001) promptings, and an apparent growth in tourism crises in recent years, there is now evidence of increasing research into tourism crisis and disaster management, with academics either adding to Faulkner's framework or providing ideas of their own (Evans and Elphick, 2005; Hystad and Keller, 2008; Ritchie 2004, 2009). Nonetheless, there remains concern within the field that, despite the recent growth in research and knowledge, many managers and tourism organisations continue to remain unprepared for a crisis situation (Ritchie, 2009). Indeed, Hystad and Keller (2008) suggest that their research, and that of others (for example, Beirman, 2003; Faulkner and Vikulov, 2001; Glaesser, 2006) serves to reveal that the 'majority of tourism businesses do not actively incorporate disaster management strategies into their businesses' (Hystad and Keller, 2008: 160).

Tourism businesses and managers are, therefore, berated for not adopting the 'disaster management strategies' which the literature has to offer. This criticism may be well-founded, perhaps, with large sections of the tourism industry appearing rather lethargic and unwilling to adapt – although there is no specific research that suggests this to be the case. However, the 'strategies' and models which academia is keen to

thrust onto the industry must be considered carefully, and questions need to be asked about their applicability and usefulness. For example, in reality do such models really enable a tourism destination, organisation or business to plan for often unforeseen eventualities and to deal effectively with such situations when they occur? And if tourism businesses could actually be convinced to embrace these disaster management strategies, would they then serve to mitigate the tangible and intangible damage evidently inflicted by such events?

Indeed, it is suggested here that, for a number of reasons which will be explained in detail throughout the next chapter, the models and frameworks proposed by tourism academics fail to deliver a satisfactory solution to the problems presented by crises and disasters. For example, much emphasis is placed on the pursuit of detailed risk analyses, yet it appears that the unpredictability and scope of potential crises and disasters make prediction rather difficult, if not impossible. Moreover, the models, perhaps in a quest to be universally compatible, appear to adopt a 'one-size-fits-all' approach, failing to take into account the circumstances unique to each crisis or disaster, such as cultural differences or levels of government and individual resources. Also, by using a prescriptive, step-by-step format, the models fail to take into account the complex and frequently chaotic characteristics of crises and disasters which, by their very nature, often do not proceed as might be expected.

More specifically, although the school of thought labeled chaos theory is often referred to in the tourism crisis and disaster literature, the proposed models do not appear to fully embrace the concept in a recognisable way. Yet, chaos theory brings into question the predictive techniques referred to above and challenges the appropriateness of prescriptive guidelines in a situation where chaos reigns and where disasters regrettably do not follow a perfect cycle in which one stage conveniently follows another. More importantly, chaos theory also allows for moments of managerial intervention. For example, it presents the notion of self-organisation which goes some way into explaining the robustness and resilience of the tourism industry and the fact that, despite often limited preparedness, the majority of destinations seem to recover remarkably quickly after a disaster, with visitor numbers returning to normal and often wider improvements being evident. By being aware of the concept of chaos theory and its various elements, it is suggested that governments, destination authorities and managers could potentially introduce measures designed to advance and improve recovery and to foster the creativity which is often apparent in chaotic situations.

The aim of this thesis, therefore, is to create awareness and challenge the

unsatisfactory aspects of contemporary tourism disaster management theory and to propose an alternative solution in the form of a new tourism crisis management model which seeks to improve the effectiveness of a destination's response to a crisis or disaster. In particular, it explores tourism disaster or crisis management from a chaos theory perspective, advocating various responses which fit with such an approach. In doing so, the risk analysis and prescriptive strategies which appear to be the fashionable 'modus operandi' in the literature are discounted; particular emphasis is placed on the necessity of a strong marketing and communication response devised to suit whichever element of chaos theory appears to be present at that moment and the importance of developing an organisational (or destination) culture which incorporates characteristics which facilitate the naturally continuing change process intrinsic within organisations and the tourism system as a whole.

This critique of contemporary tourism crisis management theory and the potential benefits of an alternative approach are explored within the context of an actual tourism crisis. More specifically, the impact of the 2009 AH1N1 influenza ('swine flu') crisis on the Mexican tourism industry is examined, followed by an investigation concerning the weaknesses of contemporary crisis management models and the potential offered by viewing the crisis from an alternative perspective based on chaos theory. The alternative model is applied to and 'tested' against the specific case of the 2009 AH1N1 influenza crisis.

Specifically, the three main research objectives of the study are:

1. To confirm that the limitations associated with contemporary tourism crisis and disaster management models are present in the case of the AH1N1 influenza tourism crisis.

2. To demonstrate that chaos theory elements can be identified in the AH1N1 influenza crisis.

3. To test the proposed model by investigating the response of the Mexican government, tourism authorities and various sectors within the Mexican tourism industry and to arrive to a satisfactory conclusion concerning its future viability.

In doing so, this thesis aspires to add a new dimension to the literature which will hopefully stimulate further academic discussion.

The thesis is structured as follows. Chapter two reviews the contemporary literature on tourism crisis and disaster management and develops the new model

referred to above. This discussion synthesises and critically appraises contemporary tourism crisis management theory, providing substance and a contextual setting to the research and the conclusions that are ultimately drawn from the research. The third chapter then describes the research methodology. An inductive, qualitative approach in the form of a case study is adopted in order to gain a broad perspective of the situation. Beeton (2005: 42) describes case study research as 'a holistic empirical inquiry used to gain an in-depth understanding of a contemporary phenomenon in its real-life context, using multiple sources of evidence.' In order to gather primary data, a series of semi-structured and in-depth interviews are conducted amongst a variety of sources within the Mexican tourism industry, from key players at governmental level and within national and regional tourism organisations through to hoteliers, travel agents, business owners and tourism academics and experts. At the same time, a review of related journals, articles and reports is undertaken in order to gain secondary data.

Chapter four commences with a brief history of the Mexican tourism industry, followed by an account of the impacts and responses to the AH1N1 influenza tourism crisis in Mexico. The fifth chapter analyses the crisis in detail in order to explore the extent to which the criticisms and limitations proffered in the first chapter are justified in this instance. Chapter six investigates the appearance of chaos theory elements during the crisis, thus leading to the penultimate chapter in which the alternative model is considered in relation to the influenza crisis and its usefulness discussed and assessed. The eighth and final chapter then draws conclusions to the research questions based on the evidence from the case study.

Chapter 2

Towards an alternative model of tourism crisis management

2.1 Introduction

In this chapter, it is suggested that current tourism disaster management models suffer from a number of weaknesses which raise questions with respect to their effectiveness as tools for the management of tourism crises and disasters. An alternative model is presented which views the issue of tourism crisis management from the perspective of chaos theory. This approach has previously been applied only once within a tourism context, when Paraskevas (2006) conducted research into the effect of food poisoning on a prominent hotel chain.

2.2 The tourism crisis and disaster literature: a review

Although a review of the tourism crisis management literature suggests a marked increase in academic attention paid to the subject since the beginning of the new millennium, it also reveals that it is not an entirely new field of study. That is, even though the majority of earlier crisis management literature was concerned with corporate organisations, the study of crisis management specifically in relation to tourism was not entirely neglected prior to the turn of the century. As early as 1980, Arbel and Bargur produced a planning model for crisis management within the tourism industry whilst commentators subsequently explored a variety of related issues. These included: studies of international terrorism (D'Amore and Anuza, 1986); tourism crisis management (Lehrman, 1986); a case study of a tourism crisis in Fiji (Scott, 1988); tourism and disaster planning (Murphy and Bayley, 1989); a crisis management planning manual in response to a study of three destinations (Cassedy, 1991); a guidebook for managing tourism crises (Sonmez *et al.*, 1994); marketing in post-disaster destinations (Pottorff and Neal, 1994); and, Miami's handling of a crisis (Greco, 1994). More recently, Drabek (1995) investigated disaster responses in the tourism industry, Heath (1998) looked at strategic marketing surrounding the Kobe earthquake, Gonzalez-Herrero (1997, 1998, 1999) examined crisis marketing and communications, Pizam and Mansfield (1996) edited a book concerning crime and security issues in relation to tourism, Young and Montgomery (1998) considered crisis

management and destination marketing, and Prideaux (1999) investigated tourism management in relation to the Asian economic crisis.

However, the publication of Faulkner's (2001) seminal article '*Towards a framework for tourism disaster management*' stimulated interest in the subject and there has since been a marked increase in publications, as noted by Pforr (2006:1) whilst conducting a literature review on tourism crisis management in an attempt to 'identify foci of the current academic discourse'. Such 'foci' included:

i.   The impact of negative events on certain sectors of the hospitality and tourism industry, such as hotels (Chien and Law, 2003; Henderson, 2003a; Israeli and Reichal, 2003; Henderson and Ng, 2004; Kim *et al.,* 2005; Srikatanyoo and Campiranon, 2005; Lo *et al.*, 2006; Yu, 2006), restaurants (Green *et al.,* 2004; Tse *et al.*, 2006), travel agents (Lovelock, 2004), and the airline industry (Gillen and Wall, 2003; Henderson, 2003b; Aderighi and Cento, 2004).

ii.   Communication, information management and the role of the mass media (Mckercher and Hui, 1999; Floyed *et al.,* 2004; Hall, 2004; Santana, 2004; Mason *et al.*, 2005; Fall and Massey, 2006; Glaesser, 2006).

iii.   Terrorism and political instability (Pizam and Smith, 2000; Pizam, 2002; Stafford *et al.*, 2002; Taylor and Enz, 2002; Blake and Sinclair, 2003; Fall, 2004; Gurtner, 2005; Hitchcock and Darma Putra, 2005; Ryu, 2005).

iv.   South East Asia, particularly Hong Kong, Singapore and Malaysia, appears frequently in the literature, (King, 2000; Chien and Law, 2003; Dombey, 2003; Henderson, 2003a; Henderson, 2003b; Henderson and Ng, 2004; Mckercher and Hui, 2004; Cooper, 2005, 2006; Dwyer *et al.*, 2005; Wen *et al.*,2005; Lo *et al.*, 2006; Tse *et al.,* 2006;) along with Australia (Faulkner and Vikulov, 2001; Armstrong, 2005).

In addition to Pforr's (2006) observations, a number of recent publications have direct relevance to the issues discussed here. These are listed in Appendix 1. Generally, however, the literature comprises largely a dialogue which aspires to understand the nature of crises and disasters, why these events occur, the effects that such situations have upon the economy and society, and the methods that can be utilised to nullify the

negative impacts before, during and after the event.

2.2.1   Crisis and disaster definitions

Commentators frequently commence their investigation with an attempt to define and develop typologies of crises and disasters (for example, see: Anderson, 2006; Evans and Elphick, 2005; Pforr and Hosie, 2007; Ritchie, 2008; Santana, 2003). Typically, this is justified on the basis that, by having a better understanding of the nature of crises, destination managers and other stakeholders would be better prepared to confront such an event, if and when it happens (Ritchie *et al.*, 2003). This is evident in the considerable attention given towards crisis and disaster definitions and typologies in the literature (Miller and Ritchie, 2003; Evans and Elphick, 2005; Pforr and Hosie, 2007; de Sausmarez, 2007).

Nonetheless, providing a precise definition is not as straightforward as perhaps might be expected, despite it being seen as a vital aspect of crisis management (Laws and Prideaux, 2005). According to Ritchie (2009: 4), a 'consistent typology' would be very useful as it would 'help facilitate a dialogue with other researchers in the crisis management field, vital to advancing knowledge and understanding'. However, as Santana (2004: 307) notes, 'the literature provides no generally accepted definition of crisis and attempts to categorize types or forms of crises have been sparse', limiting the development of this field. Laws and Prideaux (2005) suggest this could be due to the 'ubiquitous use of this and related terms' (2005:2) whilst Pforr and Hosie (2007) suggest the lack of an agreed common typology reflects the 'diversity' of definitions that are found in the literature.

Thus, despite the ongoing discussion in the literature regarding the nature of crises and disasters, consensus over a suitable definition of a (tourism) crisis or disaster remains problematic, the diversity referred to by Pforr and Hosie (2007) serving to confuse rather than illuminate the debate (Laws and Prideaux, 2005: 2). Perhaps as a consequence, many authors refer to Faulkner's (2001) crisis and disaster definitions and characteristics which appear to be the most commonly accepted definitions within the literature (Kuo *et al.*, 2008; Page *et al.*, 2006; Ritchie *et al.*, 2003; Tew *et al.*, 2008).

Faulkner (2001: 136) draws on Selbst's (1978) crisis definition to differentiate between a crisis and a disaster: 'Any action or failure to act that interferes with an organisation's ongoing functions, the acceptable attainment of its objectives, its viability or survival, or that has a detrimental personal effect as perceived by the majority of its employees, clients or constituents.' Selbst is suggesting that a crisis is caused by a lack

of adequate attention and action within an organization. His definition excludes such situations as tornadoes, earthquakes, or floods, which are external, unpredictable and uncontrollable and, thus, cannot be attributed to incompetent internal planning. Similarly, Faulkner (2001: 136) proposes that a 'crisis' be used to describe a situation 'where the root cause of an event is, to some extent, self-inflicted through such problems as inept management structures and practices or a failure to adapt to change', whilst the term disaster can be used 'to refer to situations where an enterprise (or collection of enterprises in the case of a tourist destination) is confronted with sudden unpredictable catastrophic changes over which it has no control.' This implies that crises are internal and within management control, whereas disasters are external and difficult to predict (Ritchie, 2008). It should be noted, however, that despite this apparently straightforward distinction between a crisis and a disaster, definitional confusion remains and it is not always easy to clarify between the two, especially as disasters can evolve into a crisis (Henderson, 2003,b). Faulkner (2001: 138) accepts the complexity of the situation, stressing that ultimately the difference lies in the 'root cause of the problem'.

Attempts by Fink (1986), Keown-McMullan (1997) and Weiner and Khan (1972) to characterise crisis or disaster situations are consequently synthesised by Faulkner (2001: 138) into the following features, seen as essential ingredients of a disaster and a crisis scenario. These characteristics are consistently cited in the literature (Anderson, 2006; Faulkner and Vikulov, 2001; Prideaux, 2003; Prideaux *et al.,* 2003):

i. *A triggering event, which is so significant that it challenges the existing structure, routine operations or survival of the organization;*
ii. *High threat, short decision time and an element of surprise and urgency;*
iii. *A perception of an inability to cope among those directly affected;*
iv. *A turning point, when decisive change, which may have both positive and negative connotations, is imminent;*
v. *Characterised by 'fluid, unstable, dynamic' situations (Fink, 1986: 20)*

(Faulkner, 2001: 138)

2.3   Crisis and disaster management models

In an attempt to manage these ingredients of crisis and disaster situations, a number of models have been developed which aim to provide governments, destination tourism

organisations and businesses with a means of planning and responding to such events. The first tourism-specific framework was, as noted above, developed by Faulkner in 2001 (Ritchie, 2009).

Criticising the lack of theoretical and conceptual frameworks within the tourism crisis management field, Faulkner proposed a generic tourism disaster management framework in an attempt to address such issues and to provide guidance to tourism organisations. He identified six phases in the disaster process or lifecycle: pre-event, prodromal, emergency, intermediate, long-term (recovery) and resolution. Each phase is given appropriate responses; precursors, mobilisation, action, recovery, reconstruction and reassessment and review. For example, at the pre-event stage, in order to avoid or minimise the impact of a disaster, contingency plans are developed in response to a risk assessment, and scenario planning is undertaken to assess the potential impact of imaginary events. At the prodromal stage of the process, when it seems that a disaster is impending and cannot be avoided, Faulkner considers it necessary to mobilise through use of warning systems, which includes the use of the media, by the establishment of a command centre and by securing facilities. These steps will have been previously designed in the contingency plans, which categorize the strategic priorities for each stage. For everything to succeed, Faulkner emphasises the need for a coordinated team approach, the need for on-going consultation, and a high level of commitment.

This model was applied to the Katherine flood in Australia by Faulkner and Vikulov (2001), thus providing a descriptive account of the framework's usefulness. It has been further applied to the Bali nightclub bombings (Henderson, 2002); to several crises affecting the Australian tourism industry in 2001 (Prideaux, 2003); to the UK Foot and Mouth outbreak (Miller and Ritchie, 2003); and to the effect of the SARS crisis on hotels in Singapore (Henderson and Ng, 2004). Further details are provided in Appendix 2.

Other models have been developed, perhaps as a result of Faulkner's demands for more research or, perhaps, as a result of the apparently increasing number of disasters and crises that affect tourism destinations. A list and critique of these models can be found below in Table 2.1.

Table 2.1: Positive and negative criticism of recent tourism crisis and disaster models

Author and year	Title	Explanation	Criticism
Faulkner, W: 2001	Tourism disaster management framework	Identifies responses to each phase of the disaster process.	**Negative** Emphasis on contingency planning. Prescriptive, step-by-step guide. One-size-fits all approach. Does not account for organisational resources, therefore unrealistic. **Positive** A thorough course of action for authorities and managers.
Faulkner,W and Vikulov,S : 2001	As above	As above but with various additions.	Same as above.
Henderson, J.C : 2003	Stages in airline crisis management	Compresses Faulkner's first three phases of pre-event, prodromal and emergency into one component, called 'event'.	**Negative** Although it does recognise the fact that crises often begin in the bifurcation stage, it does not mention how different stages can also occur simultaneously. **Positive** Recognises the difficulties posed by rigid, prescriptive planning.
Ritchie, B.W : 2004	Strategic and holistic management framework	Strategic responses to three main stages - prevention and planning, strategic implementation and resolution, evaluation and	**Negative** Emphasis on risk analysis. Prescriptive. Does not account for organisational resources.

Author and year	Title	Explanation	Criticism
		feedback.	**Positive** The emphasis on 'flexibility' and 'modification' demonstrates that thought has been given to the range and scope of crises and disasters.
De Sausmarez,N. : 2004	Representation of the main steps in developing a national crisis management policy	Proactive approach involving the formation of a crisis plan which involves assessing value of tourism sector, risk assessment, monitoring of indicators, examining potential for regional cooperation.	**Negative** Unrealistic- As de Sausmarez points out in the conclusion, indicator monitoring can be highly complex, funding problems are likely to occur and bureaucracy can slow proactive measures. **Positive** The intended audience is made clear- governments and tourism sector professionals. No fixed sequence of steps is more in line with a chaos theory perspective approach.
Page,S *et al* : 2006	Visit Scotland potential crisis response model for an influenza pandemic	Consists of the actions and approaches to the pre-crisis, crisis and recovery stages.	**Negative** Much emphasis given to scenario planning. **Positive** Advice given for crisis and recovery stages is in line with the marketing and communication responses relevant with a chaos theory approach.
Carlsen, J.C and Hughes, M : 2007	Recovery marketing strategies	Compiled of guidelines from Beirman (2003) and issued from UNWTO (2005) and PATA (nd).	**Negative** None. **Positive** Offers sound marketing and communication advice in line with a chaos theory approach.

Author and year	Title	Explanation	Criticism
Hystad, P.W and Keller. P.C : 2008	Stakeholder roles within a destination tourism disaster management cycle	Suggested roles of emergency organisations, tourism organisations and tourism businesses throughout the stages of a disaster.	**Negative** Assumes perfect cooperation between stakeholders which is unlikely. **Positive** Helps to nurture cooperation and the defining of responsibility.
Tew *et al* : 2008	Model of crisis management planning and implementation.	Incorporates public brand management and internal management with pre-crisis planning and response.	**Negative** Emphasis on pre-crisis planning. Assumes stakeholder cooperation. Unrealistic. **Positive** None.

2.4   Tourism crisis and disaster management models: a critique

As mentioned above, the aim of crisis and disaster management models is to provide guidance to managers and planners before, during and after an event. The reason for this is self-evident; as mentioned in the introduction, the economic and social effects of a crisis or disaster on a destination (or country) may be significant and so avoidance or, at least, rapid response and recovery from an untoward event is highly desirable. However, it is suggested that the models proposed by the tourism crisis management theory have inherent weaknesses and are not suitable for all crisis and disaster situations.

2.4.1   Weaknesses of contemporary tourism crisis and disaster models and frameworks

i.   The unpredictability of tourism crises and disasters

Pre-disaster preparedness is seen by many academics as a vital ingredient of tourism crisis and disaster management (Faulkner, 2001: Prideaux, 2003: Ritchie, 2004). It is argued that being in a state of readiness can help reduce the impact of an event when it happens (Gonzalez-Herrero and Pratt, 1995; Heath, 1998), in principle a wise strategy as, according to Fink (1986: 7), 'anytime you (i.e. managers) are not in crisis, you are instead in a pre-crisis, or prodromal mode.' Similarly, Ritchie (2009: 69) suggests the need for a 'paradigm shift away from a 'this won't happen to me or us' attitude to an 'it probably will happen so what should I do about it' stance, and he insists that those who take productive steps to prepare themselves for a crisis or disaster will ultimately be better prepared.

Not surprisingly, therefore, prevention and planning is a noticeable component of many contemporary tourism crisis and disaster management models. It involves the 'development of emergency plans, warning systems and other activities adopted in advance of a disaster to aid in its management' (Ritchie, 2009). The literature also recommends the formation of disaster management teams and agreement on activation protocols (Faulkner, 2001), stressing the importance of staff training and organisational culture (Pforr and Hosie, 2007) and highlighting the necessity of stakeholder awareness (Hystad and Keller, 2008). While these may all be considered fundamental elements of tourism disaster and crisis planning, another suggested feature of pre-crisis planning demands some scrutiny.

Specifically, many models propose that risk assessments should be undertaken and that, on the basis of scenario analysis, contingency plans should be developed in accordance with those situations considered likely to occur. However, whilst this may be considered beneficial in those destinations which can be considered hazardous or at risk of predictable events (for example, Santana (2003) illustrates how ignoring a known hazard in Brazil led to a destination crisis, and Pike (2007) reports on a 'self-inflicted' crisis caused by stakeholder inaction to changes affecting a New Zealand resort), the usefulness of this technique in relation to predicting future 'hypothetical' crises or disasters may be questioned. In particular, the sheer unpredictability of tourism crises and disasters serves to undermine the potential effectiveness of contingency planning.

Such unpredictability is evidenced in the literature. For example, Miller and Ritchie (2003) note the difficulties caused by unpredictable events in their investigation of the effects of the 2001 Foot and Mouth Disease (FMD) crisis on the UK tourism industry, observing that 'the extent of negative or positive impact is largely beyond the control of the tourism industry. Both FMD and the terrorism on 11 September 2001 could not have been influenced by the tourism industry, only responded to, while both events were entirely unpredictable.' (Miller and Ritchie, 2003: 169). In other words, they argue that the FMD crisis and, indeed, the events of '9/11', were unconventional, unavoidable and beyond the realms of realistic prediction. Even in hindsight, research conducted by Ritchie *et al.* (2003) suggests that many tourism agencies, despite having suffered as a result of the Foot and Mouth outbreak, would not consider future pre-crisis planning specifically because of the unpredictability of such events and the fact that it appears to be a futile exercise (Blackman and Ritchie, 2007).

On a much grander scale, the 2004 Indian Ocean Tsunami defied any notion of pre-event planning. This is noted by Sharpley (2005: 345): 'it is unlikely that any set of guidelines or, indeed, any established crisis management procedure could have adequately prepared a destination or region for the catastrophic events…' Other recent disasters and crises bear the same hallmarks. The onset of the AH1N1 influenza in Mexico, the subject of this thesis, was unexpected and unpredictable; likewise, the Icelandic volcanic ash cloud in April 2010, though impacting primarily on air travel within Europe, resulted in unprecedented inconvenience for travelers and huge repercussions for hoteliers and the airline industry on a global scale.

The identification of potential / predictable crises and disasters is, therefore problematic. Scenario planning may be expensive, time consuming and, it is suggested,

a rather unrealistic or even pointless exercise given the evident unpredictability of tourism crises and disasters. Contingency planning can also lead to complacency (Evans and Elphick, 2005). For example, governments, destination organisations and businesses may relax in the belief that they are prepared for every conceivable situation, only to be taken by surprise when a crisis or disaster that was not identified in scenario analysis occurs, resulting in 'paralysis' and inaction (Evans and Elphick 2005: 143).

It is also unrealistic to expect organisations running on a tight budget to commit scarce financial resources to a highly detailed proactive approach. De Sausmarez (2003: 229), for example, notes the reluctance of the private sector to spend money to prepare for 'a hypothetical crisis that may never materialise'. Indeed, she goes on to argue that 'because tourism is so vulnerable to such an enormous number of possible crises in so many different scenarios, the identification of an approaching crisis by monitoring appropriate indicators in sufficient time to take remedial action becomes so complex as to be unrealistic.'

Thus, although it is generally accepted that established protocols need to be in place to deal with such events, and stakeholders need to be aware of the threat and their subsequent responsibilities in the face of a crisis, a major criticism of contemporary tourism disaster management models is their focus on scenario planning which, as evidence suggests, is largely futile given the unpredictable nature of disasters and crises.

ii. The limitations of prescriptive / rigid models

Tourism crisis and disaster management models tend to presume that a crisis passes through a number of consecutive stages, or phases, in essence following a 'lifecycle'. Thus, guidelines are presented which advise managers on what to do at each stage. In reality, however, crises and disasters often occur without warning and a destination can immediately enter the 'emergency' phase, by-passing the 'pre-event' and 'prodromal' phase and requiring a rapid reaction. Indeed, the alarm caused by the dramatic suddenness of such events may lead to confusion and inappropriate decision making, as noted by Sellnow *et al.* (2002) in their study of crisis communication during a flood in America in 1997.

The swift onset of disaster is also noted by Henderson (2003b: 281) in her study of an airplane crash in Singapore; she remarks how 'crises do not always follow the clearly delineated pattern of theoretical models because of their unpredictability and the speed at which they unfold'. Consequently, she presents a model in which the first three steps of Faulkner's framework are compressed into one single phase, labelled 'event'.

Moreover, not only can crises and disasters arrive suddenly and without warning; they are also complex and chaotic in nature, with the situation continually evolving and changing. This was noted by Farazmand (2009: 402) who, in a study of government reaction to Hurricane Katrina in 2005, explains how 'crises scramble plans of action and surprise everyone in and out of the field, as the dynamics of crisis constantly change and unfold on daily and hourly basis, with unpredictable outcomes'.

The difficulty posed by 'changing dynamics' is also evident in Miller and Ritchie's (2003) application of Faulkner's framework to the UK FMD crisis, (see appendix 2) in which the prodromal, emergency and recovery phases appeared to be happening simultaneously in different regions, thus hampering any attempt by managers to use the framework as a guide to strategy. The literature advises a revision of marketing strategy in the prodromal phase whilst, in the emergency stage, it is suggested that marketing activities should be suspended or at least reduced. Furthermore, the recovery stage is seen as a time for promotional campaigns and alliances. With all these stages apparently coinciding in the FMD crisis, managers were put in a position in which they did not know which guideline to follow next. Miller and Ritchie (2003: 168) concluded that Faulkner's model has 'limited value in enabling event managers to steer a pre-determined course through such an unlikely, yet catastrophic event'.

More generally, Scott *et al.* (2007: 4) observe that many previous crisis management models fail as they tend to offer 'a series of remedial steps' without appreciating the true complexity of the situation and the dynamic and complex network of relationships involved in the tourism system. These 'remedial steps', which may look impressive in a crisis management manual, can be severely limiting in the case of a 'real' disaster, as was noted by Paraskevas (2006).

iii.   Restrictions posed by a rigid plan

Paraskevas (2006), in a case study of a hotel chain affected by a food poisoning crisis, found that the detailed crisis management plan that was in place was largely ineffective. The following quote from an executive committee member vividly illustrates the situation:

> *'The results were disappointing. This CMP* (crisis management plan) *was supposed to protect the chain and it failed. The level of detail in the planning was misleading. What looks good in paper does not really work in practice.*

What we thought that would be a co-ordinated response turned out to be a complete failure (Executive Committee Member)' (Paraskevas, 2006: 898).

The research conducted by Paraskevas (2006) highlights the limitations posed when managers and employees attempt to react to a crisis by means of rigid, detailed, step-by-step planning, as is the case of many tourism management models. Even Ritchie's model (2004), which emphasises the importance of flexibility, still offers a linear, prescriptive approach.

Descriptive accounts of crises and disasters (such as the above by Paraskevas (2006) and the application of models to a real life situation (for example, Faulkner and Vikulov, 2001; Miller and Ritchie, 2003) provide a useful contribution to the field in that they can be used to test a conceptual model that has not been previously 'tested'. This research project will do this, by 'testing' a new, conceptual model to a real life situation. Advantages and limitations can be highlighted through this method, and it has served to illustrate some benefits and shortcomings of Faulkner's model. One such shortcoming is the 'one-size-fits-all' approach, another apparent weakness of contemporary tourism crisis management models.

iv. A 'one-size-fits-all' approach

Ritchie (2009) notes how the 'broadness' of the majority of tourism crisis models diminishes their capacity to directly relate to individual segments of the industry and the varying types of crises or disasters while, as referred to above, Sharpley (2005) noted the improbability that *any* tourism disaster management plan would have been sufficient to deal with the impacts of the 2004 Indian Ocean Tsunami. Evidently, the Indian Ocean Tsunami differed immensely in terms of scale and impact to 'smaller', more localised events, such as the Katherine Flood in Australia. Yet, while Faulkner's framework was applied successfully to the Katherine Flood (Faulkner and Vikulov, 2001), its suitability as an effective tool in the case of a 'different kind' of disaster or crisis, such as that brought about by the Indian Ocean Tsunami, may be questioned. Indeed, as has been previously noted, complications arose when Miller and Ritchie (2003) attempted to apply Faulkner's model to the FMD crisis in the UK on a national level and on an organizational level. They draw attention to the difficulties: 'Thus, while Faulkner's (2001) model does serve to identify stages to the disaster, they are not as clearly discernable as for the Katherine floods. This may be due to the evolving nature of the disaster or the role of the media but may also be a result of its application to an

organization rather than a discrete destination' (Miller and Ritchie, 2003: 168).

Evidently, crises and disasters differ in their origins, effects, outcomes and the measures necessary for recovery. They also differ in the amount of time needed for recovery. Zeng *et al.* (2005) note how crises, such as human epidemics, animal epidemics, destructive weather conditions and other natural disasters, civil strife/violence, war or terrorism all have different effects and recovery times and necessitate different recovery strategies, thus limiting the usefulness of one individual crisis model for all. Similarly, Carlsen and Hughes (2007: 147) note the inadequacy of a 'one size fits all' approach: 'Crises and disasters are variable in duration and scale. The flow-on and contagion effects depend very much upon the nature of the disaster (natural or man-made) and the corresponding change in public perception in response to media coverage and crisis communication.' Furthermore, Carlsen and Liburd (2007: 268) draw attention to the fact that 'crises by their nature are geographically, demographically and temporally discrete, so that the boundaries of study are not fixed but vary dramatically.' They discuss the differing research tools that would be necessary to study the effects of the terrorist attacks on New York and, in contrast, civil unrest in Fiji. The terrorist attacks led to a global tourism crisis while the Fiji coups were limited to the specific country, thus necessitating a quite different response.

In addition to the concerns which arise as a result of the sheer size and scope of an event (such as 9/11, SARS or the Indian Ocean tsunami) and an event's complex lifecycle (FMD), there are two further factors which serve to condemn a 'one size fits all' approach: the cultural context of the event and the realities of small businesses.

v. Cultural context

Gonzalez-Herrero and Platt (1998) explored differences in tourism crisis preparation between the United States and Spain. In response to one question, 78% of US respondents affirmed that they had a crisis plan in place, compared to just 29% of the Spanish respondents. This could be interpreted as evidence of the priorities given by differing cultures to the issue of tourism crisis management. Pforr (2006: 2) notes the preference in South East Asian countries for reactive, as opposed to proactive, planning: 'This government driven approach is very context specific with its focus on a particular destination and an emphasis on information and communication management to foster effective coordination and collaboration amongst the relevant stakeholders.'

The contrasting approaches to disaster management, depending on the geographical and cultural setting, highlights the impracticality of a model, such as

Faulkner's, being applicable in a region which has many cultural differences to the model's country of origin. It is not within the scope of this research to examine cultural differences on the scale that Hofstede addressed the issue (1983); Hofstede noted how distinct cultures displayed contrasting attitudes and behaviour regarding work and life in general. Nonetheless, it is a point worth noting that a tourism crisis management plan developed in Australia may not be as well received in China or Peru, for example. As Mistilis (2005: 11) points out, 'tourism is a multi-cultural industry, and when a crisis occurs, the context differs by culture, organizational style and political structure.' It has even been noted by de Sausmarez (2004) that many Asian cultures are reluctant to admit to a crisis because of concerns over 'losing face' and that this reluctance can affect communication and information supply.

Cultural considerations must also be borne in mind when planning market recovery, as research has shown that risk perceptions differ across cultures (Sonmez, 1998), with some cultures suffering from the so-called hysteresis effect (Mao *et al.*, 2009). Mao *et al.* (2009), in their research of post-SARS recovery in Taiwan, compared inbound arrivals from Japan, Hong Kong and the US. It was noted how arrivals from Hong Kong and the US returned to pre-SARS levels immediately after the crisis but, in the case of Japan, it took a year for levels to return to previous levels. This can be attributed to the Japanese preference for 'safe and passive activities' (Mao *et al*., 2009: 2). Another factor, noted by Carlsen and Liburd (2007), is the fact that many less developed countries simply do not have the financial and technological resources to conduct the market recovery strategies advocated in the literature whilst, as the following section considers, the same can be said regarding small businesses more generally.

vi. Realities of small businesses

Larger companies may enjoy the economic resources and staff expertise to initiate pre-crisis planning; however, this is often beyond the scope of smaller businesses which make up a sizeable percentage of the tourism industry. Cioccio and Michael (2007: 9), for example, assessed disaster preparedness within small businesses in Victoria, Australia. They found that such businesses have 'neither the time nor the resources to formalise their contingency planning' and 'have no capacity to initiate actions beyond their day-to-day operations.' Similar problems are noted by Hystad and Keller (2008) and de Sausmarez (2003). In their follow-up study to the Kelowna bush fires in Canada,

Hystad and Keller (2008) noted that many small businesses assumed that responsibility lay elsewhere and, thus, their level of planning was usually non-existent. De Sausmarez (2003) in her study of the Malaysian response to the Asian financial crisis noted the difficulty of preparing crisis management plans for the tourism sector due to its diversity.

If a large segment of the tourism industry does not have the resources or, perhaps, the inclination to apply tourism disaster management models, then models and frameworks such as Faulkner's appear to be falling on deaf ears in many cases. Consequently, and as suggested by Ritchie (2009: 127), research into the influence of preparedness variables such as 'experience, values and beliefs, messages, personal attributes and sociocultural norms' would be appropriate, so that specific plans could be developed for industry sectors.

vii. Failure to view the situation from a chaos theory perspective

The school of thought entitled chaos theory (see appendix 3) was originally explored within the boundaries of physical science; however, it has since provoked interest in various fields, such as ecology, international relations and economics (Levy, 1994). Levy (1994: 169) believes that it is chaos theory's potential ability to find 'order and structure behind complex events' that has stirred enthusiasm among social science researchers. It has not gone unnoticed in the field of tourism, with contributions coming from Faulkner and Russell (1997), Mckercher (1999), Faulkner (2000), Farrell and Twining-Ward (2003), Paraskevas (2006) and Zahra and Ryan (2007.)

Tourism research has traditionally used a 'Newtonian' research philosophy which views the tourism system as being stable, linear and predictable. As explained by Faulkner (2000: 7): 'As a derivative of classical physics, the Newtonian/Cartesian paradigm propagated a reductionist worldview whereby objects and events are understood in terms of their constituent parts and these are assumed to fit together like cogs in a clockwork machine. Every event is therefore determined by initial conditions, that are, at least in principle, predictable with some degree of precision owing to the predominance of linear or quasi-linear relationships.'

If one considers Faulkner's tourism crisis and disaster ingredients (see section 2.2.1), which include factors such as a triggering event, high threat, surprise, urgency, an inability to cope, a turning point, fluidity and instability, then it becomes somewhat apparent that any attempt to manage crisis and disaster situations using the above traditional methods is going to be problematic as the ingredients which characterise

tourism crises and disasters do not appear to relate to such a paradigm.

In contrast, chaos theory views systems, such as the tourism system, as being not at all 'stable, linear and predictable' (Faulkner, 2000:7) but indeed the complete opposite; they are seen as being unstable, non-linear and totally unpredictable, akin to Faulkner's crisis and disaster ingredients. As Faulkner and Russell (1997: 557) describe: 'Essentially chaos describes a situation where a system is dislodged from its steady state condition by a triggering event which is as random and unpredictable as the outcome. It involves the regrouping of the elements of the system, from which a new order eventually emerges.'

It is, therefore, suggested that chaos theory offers a more appropriate theoretical framework from which to study the management of crises and disasters than traditional frameworks. In particular, various key elements exist within chaos theory which, if recognised as they appear in a tourism crisis or disaster, can provide suitable moments for managerial intervention. These elements and their relevance to tourism crisis and disaster situations are explained in detail below (section 2.5.1 to section 2.5.3).

McKercher (1999: 425) appears to share this view. Concerned that much tourism theory 'remains entrenched in an intellectual time warp that is up to 30 years old', he offers a chaos model of tourism to explain the complex inter-relationships which exist in the tourism system. His model highlights the effects that 'non-tourism related externalities', such as natural disasters or pandemics, can have on the tourism system and demonstrates his belief that a tourism system is similar to a 'self-organizing', living community that is basically complex and chaotic and cannot be explained by linear models: '…tourism represents an open system, where the vitality of a destination area can be influenced as much by external events as by internal events' (McKercher, 1999: 428).

It is suggested that this 'intellectual time warp' has infiltrated the tourism disaster management models offered in the literature. Faulkner, along with Russell (1997, 2004), suggested that "if one is to understand the dynamics of tourism systems more effectively…an alternative perspective based on chaos theory is more appropriate" (2004: 575) and consequently provided a "synthesis" (2004: 577) of Butler's (1980) tourism lifecycle model and what are described as the "principles" (2004: 577) of chaos theory. Faulkner also makes reference to chaos theory while presenting the tourism disaster management framework; however, significantly, the tourism disaster management framework, with its linear, prescriptive approach, does not appear to directly apply such a perspective. Subsequently, other frameworks provide the same,

linear, cause and effect approach. Ritchie (2004), despite stressing that chaos theory could provide managerial insight, follows a pattern very similar to Faulkner. Perhaps by proposing a strategic approach to tourism disaster management they consider this done, but it is suggested here that both Faulkner's and Ritchie's models fail to embrace comprehensively the potential that chaos theory could offer tourism crisis management which, as discussed below, permits an alternative perspective on tourism crisis management.

2.5 Managing tourism crises and disasters: a chaos theory perspective

As considered above, crises and disasters are unpredictable in that they can arrive without warning and take unlikely twists and turns, thus severely limiting the usefulness of contingency planning and tourism crisis management guidelines. By nature chaotic and complex, crises and disasters are 'fluid, unstable' and 'dynamic' (Fink, 1986) and so the question must be asked as to whether tourism crisis management is actually a 'heroic', albeit futile, attempt to manage the unmanageable.

Here, it is suggested that, despite the initial helplessness which the term 'chaos' may imply, an understanding of the various elements of chaos theory can provide techniques and opportunities to assist in the management of a tourism crisis. Indeed, it is proposed that the adoption of chaos theory can improve the planning and response framework for tourism crises and disasters. This approach potentially eradicates the weaknesses, discussed in the previous sections, common to contemporary tourism crisis management models and offers an alternative solution to the challenges caused by crises and disasters. Specifically, scenario analysis and contingency planning are replaced by a response which recommends that preparation is instilled into an organisation by way of nurturing an internal culture which can effortlessly facilitate change and instability. In the face of a disaster, the emphasis is on responding to crisis and chaos elements when they present themselves with a combination of marketing and communication strategies.

Chaos theory can be of use for managers of small and medium sized enterprises and also as a means of managing the destination as a whole, as is the case for destination tourism agencies or governmental departments. A small tourism business, a large tourism organisation and a tourism destination in general can all be viewed as 'open systems'. Therefore, a model which embraces chaos theory is of use to individual business owners such as hoteliers and restaurateurs, and also managers with wider ranging responsibilities. Before presenting a tourism crisis and disaster management

model constructed from a chaos theory perspective, however, it is first necessary to explain the elements of chaos theory and how these elements can be utilised to counteract the challenges presented by crises and disasters.

2.5.1 'Edge of chaos'

Tourism managers need to be aware that tourism operates in an intricate, non-linear manner with a high number of 'complex, interrelationships' (McKercher, 1999: 426) existing within the tourism system. As mentioned above, McKercher (1999) presents the 'chaos model of tourism', which serves to illustrate the interconnectivity of the various 'players' within the tourism system. The actions of one element can have repercussions, both positive and negative, on the other elements. The manager must be acutely aware of the element labeled 'non-tourism related externalities', which includes 'macro-environmental forces (Ibid: 430) such as disasters.

Managers should also be aware that instability and change are inherent characteristics of this system and, even if a destination has proceeded in stability for a long period of time, there exists the ever-present threat of disruption. The system is always on the 'edge of chaos', in a state of 'tenuous equilibrium', in which a 'trigger event' can directly or indirectly induce a disaster or crisis. Known as the 'butterfly effect', chaos theorists suggest that even something so apparently trivial as the flapping of a butterfly's wings has the potential to initiate certain conditions which produce a path of circumstances which eventually lead to a disaster. In a tourism context, this concept helps to explain how a set of natural reactions which culminated in a volcanic ash cloud appearing over the UK and Europe in April 2010 led to unprecedented travel chaos and damage to the airline industry worldwide.

Inherent in an 'edge of chaos' situation is the sheer unpredictability of what will happen next. With so many influences upon the system, managers have no way of knowing if they are on the precipice of a natural disaster, an epidemic, a terrorist attack or an economic crisis. With so many diverse influences on the tourism system, it is also apparent that a crisis or disaster can have an impact on a destination thousands of miles away. As has been noted previously, the literature suggests that such threats can be countered by conducting large-scale scenario analysis and the drawing of detailed contingency plans to deal with every conceivable situation. However, a brief analysis of recent events as mentioned earlier (Indian Ocean Tsunami, Foot and Mouth, Volcanic ash cloud) has served to illustrate the limitations of such techniques.

While chaos theory suggests that specific crisis and disaster prediction is impossible (Matthews *et al.,* 1999), it simultaneously predicts that some kind of chaotic event is practically inevitable, thus leading to the presumption that *some* kind of planning is wholly necessary. This suggests that managers should seek to create the conditions which will enable an efficient and effective response if and when a crisis occurs. Therefore, the first step that managers should take in this 'edge of chaos equilibrium' is to ensure that their own specific organisations strive to become 'robust' and 'resilient' (Paraskevas, 2006: 903), qualities which will be of paramount importance in the face of the 'inevitable' crisis. Paraskevas (2006) suggests that each organisation should nurture a culture which allows flexibility and promotes information flow. There should be a feedback system which permits self correction and self- organisation, and the reallocation of resources if and when necessary. As Levy (1994: 176) notes: 'long-term forecasting is almost impossible for chaotic systems, and dramatic change can occur unexpectedly; as a result, flexibility and adaptiveness are essential for organizations to survive.'

By recognising that they exist on the 'edge of chaos', it is suggested that organisations can avoid certain crises by a willingness to change with the times and self-organise, thus avoiding becoming stagnant. It is beyond the scope of this thesis to discuss knowledge management and organisational learning in detail; however, it is suggested that the implementation of an effective knowledge management strategy could assist in preparing all organisations, from small businesses to government level departments, for inevitable change. By fostering a culture of innovation, self-development, participation and inter-organisational learning, an organisation will develop a competitive advantage, improved quality and productivity, be more attuned to customers' needs and most importantly in the context of crises and disasters, have the capability to cope with change (Coopey, 1996).

Robert and Lajtha (2002), cited in Pareskas (2006: 894), argue that '...the key to effective crisis management lies with structured and continuous learning processes that equip managers to deal with the sudden and the unexpected rather than with detailed CMP's [crisis management plans].' An organisational learning strategy is given prominence in the literature, although usually as part of the post-crisis reflective process (Blackman and Ritchie, 2007; Evans and Elphick, 2005; Faulkner and Vikulov, 2001; Ritchie, 2009). In a similar vein, Farrell and Twining-Ward (2003: 284) propose that 'adaptive management' is 'an effective way of managing the comprehensive tourism system'. They define adaptive management as 'the process of building resilience and

coping with uncertainty through a continual process of experimenting, monitoring and social learning' (Ibid: 284/5). This would emphasise a move from a linear focus to a non-deterministic approach. It acknowledges surprises and uncertainties (Gunderson, 1999) and proposes regular monitoring and learning which leads to knowledge accumulation and enables stakeholders to more easily adapt to changing situations (Mclain and Lee, 1996).

It is argued that such an approach is much more useful in preparing an organisation for a disaster or crisis than the development of context specific detailed guidelines. Whilst, on the one hand, each organisation must have basic protocol in place to deal with a sudden disaster, on the other hand an organisational climate which expects change and has the infrastructure in place to effectively promote and deal with change will be in a better position to exhibit the characteristics of 'robustness' and 'resilience', so necessary in a crisis situation.

On a broader scale, each organisation should be aware of its responsibility within the tourism system. As noted by Cioccio and Michael (2005: 9), small businesses tend to see themselves as 'clients'; for them, the onus lies with the government and regional tourist organisations to promote recovery. Hystad and Keller (2008), also noting this, present a model which outlines the roles of stakeholders throughout the stages of a disaster. In the edge of chaos state, the onus is on the emergency organisations to develop protocol, for tourism organisations to develop a media and marketing strategy and for the internal tourism community to lay down individual protocol and develop staff awareness. Stakeholder roles then change as the event progresses.

A strong, effective marketing strategy is of great value in the 'edge of chaos' phase. The building of a strong brand image for the destination can ensure its survival through troubled times, as a good reputation can create a 'lock-in-effect', an element of chaos theory, in which new and potential customers continue to be attracted to the location despite possible negative publicity. Of equal importance, it is suggested that tourism organisations should also strive to promote good media relations, to form 'positive credit' which can assist in reducing the averse negative affects often attributed to sensationalist media coverage of a disaster (Avraham and Ketter, 2008).

The powerful effect that the media can contribute to a tourism crisis situation is referred to throughout the literature, with Keown-McMullan (1997) going as far as suggesting that the media have the power to turn an incident into a crisis. Public perception of an incident can be greatly influenced by the media and sensationalist

reporting (de Sausmarez, 2004). Often, communication between the destination authorities and the media is poor and, as a result, false, inaccurate reporting occurs which heightens potential tourists' negative perception of a destination (Santana, 2003). For example, Mason *et al.* (2005: 19), concerned with the connection between SARS, tourism and the media, note that 'during the outbreak it was often difficult to separate fact from media hyperbole', while Peters and Pakeemaat (2005: 16), in their research into responses to an avalanche in the Austrian Alps, also note how 'media communication was poorly managed and a misrepresentation of the catastrophe followed.' The world's media, in their search for the next 'big' story, are inevitably attracted to disaster zones or 'scare' stories, such as health related events. The media can then turn a situation into a crisis.

By pursuing good media relations and by acquiring a strong market position, and also by harnessing an organisational culture which is open, flexible, with a common vision, and unafraid of change, it is suggested that the businesses of McKercher's destination tourism community and the communication vectors ('all levels of the formal travel trade, other tourism retailers, the efforts of public sector marketing and promotion agencies and direct communication between businesses and the travelling public' (McKercher, 1999: 431)), will be best prepared when a crisis or disaster occurs.

2.5.2   Bifurcation and cosmology

A disaster can be viewed as being a 'bifurcation point'. Bifurcation, according to Sellnow *et al.* (2002: 271) 'represents the flashpoints of change where a system's direction, character, and/or structure are fundamentally disrupted…Crisis events and behaviors…are often described in chaos theory as these points of system bifurcation.' This element of chaos theory can also be equated with Faulkner's emergency phase of a disaster lifecycle. At this phase, when the system is thrown into chaos and disequilibrium, the cosmology element of chaos theory is usually evident. It describes a feeling of helplessness and confusion, due to the 'high threat, short decision time, surprise, urgency' and includes the 'perception of an inability to cope', referred to previously while discussing the characteristics of crises and disasters. Weick (1993: 634) describes cosmology thus: 'A cosmology episode occurs when people suddenly and deeply feel that the universe is no longer a rational, orderly system. What makes such an incident so shattering is that both the sense of what is occurring and the means to rebuild that sense collapse together.'

The apparent futility of scenario planning and simulation exercises can again be

noted at this stage. The words of a CEO of a hotel chain affected by a crisis illustrate this point:

> *'We had conducted a simulation exercise only five months ago. The scenario was similar but not in such scale. Nevertheless, we all felt confident that although it was a highly unexpected situation, the plan was designed with such a crisis in mind and we would be able to deal with it effectively. We did not expect that some people would not be able to cope and that some others would react in such a negative manner (CEO)'* (Paraskevas, 2006: 898).

In other words, an unsuspecting manager may suddenly be thrust into a situation in which fear and confusion is abundant and both he/she and staff members will find themselves unable to cope. A previously unthinkable scenario has developed and the contingency plans at hand fail to correspond with what is happening. However, it is suggested that a manager (and organisation) versed in chaos theory would likely be able to recognise the bifurcation stage for what it is and be able to react accordingly. It is therefore necessary for the manager to mitigate the effects of cosmology episodes and impaired decision making by means of clear communication. Evans and Elphick (2005: 144), following Smith's (1990) model of crisis management, suggest that this is not the time for 'rushed decisions' and that it is better to focus on 'decisional, informational and communicational flows' and the key activity of crisis containment and communication flow. Sellnow *et al.* (2002: 274) support the view that truthfulness and accuracy is warranted as 'tenacious justifications' can be difficult to account for at a later stage. For this, Ritchie *et al.* (2003), in their study of the FMD crisis, develop a 'Five-Point Crisis Communication Plan', advocating two way communication with the media in an effort to reduce the reporting of incorrect information and to deliver a consistent message to enhance credibility for the organisation.

Page *et al.* (2006) recommend that marketing activity is reduced or even suspended at this moment to allow for this period to pass, as a continuation of normal marketing activities could be deemed insensitive and inappropriate; the situation has changed and demands a new approach.

2.5.3 Self-organisation and strange attractors

It is said that a learning organisation exhibits the characteristic of self-organisation (Senge *et al.*, 1994). The concept of self-organisation is also recognised within chaos

theory and is described as one of its most 'provocative' and 'controversial' elements (Levy, 1994: 171). It 'is a natural process whereby order re-emerges out of a random and chaotic state' (Stewart, 1989). Sellnow *et al.* (2002: 272) further explain; 'through self-organization, new forms, structures, procedures, hierarchies, and understanding emerge, giving a new form to the system, often at a higher level of order and complexity'. As clarified by Zahra (2007: 860), 'although each element in the system may seem to act in an independent manner, collectively the entire system functions in an orderly manner as it is governed by a number of underlying principles, leading to spontaneous order'. McKercher (1999: 427), writing in a tourism context, importantly conveys how despite the unpredictable nature of crises and disasters, tourism systems manage to 're-emerge in an even more competitive manner'.

This re-emergence demonstrates the resilience of tourism and how most destinations appear to recover extremely quickly after an event. Zeng *et al.* (2005: 307), in an investigation of the tourism effects of SARS in China, remark how 'tourism appears to exhibit little resistance but considerable resilience', while Scott and Laws (2005:157), advocating future study on the concept of resilience, report that 'mass tourism is alive and well, surviving many disasters and crises.' McKercher and Hui (2003), writing after the terrorist attacks on New York and Washington, note how, despite fears of a profound recession in the tourism industry, the effects have not been as deep as initially envisaged. Wang (2008: 75), although offering warnings over the consequences of not being prepared, also comments upon the resilience of the industry, observing that 'the industry has always managed to resume or exceed its former production values within a period of just one or two years'. Equally, Hystad and Keller (2008: 158) conducting research into the Kelowna forest fires of 2003, note how 'Tourism Kelowna managed to respond adequately to the 2003 disaster even though they did not have a plan. Overall comments were very positive towards Tourism Kelowna's efforts and its recovery marketing was judged effective by the majority of businesses.'

Table 2.2 below shows a number of recent tourism crises, the amount of pre-crisis planning that was in place before the event, and the negative impacts caused by the event.

Table 2.2: Tourism crises and disasters: impacts and recovery time

Disaster/ crisis	Date	Author(s)	Pre-crisis planning	Impacts	Recovery time
Katherine Flood, Australia	26 Jan, 1998	Faulkner and Vikulov, 2001	No apparent plan	3 dead. Evacuation. Flood damage. Sensationalist media coverage.	Fast- 15% increase in guest nights compared to previous year.
Avalanche Tyrol, Austria	Feb, 1999	Peters and Pikeemaat, 2005	Aware of danger but plans only developed in prodromal stage	31 dead. Property damage 5.27 million Euros. 8000 evacuated.	Fast - rise in visitor numbers. Level in one year and big increase in two years. Feb, 1998- 62.570 Feb, 1999- 47.384 Feb, 2000- 62.576 Feb, 2001- 80.495
Foot and Mouth UK	Feb, 2001	Miller and Ritchie, 2003; Ritchie *et al*, 2003; Frisby, 2003	No apparent plan	Four million animals culled. 9% fall in overseas visitors. Sensationalist coverage.	Fast - 15 January 2002 - Government announces that disease has been defeated. Fully recovered by June, 2003
Terrorist attacks on New York	11 Sept, 2001	Goodich, 2002; Blake and Sinclair, 2003	Not evident	5000-6000 killed and many more injured. Impacts worldwide travel and tourism industry. Closure of stock market.	Fast- Recovery taking place by June, 2002, but still below annual average.

Disaster/ crisis	Date	Author(s)	Pre-crisis planning	Impacts	Recovery time
SARS China Hong Kong Vietnam Singapore Canada, etc (29 countries affected)	2003	Henderson and Ng, 2004; Zeng *et al.,* 2005; Mason *et al.,* 2005; Kuo *et al*.,2007; Tew *et al*.2008; Mao *et al.,* 2009	China - not evident. Singapore - hotel had crisis planning but unsuitable	7774 deaths. Sensationalist coverage. China - foreign arrivals down 70%. Singapore - visitor arrivals down 70% in May. Singapore hotel sector - average occupancy rate drops to 21% compared to the normal 74.5%.	China - Growth returns to 9.1% in third quarter of 2003. Visitor arrivals return to normal by end of 2003. Singapore - room occupancies back to normal by end of 2003.
Bushfire in Northeast Victoria, Australia	Summer 2003	Cioccio and Michael, 2005	Not evident, particularly in small businesses	1.1 million hectares destroyed. $20m loss of business in first month. Sensationalist coverage.	Fast - Marketing activities began three months later
Indian Ocean Tsunami Indian Ocean coastal regions	26 Dec, 2004	Sharpley, 2005; Carlsen and Hughes, 2007	Maldives - no apparent plan in place	Estimated deaths 300,000 (Feb, 2005). Damage estimated at $10 billion. Maldives - 19 of 87 resorts closed.	Maldives Fast- Resumption of industry investment had recovered within 12 months. Occupancy rates for Dec, 2005- Feb, 2006 had returned to pre-tsunami levels

If one examines the amount of pre-crisis planning before these events, there is one factor which is common to all; little or no planning was evident. Table 2.2 also shows the recovery times of each event. If one examines the length of time taken for the destination to recover, there is another common factor; it was rapid on all occasions.

It therefore appears rather obvious that even without planning, for some reason recovery is usually rapid and complete; it appears that the tourism industry is highly resilient to crises and disaster. Table 2.2 also demonstrates the range, scope and inherent complexity of disasters, which highlights the difficulties which ensue in attempting to predict and prepare for an event, as was mentioned previously.

Managers need to be aware during the bifurcation stage and immediately afterwards that a return to normal is neither viable nor necessarily desirable. Bifurcation allows for the process of self-organisation and creativity which can bring improvements to individual businesses and the destination as a whole, from as it was in its pre-disaster condition. This was noted by Berman and Roel (1993) in their study concerning the aftermath of the 1985 Mexico City earthquake in which opportunities for development were in evidence.

In order to assist the process of self-organisation, managers aware of the chaos theory element of 'strange attractor' are able to adopt a range of techniques which will help bring some form of order to the situation. As noted earlier, a key concept of chaos theory is the idea that order will emerge from a chaotic state. An 'island of stability' is needed in the prevailing chaos (Thietart and Forgues, 1995). This concept is noted by Sellnow *et al.* (2002) in the case of the Red River Valley flood in the United States. In this case, the National Guard and the Federal Emergency Management agency brought an air of stability to a chaotic situation.

By providing communication platforms and encouraging co-operative relationships, managers themselves can become the 'strange attractors' which assist in bringing order from chaos and 'create the conditions for a new order to come' (Thietart and Forgues, 1995: 28). The key is to facilitate methods in which the system can work in unison towards its common goal of recovery. Sellnow *et al.* (2002) liken 'strange attractors' to the values, needs and assumptions that guide a social system towards relative stability following bifurcation. Zahra and Ryan (2007: 855) explain it as being a 'common vision, sense of meaning, strategy or value system that drives people to achieve a common goal'. On an organisational scale, an organisation should exhibit the characteristics mentioned previously which facilitate the change process, while on a destination or regional level, various marketing and communication strategies should be

deployed as the situation moves from bifurcation into self-organisation, or recovery.

Media communication (Faulkner, 2001; Peters and Pikeemaat, 2005) is given prominence in the literature, with open and clear communication being viewed as imperative in this phase, as it was during bifurcation. Beirman (2003: 4) emphasnises the need for 'urgent adaptation of marketing and operational policies to restore the confidence of employees, associated enterprises and consumers in the viability of the destination'. Such recovery marketing strategies can include reduced price vacations, value-added special offers, familiarisation trips for journalists and tour operators, and increased promotion to the domestic market (Beirman, 2003; Carlsen and Hughes, 2007). Frisby (2002) notes the marketing tactics of the British Tourist Authority during the intermediate stage of the Foot and Mouth crisis which included, amongst other things, a consumer e-mail campaign, television, print and radio advertising, special offers, trade promotions, media visits, press briefings, new website and special issues of *Inbound* magazine.

Marketers should be aware of the chaos theory element of 'lock-in-effect', mentioned earlier. The 'lock-in effect' is evident when behaviour keeps reoccurring, even though the original reason for such behaviour may be obsolete. It explains repetitive behaviour in a tourism context, such as a family that visits the same resort each year. The destination has a strong 'pull' for whatever reason, and managers should be aware of this when developing marketing plans during recovery. Nonetheless, care must be taken that, in the rush to get things 'back to normal', everything is ready for the return of visitors to the destination. For example, Cammisa (1993) notes how tourism authorities in Florida rushed to promote the hotel sector following Hurricane Andrew, but failed to mention that the rest of the infrastructure was devastated. Failure to deliver adequate services to tourists will result in further negative publicity; perhaps, a marketing campaign targeting a domestic clientele is more appropriate at this stage.

The self-organisation stage can be an appropriate time to call for governmental assistance which, according to Israeli and Reichel (2003), is one of the four categories of crisis management practice. Ritchie (2009) points out that the tourism industry should quickly lobby government and the private sector for resources after a disaster has struck and perhaps there may be a case for international aid. Government measures include 'incentives to stimulate foreign investment, tax relief and extended credit to tourism businesses, increased funding to national tourism organisations, and the stimulation of domestic tourism in the absence of international visitors' (de Sausmarez, 2004: 168). An evaluation of the importance of the tourism industry needs to be

clarified to the government (de Sausmarez, 2004).For example, Sharpley and Craven (2001) report that a lack of understanding and data led to government favouritism towards the agricultural sector during the UK FMD crisis. Blake and Sinclair (2003) suggest that further research is necessary in this area.

As the recovery proceeds, the importance of marketing and advertising continues. Ritchie (2009: 193) states: 'The main aim of the recovery marketing campaign is to reverse the negative destination image and increase tourist flows and demand' and suggests using such techniques as persuasive advertising, partnership marketing, trade shows and special events. Collaboration between public and private sector organisations and even regional alliances can help with expensive recovery marketing campaigns (Ritchie, 2009). Beirman (2003: 14) further reiterates this point as he explains how organisations such as 'airlines, hoteliers, resorts, museums and wholesale tour operators' who 'all depend on the successful selling and marketing of destinations which form all or part of their programs' initiate joint marketing campaigns in the recovery stage as it is palpably in all their interests to do so.

Media coverage remains important. If an amicable relationship has been nurtured with the media it is likely that the recovery procedures presently taking effect will be reported, thus helping to nullify persistent negative perception. Frisby (2002) describes how the British Tourist Authority allowed travel industry leaders from across the world to view the impact of FMD in order to foster positive relations and generate positive reporting.

2.6   Summary and presentation of model

An analysis of contemporary tourism disaster management models and frameworks brings to light the weaknesses considered in this chapter. While the models appear to be useful in some situations, it is evident that they are not universally applicable and that they are not relevant to every type of disaster. Therein lays the dilemma. Each crisis or disaster is unique, bringing its own distinctive problems and challenges which demand different responses and methods of management. Thus, crises and disasters cannot be specifically planned for and then managed using prescriptive guidelines because, typically, they occur unexpectedly and do not follow logical paths which would conveniently suit their management. They twist and turn and may provoke other crises which require different strategies. Tourism crises and disasters are complex events which affect a complex system and, accordingly, their management is rather complex.

To conclude this chapter, a tourism crisis and disaster management model is

presented which advocates a chaos theory perspective when dealing with tourism crises and disasters (see Table 2.3 below). Rather than suggesting scenario analysis, contingency planning, and the prescriptive, step by step guidelines common to existing tourism crisis management models, it proposes a marketing and communication strategy based on the particular chaos theory element deemed present at the time, in line with the recommendations issued in the previous sections regarding chaos theory elements. For example, in the bifurcation phase, a suspension or reduction of marketing activities is recommended along with open and honest communication with stakeholders and the media, while the self-organisation phase calls for product diversification, cost reductions, a focus on the domestic market, alliances and joint marketing campaigns, government and international assistance and a continuation of the same open communication strategy with the media.

Table 2.3: An alternative tourism crisis/disaster management model incorporating the elements of chaos theory: The Chaos Theory Tourism Crisis/Disaster Management Model

Create organisational environment that facilitates learning and 'embraces' change.	Create environment that promotes innovation and flexibility.	Promote adaptive management.
Chaos theory element	**Marketing**	**Communication**
Edge of chaos	Be aware of the possibility of disaster and have a basic plan in place. Product diversification. Creation of strong brand image.	Be aware of the possibility. Basic protocol (crisis management team) needs to be in place. Develop good relationship with media.
Butterfly effect (sensitivity to initial conditions)	Revise marketing strategy.	Implement communications strategy. Communication with staff and customers.
Bifurcation	Suspend or reduce marketing activities.	Clear, flexible, open, truthful communication with stakeholders and the media.
Cosmology	Suspend or reduce marketing activities.	Clear, flexible, open, truthful communication with stakeholders and the media.
Self-organisation Strange attractor	Adaptation of marketing - product diversification (if not done previously), cost reductions, focus on domestic clientele. Alliances and joint marketing campaigns.	Continuation of open communication with the media. Investigate government assistance and international aid.
Lock-in effect	Special offers for loyal customers.	
	Reflection allows for lessons to be learned from the crisis.	Reflection allows for lessons to be learned from the crisis.

This chapter can perhaps be briefly summarised by the words of Thietart and Forgues (1995: 28): ' ....managers are confronted with a major challenge that the incompleteness of traditional models cannot help to meet...Prescription and prediction imply perfect knowledge of the interrelationships between variables and their dynamics over time that we do not have.'

Thietart and Forgues (1995: 28) go on to propose further research into the 'qualitative properties of chaos theory', suggesting that 'among these features several seem worth exploring. For instance, such features as prediction impossibility (sensitivity to initial conditions)...attraction towards configurations (strange attractors), and stepwise change processes (bifurcation)'.

This thesis will continue to explore 'prediction impossibility', 'strange attractors', 'bifurcation' and more besides, in an attempt to address the weaknesses that have been associated with current tourism crisis and disaster management models. The following chapter will outline the chosen research methodology whilst chapter three will continue to address the themes discussed in this chapter against the backdrop of the Mexican AH1N1 Influenza crisis.

Chapter 3

Methodology

3.1 Introduction

Before one can decide upon a certain research methodology, it is necessary to carefully assess the objectives and aspirations of the research project. As Dann *et al.* (1988) eloquently observe, one is embarking upon a metaphorical journey, a quest for a specific 'goal', and the methods used to achieve that goal are of utmost importance for the satisfaction of the researcher and for future peer approval. Different objectives require different approaches and methods, although ultimately, perhaps, the methodology chooses the researcher rather than vice-versa as a result of the researcher's personal beliefs. This concept is explained by Phillimore and Goodson (2004: 34): 'put simply, knowledge production relies heavily upon the ontology of the researcher – their definition of reality. Their epistemology – what they count as knowledge – depends on what they want knowledge about, while the kind of knowledge that they seek determines their methodology.'

By initially focusing on Phillimore and Goodson's 'simple' explanation of knowledge production, it is possible to discuss the methodological approach adopted in this thesis.

3.2   What is being investigated? What do we want knowledge about?

3.2.1   The two issues

The previously identified weaknesses and limitations of contemporary tourism crisis and disaster management models and the incorporation of chaos theory into a disaster management model form the 'essence' of the inquiry. An 'intellectual puzzle' (Mason, 2002: 13) has, therefore, presented itself in the form of two issues. The first involves the criticism of current tourism crisis management models. It is suggested that such models fail to account for the unpredictable nature of disasters, and that they are too prescriptive and rigid, with a 'broadness of approach' which does not cater for the characteristics of individual crises, cultural differences and financial and knowledge restrictions of smaller businesses.

The second issue in need of examination is the applicability and viability of the

proposed chaos theory model (table 2.3). The specific questions to be asked are: does this model effectively address the weaknesses of the other models, and does it represent a realistic alternative to them?

3.3 How can the two issues be investigated?

Finn *et al.* (2000: 8) note how there is 'a strong association in the minds of students undertaking research that quantitative research is associated with the hypothetico-deductive method of theory testing, and qualitative data with seeking patterns in the data to inductively generate theory'. However, departing from the epistemological battle between the positivist and interpretivist traditions, Dann *et al.* (1988: 5) suggest that it is a matter of deciding, from a personal viewpoint, how to address the identified hypotheses (or in this case, perhaps, the word 'issues' is more apt) and how to approach this in a manner which ideally combines 'theoretical awareness' and 'methodological sophistication.'

Mason (2000) is of the opinion that five questions must be considered by the researcher before setting forth upon the research journey. These questions relate to the researcher's personal ontological and epistemological perspectives, the research area and the research questions and the aim of the research (see Table 3.1 below). Given the stated ontological and epistemological perspectives, the research questions or hypotheses, and the purpose of the thesis, it is suggested that a qualitative approach offers an appropriate method to seek the knowledge required to answer the questions being posed.

Table 3.1: Mason's five questions: How the researcher's ontological perspective and epistemological position relates to this research

Ontological perspective	Epistemological position	Broad research area	Intellectual puzzle and research questions	Aims and purpose
Constructivism/ interpretivism -recognition of multiple perspectives (Jennings, 2005). "…assumes multiple, apprehendable, and sometimes conflicting social realities that are the products of human intellects, but that may change as their constructors become more informed and sophisticated." (Guba and Lincoln, 1994: 111)	The subjective viewpoints of people and their experiences is the basis for understanding. Interaction between researcher and respondents leads to creation of knowledge (Guba and Lincoln, 1994)	Tourism crisis/disaster management	The effectiveness of current tourism crisis/disaster management models 1. Do the weaknesses which apparently exist within the models affect their application to crisis/disaster situations? 2. Does a model which views tourism crisis/disaster management issues from a chaos theory perspective present a more attractive, viable alternative?	To challenge contemporary tourism crisis management theory. To provide an alternative by viewing the situation from a chaos theory perspective.

Given that the researcher expresses to hold ontological and epistemological perspectives which relate to the constructivist and interpretivist paradigms and the belief that the subjective viewpoints of people and their experience serve as the basis for understanding a social inquiry, and given the scope of the research questions and the purpose of the thesis, it is suggested that a qualitative approach offers the most appropriate method to seek the knowledge required to answer the questions being posed.

3.4   What are the reasons for a qualitative approach?

1. As just mentioned, the researcher's ontological and epistemological viewpoints call for such an approach. Schwandt (1994: 125) points out how 'human beings do not find or discover knowledge so much as construct or make it'. Quoting Guba and Lincoln (1989), Schwandt (1994: 129) further explains: 'Constructions are attempts to make sense of or to interpret experience, and most are self-sustaining and renewing.' The belief that knowledge is gained by gathering information relating to participants' experience and the subsequent interpretation of this data which may serve to test hypotheses and/or generate new theory necessitates a qualitative method of inquiry.

2. It could be argued that this research is examining a complex 'reality'. Riley and Love (2000: 166) suggest that quantitative methods 'cannot fully address questions of meaning and understanding'. As Stake (1995: 17) remarks, 'issues are not simple and clean, but intricately wired to political, social, historical, and especially personal contexts'. Guba and Lincoln (1994) go on to argue that the positivist paradigm seeks to be nomothetic and applicable to all circumstances. Positivist approaches struggle to address context specific, complex situations and the variety of knowledge which can be gained from the analysis of data; this is quite unlike qualitative methods of inquiry which, according to Hollinshead (2004: 72), aim to be 'idiosyncratic, vexatious and time-consuming' in their quest for knowledge. The understanding of phenomena, according to Stake (1995:.42), requires a holistic perspective which views the situation from 'a wide sweep of contexts: temporal and spatial, historical, political, economic, cultural, social and personal.'

    As the aim of this thesis is to test contemporary tourism crisis management

theory and to provide an alternative means of dealing with the issue, a topic which is of an abstract and complex nature, it is suggested that a qualitative research approach is most appropriate; it enables the researcher to experience the situation 'through the eyes' of those directly concerned in order to gain a more thorough 'meaning' and 'understanding' of the issues concerned and to focus on newly emerging themes. This evidence can then be analysed in relation to the criticisms pointed out in the previous chapter, allowing links to be made between theory and data and conclusions to be drawn.

3. Positivistic methods of research have, until recently, dominated the field. Faulkner (2000: 3), referring to Dann and Philips (2000), describes this state of affairs: 'the tourism research field has inherited the conceptual and methodological foundations that have dominated social science disciplines in recent decades and, in particular, it has exhibited an affinity for the positivistic inclinations of the business and management oriented disciplines'. Chaos theory, recognising instability, non-linearity and complexity, directly challenges quantitative methods and demands a qualitative approach.

3.5   Which methods are used and why?

The research is conducted in the form of a case study. This method has been chosen for several reasons.

i.   A 'how' or 'why' question is being asked

Yin (2003) suggests a specific research strategy is particularly advantageous in certain situations. When the research is questioning the 'how' or 'why' of contemporary events (see Table 2.1) over which the researcher does not have control, Yin advocates the use of the case study. In the case of this research, the questions to be addressed are, firstly: 'do the weaknesses which apparently exist within the models affect their application to crisis/disaster situations?' and, secondly, 'does a model which views tourism crisis/disaster issues from a chaos theory perspective present a more attractive, viable alternative?' In the first question, we are interested in knowing how and why the weaknesses limit the effectiveness of the models and, in the second, we wish to investigate how and why a chaos theory model may offer a better alternative in relation to a situation over which the researcher has no control.

ii. Instrumental case study: the case study is used to provide insight into a phenomenon.

Stake (1994: 237) notes how a case study can be used to play a 'supportive role' in order to facilitate 'our understanding of something else' - "The choice of case is made because it is expected to advance our understanding of that other interest" or, as Beeton (2005: 38) explains, it 'illuminates' an issue by examining a 'specific instance.' The principal area of interest is that of contemporary tourism crisis management theory and the possibilities rendered by utilising a chaos theory approach. Mexico and its AH1N1 crisis is an example of a tourism crisis which will play the 'role' of hypothesis tester.

iii. Combination of methods.

Knights and McCabe (1997) suggest that the case study provides a vehicle through which several qualitative methods can be combined, thus contributing to the validity and reliability of the research. Interviews provide 'subjective' data; however, documentary data is used in conjunction, thus providing a more 'balanced' account of the situation.

iv. Validity of case study research

Beeton (2005: 37) lists a number of reasons why the case study is a 'valid methodological tool in tourism research.'

(a) -*Can explain why an innovation worked or failed to work*. This thesis is investigating the effectiveness of contemporary tourism crisis models and the alternative chaos theory tourism crisis and disaster management model.

(b)- *Has the advantage of hindsight, yet can be relevant in the present and to the future*. The investigation into the effects of the AH1N1 influenza crisis on the Mexican tourism industry is, of course, taking place after the event; however, it is hoped that the insights and knowledge gained can positively contribute to contemporary tourism crisis management theory and future theory.

(c) *Can illustrate the complexities of a situation by recognising more than one contributing factor*. Tourism crises and disasters are complex situations and the challenge is to recognise the factors that contribute to this complexity and conceive solutions.

(d) *Shows the influence of personalities and politics on an issue.* The importance of tourism for the Mexican economy will no doubt become apparent during the course of the investigation. The huge influence of the government and the media is also expected to be a prominent issue.

(e) *The reader may be able to apply it to his/her situation.* While the case study specifically concerns the Mexican AH1N1 crisis, the critique of current tourism crisis management theory applies to all tourism crisis/disaster situations.

(f) *Can evaluate alternatives not chosen.* While the thesis is investigating two specific issues, the qualitative research approach encourages the development of new theory.

(g) *Can utilize information from a wide variety of sources*. The thesis aims to investigate the issues from the perspective of a variety of sources, from key players in the Mexican tourism industry to business owners and government documents.

Of course, there are a number of criticisms related to case study research. These are summarised in Table 3.2 below, which also seeks to justify the use of case study research in the face of such criticism. As mentioned above, a case study provides the opportunity to adopt various other research methods. In this research, semi-structured interviews are used in conjunction with an examination of government, industry and media reports to gather information to supplement the case study.

Table 3.2: The case study: limitations and justifications

Limitations of case study research	Justification
Generalisation - Dann *et al.* (1988: 15) criticise a case study approach undertaken by De Sola Pool (1958), which fails to take into account the 'typicality' of the respondents, hence affecting the 'generalizability of the information gleaned from them.'	The analysis of a single case presents problems of 'generalizability'. The AH1N1 crisis in Mexico is a different situation to the Katherine Flood, for example; however, it is suggested that a degree of 'theoretical generalizability' (Bryman and Bell, 2007: 63) is possible. As Yin (2003: 10) points out, 'in this sense, the case study, like the experiment, does not represent a 'sample' and, in doing a case study, your goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization).'
Bias - Hoaglin *et al.* (1982) suggest that case studies can mirror the bias of the researcher.	Yin (2003) counters this criticism by stating that bias is just as likely in other research strategies, such as surveys or historical research. It is proposed that triangulation can overcome researcher bias (Creswell, 1994).
Can be very long, and attempting to reduce the size in order to fit within the thesis regulations can lead to a failure to include all relevant information.	Yin (2003: 143) suggests that thought should be given to this and the intended audience as a 'starting point', before one begins the composition of the case study.
Can be difficult to complete.	Yin (2003: 162-163) points out three characteristics of 'completeness'. (1) '...the boundaries of the case…are given explicit attention'. (2) 'The complete case study should demonstrate convincingly that the investigator expended exhaustive effort in collecting the relevant evidence' (3) 'When a time or resource constraint is known at the outset of a study, the responsible investigator should design a case study that can be completed within such constraints…'

3.6 Semi-structured interviewing

 This research method has been chosen for several reasons.

i. Qualitative approach

Semi-structured interviews are allied to a qualitative approach to research. Jennings (2005: 104) summarises: 'The use of …semi-structured interviews is associated with the phenomenological, constructivist or interpretivist paradigm, which holds an ontology (worldview) that recognizes multiple perspectives in regard to the research process, an epistemological stance that is subjective in nature and a methodology which is predicated on qualitative principles'.

ii. Chaos theory approach

 Jennings (2005:103) notes how chaos theorists often make use of semi-structured interviews. As revealed previously, chaos theory naturally calls for a qualitative approach and Jennings asserts that 'in depth and semi-structured interviews are the key components of a qualitative research project'.

iii. Answering the research questions…and more

Semi-structured interviews provide a means of answering the research questions and developing theory. Whilst providing a means of asking 'theory-driven, hypothesis-directed questions' (Flick, 1998: 84), they also provide the flexibility to allow the respondent to express their unique version of events and to make further suggestions and recommendations which can contribute towards generation of theory. While structured interviewing is geared towards the capture of 'precise' data, unstructured or semi-structured interviewing does not impose limits (Fontana and Frey, 1994), and this can result in findings which richly add to the data and the quality of the research.

iv. Varied and complex information

As the interview subjects range from small business owners and tourists to tourism academics and government level planners, the questions asked and the information obtained is expected to differ considerably. Quantitative structured interviews and surveys would not allow for such scope and so semi-structured interviewing is deemed necessary.

v. Case study information

Yin (2003: 90) remarks how the interview is one of the most important sources of information for the case study, and usually these are of 'an *open-ended nature'*.

Semi -structured interviewing does have its limitations. These are summarised in Table 3.3 below.

Table 3.3: Semi- structured interviews: limitations and justifications

Limitations of semi-structured interviewing	Justification
Finn *et al.* (2000: 75) 'Bias may increase as interviewer selects questions to probe and may inhibit comparability of responses".	Yin (2003) counters this criticism by stating that bias is just as likely in other research strategies, such as surveys or historical research. It is suggested that triangulation can overcome researcher bias (Creswell, 1994).
Can be difficult to establish trust and rapport.	This depends on the personal attributes of both the interviewer and interviewee.
Fleeting contact - The interviewer and interviewee only spend a relatively short amount of time together. Lack of familiarity can result in guarded, hesitant answers which provide little information.	Depends on the 'skill' of the interviewer.
Not every interviewee is capable of answering the questions in the way that the interviewer would hope (Fuchs, 1984).	Role plays and rehearsals are recommended as part of interview training (Flick, 1998).
Misinterpretation of views- 'understanding the language and culture of the respondents' Fontana and Frey (1994:366)	Depends on the 'skills' of the researcher.
Selection of 'right' questions.	Depends on the 'skills' of the researcher.

3.7 Documents

Various documents are used as sources of secondary data and a qualitative content analysis approach is utilised. These documents are primarily in the form of official reports, organisational documents and newspaper reports. Reasons for this include:

i. As a means of 'balancing' the data and as a practical means of securing more information alongside the information gained in the interviews.

As Hakim (1982) suggests, it can help to remove the spotlight from the individual evidence and provide a more varied, broad approach to data gathering and analysis.

Hodder (1994: 393) further elaborates: 'Such texts are of importance for qualitative research because, in general terms, access can be easy and low cost, because the information provided may differ from and may not be available in spoken form, and because texts endure and thus give historical insight.' Documentary evidence will be compared to the interview evidence and the common themes and concepts which become evident will be examined in detail. Also, any contrasting evidence and the possible reasons for this will be taken into consideration.

ii. Documents play an important role in case study data collection.

Yin (2003:87) insists that 'because of their overall value, documents play an explicit role in any data collection in doing case studies'. He lists their strengths: (i) stable (they can be evaluated as often as necessary); (ii) unobtrusive (were created independently of the case study); and, (iii) exact (contain names and details of events). Stake (1995: 68) is also adamant that a documentary review is an integral part of case study research and advises that such data may unearth 'unexpected clues.'

As with semi -structured interviewing, the use of documents as a form of secondary data does have its limitations. These are shown in Table 3.4 below.

Table 3.4: Documents: limitations and justifications

Limitations of secondary data	Justification
A researcher may presume that a document contains the 'unmitigated truth'; however, they often reflect the unknown bias of the author (Yin, 2003: 87).	The researcher must bear this in mind and be aware that 'the documentary evidence reflects a communication among other parties attempting to achieve some other objectives' (Yin, 2000: 87).
Statistics can be 'massaged' as a means of influencing data (Finn *et al.,* 2000:58).	As above, the researcher must be aware of this.
The original data may have been of poor quality.	The researcher should take care to ensure that the secondary data comes from a reliable source.

The choice of methods and potential sources are summarised in Table 3.5 below, adapted from Mason (2002).

Table 3.5: How the chosen methodology justifies the research questions

Research questions	Data sources and methods	Justification
1. Do the weaknesses which apparently exist within contemporary tourism crisis management models affect their application to crisis/disaster situations?	Players within the tourism industry: case study, interviews. Government, industry and media reports.	A case study will be used to provide a 'real-life' situation in which insight into the research question can be gained. It allows for the use of interviews and analysis of relevant reports. Interviews will provide varied accounts of the crisis. The experiences of those affected will reveal an 'insider' account of the crisis; the effects, strategies employed, successes and failings, hindsight, etc. Reports will provide extra information with which to evaluate the research question.
2. Does a model which views tourism crisis/disaster issues from a chaos theory perspective present a more attractive, viable alternative?	Players within the tourism industry: interviews.	The accounts and experiences will provide an insight into how applying the chaos theory model may provide a viable alternative.

Source: adapted from Mason (2002)

The methodological approach is designed to answer the research questions and to satisfy and justify the aim of the thesis. It is suggested that a qualitative approach in the form of a case study which gathers data by the method of interview and document analysis offers the most promising approach, as has been explained above. Other approaches have been considered; focus groups would be very difficult to arrange and probably impractical in a country such as Mexico in which it is suggested that many people will doubtless say what is 'politically correct', whether it is the truth or not, especially with an audience. A one- to- one interview offers the possibility of creating an air of trust between interviewer and interviewee in which a more honest and truthful account could be solicited; structured interviews are seen to be too restrictive for this

subject matter as it is hoped that as well as addressing the two research questions, the interviews will be a means to generate new theory, in almost a grounded approach (Strauss and Corbin, 1994). The interviews will seek the interviewees' points of view, their concerns and their ideas and wandering 'slightly off tangent' will be encouraged in order to facilitate this grounded approach. Quantitative research methods such as sampling, use of surveys and descriptive statistics will not be used; while they are considered perfectly viable research techniques in their own right, the knowledge required for this thesis is not regarded as being conducive with this approach.

3.8 Summary

This thesis seeks to elicit the impact that the AH1N1 crisis had on the Mexican tourism industry, the subsequent reaction of industry stakeholders, and how they view the situation in hindsight. It wishes to investigate the concepts of unpredictability, 'edge of chaos', butterfly effect, bifurcation, cosmology, self-organisation and the limitations posed by prescriptive, rigid, 'one-size-fits-all' tourism crisis management models in the context of a real life tourism crisis. It is therefore proposed that the only means of enveloping such an array of ideas is by adopting a qualitative approach which is geared towards answering the research questions and the possibly 'grounding' out of new theory in the process.

3.9 The methods used in Mexico

Along with the above explanation which attempts to specifically identify the research questions and justify the chosen methodology and research methods, it is also necessary to describe the actual research process as it happened in Mexico.

(i)   **Selections of respondents**

Approximately sixty potential respondents were identified within the Mexican tourism industry, ranging from key players in the Ministry of Tourism (SECTUR) and the Tourism Board (CPTM) to Mexican tourism academics and business owners. The majority were identified by an internet search. For example, the SECTUR website has a directory which lists the telephone number and email addresses of its staff. Other individuals were identified by searching for tourism businesses and organisations in Mexico City and Cancun and again looking for staff telephone numbers and email addresses. These people were then contacted by telephone and by email and asked if they would participate in an interview concerning the AH1N1

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influenza crisis and the response of the tourism authorities. The academics were contacted by the email address provided on their publications, while Bruce Broughton, the Canadian tourist, was a guest at the same hotel in which the researcher was residing in January, 2011.

The majority of potential interviewees politely refused, but crucially thirteen people did agree and interviews were subsequently arranged.

(ii)   Where the interviews took place

The interviews with José Raúl Sánchez and Adriana Uribe Pérez from SECTUR and José Alberto García from the CPTM took place at the separate headquarters of SECTUR and the CPTM in Mexico City. Likewise, the interview with Adolfo Crespo of Mexicana Airlines was conducted in his office at the Mexicana Tower in Mexico City and the interview with Braulio Cárdenas also took place in his office at the Mexico City headquarters of the National Chamber for the Restaurant and Food Industry.

The interview with tourism academic Juan Carlos Monterrubio was conducted at the Universidad Autónoma del Estado de Mexico in Texcoco in the State of Mexico, while the interview with the other tourism academic, Carlos Amaya Molinar, took place in a restaurant in Mexico City.

María Teresa Solís Trejo, Alejandro Rojas, and Fernando Betzano were also interviewed in various cafes and restaurants in Mexico City.

The interview with Walter Dagri took place at the Real Resort hotel in Playa del Carmen and the interview with Kenneth Johnson was conducted at the location of his business, Ecocolors, in Cancun. Bruce Broughton was also interviewed in Cancun at the Celuisma Dos Playas hotel.

(iii)   The interview questions

In each interview the questions were carefully structured so as to gain specific information from each interviewee relating to the main research themes and issues- the limitations and weaknesses of contemporary tourism crisis and disaster management models, the identification of chaos theory elements, and if managerial intervention in the form of marketing and communication measures, according to which chaos theory was present, would enable a more adequate response. For example, the interviews with the SECTUR representatives, the CPTM representative and the Secretary of

Tourism for Mexico City provided an opportunity to gather first-hand information regarding the existence/non-existence of a health related tourism crisis/disaster management plan, the impacts of the crisis, the main challenges facing the authorities, the subsequent response of the authorities, and lessons learned from the crisis. The interviews with the business owner, the hotel manager, Mexicana Airlines, the National Chamber for the Restaurant and Food Industry, the National Confederation of Mexican travel agents and Vantage Strategy Consulting allowed the crisis to be seen from a different perspective and provided information concerning the existence/non-existence of business and sector specific crisis management plans, impacts of the crisis on the industry , the challenges facing individual businesses and sectors of the tourism industry and their view of the government response and overall situation. The interviews with the tourism academics provided an opportunity to explore more difficult concepts in greater detail, as professional opinion could be sought regarding the limitations associated with tourism crisis and disaster management models and the application of chaos theory to tourism crises and disasters.

Each interviewee was encouraged to talk freely and openly and 'wandering slightly off-topic' was welcomed as it encouraged the development of new ideas and themes previously neglected.

(iv)   Content analysis

The interviews were conducted in English, apart from the interviews with Braulio Cárdenas and José Alberto García which were done in Spanish; each interview was recorded on a digital audio recorder, and later transcribed. The interviews in Spanish were transcribed and then translated. The interview transcripts were then carefully analysed. The focus of the analysis concerned the issues outlined in table 3.6 below.

Table 3.6: Examining the data: Relevant themes and issues

Weaknesses of crisis/disaster models	Chaos theory elements	Marketing and communication responses
Unpredictability	Edge of chaos	Crisis and disaster plans
Limitations of prescriptive/ rigid models	Butterfly effect	Product diversification
One size fits all approach	Bifurcation and cosmology	Brand image
Cultural context	Self-organisation and strange attractors	Media relationship
Realities of small businesses	Lock-in effect	Marketing activities throughout the crisis
		Communication activities throughout the crisis
		Reflection

The questions were principally aimed at eliciting responses concerning these themes and so when an issue was commented upon, such as the unpredictability of the AH1N1 influenza crisis, for example, or the recovery marketing strategies put into effect during the self-organisation phase, then the said issue was noted in the margin of the transcript, and then categorized separately, to be added to if and when brought up in future interviews. As mentioned above, it was also expected that the interviews would produce random ideas and themes leading to the generation of original theory and so any interesting 'new' information was duly noted and categorised separately. This will become apparent later as issues such as the deep-seated political mistrust abundant in Mexican society and concerns

regarding the 'mysterious' crisis came to light during the interviews.

(v)   The documents

The documents were chosen carefully as a means of adding to and balancing the data which was obtained from the interviews. An internet search provided access to various documents which were mainly useful in compiling a chronological sequence of events, evaluating the past and current state of Mexican tourism, and measuring the impacts of the crisis on the tourism industry and the response of the authorities. The documents included:

(a) Information bulletins provided on the SECTUR website which described the impacts of the crisis on various destinations and the measures being taken by the authorities.

(b) A document prepared by the Economic Commission of Latin America (CEPAL) entitled *Evaluación preliminar del impacto en México de la Influenza AH1N1* (Preliminary investigation of the impact of AH1N1 influenza on Mexico). This document, available online, gives specific information regarding the impacts of the Influenza crisis, including the decline in international visitor arrivals and hotel occupancy and the promotional campaigns put into effect by the authorities.

(c) A document prepared by the Centre of Social Studies and Public Opinion (CESOP) called *2009, un año de crisis para el turismo* (2009-a year of crisis for tourism). This document, also available online, investigates the impacts of the worldwide economic recession and the Influenza crisis on Mexican tourism.

(d) UNWTO world tourism barometers, available online, give regular information and data from individual destination countries and also provide evaluations from a panel of tourism experts. The UNWTO 'Tourism 2020 Vision' provides a long-term forecast of tourism development up to the year 2020.

(e) WEF travel and tourism competitiveness reports measure the factors which potentially make individual countries an attractive business development proposition, rather than the factors which make it an appealing destination for tourists.

As well as the internet search:

(f) Copies of the quality Mexican newspaper '*El Universal*' supplied

information concerning the chronological impacts of the Influenza crisis and were used to construct table 4.2.

(g) An internal SECTUR press cuttings document provided by José Raúl Sánchez gave selected quotations from various newspapers and magazines which provided useful factual information and personal comments and were ultimately used to compile table 4.4.

(h) A PowerPoint document given by Fernando Betzano was an important addition to the data. The document contained the CPTM tourism crisis management plan (table 4.3) which details the planned response of the tourism authorities.

(vi)   Document analysis

The SECTUR bulletins were printed, translated and then analysed using the same manual content analysis approach as was used for the interview data; the same technique also applied to the newspaper reports. The factual information from the bulletins and the reports were compared to the factual information given in the interviews but no discrepancies were found to be present. The internal SECTUR press cuttings document and the PowerPoint document which provided the CPTM tourism crisis management plan were analysed and translated as above and, as just mentioned, used to prepare tables 4.3 and 4.4.

Chapter 4

Case study: The AH1N1 influenza crisis

*"Aha….this **was** a surprise."* (José Raúl Sánchez, Director of Technology, SECTUR, 11th October, 2010)

4.1 Introduction

Commencing with a short history of Mexican tourism development, this chapter presents an account of the AH1N1 crisis in Mexico and the responses to it. It provides the background and context for the following chapters which will explore in detail the issues highlighted in the second chapter concerning the limitations of contemporary tourism crisis management models, and the possibilities offered by viewing the situation from a chaos theory perspective.

4.2 Early Mexican tourism: 1939- 1969

'The border means more than a customs house, a passport officer, a man with a gun. Over there everything is going to be different; life is never going to be quite the same again after your passport has been stamped and you find yourself speechless among the money-changers. The man seeking scenery imagines strange woods and unheard-of mountains; the romantic believes that the women over the border will be more beautiful and complaisant than those at home; the unhappy man imagines at least a different hell…' (Greene, 1939: 23)

The writer Graham Greene, lost in thought on the US-Mexico border some 70 years before the AH1N1 influenza crisis was to unfold, encapsulates the romantic ideology associated with the Mexico of old. Revolutions, danger and political unrest added to the charm of this unfamiliar land (Cothran and Cothran, 1998), with its vast jungles, deserts, ancient pyramids and sparkling Spanish colonial cities. It seems the only individuals who dared to venture into Mexico were intrepid explorers, catholic priests and 'gringo' wrongdoers seeking refuge from the law.

However, tentative changes began to occur in the post war years which would ultimately transform Greene's Mexico. Acapulco, Mexico City and the border regions

began to attract tourists, predominantly from the US, and the Mexican government began to note tourism's potential as an attractive means of finance.

4.3   Mexican tourism 1969- 2009

 Partly animated by the success of the 1961 National Border Program, the Mexican government, through the Ministry of Tourism (SECTUR) and the national tourism development trust fund (INFRATUR, whose title changed to FONATUR in 1974), took the lead in tourism planning, promotion and development. Changes began in earnest from the late 1960's with the government-led creation of five new tourist destinations – Cancun, Ixtapa, Los Cabos, Loreto and Huatulco.   Improvements were also made to the resorts of Acapulco, Puerta Vallarta and Cozumel (Brenner and Aguilar, 2002). The goal was 'to achieve a controlled increase in tourism by improvement and expansion of existing resorts, and the creation of new tourist zones focused on newly created cities'(Collins, 1979: 353).

Cancun in particular met with spectacular success. In 1989 it attracted more than 74,000 foreign tourists, overtaking Mexico City to become the most popular destination for foreign tourists in Mexico (Clancy, 2001), and it has been described by Cothran and Cothran (1998: 479) as the 'most popular resort in the Western Hemisphere'.

As Clancy (2001: 137) observes, 'by the early 1980's, the 'traditional' Mexican tourist centers were drawing less than a third of international arrivals. For many foreigners, the Mexico they came to know was based on a tourist experience at Cancun or one of the other beach resorts.' Indeed, Clancy regards Mexico as one of the most popular destinations in the world and stipulates that tourism plays an integral role in the Mexican economy: 'Arrivals in Mexico tripled between 1970 and 1991, while foreign exchange earnings from tourism soared to more than nine fold, from 415 million to 3.8 billion dollars…rapid growth continued during the 1990s…in 1998 Mexico drew almost 20 million foreign visitors…' (2001: 137)

Brenner and Aguilar (2002: 510) remark how 'successive governments since 1977 have elaborated national tourism development plans and federal tourism laws, which state objectives, strategies, stimuli and territorial priorities for the development of the sector.' The National Tourism Development Plan of 1978 strove to maintain a balance between international and domestic tourism and to promote social tourism (Brenner and Aguilar, 2002), while the Tourism Plan of 2007-2012 focuses on competitiveness, sustainability and diversification (SECTUR, 2007).

It is evident, therefore, that the Mexican government has played a leading role

over the last forty years in the development of international and domestic tourism. Clancy (2001: 130) describes how 'state-led efforts continue to expand, promote and diversify Mexican destinations' although, in contrast to Clancy's positive stance and general praise for the Mexican government's efforts, it should be noted that there are conflicting accounts which portray Mexican tourism in a less positive light. For example, Brenner (2005) complains of the negative social impacts of the international resorts and the failure of the government to address these issues whilst, in a similar vein, Brenner and Aguilar (2002) report on the lack of integrated regional development.

Ritchie *et al.* (2010: 8) believe that the more recent performance of Mexico's tourism industry between 2005 and 2008 has been at best 'mediocre' and, although usually placed as one of the top ten countries for number of visitors, it falls behind in tourist income (see Table 4.1 below). According to Ritchie *et al.* (2010: 11), the industry has 'stagnated' and blame is directed towards politicians and a lack of professionalism from key players within the industry.

Therefore, it appears questionable whether Mexican tourism can indeed be regarded as a success. Certainly visitor arrival figures appear impressive, but favourable exchange rates for visitors arriving with dollars or pounds make it difficult for the Mexican tourism industry, dealing in pesos, to earn tourism revenues comparable with those destinations which deal in stronger currencies. For example, if one refers again to table 4.1 below, Mexico can be seen to occupy tenth place in terms of visitor arrivals, with visitor arrivals reaching 21.5 million in 2009. In the same year, Austria welcomed a total of 21.3 million visitors; however, despite fewer arrivals, Austria gained US$ 19.4 billion in tourist receipts against Mexico's US$ 11.2 billion. A more stark contrast is evident if one compares Mexico with Australia. Australia saw tourist receipts of US$ 25.6 billion in 2009, compared to Mexico's US$11.2 billion, and yet only 5.5 million visitors entered the country.

Table 4.1: Top 10 international tourist destinations of 2009: arrivals and receipts

Country	International tourist arrivals (million) 2009	International tourism receipts (US$ billion) 2009
France	74.2	49.4
United States	54.9	93.9
Spain	57.2	53.2
China	50.9	39.7
Italy	43.2	40.2
United Kingdom	28.0	30.0
Turkey	25.5	21.3
Germany	24.2	34.7
Malaysia	23.6	15.8
Mexico	**21.5**	**11.2**

Source: UNWTO (2010)

Interview respondent Carlos Amaya Molinar (Mexican tourism academic) firmly believes that Mexican tourism is failing and has not reached its potential for various reasons.

"I don't think Mexico is a success in the world tourism arena; on the contrary, I feel that our tourism industry doesn't take advantage of the huge resources and opportunities at hand. I can tell you that our country has great advantages in the field of tourism in resources like land, weather, culture, gastronomy, beaches, location, price, population, history, nature and hotel industry; it has strong, unique historic and cultural characteristics, and yet the official tourism policy goes only for sun and sea attractions, trying to develop mega-resorts in an effort to recreate the success history of Quintana Roo and Los Cabos.

The problem is not located in the tourism industry; the problems in Mexico are structural and have been growing for the last 80 years. It all goes back to the Mexican revolution from 1910 to 1925, and the kind of governments that emerged from that struggle that have been based in generalised corruption, improvisation and lack of ethics. There has since been the shameless enrichment of politicians, union leaders and government officials, a monopolistic structure of the economy, massive migration, ignorance and bad education, destruction of the environment, rampant crime and despair."

Source: Carlos Amaya Molinar, Universidad de Colíma, 6th August, 2010

Some of these comments are echoed in the World Economic Forum's Travel and Tourism competitiveness index for 2009. Mexico was ranked in 51st place overall, and while it was rated highly for its natural and cultural resources and the prioritisation of the tourism sector, it fared less well in terms of tourism infrastructure, ground transport infrastructure, price competiveness and, in particular, health and hygiene and safety and security (WEF, 2009).

Therefore, various conclusions can be drawn regarding the past and present stature of Mexican tourism, however they are somewhat contradictory and inconclusive, as Mexican tourism seems to be both propitious and inadequate at the same time. There have been major successes (Cancun and Los Cabos) but expensive failures (Loreto); the successes have brought with them negative social impacts and a failure to comply with promised regional development. Consistently in the top ten of international visitor arrivals, Mexico's importance on the world tourism stage cannot be denied, but it does not seem to be reaping the financial rewards that such status surely demands, which appears to be mainly due to a weak financial currency; and while the country boasts many natural resources for tourism diversification, there are suggestions that they are being 'ignored' in favour of creating the next 'Cancun'.

4.4   Mexican tourism administrative organisation

There are three main bodies responsible for the administration of Mexican tourism. The leading organisation is the Ministry of Tourism (SECTUR), which designs, co-ordinates and implements tourism policy. The Tourism Board (CPTM) is the tourist promotion agency, with offices throughout North America, Europe and Asia. Its activities include public relations, marketing and sales promotion. The National Fund for Tourism Development (FONATUR) promotes tourism development (Cancun, Los Cabos, etc.)

and participates in the building of infrastructure in such developments. All three organisations work with the individual state tourism departments in the development and promotion of tourism.

4.5   2009: AH1N1 Influenza crisis

An account of the AH1N1 influenza crisis will now be given, drawing on information gathered from personal accounts, government and tourism board documents, and also academic and media publications.

While many tourism destinations were suffering as a result of the worldwide economic recession, Mexico appeared to be performing quite well, at least in terms of visitor arrivals. 2008 had seen a 5.9% rise in international visitors from the previous year (UNWTO, 2009) and 2009 had begun in a similar fashion: 'The year started promisingly for Mexican tourism in spite of the effects of the economic downturn on both leisure and business travel (in an economy heavily dependent on exports to, and tourism from, the USA); and of reported escalating cartel drug-related violence' (UNWTO, 2009: 32). The rise in visitor arrivals has been attributed to the exchange rates between the dollar, the euro and the peso, which subsequently made Mexico a more financially attractive proposition for US and European travelers (CEPAL, 2010). As mentioned above though, this was not reflected in terms of tourism receipts.

However, on April 13th 2009, the Mexican Health Ministry issued an unprecedented and alarming announcement, stating that there had recently been an outbreak of severe respiratory infections in the country which had proved fatal in a number of cases. Almost immediately, the situation began to dominate the world's media. Lepp and Gibson (2003) state that previous studies have indicated that health concerns are one of the main perceived risk factors influencing international tourism (see also Carter, 1998; Cossens and Gin; 1994, Lawton and Page, 1997) and this became apparent as international visitor numbers to Mexico decreased rapidly with the news of the influenza outbreak, as is illustrated in Figure 4.1 below.

Figure 4.1: International tourist arrivals to Mexico, January-December, 2008 and 2009 (millions)

	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
2009	20.5519	19.3154	20.5003	18.6867	12.8954	15.3655	19.1447	16.6935	13.5978	15.9023	17.6509	24.2361
2008	17.9786	17.4283	20.6232	18.6409	19.099	20.3979	21.4759	17.7309	14.509	15.0159	19.489	23.9836
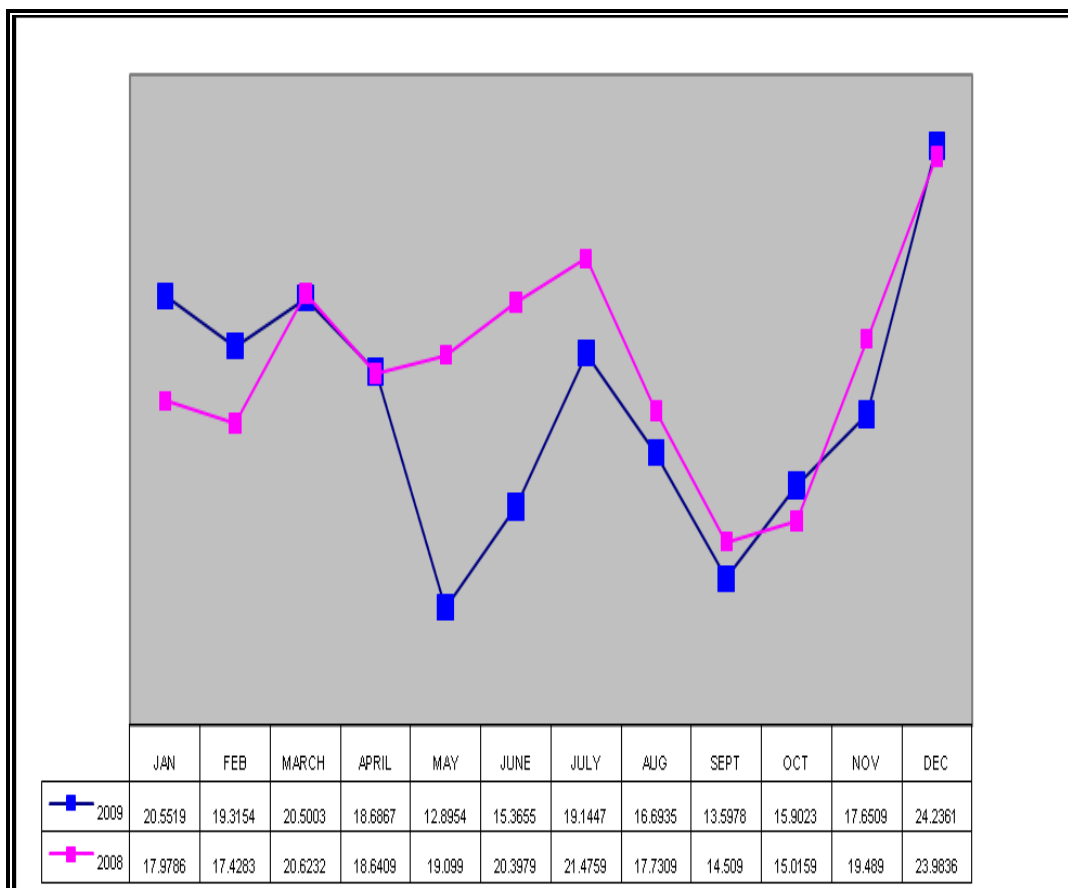
Source: CESOP, 2010

Even though the virus quickly spread to other parts of the world, it was chiefly associated with Mexico where, strangely, it appeared to be much more potent than in other places. Consequently, the effect on Mexican tourism was immediate and profound. Several countries advised against travel to Mexico and many sent airplanes to repatriate tourists.

In the words of interview respondent Adriana Uribe Pérez (SECTUR):
"The initial impacts on the industry were of shock, as mainly the international side of the tourism industry went into paralysis…everything went down; the passengers, the hotels, the rooms; everything in tourism went down. People didn't want to leave their homes actually, and people from abroad didn't want to travel to Mexico. So basically everything was dead in these months of April and May."

Source: Adriana Uribe Pérez, Sub- Director of Statistical Operations, SECTUR (9th July, 2010)

Table 4.2 below details the initial stages of the situation from reports published in *El Universal*, a popular quality Mexican newspaper. It serves to demonstrate the rapid escalation of what can surely be termed a crisis for the Mexican tourism industry, as cruise ship cancellations and hotel cancellations increased rapidly in the space of just a few days.

Table 4.2: Chronological impacts of the AH1N1 influenza outbreak on tourism   **Source –** *El Universal* (various issues)

27th April	EU health commissioner warns against all but vital travel to Mexico
28th April	Reports of first cancellations in Yucutan Peninsula, a cruise ship of 2,500 passengers. Flight cancellations from a German travel agency.
29th April	Cancellation of at least 25 cruise ships. Hotel occupancy in Mexico City the lowest in 16 years.
30th April	Cuba and Argentina stop direct flights to Mexico. France seeks formal European ban on flights.
1st May	Cancun - cancellations from US, Canada, Spain, Germany and UK. Flight cancellations, hotel reservation cancellations, cruise ship cancellations in Mazatlan, La Paz, Los Cabos, Puerta Vallarta, Acapulco and Cancun.
2nd May	Mexico has virtually no international tourism. Canada, Argentina and Cuba cancel all flights to Mexico. Suspension of flights is multiplying and those that exist have few passengers. Hotels report between 10 and 30% occupation in contrast to the usual 80% for this time of year.
5th May	Camino Real hotel in Polanco, Mexico City, reports that only 40 of its 700 rooms are occupied. It is estimated that the crisis is costing Mexico City alone US$100 million a day.

The worst affected area was Cancun. In the first two weeks of May, hotel occupancy fell to 21.4% and 22.9% respectively, in comparison to the normal levels of 67.1% and 72.6% for the time of year (CEPAL, 2010). As a result, hotels were forced make cuts, which led to temporary closures, which in turn culminated in numerous job losses.

Interview respondent, Walter Dagri, sales manager from Real Resorts Hotels in nearby Playa Del Carmen, recalls the moment:

"When the first case of AH1N1 was detected in Mexico, people stopped travelling to this country. We were having, in Cancun and Playa Del Carmen, one of the best years ever. January and February had been fantastic, despite the world financial crisis. Suddenly, when H1N1 began to be known as 'Mexican Influenza' everything changed. We passed from 90% occupancy to 10-15%. Many hotels, bars and restaurants had to close. Many flights were cancelled. It was the worst scenario since 9/11."
Source: Walter Dagri, Sales Manager, Real Resorts Hotels, 11th January, 2011

4.5.1 Immediate response of government

Monterrubio (2010: 10), in his media analysis of the government reaction to the crisis, reports that 'in addition to the travel restrictions adopted by international governments and tourism companies, the Mexican government made important decisions on issues relating to and affecting the tourism industry…on 28 April over 35,000 restaurants were first closed temporarily in Mexico City, which is one of the most important tourism destinations in the country. The following day 175 archaeological zones and museums around the country were also closed by the national government to avoid virus transmission. Places such as restaurants, bars, nightclubs, and other recreational spaces where high risk of infection was likely were instructed to close.' The shutdown, an attempt to prevent the spread of the virus, was officially put into effect on May 1st and it lasted for five days.

4.5.2 Response of SECTUR, the CPTM and FONATUR

On the same day as the 'shutdown' began, a statement was issued from SECTUR. They were to form an evaluation committee, in conjunction with the CPTM and FONATUR, in order to monitor the effects of the crisis on Mexico's principal tourism destinations and tourism sectors, with the idea being that a reactive strategy could then be developed which would be based on accurate information. In the meantime all international marketing activity was suspended (SECTUR, 2009).

Meetings and discussions took place between the evaluation committee and state tourism authorities and, on May 8th, a three phased tourism crisis management plan (see Table 4.3 below) was released by the CPTM. The CPTM crisis management plan focused on the immediate need for flexible and truthful communication between official channels and all stakeholders from the emergency stage onwards. Normal international marketing activities were to be suspended and attention focused on the domestic market, along with the formation or strengthening of strategic alliances with existing or potential partners and allies. A huge international marketing campaign was planned for when the crisis 'officially' ended, which would focus primarily on current, loyal customers, chiefly from North America, but also on potential niche markets such as China, India, Russia and Brazil.

Table 4.3: CPTM tourism crisis management plan (translated from the original Spanish version)

Phase 1 - Immediate - Managing the crisis - no control	1. Give accurate information in co-ordination with the Federal government, the Ministry of Foreign Affairs, the Ministry of Health and ProMexico. 2. Information to be given through official channels. 3. Postpone international marketing. 4. Give daily reports and information. **Target the domestic market** 1. New national marketing campaign- 'vas por Mexico' 2. Co-ordinate communication with the tourism industry. 3. Tailor made destination campaigns.
Phase 2 - June/July - Strengthen alliances - control, but not total	Alliances (North America) 1. Strengthen strategic alliances. Co-ordinate the product being offered and co-ordinate communication with the market. 2. Witness testimony campaign. Use opinion leaders, consumers. Utilise social media - you tube, face book, twitter. 3. Public relations campaign. Use traditional methods and virtual methods. Work in co-ordination with the Federal government, the Ministry of Foreign Affairs, the Ministry of Health and ProMexico.
Phase 3 - July and onwards - High impact international campaign - To be done when the Ministry of Health, the World Health Organisation and the Centre for Disease Control and Prevention announce that Mexico is a safe destination	Institutional campaign for the North American, National, European and Latin America markets. Tourism board- methods 1. National TV, cable TV, radio, businesses 2. Emphasis on internet. Allies- trading partners, tour operators, hotels, virtual travel agents, airlines 1. Intensify public relations and familiarisation trips 2. Satellite media tours 3. Live press events in US and Canada. 4. Universities (returning students to the US) Development of business plan to motivate consumers to return to Mexico.

Source: CPTM (2009): PowerPoint document provided by F. Betzano, November, 5th, 2010

4.5.3   'Vive México': The domestic campaign

On May 25th, Mexican President Felipe Calderon publicly announced the 'Vive México' campaign, the title slightly changed from the originally planned 'vas por México' (Go Mexico!) (as can be seen on Table 4.3). In accordance with Phase One of the CPTM crisis management plan (Table 4.3), the aim of 'Vive México' was to promote domestic tourism. The campaign would seek to provoke a resurgence of national pride and to encourage Mexicans to travel within their own country. Various Mexican and international celebrities were invited to act as ambassadors for the country, and key stakeholders in the Mexican tourism industry, such as airlines, hotels, travel associations and tour operators were encouraged to work together under the same 'Vive México' slogan, offering attractive deals to stimulate interior tourism flow (SECTUR, 2009).

Interview respondent, Adolfo Crespo, from Mexicana Airlines, describes the launch of the campaign:

"We launched 'Vive México' with the Mexican tourism board. We had three airplanes which were painted with the Vive México logo and we had a really big press conference. We invited press from all over the world to the launching of this campaign"
Source: Adolfo Crespo, Vice President Customer Service and Corporate Communications, Mexicana Airlines, 14th July, 2010

4.5. 4   June 1st: a press sample

Table 4.4 shows various quotations extracted from newspaper and magazine reports which were selected for a SECTUR internal document, dated June 1st, 2009 (SECTUR, 2009). In an attempt to give a truthful, accurate account of the crisis, it is suggested that a 'snap-shot in time', which focuses on one particular day in the midst of the crisis, provides an opportunity to demonstrate three important issues.

1. The impact of the crisis on Mexican tourism.
2. The efforts being made by the authorities to combat these negative impacts.
3. An opportunity to gauge public reaction to the crisis.

Table 4.4:   A press sample (translated from original Spanish)

Newspaper and Author	Quote (Translated from Spanish)
La Jornada - Julio Reyna Quíroz	*The webpage ofertasvivemexico.com appeared on Monday afternoon, after President Felipe Calderon launched the promotion campaign 'Vive Mexico' with the aid of sporting and cultural celebrities. The campaign aims to promote Mexico as a safe tourism destination following the Influenza virus and the webpage offers promotions from airlines, hotels and tourism businesses for the coming summer season.*
El Universal - Erick Viveros	*The state governments of the State of Mexico, Puebla, Tlaxcala, Chiapas, Nuevo Leon, Tamaulipas and Veracruz pleaded with the government to hand over sufficient financial resources to permit the immediate re-activation of the tourism sector....*
El Universal - Leonardo Curzio	*The theme chosen by our government is stupid. I couldn't imagine a phrase more redundant to promote tourism... it gives the impression of an idyllic and picturesque Mexico that does not exist anymore...*
Impacto - Francisco Cárdenas Cruz	*If the airlines don't reduce their prices which at the moment mean that it is cheaper to visit various cities in the US and Canada, than Cancun, Los Cabos or Puerta Vallarta, and if the national and international hotels don't do likewise, then the 'Vive Mexico' campaign and the 200 thousand million pesos that comes with it, will sooner or later become a lost cause.*
El Universal - Adriana Luna	*Marco Antonio Solis, the* Buki*, is wearing a t-shirt with the message " No Danger, come to Mexico' after accepting an invitation from the singer, Alejandro Fernandez, to appear in one of two concerts to help promote national tourism, on the 20th June in Puerta Vallarta and on the 27th in Guadalajara.*

Newspaper and Author	Quote (Translated from the Spanish)
Cronica - Josue Huerta	*The Mexico City Tourism Secretary. Alejandro Rojas Diaz Duran, presented the credit card, 'Go to Mexico City' , which can be obtained by workers from any state, including Mexico City, to use while paying for hotels, restaurants or in supermarkets. With this card, the person has insurance for emergencies and Influenza AH1N1.*
El Economista - Roberto Martínez Peña	*The Mayan Riviera continues to be the region most affected, with a fall of 49.07%. The destinations which can be seen in a better light are Hermosillo, with a rise in hotel occupancy of 12.2%, Salamanca with 5.13%, Los Mochis with 4.35% and Puerto Escondido with 2.24%. Huatulco deserves a mention, whose occupation rose from 30% to 70% during the last week in May.*
El Universal - Adriana Varillas	*Tourism is central to the Mexican economy, and represents around 8% of the gross domestic product. From this amount, Cancun contributes around 21%, and 60% of the gross domestic product of Quintana Roo.* *The tourism supply chain includes hotels, restaurants, bars, discos, transport (ground, air and sea), artisans and other services.* *Tourism contributes to the country's balance of payments with more than 13 thousand million dollars each year; therefore it is the third most important resource after petroleum and government savings.*

Source: SECTUR press cuttings document provided by J.R Sánchez (11th October, 2010)

The document is useful in that it offers a mixture of factual information and personal comments. Each report provides the research with important contextual information.

1. The first report mentions the launch of the 'Vive México' campaign, and its aim of restoring Mexico's position as a 'safe' destination with the help of celebrities and numerous promotions from industry stakeholders.

2. The second report confirms that various state governments are lobbying and asking for government help to restore tourism in their respective districts.

3. The third report is a personal comment which is of use in identifying the 'attitude' of, in this case just one person, but potentially the attitude of various sections of the public towards the 'Vive México' campaign.

4. Again, the fourth report is a personal comment, but one which may represent a wider body of opinion. It criticises the high cost of travel within Mexico for the majority of its population, who are the intended audience of the 'Vive México' promotional campaign.

5. The fifth report provides more 'factual' information which illustrates how 'celebrities' are being used to promote tourism as part of the 'Vive México' campaign.

6. The sixth report explains one of the tactics used by the Mexico City tourism board to promote domestic tourism to the capital.

7. The penultimate report illustrates the severity of the crisis in the state of Quintana Roo (Cancun's state) but shows improvement in various other destinations.

8. The final report contains more factual information regarding the importance of Mexican tourism to the country, but particularly in Quintana Roo.

4.5.5   Welcome Back: The North America campaign

June 17th saw the commencement of the international promotional campaign in key source markets throughout the US and Canada (in effect, Phase 3 of the CPTM tourism crisis management plan (see table 4.3)). The campaign was to consist of three phases ('Believe it'- 'Welcome Back'- 'Mexico- it's time to go') which were to run consecutively and would endorse the message that the influenza has been contained and it is once again safe to travel to Mexico. As the US and Canada are Mexico´s principal source

markets for international tourism, the campaign would primarily focus on these two countries, to be followed by Europe, Asia and Latin America (SECTUR, 2009).

4.6 Summary

 The above account of the AH1N1 influenza crisis serves to clarify the main incidents which occurred during the crisis, to identify the response of the government and the principal tourism organizations, and to briefly assess public reaction.

Chapter 5

Case study: The limitations associated with contemporary tourism crisis and disaster management models and the Mexican AH1N1 Influenza crisis

It is argued that contemporary tourism crisis management models and frameworks display several weaknesses which restrict their effectiveness to assist managers and decision makers in crisis situations, leading to the research question:

Q1. Do the weaknesses which apparently exist within the models affect their application to crisis/disaster situations?

An assessment will now be undertaken in order to judge whether this case study serves to justify such criticism.

5.1 Weaknesses of contemporary tourism crisis and disaster management models

5.1.1 The unpredictability of tourism crises and disasters

As noted in chapter two, certain forms of proactive crisis planning, such as the formation of disaster management teams and general stakeholder preparedness, could be considered advantageous in terms of tourism crisis management. However, it was suggested that the use of scenario planning and subsequent contingency planning must bear scrutiny, as crises and disasters often appear in rather unprecedented forms and guises which repeatedly defy prediction, with 9/11, the FMD outbreak, and the Indian Ocean Tsunami provided as examples (see section 2.4.1i.)

Despite recent health crises (SARS, Avian Flu) and the ensuing rise in tourism academic dialogue concerning health issues (Capua and Alexander, 2002; Page *et al.,* 2005; Tew *et al.*, 2008), it appears that the AH1N1 crisis was not predicted in Mexico. The Mexican tourism authorities insist that they did take careful note of the SARS and Asian flu incidents, but it was considered highly unlikely that Mexico would face such a situation and so planning for a health crisis, such as an influenza epidemic, was never seriously considered.

Contingency plans certainly exist for natural disasters, given Mexico's susceptibility to hurricanes and earthquakes (see SECTUR, 2011), and it was

established that SECTUR does indeed meet with individual state tourism organisations each year to discuss crisis management issues. It was also acknowledged that the CPTM has an array of contingency communication plans and procedures in co-ordination with its public relations agencies in Mexico, North America and Europe. Nevertheless, the research demonstrated that the principal, government led Mexican tourism organisations did not have a *specific* health crisis management strategy to deal with the AH1N1 influenza crisis when it emerged in April, 2009, and neither did the majority of private tourism organisations. It was simply not expected, or predicted, as is revealed in the responses of various interview respondents when questioned over this issue.

"We have plans for natural disasters because we have experienced natural disasters, hurricanes particularly...but as far as health issues are concerned there was no plan...unfortunately it was the first experience we had had. It was the first situation we had had like that…serious…it couldn't have been predicted."
Source: José Raúl Sánchez, Director of Technology, SECTUR, 11th October, 2010

"I know that the AH1N1 took the tourism authorities off guard, as everybody else in Mexico, and I also know that they didn't have a plan at the national or local level to cope with such a crisis."
Source: Carlos Amaya Molinar, Universidad de Colíma, 6th August, 2010

"We did not have any plan. The crisis was unexpected and we were not ready for it."
Source: Walter Dagri – Sales Manager, Real Resorts Hotels, 11th January, 2011

Ahead of discussing the other limitations associated with contemporary tourism crisis management models which were addressed in chapter two, it would perhaps be a useful exercise to briefly examine the possible reasons *why* the Mexican tourism authorities did not appear to have a specific health crisis management plan in place for the AH1N1 influenza crisis.

From a general point of view, part of the reason could simply be that individual countries and cultures seemingly have different priorities when it comes to tourism crisis management preparation. As mentioned in the second chapter (section 2.4.1v), Gonzalez-Herrero & Platt (1998) discovered that US tourism authorities demonstrated a significantly more proactive approach to tourism crisis management than did Spain.

Mexico, a former Spanish colony, is of course a Latin country and a commonly accepted trait of the Latin culture is a preference for a relaxed, 'laid-back' type of attitude, rather than one which makes advance planning a priority. Mexico, rightly or wrongly, is notorious for its 'mañana syndrome', in which one lives solely for today, while putting off more arduous tasks and chores until tomorrow. Although Gonzalez-Herrero and Platt (1998) do not make conclusions to this effect, the mix of national cultural differences and business have been previously investigated, the most renowned being that of Hofstede (1983), and there does appear to be marked differences in the attitudes of various nation's inhabitants towards work and business, and it is suggested that surely this must also play a part in the attitude displayed by individual destinations towards tourism crisis management planning.

On another note, as was pointed out in the introduction, it appears that academic knowledge is not frequently used for decision making in tourism organizations, and so it follows that tourism crisis management models and frameworks are unlikely to have been considered. During an interview, Mexican tourism academic, Juan Carlos Monterrubio, spoke of this issue:

"Regarding the Faulkner framework, you must understand that academic work is one thing, and the day to day tourism operation is a very different one. I mean, we academics work in a highly analytical, theoretical, reflexive world, while the tourism operators and destination marketing organisations work on a day to day operative basis, concerned about marketing, profits, competition and survival."

Speaking specifically of Mexico, he added:

"You must not forget that Mexico is a third world country. I wonder whether decision makers really know what a crisis is and whether a crisis should be managed at all, like other countries."

Source: Juan Carlos Monterrubio, Universidad Autónoma del Estado de México, 28th June, 2010

It does appear that the issue of apparently large spread ignorance towards academic knowledge within tourism management in general is another matter which demands specific research of its own. If crisis models are not reaching their intended audience then obviously this is a serious concern which needs to be addressed.

Finally, corruption within Mexico may also have a part to play in the apparent absence of pre-crisis planning within tourism organisations. As Clancy (2001: 145) has previously observed, 'rumors and stories of corruption and other inefficiencies surrounding tourism development are common.' It appears that financial resources are often spent on 'unnecessary' development, leaving scant resources available for crisis and disaster preparation.

5.1.2 The Limitations of prescriptive models / restrictions posed by a rigid plan

i. Tourism crisis 'lifecycle'

Contemporary tourism crisis management models were accused of making the presumption that a crisis passes through several consecutive phases, one after the other; in essence, a 'lifecycle' (section 2.4.1ii.) It was argued that often this is not the case; crises or disasters frequently by-pass what are classified as the pre-event and prodromal phases, and emerge without warning as a full-blown emergency. Crises can also provoke other further crises, meaning that potentially, there can be more than one crisis happening at one given time. It is, therefore, suggested that it is not uncommon for the prescribed and rigid management guidelines detailed in tourism crisis management models to be thrown into disarray. As a result, confusion abounds which can ultimately lead to poor management decision making.

In this case-study, it is apparent that the AH1N1 influenza crisis arrived as a 'full blown emergency', with tourism cancellations reaching a peak only days after the official announcement was made by the health ministry (see Table 4.2). As has been established, the crisis was neither predicted nor planned for, and so any guidelines proffered for the pre-event and prodromal stages are immediately dismissed. It is suggested that a tourism manager looking to Faulkner's framework for advice would perhaps be at a loss as to where to begin (see Table 5.1 below).

Table 5.1: Faulkner's guidelines compared to the reality of the AH1N1 crisis.

Tourism crisis management models (Faulkner's framework, 2001)	The Mexican AH1N1 influenza crisis
Guidelines for phases	**The reality**
1. Pre-event phase - Action can be taken to prevent or at least mitigate prospective crises. Suggest risk assessment in the form of scenario planning and the development of contingency plans.	Like many other recent tourism crises, the AH1N1 crisis could be classed as 'unpredictable'. Despite academic warnings (Page *et al*, 2005), it was not predicted or expected within Mexico.
2. Prodromal phase- Action can be taken to alleviate the impact of an impending crisis.	No possibility of mobilising beforehand as the crisis arrived unexpectedly.
3. Emergency phase- The effects of the crisis are experienced.	The crisis arrived at this stage causing immense pressure for the Mexican tourism authorities. Faulkner's framework does not explain what to do when an 'unpredictable' crisis or disaster strikes suddenly and no specific plan exists for the situation, as is often the case.

ii. Crisis played out at different locations

Not only can a tourism crisis or disaster occur without warning, the situation can also change unexpectedly and evolve at differing rates and outcomes at distinct, separate destinations within the same country. Once again, step-by-step management guidelines can become increasingly difficult to follow, due to the complexity of the situation and the fact that the crisis is being played out at different locations, different levels of severity and at different speeds.

It should be noted that Mexico offers many distinct locations for the domestic and international traveler. While famous for Acapulco, Mexico City and its Fonatur created enclaves, such as Cancun and Los Cabos, there are many other significant visitor destinations within the country. Colonial towns such as Zacatecas, Guanajuato and San Miguel de Allénde offer places of historical and cultural interest; the jungles of Chiapas and the mountains and deserts of the north present challenges to adventurous types; and 'shady' border towns, such as Tijuana offer cheap, illicit entertainment to those seeking sex, alcohol and drugs.

With so many destinations existing within the same country, it became apparent that individual destinations would be affected in different ways and at different levels by the crisis, thereby necessitating quite different responses and tactics. As interview respondent, Adriana Uribe Pérez, from SECTUR explained:

"Cultural destinations such as Zacatecas and San Miguel have a lower number of visitors from outside and so were least affected. Destinations that receive local tourism were not so badly affected. The worst was Cancun because it is the number one destination for receiving international tourists."

Source: Adriana Uribe Pérez, Sub -Director of Statistical Operations, SECTUR, 9th July, 2010

As confirmed by Uribe Pérez, Cancun was the worst affected resort. Cancun is far more dependent on the international tourist than is, for example, Acapulco, which has ultimately become a predominantly domestic destination, with Mexico City as the main source market. Obviously both destinations required different crisis strategies; therefore, a step by step, prescriptive approach is far too simplistic to address a crisis of this scope (see Table 5.2 below).

Table 5.2: Cancun and Acapulco: Similar effect, but different response.

CANCUN	ACAPULCO
Fonatur's diamond. This resort on Mexico's Caribbean coast has met with huge success since its inception in the 1970's. Main market- US and Canada.	The traditional Mexican beach resort has lost some of its original glamour, but still attracts many people, predominantly from Mexico-Main market- Mexico City.
Effect of AH1N1 crisis- Cancellations, huge drop in hotel occupancy, job losses.	Effect of AH1N1 crisis- Similar to Cancun however more short-lived.
Strategy for recovery - 'Welcome Back' recovery campaign, focused on the international market.	Strategy for recovery - 'Vive México' campaign, focused on the domestic market.

As is shown in Table 5.2, the initial impacts of the influenza crisis on Cancun and Acapulco were very similar, although longer lasting in the case of Cancun; however, the recovery strategies were of necessity completely different due to the fact that Cancun caters for an international market while Acapulco caters for a mainly domestic market.

It is therefore apparent that the AH1N1 influenza crisis did not follow the crisis 'life-cycle' suggested in contemporary tourism crisis and disaster management models and frameworks, and action could only be taken in the emergency phase, which severely negates the usefulness of the models with their predominant emphasis on a pro-active approach. The fact that the crisis affected various places at different levels further complicated the issue.

5.1.3   A 'one-size-fits-all' approach

Ritchie (2009) refers to the 'broadness' of contemporary tourism crisis management plans; that is, they only appear to offer what could be described as a 'one-size-fits-all' approach, with the same guidelines prescribed for every conceivable crisis situation. The models do not seem to consider that different crises warrant different responses, as obviously crises differ in size, scope, complexity and setting. The chaos theory tourism crisis/ disaster management model allows for this by recommending a pre-crisis organizational structure which prepares an organization for all forms of change, thus any kind of crisis or disaster.

i.   Different crises require different responses

As Zeng *et al.* (2005: 318) point out; different crises create different impacts and thus necessitate alternative recovery strategies: '…where the crisis includes a perception of risk, especially health, more comprehensive strategies appear necessary. This includes management of the media, especially images displayed during the crises. Then, post-crisis aggressive marketing is needed that does not remind target markets of the crisis, but presents an image of 'business as usual'.

Consequently, the AH1N1 influenza crisis, being a health crisis, demanded a more thorough, 'comprehensive' response strategy than, for example, the Hurricane Wilma crisis of 2005. Interview respondent, José Raúl Sánchez (SECTUR) explains the concept:

"Hurricane Wilma was a specific event, as was the earthquake of 1985. For both those occasions we had a contingency plan because we knew beforehand that they were very

likely to happen. The Influenza crisis was different and required a very different strategy than those 'natural' events. The influenza crisis was more of a social crisis, and creates a very difficult set of circumstances because you don't know how people are going to react or what will happen."

Source: José Raúl Sánchez, Director of Technology, 11th October, 2010

Media sensationalism during the AH1N1 influenza crisis certainly contributed towards the overall negativity of the situation, hence demanding aggressive domestic and international marketing campaigns (as suggested by Zeng *et al.,* (2005) above) to remind the public that Mexico was 'open for business' once again. Innovative marketing strategies were devised by both the public and private sector on a scale that had not been evident or indeed necessary for the Hurricane Wilma crisis.

Interview respondent, Walter Dagri, sales manager of Real Resorts Hotels, describes their unique marketing strategy:

"We started a campaign called "Flu Free Guarantee". The idea came from our General Director, Mr. Fernando García. We published it on our web page. We promoted it during trade shows and tourism fairs in all 2009. What did it consist of? Well, we guaranteed that our Resorts were flu free. And we offered a free week at our Resorts for 3 consecutive years if a lab stated that a guest contracted the flu 14 days after his departure from one of our Hotels."

Source: Walter Dagri, Sales Manager, Real Resorts Hotels, 11th January, 2011

The point worth noting here is that an intensive national promotional campaign, on the scale of 'Vive México', was not required after Hurricane Wilma in 2005; neither was it necessary for hotels in Cancun and surrounding areas to offer special 'guarantees' to their customers, as mentioned by Walter above. The psychological effect on tourism perception was totally different on both occasions and each situation required a quite different response.

Table 5.3 below illustrates the strategic change in approach necessary when a destination is afflicted with an epidemic health crisis, rather than a hurricane. The differences concerning preparation and location should be noted. Weather forecasting provides a window of opportunity, albeit slight, with which to prepare for a hurricane which obviously cannot be done for a health crisis, while the affected location is much smaller for a hurricane than it is for a transmittable health crisis or epidemic. The two events, therefore, call for quite different responses. Rather than having to provide safe accommodation or evacuation procedures for inhabitants and tourists in a hurricane situation, an epidemic style health crisis will create huge demand for medical assistance and supplies, on a grander scale than a hurricane. Communication issues also call for different measures, as does the recovery operation afterwards.

Table 5.3: How two crises require different responses

Hurricane	Health crisis
Crisis management plan (Faulkner, 2001)	Crisis management plan
Preparation: There is a prodromal stage as hurricanes can be forecast in advance, giving at least some time for warnings and evacuation preparation. In the case of Mexico, hurricanes are a common occurrence and so tourism crisis management plans do exist for this situation.	Preparation: Immediate emergency due to unpredictable nature and so no time for warnings or evacuation until the crisis appears. Unless the destination has prepared specific plans for a health crisis, the crisis will not even be considered until now, as was the case with the AH1N1 influenza crisis in Mexico.
Location: A hurricane will affect one area, so attention can be focused on this one area.	Location: A transmittable health crisis can spread to large distances rapidly, with contrasting impacts and severity.
Elements of response: 1. Faulkner recommends emergency accommodation and food supplies.	Elements of response: 1. Emergency accommodation and food supplies not necessary in health crisis. However, very likely that hospital accommodation, doctors and medical supplies will be sought on a large scale.
2. Monitoring and communication on a local level.	2. Monitoring and communication on a national and international level.
3. Clean-up and restoration / repair of damaged infrastructure- Huge operation to repair damaged beaches, hotels, roads, etc.,	3. There is no damaged infrastructure to repair. The main emphasis is on a marketing effort designed to change damaged tourist perception and restore business and customer confidence.

ii. Uneven distribution of resources within the Mexican tourism system

The 'one-size-fits-all' approach also failed to recognise the complexity and scope of the Mexican tourism industry. The research demonstrated that very different levels of organisation and competency exist within separate tourism destinations in Mexico.

Interview respondent, María Teresa Solís Trejo, Director of Vantage Strategy Consulting (Mexico) and former employee of SECTUR and the CPTM, commented upon this issue:

"The levels of organisation or readiness in these kinds of offices widely differ among Mexican tourism organisations, according to the importance that the tourism industry has in the regional economy. You will find highly organised destinations like Cancun, the Mayan Riviera, Puerta Vallarta, Los Cabos, Guadalajara or Monterrey against destinations with secondary importance, like Manzanillo, Mazatlan, Ixtapa, Huatulco, etc., with diminished organisation capabilities."

Source: María Teresa Solís Trejo, Director of Vantage Strategy Consulting (Mexico), 26th November, 2010

It thus appears that Cancun is much better equipped to deal with a tourism crisis than, for example, Manzanillo, and it also appears that levels of management training and preparedness differ widely within the country. Many destinations appear to be seriously lacking in financial resources and staff capability. As Solís Trejo continued:

"Generally speaking, most of the tourism authorities in Mexico are improvised, without the knowledge, experience or preparation required to perform in an appropriate way as destination marketing organisation managers."

Source: María Teresa Solís Trejo, Director of Vantage Strategy Consulting (Mexico), 26th November, 2010

The research suggested that a principle reason for such significant differences in destination organisational capability could lie in the amount of foreign investment within the resorts and the amount of tax which emanates from a resort. For example, Cancun has received huge investment from multinational companies such as Hilton, Marriot and Barcelo, which cannot afford to lose their investments, while significant tax

revenues emanate from the resort, thus ensuring its ongoing maintenance and support in times of crises. A destination such as Manzanillo, conversely, does not enjoy this level of investment or governmental interest, thus making it more vulnerable to the impacts of crises and disasters.

5.1.4   Cultural context

When a tourism crisis occurs, the context depends on the cultural and societal make up of the affected destination. It was suggested in Chapter two (section 2.4.1v) that tourism crisis management models fail in that they do not appear to recognise the fact that, put simply, places are different and people are different and, therefore, the response will always differ. As Mexican academic, Juan Carlos Monterrubio stressed during an interview:

"You can develop, say, a great model that may work in first world countries, but how can you be sure that they will work in developing countries where situations are different, people are different, and governments are different. Do they consider that? To what extent do these models take into account local features?"
Source: Juan Carlos Monterrubio, Universidad Autónama del Estado de México, 28th June, 2010

Cultural issues were briefly mentioned while assessing possible explanations for the lack of tourism crisis planning (section 5.1.1). Along with Latin culture, failure to accommodate academic knowledge, and corruption, another interesting cultural issue identified from the research is that of a deep-seated mistrust for the government and authorities among Mexican society in general, which, it is suggested, could have negative implications for tourism crisis management in Mexico. Tourism academic Juan Carlos Monterrubio explained during an interview that many Mexicans are extremely sceptical of political issues as a result of past political controversies, and this cynicism has been heightened by certain government actions during the influenza crisis, such as the 5 day shut-down and the release of scientifically unconfirmed information to the media. Therefore, it is put forward that SECTUR would, in all likelihood, have great difficulty convincing a future domestic audience of the viability of tourism disaster management planning.

As Monterrubio explains:

"If a model suggested to inform people, to educate people in crisis management, in the case of Mexico I am sure many people would say 'I don't believe that - that is a political issue- because we have experienced many lies'...Are these things considered in tourism crisis management models?"

Source: Juan Carlos Monterrubio, Universidad Autónoma del Estado de México, 28th June, 2010

Monterrubio is acknowledging how many Mexican tourism managers may ultimately scoff at the idea of instructed tourism crisis management, believing it to be just more government propaganda. There is no mention of this issue in contemporary tourism crisis models and frameworks, and surely this situation is not unique to Mexico. Whilst on the theme of scepticism and mistrust, it should not be overlooked how the research repeatedly cast doubts regarding the validity of the crisis.

5.1.5 The 'Mysterious' Crisis

The pessimism and uncertainty mentioned above is not just a consequence of Mexican history. A great deal of suspicion is present among Mexican society towards all aspects of the AH1N1 Influenza crisis, brought about by its rapid disappearance from the media spotlight and the fact that it now appears to have been somewhat over-exaggerated. This attitude is demonstrated by the words of several interviewees below.

"If you look at the data about the flu it was not that high...many people got the flu and nothing happened, they were sick for two weeks and that was it. One of my sisters got the disease, it was before April, maybe in March or something, so they didn't really know about the virus....she got better after one week."

Source: Adriana Uribe Pérez, Sub- Director of Statistical Operations, SECTUR, 9th July, 2010

"There are many doubts and unanswered questions about the true existence of the AH1N1 virus....a year later the WHO [World Health Organisation] *authorities are being questioned about the role they played during the crisis and about the scientific committee appointees that were also in some multinationals' pharmaceuticals' payroll."*

Source: Carlos Amaya Molinar, Universidad de Colíma, 6th August, 2010

"Many people believe there is more to this than meets the eye. So much is coming out…but it's easy to judge in hindsight now that we know it was not very virulent. It didn't increase the deaths in influenza statistics but it did create a severe impact in the service, in the tourist industry in Mexico."

Source: Adolfo Crespo, Vice President Customer Service and Corporate Communications, Mexicana Airlines, 14th July, 2010

A favourite topic of conversation among Mexico's citizens is the plausibility of the AH1N1 influenza crisis; nevertheless, notwithstanding public opinion, there is no mistaking the fact that the unwelcome arrival of the AH1N1 influenza crisis did create an acute crisis for the Mexican tourism industry: A major contributing factor to the severity of the crisis factor was the global media response.

5.1.6 Media response

It was discussed in chapter two how 'alarmist, sensationalist' media coverage of an event can severely worsen the situation and heighten negative tourist perception of a destination (see section 2.5.1). Mason *et al* (2005) devote a paper to this topic, writing about the effects of media reporting of the SARS crisis on the tourism industry. Without wanting to investigate this issue in detail, special mention must be given to it as the research clearly demonstrates that media reports and images had a very negative effect on the crisis, which can be conveyed by the words of the interview respondents, and the headline and photograph (Mexico City airport) from *The Times* newspaper below.

"Global media response and many countries have been partners in this huge scam. Everyone did their part to create the fear."

Source: Kenneth Johnson, Owner and General Manager of EcoColors, Cancun, 13th January, 2011

"There is a tendency for media communications to over-react to the problems and this case was not the exception….maybe more so the communication within Mexico…"

Source: Braulio Cárdenas, President of the National Chamber of the Restaurant and Food Industry, 3rd December, 2010
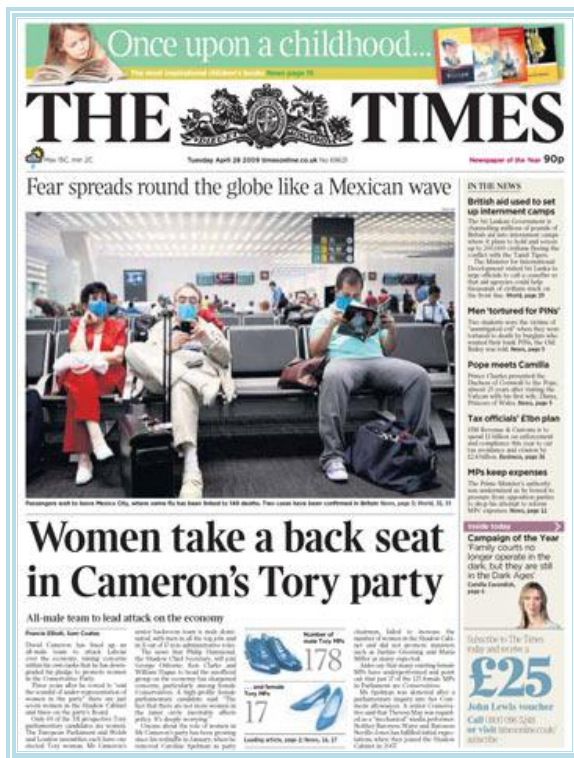
Figure 5.1 'Fear spreads round the globe like a Mexican wave': Headline from *The Times* newspaper on Monday, 27th April, 2009

Source: www.guardian.co.uk

5.1.7 Realities of small businesses

The final criticism regarding the 'one size fits all' approach centres on the difficulties associated with small tourism businesses, both before and during a tourism crisis situation. As has been previously noted by Cioccio and Michael (2009), Hystad and Keller (2008), and de Sausmarez (2003), most small tourism businesses possess neither the time nor the resources to plan, or even seriously contemplate, potential future crises or disasters. As the majority of the world's tourism businesses can be classified as small or medium sized enterprises, it follows that tourism crisis management models are, in most cases, not reaching their intended audience and, even if they did, it is almost certain that the scarce resources available to the majority of these enterprises would not permit their implementation.

Mexico was no exception. The research demonstrated that the majority of tourism small and medium sized enterprises did not have a crisis management plan for a health related crisis, and, when the crisis occurred, a large proportion were forced to close temporarily, or in some cases on a permanent basis.

On a further note, the research identified that as many as 40% of small and medium businesses are unregistered in Mexico, and hence received none of the financial aid offered by the government. Interview respondent, Alejandro Rojas, Secretary of Tourism for Mexico City, explained the situation:

"There was some government funding for enterprises…but I have to say that not all enterprises were helped or supported….there are certain companies that are not registered, particularly small companies, so how were they supposed to be helped by the government ? There were hotel promotions, but only 4 star, 5 star hotels…but what about all those small enterprises that are the majority of tourism enterprises in this country?"

Source: Alejandro Rojas, Secretary of Tourism for Mexico City, 20th October, 2010

Interview respondent, Kenneth Johnson, owner of Ecocolors tour business in Cancun, verified these comments:

"We didn't receive help from the government, only the promotional trusts…well actually the government did announce no payment of taxes - now how can we pay taxes if we did not have any income?"

Source: Kenneth Johnson, owner of Ecocolors tour business, Cancun, 13th January, 2011

5.2 Summary

The case study, therefore, appears to justify the criticism directed towards tourism crisis management models in that they tend to offer an inflexible approach hoping to suit all types of crises and all destinations and cultures when, in reality, this appears to not be possible. The case study provides an empirical example of how crises are often completely unpredictable, do not necessarily follow the suggested crisis 'life-cycle', and require different responses according to the specific character of the crisis and individual destinations. It demonstrates how the uneven distribution of resources leads to diminished capabilities, how cultural issues change the complexion of the situation, how the media response can create huge negative repercussions for what in reality may be a fairly trivial problem, and the fact that small businesses, which comprise a major part of the tourism industry, are usually not able or inclined to take a pro-active approach and are often left without any form of assistance.

As interview respondent, Fernando Betzano, from the National Confederation of

Mexican Travel Agents said:

"*I think in a way they* [tourism crisis management models] *suggest things work automatically; if I do 'Z' then this happens…things do not work like that. I think they are quite simplistic in that they believe that things will automatically react in a certain way, in a certain direction….without taking into account that every crisis is unique … different…"*

Source: Fernando Betzano, National Confederation of Mexican Travel Agents, 5th November, 2010

Chapter 6

Case study: The elements of chaos theory in the AH1N1 Influenza crisis

6.1   The elements of chaos theory

A tourism crisis and disaster management model was proposed (see Table 2.3), which was designed to provide an alternative to contemporary tourism crisis and management models and frameworks, and to overcome and eradicate some of the weaknesses mentioned above which were also evident in the AH1N1 Influenza crisis.

The model is based on elements of chaos theory. It has been suggested that several of these elements can be identified throughout the various phases of a tourism crisis, which include phases which are labeled the 'edge of chaos', the 'butterfly effect', bifurcation, cosmology, self-organisation, strange attractors, creativity and the 'lock-in' effect. The model proposes various managerial actions that can be implemented while the crisis is passing through the elemental phases.

It is critical for the successful application of the model that the above elements could be identified during the AH1N1 influenza crisis. Hence, the following section will present the various elements of chaos theory as and when they appeared in the influenza crisis.

6.1.2   'Edge of chaos'

In terms of chaos theory, systems are often regarded as being on the 'edge of chaos' -a situation in which a 'triggering' event can provoke a number of reactions, a 'butterfly effect', which results in a crisis event. The Mexican tourism system could be described as being in a state of equilibrium in the months preceding April, 2009. Although some sources suggest that the country was already suffering two crises, the world economic recession and the narcotics-related violence (Ritchie *et al.*, 2010), visitor figures appeared relatively healthy which boded well for the coming months (UNWTO, 2009).

6.1.3   'Butterfly effect'

However, it appears that *somewhere* in the world, the metaphoric butterfly flapped its wings and the 'storm' effectively landed in Mexico. The origin of Influenza AH1N1 remains unclear at the time of writing; Monterrubio (2010) mentions a 10 year old

Texan boy as possibly being the first case; however there are conflicting reports and the research failed to unearth a satisfactory answer.

Whether the origin of the outbreak was in the US, Mexico or elsewhere, what *is* important is that the resultant effect was a severe crisis for Mexican tourism.

6.1.4 Bifurcation and cosmology

It is evident that the Mexican tourism system was severely affected by the sudden appearance of the AH1N1 Influenza crisis. In the words of interview respondent, José Alberto García (CPTM):

"Everybody was shocked and scared by what was happening and nobody knew what would happen next. Tourists did not want to come to Mexico and people here did not want to leave their houses."
Source: José Alberto García, CPTM employee, July 15th, 2010

The emergency situation appears to correspond with the chaos theory elements of bifurcation and cosmology. Crisis events are described as points of system bifurcation, where the system is disrupted and cannot function as before. This was palpable as international tourism came to a halt and domestic tourism suffered a huge downturn.

Cosmology episodes were evident in the nation's population as widespread confusion and fear spread rapidly due to the unknown potential of the virus. As interview respondent, José Raúl Sánchez (SECTUR) recalls:

"For a time everybody was very scared. It was like the end of Mexico."
Source: José Raúl Sánchez, Director of Technology, SECTUR, 11th October, 2010

The confusion and fear abundant in Mexico at this time may have contributed towards several hastily made government actions, in particular the decision to impose a five-day nationwide 'shut-down' and the release of scientifically unconfirmed information to the media, a huge mistake, according to Mexican academic, Juan Carlos Monterrubio:

"The figures were increasing and increasing in the media every single minute...the government should have controlled the media...they were reporting figures without any

scientific confirmation. They did not have the scientific equipment to prove these figures existed until much later, and when this happened the figures were much smaller than originally reported to Mexico and the whole world."

Source: Juan Carlos Monterrubio, Universidad Autónoma del Estado de México, 28th June, 2010

6.1.5   Self-organisation and strange attractors

i. Self-organisation

There are two significant aspects of chaos theory. One of these is the unpredictability, uncertainty, complexity and turmoil, which were all present during the opening stages of the AH1N1 Influenza crisis; another characteristic of chaos theory is the return to order which appears after bifurcation.

As Sellnow *et al.* (2002: 274) point out: 'self-organizing processes…can be expected to arise following bifurcation' in the form of 'new communicative structures and relationships, understandings, and procedures'. Self-organising processes were evident in Mexico following the initial emergency stage. For example (as has been discussed), a suggested weakness of current tourism crisis management models is that they fail to recognise the realities surrounding small businesses. With at least 40% of tourism businesses in Mexico being unregistered, there was a highly significant number which did not receive any kind of help. Many of these businesses were forced into closure and this resulted in lingering social effects in the form of unemployment and forced migration. However, critically, the majority of small and medium sized enterprises *did* survive the crisis and examples of innovation, creativity and self-organisation were evident in the research, on an individual scale and by joint co-ordination, thus supporting the claims of Sellnow *et al.* (2002) above, regarding the processes of self-organisation.

When questioned about the challenges facing his business during the bifurcation stage of the crisis, interview respondent, Kenneth Johnson, owner of EcoColors in Cancun, replied:

"It was a matter of looking at things in perspective and realising this month [May] *was a loss but we could work on marketing, developing strategies, and improving our products and staff, so that when tourism started we could be ahead of competition in quality. We couldn't rely on government help so it was a matter of getting ourselves*

organised. I think most companies had this outlook. It has certainly made us more competitive."

Source: Kenneth Johnson, owner of Ecocolors tour business in Cancun, 13th January, 2011

A similar attitude was found when interview respondent, Walter Dagri, from Real Resorts Hotels, discussed the issue:

"We did not fire employees. The company asked all executives with higher salaries to auto-reduce their incomes. In this way we could help the company's economy and save hundreds of employees. Everybody could keep his job. Some actions can be taken individually and some other can be taken together with Hotels Associations. You cannot sit around and wait for the Government's support."

Source: Walter Dagri, Sales Manager of Real Resorts Hotels, 11th January, 2011

ii. Strange attractors

It appears that the 'Vive México' campaign, with its focus on Mexican solidarity, served as an effective tool to encourage the concept of self-organisation. Sellnow *et al.* (2002: 289) refer to 'region-wide common threat and shared hardship' as 'strange attractors' which can strengthen relationships and lead to enhanced commitment to a cause, in this case the recovery of the Mexican tourism industry. Although it is not suggested that those in the CPTM responsible for the 'Vive México' campaign had chaos theory in mind during its conception, it serves to illustrate how tourism destination authorities can utilise the concept of self-organisation and motivate all levels of the industry to unite in a common cause by harnessing a 'common vision, sense of meaning, strategy or value system that drives people to achieve a common goal.' (Zahra, 2007: 855).

Judging by visitor arrivals and hotel occupancy (the usual statistical criteria of success in the tourism industry), the Mexican tourism industry, in accordance with the chaos theory of self-organisation, appeared to demonstrate considerable resilience to the crisis, despite an obvious lack of preparation by the tourism authorities and by tourism stakeholders. In October 2009, just a few months after the height of the crisis, visitor numbers were actually slightly higher than the previous year (see Figure 4.1). It seems that the industry in general rose to the challenge presented by the crisis; nonetheless, it must be noted that there *were* significant casualties, perhaps the most prominent being the bankruptcy of Mexicana Airlines and the further social consequences of the crisis is

another matter entirely, perhaps worthy of further research.

6.1.6 'Lock-in' effect

The 'lock-in' effect is said to explain repetitive behaviour in a tourism context. McKercher (1999: 429) mentions how chaos theory recognises that 'certain innovations in the past can have a lasting effect despite changes in the conditions that originally made them necessary.'

It has been suggested that the 'Vive México' campaign inadvertently contributed towards the self-organisation of the tourism sector, and in a similar manner, the North American 'Welcome Back' campaign perhaps indirectly produced an outcome which can be linked to the 'lock- in´ effect associated with chaos theory. The campaign targeted customers who had already visited Mexico, including those individuals and families that frequent Cancun on a yearly basis. For such people, Mexico has a special 'pull'; they appear to have an affinity with the country, or at least a particular resort. In the words of a Canadian tourist interviewed in Cancun in January, 2011:

"I come here every year with my family, well nearly every year- we missed one year because of the swine flu scare, but now we are back and it's like nothing happened. It's great here, it has everything for us."

Source: Bruce Broughton, Canadian tourist interviewed in Cancun, 15th January, 2011

6.2 Summary

It has been demonstrated that the chaos theory elements discussed in chapter two (section 2.5) were indeed present in the case study, thus indicating the usefulness of utilising chaos theory as a way of identifying various stages or phases of a tourism crisis.

Chapter 7

Case Study: The chaos theory crisis and disaster management model and the AH1N1 influenza crisis

7.1   The chaos theory tourism crisis and disaster management model

Chapter two argued that tourism managers and decision makers would be better equipped to take reactive measures to the challenges presented by a tourism crisis or disaster if they were able to recognise chaos theory elements as they present themselves in a crisis. It has been noted above how several elements of chaos theory were evident in the case study (chapter 6).

The 'chaos theory' tourism crisis/disaster model revealed in the second chapter (table 2.3) suggests various managerial responses to correspond with each particular element. For example, a vital ingredient of the model is that managers strive to create a learning and knowledge sharing environment within their area of responsibility, thus creating an organisational climate which will be flexible, and ultimately robust, when facing a crisis situation. It suggests a suspension of marketing activities in the bifurcation stage, and an emphasis on clear and flexible communication; more reactive measures are offered as the crisis unfolds, until finally the managers and decision makers are left to reflect on the success and failures of their actions, presenting an opportunity to learn from mistakes and be better prepared next time (see Blackman and Ritchie, 2007).

The following chapter will consider the second research question:

Q2. Does a model which views tourism crisis/disaster issues from a chaos theory perspective present a more attractive, viable alternative?

Specifically the response of the Mexican tourism authorities to the AH1N1 influenza crisis will be considered, and whether the actions taken by the authorities correspond with the recommendations of the chaos theory tourism crisis/disaster management model.

It is important that the following issues are given particular attention:

1. If the actions taken did correspond with a particular recommendation, then was this action ultimately successful?

2. If no action was taken, would a particular situation have been improved by putting into effect a recommendation of the model?

3. Did the tourism authorities take any measures not mentioned in the model, which would add to the viability the model?

The following section begins by attempting to clarify whether the principal Mexican tourism organizations, SECTUR and the CPTM, could be considered to display an organisational environment conducive to innovation, flexibility, learning and change.

7.1.1   Organisational environment

Table 7.1 below is the first section from the chaos theory tourism crisis and disaster management model (table 2.3). It reveals the recommendations which are given for all tourism organizations, independent of factors such as size, location and resources.

Table 7.1: Recommended organisational environment

Create organisational environment that facilitates learning and 'embraces' change.	Create environment that promotes innovation and flexibility.	Promote adaptive management.

Due to the size and scope of this project, the research was not able to investigate in great detail the organisational structure of Mexican tourism organizations; nonetheless, the organisational structures of SECTUR and the CPTM and attitudes towards organisational learning were taken into account during interviews with past and current SECTUR and CPTM employees.

Mexican academic Carlos Amaya Molinar, who has previously worked in the CPTM, does not believe that SECTUR or the CPTM can be realistically described as 'learning organisations':

"I don't think that they are very flexible or innovative. I believe that they have a model of tourism operation and development that has been working and has been good for them, but maybe not for the whole country. The lack of flexibility and innovation has settled the Mexican tourism industry into stagnation; the model of tourism development doesn't change- sun and sea, mega resorts, golf courses and marinas."
Source: Carlos Amaya Molinar, Universidad de Colíma, 6th August, 2010

It was noted during the research that the interviewees from SECTUR and CPTM occasionally gave contradictory answers, perhaps indicating poor communication and a lack of knowledge transfer between organisations and, indeed, within the same organisation.

For example, at one stage, Adriana Uribe Pérez from SECTUR bemoaned the lack of finances:

"We didn't have a contingency plan, especially for the health system point of view. We don't have that much money so we keep it in case of emergency."
Source: Adriana Uribe Pérez, Sub Director of Statistical Operations, SECTUR, 9th July, 2010

José Raúl Sánchez, however, from the same organization, SECTUR, stated that:

"Institutions like SECTUR and CPTM have the experience, the human resources and the money to cope with crisis; don't forget that SECTUR is a branch of the federal government, it has the power and access to funds; the Mexican federal government is

not poor."
Source: José Raúl Sánchez, Director of Technology, SECTUR, 11th October, 2010

The research, therefore, appeared to suggest that the principal tourism organizations did not appear to demonstrate certain characteristics which are usually associated with learning organizations (see section 2.5.1). As a result, it is argued that the Mexican tourism authorities began the crisis at a disadvantage, as they did not seemingly exhibit an organisational environment which corresponds with that suggested in the model. They were consequently unprepared for the sudden change brought about by the influenza crisis and this may have delayed or affected their response. Interview respondent, María Teresa Solís Trevo, who is an ex-employee of SECTUR and CPTM, was extremely critical of what she deems as a 'slow' response:

"Despite the knowledge on the SARS crisis impact, official communication and speeches stated that the Mexican travel industry would not be affected. There was complete inaction for over two weeks….it took over one month for the then Minister of Tourism, Rodolfo Elizondo, to travel to New York and have a press conference explaining the situation in Mexico. I couldn't avoid the contrast compared to the 1985 earthquake crisis; in 1985 SECTUR's Minister of Tourism was holding personal interviews in major media in US, Canada and Europe giving the best available exposition of the situation in Mexico City."
Source: María Teresa Solís Trejo, Director of Vantage Strategy Consulting (Mexico), 26th November, 2010

It does appear that the 'delay' could have been avoided had SECTUR and the CPTM exhibited a more change embracing, adaptive style of management. Other 'early mistakes' were made, such as the release of unscientifically confirmed information mentioned previously, which might have been avoided had the tourism authorities displayed a more cohesive and flexible response.

The following sections will analyse the marketing and communication responses of the tourism authorities as the crisis progressed through the phases which have been associated with various elements of chaos theory.

7.1.2 'Edge of chaos' phase

Table 7.2 below is from the chaos theory tourism crisis and disaster management model, and displays the marketing and communication recommendations suggested for the 'edge of chaos' phase.

Table 7.2: Recommendations for the 'edge of chaos' phase

Chaos theory element	Marketing	Communication
Edge of chaos	Be aware of the possibility of disaster and have a basic plan in place. Product diversification. Creation of strong brand image.	Be aware of the possibility. Basic protocol (crisis management team) needs to be in place. Develop good relationship with media.

The model suggests that in the 'edge of chaos phase', tourism organisations should demonstrate awareness concerning the potential of a future disaster, and a basic plan should be in existence. If the organisation has adapted a 'flexible, change-embracing' environment, (see sections 2.5.1 and 7.1.1) then such awareness should be inherent.

On the marketing side, it is suggested that product diversification yields a stronger competitive advantage (Prahalad & Hamel, 1990) as it prevents dependency on one product; likewise, the brandishing of a strong image has been seen to contribute to the 'lock-in' effect, while good media relations could help to mitigate negative reporting should a crisis situation arise.

i. Marketing

(a) Be aware of the possibility of disaster and have a basic plan in place.

It has been established that during the 'edge of chaos' phase, principal Mexican tourism organisations did not appear to exhibit the prerequisite recommendations of a learning

organisation which are considered central to the success of the model. Also, while fully aware of the possibility of natural disasters occurring, the research showed no evidence of even a basic plan for an influenza epidemic, although a tourism crisis management team apparently *was* in existence under the responsibility of the Deputy Secretary of Tourism Operations.

It is argued that by having a 'basic health crisis plan' in place, as suggested by the model, then the Mexican government could possibly have avoided the controversial decisions made during the initial stages of the crisis, that is the release of unconfirmed information to the media, and the rather abrupt 5 day nationwide shutdown.

(b) Product diversification

Whether Mexico can be said to boast a diversity of tourism products proved difficult to ascertain. Graham Greene appeared to think so, even as far back as 1939 (see section 4.2) and when challenged about the issue of product diversification, the SECTUR and CPTM interviewees were quick to highlight the special onus currently being given to alternative forms of tourism such as cultural tourism, business tourism, spa tourism, nature tourism and medical tourism through the Tourism Product Development Department and outlined in the 2007 tourism plan (see SECTUR, 2007). However, this contradicts the viewpoint of Mexican tourism academic Carlos Amaya Molinar, who insists that the tourism authorities continue to concentrate solely on the beach 'mega-resort' (see section 4.3), ignoring other forms of diversification. As it proved difficult to assess the past and current state of Mexican tourism (see section 4.3), questions regarding Mexico's tourism product diversification strategy likewise proved testing. Both topics have scope for further investigation.

(c) Creation of strong brand image

SECTUR insist that Mexico, as a tourism destination, is an extremely strong brand, proven by the fact that it is consistently in the top ten countries of international visitor arrivals worldwide. It could be argued that the brand has recently suffered due to negative publicity regarding AH1N1 and security issues connected to the violence surrounding the drug cartels in the Northern states. Interview respondent, Walter Dagri, of Real Resorts hotels, comments upon this issue:

"We have a strong brand, particularly in Cancun. People love it here. It is a beautiful place with beautiful hotels, not overly expensive, and people get treated like royalty

here. There has been negative reporting of Mexico, perhaps more so the drug violence than the swine flu, but the knowledgeable customer knows that the drug problems are thousands of miles away from here."
Source: Walter Dagri, Sales Manager, Real Resorts Hotels, 11th January, 2011

ii. Communication

(a) Basic protocol (crisis management team) needs to be in place.
It was mentioned previously that SECTUR has a crisis management team which meets each year with the Mexican states to discuss various issues; however not even a basic plan appeared to have been in place for a tourism health crisis.

(b) Develop good relationship with media.
The research suggests that there is a close working relationship among travel media and tourism destination public organisations, but a more distant and difficult relationship exists with economic and political media. From the point of view of the tourism authorities, economic and political media give a negative, inaccurate and disproportionate coverage of happenings and, from the point of view of the media, travel authorities attempted to minimise and underplay events so as not to compromise the performance of the tourism industry. Certainly, Mexican tourism was greatly affected by negative reporting on a global scale, and it appears that it would be very difficult to prevent this from happening.

Interview respondent, Braulio Cárdenas, from the National Chamber for the Restaurants and Food Industry, comments on media communication strategy:

"There are strategies, that's why there are media professionals…but in general I personally tend to think that the media is a reflection of society, what people like…the media is forming people's fear of what people like and of what people are interested in. It's difficult because they have not only their own agenda… so from this point of view it's very hard. It can be done but it's hard…"
Source: Braulio Cárdenas, National President of the National Chamber for the Restaurant and Food Industry, 3rd December, 2010

Although not appearing to possess a basic tourism health crisis management plan, SECTUR and the CPTM did appear to exhibit the other recommendations put forward

in the tourism crisis model related to the 'edge of chaos' phase; however, it appears that issues such as product diversification, brand image and media relations are rather complex and difficult to define, perhaps offering alternative avenues for further investigation.

7.1.3 Bifurcation / cosmology phase

Table 7.3 shows the suggestions put forward in the chaos theory model for the bifurcation/cosmology phase of a tourism crisis.

Table 7.3:   Recommendations for the bifurcation/cosmology phase

Chaos theory element	Marketing	Communication
Bifurcation	Suspend or reduce marketing activities.	Clear, flexible, open, truthful communication with stakeholders and the media.
Cosmology	Suspend or reduce marketing activities.	Clear, flexible, open, truthful communication with stakeholders and the media.

The chaos theory tourism crisis/disaster management model suggests that marketing activities should be either reduced or completely suspended during the bifurcation and cosmology phases, and that a strategy of clear, truthful communication with stakeholders and the media should be upheld at all times.

i.   Marketing

(a) Suspend or reduce marketing activities

In accordance with Page *et al.* (2006), the model recommends that marketing activities should be temporarily suspended or at least reduced at this stage, and the research demonstrated that this was the case in Mexico, or at least to begin with. All international marketing was immediately suspended and domestic marketing was reduced. Interview respondent, José Alberto García, from the CPTM confirms:

"*It was not the time to show images of Mexico. We had to wait until people knew that the situation was improving.*"

Nevertheless, in contrast to the recommendation that all marketing activities be suspended, or at least reduced, throughout the whole of the bifurcation and cosmology phases, the 'Vive México' campaign was put into effect very quickly. Given that the general consensus amongst the interviewees indicated that this campaign was perhaps the most impressive and effective measure put into place during the influenza crisis, perhaps this is an area in which the model could be improved.

ii. Communication

(a) Clear, flexible, open, truthful communication with stakeholders and the media

The model, following Sellnow *et al.* (2002), proposes that communication should be truthful and accurate; unfortunately, the research clearly shows that many tourism stakeholders within Mexico believe that initial government statements to the media, later shown to be inaccurate, contributed towards the severity of the crisis and the level of anxiety, not just in Mexico but on an international scale.

Monterrubio (2010: 13) is especially vociferous concerning this issue: '…it seems that the way the global and national media reported alarmist information contributed significantly to a feeling of panic amongst potential and actual travellers to and inside Mexico. Additionally, the unconfirmed data reported by the federal government and the implemented measures based on such data enhanced panic among travellers.'

The research also revealed a substantial amount of anger within the tourism industry towards the government imposed five-day nationwide shutdown, which relates to the earlier discussion regarding a general attitude of mistrust towards the authorities in Mexico (see section 5.1.4). Interview respondent, Braulio Cárdenas described the feelings of restaurant owners and workers:

"We were very angry! We believed that this method was an over-reaction by the government. The USA did not react the same way as ourselves. I believe that the intention was good, but there was not sufficient evidence of the severity of the problem…a lot had been manipulated and badly managed not solely by our government

but also the World Health Organisation."

Source: Braulio Cárdenas, National President of the National Chamber for the Restaurant and Food Industry, 3rd December, 2010

Similarly, interview respondent, Walter Dagri, from Real Resorts Hotels, criticised the government action:

  "The government over-reacted and the tourism industry paid for that."

Source: Walter Dagri, Sales Manager, Real Resorts Hotels, 11th January, 2011

It must be stressed that it was the Federal Government and the Health Ministry that took these actions, and not SECTUR or the CPTM. In defense of the criticism aimed towards them, the federal government cited the case of SARS in China. Interview respondent, Alejandro Rojas, Tourism Secretary of Mexico City, explained the reasoning:

  "The Mexican government and travel authorities had had the opportunity to observe the SARS crisis and the negative impacts that such a crisis had on tourism. One perception was that the Chinese government had tried to hide information from the public and had taken too long to take strict measures. The reaction of the Mexican government tried precisely to avoid a similar reaction."

Source: Alejandro Rojas, Secretary of Tourism, Mexico City, 20th October, 2010

Despite the disapproval directed towards the Federal Government, the research demonstrated that certain effective communication strategies were put into place by the tourism authorities in the bifurcation phase of the Influenza crisis. As proposed in the phase 1 emergency stage of the CPTM plan (see table 4.3), information was given through official channels coordinated by SECTUR and regular bulletins were given on an internet website.

7.1.4 Self-organisation / strange attractors phase

Table 7.4 presents the recommendations for the self-organisation, strange attractors and 'lock-in' effect phase of a tourism crisis.

Table 7.4 Recommendations for self-organisation/ strange attractors/ 'lock-in' phases

Chaos theory element	Marketing	Communication
Self-organisation Strange attractor	Adaptation of marketing - product diversification (if not done previously), cost reductions, focus on domestic clientele. Alliances and joint marketing campaigns.	Continuation of open communication with the media. Investigate government assistance and international aid.
Lock-in effect	Special offers for loyal customers.	

The phase of a tourism crisis which often displays the chaos theory elements labelled self-organisation, strange attractor, creativity, and 'lock-in' effect, calls for an adaptation of the marketing strategy. Recommendations include product diversification, if not done previously, a revision of pricing strategy, a focus on domestic customers, new customers or potential niche markets, and the forging or strengthening of existing or potential alliances.

It is advised that a policy of open, truthful communication with the media is adhered to, and, if warranted, it may also be an appropriate time to investigate government assistance and international aid.

i. Marketing

(a) Adaptation of marketing, product diversification (if not done previously), cost reductions, focus on domestic clientele

As mentioned previously, the extent of product diversification to be found in Mexican tourism appears to be disputable. Despite the doubts and criticisms expressed by Carlos Amaya Molinar (see section 4.3), diversification *was* a major element of the 2007 tourism plan, objective 8 of the plan being to sustain and *diversify* national and international tourism demand (SECTUR, 2006). The 'Vive México' campaign had already been put into effect during the bifurcation phase, with its domestic focus, tailor made destination campaigns (see table 4.3) and subsequent special offers such as reduced price vacations and 2 for 1 offers.

(b) Alliances and joint marketing campaigns

SECTUR and the CPTM joined with Mexicana airlines to promote 'Vive México' and other alliances were also undertaken with tour operators, hotels (noticeably the Grupo Posadas chain), universities, and so on. Interview respondent, José Alberto García (CPTM) comments upon these issues*:*

"We started a campaign called 'Now, more than ever, Mexico Lives', which was accompanied by aggressive marketing strategies mostly on the part of airlines and hotel chains. Later we started the 'Time to go' campaign in North America."
Source: José Alberto García, CPTM employee, 15th July, 2010

Interview respondent, Braulio Cárdenas, describes the marketing strategies put into effect by the restaurant sector:

"It depended a lot on the restaurant and the kind of market that they cater for. Some did 2 for 1 drink offers, free breakfasts....we also promoted Mexican cuisine as an important element of cuisine with SECTUR and the Economy Secretary."
Source: Braulio Cárdenas, National President of the National Chamber for the Restaurant and Food Industry, 3rd December, 2010

The North American promotional campaign was begun, assisted by various strategic alliances with other government ministries (health, finance, agriculture,

communication and transport, education, foreign affairs) consulates, embassies (particularly the Mexican embassy in Washington) and the foreign offices of the CPTM and Promexico (a government agency designed to strengthen Mexico's economic position). The CPTM intensified their public relations campaign, particularly in the US and Canada, with a number of press events and familiarization trips for journalists.

(c) Focus on new customers or niche markets

As part of the recovery process, SECTUR and the CPTM focused on new customers and niche markets, in particular those of Russia, Brazil, India and China, and various radical changes were introduced to immigration policy in order to minimise visa waiting times. Both the domestic 'Vive México' campaign and the international 'Welcome Back' campaign were designed to motivate new customers as well as those who already frequently travel within and to Mexico.

ii. Communication

(a) Continuation of open communication with media/ investigate government assistance and international aid

 Several measures of government assistance were announced, which included-

1. An act of government (the Tourism Act) which would enhance the Ministry of Tourism's power and influence.

2. More resources given to individual states, with an emphasis on cultural and nature tourism.

3. Diversification- special emphasis on medical tourism.

4. New development - Largest tourism project in 25 years in Sinaloa.

5. Restructuring of SECTUR, the CPTM and FONATUR.

6. Website portal- Development of www.visitmexico.com

 (SECTUR, 2009)

   It appears that all of the marketing and communication recommendations put forward in the chaos theory tourism crisis/disaster management model for this phase of the crisis were introduced by the Mexican tourism authorities, including changes in the marketing strategy, a focus on alliances, and forms of government assistance.

7.2 Reflection

The model recommends a period of reflection so that lessons can be learned so as to improve future marketing and communication processes and strategy. The government assistance mentioned above (announced in the recovery stage), with an emphasis on restructuring and diversification and development, demonstrates how reflection processes appear to have influenced the recovery strategy. Interview respondent, José Raúl Sánchez (SECTUR) gives his thoughts concerning the lessons which should be learned from the crisis:

"Hurricane Wilma gave us many experiences to learn from, and this influenza crisis has given us many, many more experiences. Communication between institutions was tested in this crisis. We must know who the main players are during a crisis, the main people who can give information 24 hours a day. This was not always available during the influenza crisis. Different segments of tourism – hotels, restaurants, small businesses, big businesses – must work in a more coordinated way through their chambers and organisations to react faster and to help each other."

Source: José Raúl Sánchez, Director of Technology, SECTUR, 11th October, 2010

7.3 The Mexican response and the model's recommendations

The following chapter will discuss the research conclusions in detail; before doing so, the three questions proposed earlier (section 7.1) will be considered:
 The alternative tourism crisis and disaster management model was tested against the background of a real life tourism crisis, the 2009 Mexican AH1N1 influenza crisis. It was suggested that certain issues be given particular attention:

> *1 .If the actions taken did correspond with a particular recommendation, then was this action ultimately successful?*

The CPTM quickly prepared a response (see table 4.3) which contained many features of the alternative chaos theory tourism crisis and disaster management model, such as a suspension of marketing activities and a focus on clear communication. From the bifurcation stage of the crisis onwards, the overall response of the authorities corresponded to the recommendations given in the model, and these responses appeared to be ultimately successful. The only response which differed was the timing of the 'Vive México' campaign (more on this below).

2. If no action was taken, would the situation have been improved by putting into effect a recommendation of the model?

Recommendations surrounding organizational structure and culture and the availability of a basic health crisis plan were not evident in the principal Mexican tourism organizations of SECTUR and the CPTM, although a crisis management team was in existence in the CPTM. It is suggested that the lack of readiness may have contributed towards early mistakes, such as the release of unconfirmed data, and the nationwide shut-down. Doubts were also cast over the issues of product diversification and brand image. It is suggested that the situation would have been improved if the model's recommendations had been present from the onset.

3. Did the tourism authorities take any measures not mentioned in the model, which would add to the viability of the model?

The Mexican authorities chose to focus on domestic tourism during the bifurcation phase, rather than wait until the self-organisation phase, as suggested in the alternative chaos theory model. Due to the apparent success of the 'Vive México' domestic campaign, it is conceded that the bifurcation phase may be a more suitable time to concentrate on domestic tourism, rather than waiting until the self-organisation phase.

7.4 One year later…

Before turning to the concluding chapter, it is interesting to briefly look at the situation a year after the events took place. Excerpts from a SECTUR report published on the 25th July, 2010, (translated from the original Spanish) perhaps serve to demonstrate the resilience of Mexico's tourism industry.

The number of international tourists visiting Mexico has grown 35%. SECTUR reports that the number of international tourists rose 35.2% in June compared to the same month last year. During this period, 818, 278 tourists of different nationalities visited Mexico, against 605, 435 from June. 2009.

The United States, Canada, the UK, Spain and Italy are the principal visitors.
Source: SECTUR (2010)

Chapter 8

Conclusion

8.1 Introduction

This chapter considers what the research has achieved. The original aim of the research is briefly revisited and then the case-study and the research in Mexico are discussed. This is followed by conclusions to and final thoughts on the outcome of the research and the answers to the research questions.

8.2 The aim of the research

Although others had considered crisis management models and processes more generally, Faulkner (2001) was the first to propose a crisis and disaster management framework specifically relevant to tourism. His lead was followed by others, such as Henderson (2003), Ritchie (2004), de Sausmarez (2004), Page *et al.* (2006), Carlsen and Hughes (2007), Hystad and Keller (2008) and Tew *et al.* (2008), all of whom recognised the need for more comprehensive theoretical and conceptual frameworks to assist in the management of tourism crises and disasters, and all who consequently produced models to meet this need (see Table 2.1).

However, questions were raised regarding the effectiveness and viability of these models. As discussed in detail in the opening chapter (see section 2.4), certain weaknesses are evident and it is suggested that these apparent defects could diminish the models' usefulness when applied to a 'real-life' tourism crisis or disaster. In particular, certain issues appear to have been over-looked, such as the sheer unpredictability of crises and disasters, the ways in which contrasting cultures react in different ways to similar situations, and the problems which beset small businesses both in pre-crisis times and during a crisis. The prescriptive, rigid models do not consider the uncertainty surrounding crisis and disaster situations, and the 'one-size-fits all' approach does not appear to take into account differences in types of crises and disasters, and different levels of crisis preparedness in distinct locations. The identification of these weaknesses led to the formulation of the first research question which provides a direct challenge to contemporary tourism crisis and disaster management theory: do the weaknesses which appear to exist within the models affect their application to crisis/disaster situations?

Implicit in this first question is the notion that the time has come to explore other avenues which could provide an alternative and, perhaps, more effective direction for tourism managers in times of crisis. Various commentators (see sections 2.4 and 2.5) have suggested that chaos and complexity theory offer a possible alternative perspective, in that tourism destinations are envisaged as 'systems' which are fragile, changing, dynamic and vulnerable to outside influences. Characteristics of chaos theory include a period of immense alteration in which the system suffers irreversible damage and then periods of self-organisation and creativity as the system reverts to a new 'higher' order.

This thesis, therefore, has sought to demonstrate not only the weaknesses of current tourism crisis management frameworks, but also how various elements of chaos theory often present themselves in a tourism crisis and, consequently, how specific marketing and communication strategies can be applied to manage the situation according to which chaos element is in evidence. This subsequently provided the framework for a proposed chaos theory tourism crisis and disaster management model (Table 2.3), leading to the second research question: does a model which views tourism disaster/crisis management issues from a chaos theory perspective present a more effective, viable alternative?

In order to investigate the criticisms and challenges directed towards contemporary tourism crisis and disaster management models and frameworks, and to test the proposed chaos theory model, the AH1N1 influenza crisis and the subsequent tourism crisis suffered by Mexico in 2009 was selected as an appropriate case study.

8.3   Mexico: getting to the truth

Mexico was chosen for two reasons. Firstly, and most importantly, the country was the scene of a recent high profile tourism crisis; secondly, the researcher has numerous ties to the country, providing him with the opportunity to gain access to relevant secondary data and, in particular, to suitable interviewees. All interviewees were selected according to the objectives of the research and from a variety of tourism backgrounds in an attempt to provide a complete and, as far as possible, unbiased account of the crisis and the country's response to it. While this was to a great extent accomplished, during the primary data collection it became evident that, on occasion, respondents appeared to contradict one another, as was apparent, for example with the two SECTUR employees interviewed (see section 7.1.1). This reflects the fact that, in a county such as Mexico, people are often unwilling to compromise their position by offering potentially

damaging information, and so employees from certain organisations may often avoid publicly criticising those organisations. Thus, on the one hand, SECTUR and CPTM representatives tended to talk positively of the success of Mexican tourism authorities and their response to the crisis; on the other hand, tourism academics, Carlos Amaya Molinar and Juan Carlos Monterrubio, and ex-employee of SECTUR and the CPTM, María Teresa Solís Trejo, tended to disagree and generally criticised the response.

This dialectical tension appears to add to the complexity of the research. Are the SECTUR officials making rather pretentious claims on behalf of their organization or are the tourism academics being a little harsh with their criticism? For those who advocate quantitative research over qualitative research then this perhaps provides an example of how qualitative research can be condemned as being too general, unspecific and uncertain. However, in answer to such criticism, it has to be said that qualitative research is not meant to be an 'exact' science. Differences in viewpoints are part and parcel of this research process and add to the richness and scope of the collected data and whether one wishes to identify with a certain point of view is a matter of personal opinion- one may prefer to 'believe' the academics, or one may be more convinced by the those who work in SECTUR.   In short, it was decided that the most effective means of addressing the research questions was to elicit the opinions of the key players in Mexico – those who were there when it happened and who, as a result of their positions, possess intimate knowledge of the AH1N1 crisis and responses to it.

8.4   The research questions

Q1: Do the weaknesses which appear to exist within [tourism crisis management] models affect their application to tourism crisis/disaster situations?

From the analysis of the data gathered, the following table (Table 8.1 below) summarises the answer to this question, at least in the context of the AH1N1 influenza tourism crisis in Mexico. Overall, the suggested weaknesses and limitations of current tourism crisis management models (see section 2.4) were evident, and, as a consequence, it appears that this would limit their effectiveness and usefulness as a means of responding to the crisis.

Table 8.1: The Mexican AH1N1 crisis: evidence of weaknesses

Unpredictability of tourism crises and disasters	Although predicted within academic circles, a health crisis of this magnitude was not predicted in Mexico and therefore the AH1N1 influenza crisis can be regarded as an unprecedented, unpredictable crisis.
Limitations of prescriptive models/ restrictions posed by a rigid plan	The crisis did not follow the 'crisis life-cycle' and its complexity and scope further added to the dilemma, thus making the 'prescriptive' guidelines offered in contemporary models and frameworks almost unworkable.
One-size-fits-all approach	The limitations of a 'one- size fits all' approach were clearly evident as the nature of a health crisis called for a complete change of response and strategy from that used for previous natural disasters; the fact that it was played out at different locations, all with contrasting levels of competence and resources and at differing levels of severity, added to the managerial complexity of the crisis.
Cultural context	Research concerning the cultural context of the crisis added an interesting issue which could perhaps be used as a basis for future tourism crisis research. As had been previously noted, the 'laid-back' Latin culture perhaps plays a part in the lack of pre-crisis preparedness, but an ominous development present in this case is a deep-seated societal mistrust of the Mexican government, which could severely hamper crisis response. Decades of corruption and injustice has led to a situation in which many people are apathetic to government issues and are not willing to follow 'advice' issued from the authorities. This has been arguably worsened by 'poor' decision making (5 day shutdown and release of scientifically unconfirmed information); Mexican tourism academics fear the psychological impact of these actions could have major repercussions if a similar crisis were to be repeated, as the research suggested that many people would simply not believe what was being reported and would therefore fail to co-operate.

	It is suggested that these kinds of concerns are not unique to Mexico, and undoubtedly exists in many developing countries where tourism plays a huge part in the economy; it seems that tourism crisis management frameworks do not appear to take such issues into consideration.
Realities of small businesses	The reality is that at least 40% of Mexican tourism businesses are unregistered and therefore do not qualify to receive aid and are undoubtedly naïve and ignorant when it comes to tourism crisis management. This presents a significant problem which is not recognised in tourism crisis management models and frameworks, and is an issue which it is suggested should be given more prominence in tourism research. This situation undoubtedly exists in many other countries with practically half of tourism businesses being ignored by governments and decision makers.

Q2: Does a model which views tourism/crisis disaster management from a chaos theory perspective present a more effective, viable alternative?

It was important to identify the various elements of chaos theory throughout the crisis and, as Table 8.2 below demonstrates, it appears that all of the elements mentioned previously (section 2.5 and chapter 6) could be identified.

Table 8.2:   Chaos theory elements present in the AH1N1 influenza crisis

The edge of chaos	The edge of chaos is not a particularly difficult concept, and can be applied to any tourism destination at any time, not just to Mexico. According to official sources, the country's tourism industry appeared to be doing quite well, despite world recession and bad publicity regarding drug violence, until the 'peace' was suddenly shattered by the arrival of the AH1N1 influenza virus.
The butterfly effect	While the origin of the AH1N1 virus remains rather unclear, there exists the strong possibility that it could have originated outside of Mexico, thus supporting the butterfly effect element of chaos theory, in which the source of a crisis or disaster often can be traced to another part of the world and often an unrelated issue. While the origin/cause of a crisis will not prevent it from happening, the butterfly effect helps to explain the 'tenuous equilibrium' which exists in the pre-crisis stage, as incidents unconnected with the destination and indeed tourism can ultimately provoke a series of events which result in a tourism crisis/disaster.
Bifurcation/ cosmology	The Mexican tourism system was severely disrupted, creating an emergency situation. This corresponds with the chaos theory element of bifurcation, while panic among the Mexican population, and hasty decision making by the government can be linked with the element labeled cosmology.
Self-organisation/ strange attractor/ creativity	Self-organisation and creativity were evident as tourism businesses sought to survive the crisis by utilising novel, creative strategies, and it was suggested that self-organisation and solidarity were perhaps unwittingly encouraged by the 'Vive México' campaign. Shared hardship can be likened to the strange attractor element, in which a common cause to promote the good of all can lead to commitment and the strengthening of relationships, ultimately accelerating the recovery process.

'Lock-in' effect	A swift 'recovery' and the return of the 'loyal' tourist illustrates the 'lock-in' effect, in which loyal customers return to a place with which they have a psychological bond, despite bad publicity and negative events.

8.5   The chaos theory tourism crisis/disaster management model: Does it present a more viable alternative?

It was not only important to seek evidence of chaos theory elements during particular stages of the disaster, but it was also necessary to assess whether the recommendations suggested in the chaos theory tourism crisis/disaster management model (Table 2.3) would have improved the response to any extent. This issue was addressed in detail in chapter 7.

It appears that the recommendations delivered within the chaos tourism crisis model, in the form of appropriate marketing and communication strategies, could indeed be used to assist the recovery process. It has been evident that many of the recommendations of the chaos theory tourism model were inadvertently used as part of the Mexican tourism recovery strategy. For example, if one is to compare the chaos tourism crisis/disaster management model (Table 2.3) to the CPTM plan (Table 4.3), it can be seen that both contain marketing and communication measures which include: the suspension or reduction of marketing activities; a focus on domestic clientele; alliances and joint marketing campaigns; a focus on loyal customers and niche markets; product diversification; and, clear accurate communication.

It became apparent that when the recommendations from the chaos tourism crisis/disaster management model were not being implemented, difficulties arose. This is most noticeable in the initial stages of the crisis. For example, little evidence could be found linking even the most prominent Mexican tourism organisations with a 'learning' type organisational culture, the lack of which proved very problematic in the initial stages, as confusion abounded and uncertainty was rife. It is suggested that, had the authorities been more prepared for change of *any* nature, as advocated, then the immediate response would have been improved. Along with this illustration of organizational inflexibility, the 'edge of chaos' stage saw no evidence of even a basic

tourism health crisis plan, the subject of product diversification proved ambiguous, and the strong Mexican brand image was already under attack from 'separate crises', in the form of the drug violence and the world economic crisis.

From the bifurcation stage onwards the response was more in line with the recommendations of the chaos theory tourism crisis/disaster management model, and it was at this stage that the crisis response arguably began to improve. It does appear that if the Mexican authorities had followed the chaos theory tourism crisis/disaster management plan from the beginning, then there would have been significant improvements to the response.

8.6 Final thoughts

Of course, the marketing and communication strategies put forward in the chaos tourism plan are by no means novel or innovative; they are suggested throughout the tourism crisis management literature. However, only here are they directly linked with chaos theory. As mentioned earlier, chaos theory has been linked with tourism crisis management for a number of years, but commentators have typically only hinted at its potential. That is, prior to this study, no empirical work had been undertaken to explore its application to 'real world' tourism crisis management. It is, therefore, hoped that this research stimulates debate and encourages similar case studies.

Currently, tourism crisis management theory extols the value of prediction and the anticipation of specific crises; conversely, this research has demonstrated that weaknesses exist in such a framework. Admittedly, chaos and complexity theory is a difficult concept and must be treated with caution; moreover, there may be more viable methods of addressing these weaknesses. In this thesis it has been presented as an alternative theoretical framework within which to address the important weaknesses which are evident in contemporary tourism crisis and disaster management models, but more research is needed to explore fully its possibilities in the context of tourism crises. Perhaps a combination of traditional and alterative theory would be an appropriate starting point, with attention being paid to the limitations and advantages of both approaches.

However, one thing is clear. If the weaknesses highlighted in this research are not dealt with, then tourism destinations and their stakeholders will continue to suffer financial and personal loss as tourism crises and disasters continue to afflict random chaos on unsuspecting locations. From the evidence of this research, a tourism crisis management framework which considers the elements of chaos theory and

corresponding marketing and communication strategies appears to be a more valid response to tourism crises and disasters than existing models.

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Appendix 1   Recent tourism crisis and disaster management publications

Year	Author (s)	Title	Theme
2001	Faulkner, W.	Towards a framework for tourism disaster management	Develops the tourism disaster management framework (TDMF)
	Faulkner, W. and Vikulov,S.	Katherine, washed out one day, back on track the next: a post-mortem of a tourism disaster	Applies the TDMF to a case study in Australia
2002	Frisby, E.	Communicating in a crisis: the British tourist authority's responses to the foot-and-mouth outbreak and 9/11, 2001	A BTA press officer's review
	Hopper, P.	Marketing London in a difficult climate	Short term marketing responses of the tourism industry and the government
	Goodrich, J.	September, 11th 2001 attack on America: a record of the immediate impacts and reactions in the USA travel and tourism industry	Reaction of US travel and tourism industry to terrorist attacks
	Henderson, J.C.	Terrorism and tourism: managing the consequences of the Bali bombings	Impacts and analysis of Bali bombings: applies Faulkner's framework

Year	Author (s)	Title	Theme
2003	Henderson, J.C.	Managing a health-related crisis: SARS in Singapore	Study of SARS outbreak in Singapore
	Henderson, J.C.	Communicating in a crisis: flight SQ 006	Reaction of Singapore Airlines to a plane crash
	Miller, G..A and Ritchie, B.W	A farming crisis or a tourism disaster? An analysis of the foot-and-mouth disease in the UK	Application of Faulkner's model and case study of the Cheltenham festival
	Ritchie, B.W *et al.*	Crisis communication and recovery for the tourism industry: lessons from the 2001 foot and mouth disease outbreak in the United Kingdom	Analysis of crisis communication of British tourism authority and a district council
	Blake, A. and Sinclair, M.T.	Tourism crisis management: US response to 9/11	Examines the effects of crisis using a computer model
	Prideaux, B. *et al.*	Events in Indonesia: exploring the limits to formal tourism trends forecasting methods in complex crisis situations	Examination of forecasting methods using the case of Indonesia's political and economic crises of 1997

Year	Author (s)	Title	Theme
	Prideaux, B.	The need to use disaster planning frameworks and respond to major tourism disasters: analysis of Australia's response to tourism disasters in 2001	Application of TDMF to crises affecting Australia in 2001
	Ritchie, B.W.	Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry	Discusses a strategic and holistic approach to crisis management in the tourism industry
	Santana, G.	Crisis management and tourism: beyond the rhetoric	Case study of effects of a known hazard on a beach resort in Brazil
2004	Henderson, J.C. and Ng, A	Responding to crisis: severe acute respiratory syndrome (SARS) and hotels in Singapore	Effects of SARS on Singapore's hotel sector and proposal of guidelines based on TDMF
	de Sausmarez, N.	Crisis management for the tourism sector: preliminary considerations in policy development	Development of a sectoral crisis management plan and examination of Malaysia's government response to financial crisis of 1997
2005	Scott, N. and Laws, E.	Tourism crises and disasters: enhancing understanding of system effects	Analysis of a systems perspective approach to tourism crisis management

Year	Author (s)	Title	Theme
	Laws, E. and Prideaux, B.	Crisis management: a suggested typology	A typology of tourism crisis terms
	Eugenio-Martin, J.L *et al*.	Quantifying the effects of tourism crises: an application to Scotland	Provides a model which quantifies the response of different nationalities to different crises and applies to American, French and German tourism demand in Scotland
	Mason, P *et al*.	Severe acute respiratory syndrome and the media	Focuses on media sensationalism during the SARS outbreak
	Peters, M. and Pikeemaat, B.	Crisis management in Alpine winter sports resorts- the 1999 avalanche disaster in Tyrol	Investigates the disaster management process in Austria before and after an avalanche
	Anderson, B.A.	Crisis management in the Australian tourism industry: preparedness, personnel and postscript	Explores the preparedness of organisations in relation to crises affecting the tourism industry
	Zeng, B *et al*.	Short-term perturbations and tourism effects: the case of SARS in China	Effects on tourism of short-term crises and the effects of SARS in China

Year	Author (s)	Title	Theme
	Cioccio, L. and Michael, E.J.	Hazard or disaster: tourism management for the inevitable in Northeast Victoria	Analysis of how small businesses prepared for and recovered from the 2003 bushfires in Australia
	Mistilis, N. and Sheldon, P.J.	Knowledge management for tourism crises and disasters	Development of a knowledge framework for tourism disaster management at the public sector level
	Okumus, F. *et al.*	The impact of Turkey's economic crisis of February 2001 on the tourism industry in Northern Cyprus	A case study approach regarding the effects of Turkey's economic crisis on tourism in Cyprus
	Evans, N. and Elphick, S.	Models of crisis management: an evaluation of their value for strategic planning in the international tourism industry	A case study of a UK based tour operator's response to September, 11th, 2001 and application of a crisis management model
	Sharpley, R.	The tsunami and tourism: a comment	Comment on the Indian ocean tsunami of 2004
2006	Hystad, P and Keller, P.	Disaster management: Kelowna tourism industry's preparedness, impact and response to a major 2003 forest fire	A case study investigating the relationship between a forest fire and the local tourism industry

Year	Author (s)	Title	Theme
	Page, S. *et al*.	A case study of best practice- Visit Scotland's prepared response to an influenza pandemic	A scenario planning exercise for a global flu pandemic
	Pforr, C.	Tourism in post-crisis is tourism in pre-crisis: a review of the literature on crisis management in tourism	Exploring current academic discourse
	Paraskevas, A.	Crisis management or crisis response system? A complexity science to organizational crises	Complexity theory approach to a hotel chain food poisoning crisis
2007	Pforr, C. and Hosie, P.J	Crisis management for tourism: preparing for recovery	Suggestions made regarding the importance of human resources in tourism crisis management
	Scott, N. *et al*.	Tourism crises and marketing recovery strategies	Examines how to rebuild the market for a tourism service or destination following a significant catastrophe
	Volo, S.	Communicating tourism crises through destination websites	Addresses the issue of crisis communication using a destination's website

Year	Author (s)	Title	Theme
	Blackman, D. and Ritchie, B.W.	Tourism crisis management and organizational learning: the role of reflection in developing effective DMO crisis strategies	Discusses the application of critical evaluative inquiry and managed reflection following a crisis
	Carlsen. J.C. and Hughes, M.	Tourism market recovery in the Maldives after the 2004 Indian Ocean tsunami	Case study of market response and recovery in the Maldives
	Kuo *et al.*	Assessing the impacts of SARS and Avian flu on international tourism demand to Asia	Assesses the impact of two infectious diseases on tourism demand to Asia by use of statistical analysis
	Carlsen, J.C. and Liburd, J.	Developing a research agenda for tourism crisis management, market recovery and communications	Discussion on the need to develop a research agenda for the field
	de Sausmarez, N.	Crisis management, tourism and sustainability: the role of indicators	Evaluates the role of indicators, using empirical data gathered in Malaysia
2008	Ritchie, B.W.	Tourism disaster planning and management: from response and recovery to reduction and readiness	Suggests a 'post-disciplinary' approach to research to facilitate more effective planning

Year	Author (s)	Title	Theme
	Hystad, P.W. and Keller, P.C	Towards a destination tourism disaster management framework: long-term lessons from a forest fire disaster	Follow up to previous case study (see above) which offers a framework concerning stakeholder preparedness
	Tew, P.J. *et al.*	SARS: lessons in strategic planning for hoteliers and destination marketers	Reviews impact of SARS epidemic and offers guidance to hoteliers and marketers in the Niagara region
2009	Wang, Y.	The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism	Examines the impact of four disasters on Taiwan's inbound tourism
	Mao, C. *et al.*	Post-SARS tourist arrival recovery patterns: an analysis based on catastrophe theory	Examines post SARS inbound arrivals from Japan, Hong Kong and the USA to Taiwan using the cusp catastrophe model
2010	Monterrubio, J.C.	Short-term economic impacts of influenza A (H1N1) and government reaction on the Mexican tourism industry: an analysis of the media	Examines economic impacts and government reaction to the AH1N1 Influenza crisis in Mexico
	Ritchie, J.R.B. *et al.*	Impacts of the world recession and economic crisis on tourism: North America	Examines the impact of the 2009/2010 economic climate on North American tourism

Appendix 2

Applications of Faulkner's framework

Author (s) and topic	Application
Faulkner and Vikulov (2001) **Katherine Flood**	Faulkner and Vikulov (2001) attempt to apply Faulkner's original framework by examining the 1998 Australia Day flood at Katherine, Australia. The focus of Faulkner and Vikulov's study is to observe the impact of the disaster and the response of the tourism sector; this is achieved by utilising a qualitative, inducted approach by means of loosely structured interviews using a 'disaster incident response evaluation' grid, which provides a framework for the respondents to recollect events. The objective of the interviews is to evaluate ; (i) the unfolding of events, (ii) the responses of individuals and organisations and the reasons for these responses, (iii) if actions taken were pre-planned, (iv) if in hindsight, individuals would have reacted differently and, (v) how a more effective reaction from other parties could have been gained. The grid format corresponds with the disaster phases identified in Faulkner's (2001) disaster management framework. A workshop phase is devised in order to check the data for contradictions and cross-check against secondary data from the media and official reports and to evaluate the effectiveness of the various responses. The workshop also seeks to identify ways in which the disaster has led to changes in the approach to tourism management. The conclusions of the research, according to Faulkner and Vikulov (2001,p. 343), highlight the necessity of the "development and on-going review of destination disaster management plans to become a routine component of the …agenda" and further

Author (s) and topic	Application
	convinces the authors of the need for advance planning. The importance of a coordinated approach is emphasised; however, the authors suggest that the regional tourism association should concentrate on the 'tourism-specific disaster management strategy', including recovery stage marketing strategies which reinforce the positive changes brought about by the disaster and counter-act the negative changes, and the emergency services attention should focus their attention on more specific disaster management, such as visitor and employee safety. Faulkner and Vikulov produce a revised version of the disaster management framework, which is particularly appropriate for destinations affected by flooding ; it encourages the employment of further case study research concerning a range of disasters to test the applicability of the revised framework in a different situation.
Henderson (2002) **Bali bombings**	Henderson investigates the nightclub bombings in Bali of 2002 and applies the framework. The disaster began at the emergency stage, and soon progressed to the intermediate and long-term recovery, although at the time of writing resolution is regarded as being "a distant prospect." (2002, p. 54). Henderson recommends advance planning, as disasters which begin at the emergency stage allow no time for preparation, and also advises ongoing risk assessment and contingency planning.
Prideaux (2003) **Australia 2001**	Prideaux investigates crises affecting the Australian tourism industry in 2001 and applies them to the framework. In comparing the actual responses (in this case from the government) to the suggested response mechanisms of Faulkner's framework, it becomes evident that the crisis lacked a pre-event stage and there was no defined prodromal stage, thus leading to a delayed

Author (s) and topic	Application
	response. Prideaux concludes by suggesting that with some slight modifications, Faulkner's framework could indeed be used in larger and multiple crises and in a wide range of situations, and that without such measures the tourism industry will continue to suffer unnecessary disruptions.
Miller and Ritchie (2004) **Foot and Mouth**	A further application of the framework is made by Miller and Ritchie (2003) in response to the 2001 foot and mouth outbreak in the UK. A lack of preparedness is noted in the pre-event stage, while the extended length of the prodromal stage serves to create divisions between the tourism industry and the farming industry, in stark contrast to Faulkner's advocated 'united' and 'coordinated' approach. Problems emerge with the similarly lengthy emergency stage, which leads to intense media scrutiny, along with political influences affecting government policy. The intermediate stage is characterised by divisions regarding marketing strategy, the recovery stage is basically a continuation of the intermediate stage, while the resolution stage, with its potential for single or double loop learning (Kolb, 1984), brings about governmental changes with the creation of a new government ministry and crisis management unit (evidence of government misunderstanding and neglect of the tourism industry, according to the authors), but, unfortunately, reflection serves to highlight the deep divisions that occurred during the crisis. In contrast to Prideaux's positive comments regarding Faulkner's framework, Miller and Ritchie (2003) offer some criticism by suggesting that the framework is limited, as all crises and disasters differ in size and scope. They note that there are obvious differences between the Katherine flood and the Foot and Mouth crisis; the disaster stages in the Foot and Mouth case are not as identifiable as in the Katherine flood situation and the disaster was played out in much larger geographical área and in a much larger time scale (the problem of an indefinite crisis duration is also noted by Beirman (2003) in relation to Israel) and conclude

Author (s) and topic	Application
	that while the framework is useful for analysis, it would not be of much use to managers attempting to navigate their way through such a crisis. The lack of discernible crisis phases provokes difficulties; it is unclear whether the crisis is in the emergency or intermediate phase and distinct regions appear to enter phases at different moments, thus leading to confusion as to what is the appropriate strategic response and which plans to use.
Henderson and Ng (2004) **SARS in Singapore**	Henderson and Ng apply the framework to a case study which investigates how hotels in Singapore react to the SARS crisis. They note that the crisis begins almost immediately at the emergency stage. "The sudden onset of the crisis and its nature cut short any pre-event or prodromal stages, with no chance of evasion and very little time to prepare" (2004, p.414), and argue that this is evidence of the crisis not corresponding with crisis management theory. The authors advocate a set of guidelines for hoteliers in case of future similar occurrences, firmly recommending pre-event planning due to the evident lack of preparedness of Singaporean hoteliers.

Appendix 3

An explanation of chaos theory

Chaos theory	Elements
'The study of nonlinear dynamic systems' (Levy, 1994: 167) In 1963 meteorologist Edward Lorenz, in the process of simulating weather patterns, discovered that even very small changes to initial conditions resulted in very different outcomes. This ultimately led to the conclusion that minute differences to the initial conditions of any dynamic, non-linear system (not just the weather) can result in drastic changes. This led to the term ' butterfly effect' as it was considered that even something as trivial as the flapping of a butterfly's wings had the potential to evoke dramatic atmospheric conditions thousands of miles away. However, it was also noted that despite the disruption and change, the situation would revert to what Faulkner and Russell (2004:557) call 'a new order', often an improvement on the previous position. A number of elements exist within chaos theory which eventually lead to the 'new order' 'Chaos theory, then, points simultaneously to the inherent disorder, randomness, complexity, and unpredictability; and to the inherent order, pattern, and general predictability in an effort to understand the operation of large, complex systems.' (Sellnow *et al*., 2002: 273)	**'Edge-of-chaos'**: 'An "edge-of-chaos" state exists where a system has reached a point of tenuous equilibrium.' (Faulkner and Russell, 2004: 558) **Bifurcation**: '…the flashpoints of change where a systems direction, character, and/or structure are fundamentally disrupted.' (Sellnow *et al*., 2002: 271) **Cosmology**: '…all existing forms of sensemaking fail to account for experiences' (Sellnow *et al*., 2002: 271) **Self-organisation**: '…this new order appears to arise from inner guidelines and principles rather than by being imposed by external forces.' (Sellnow *et al*., 2002: 272) **Strange attractors**: 'Strange attractors may take the form of general and fundamental social assumptions, values, first principles, conflicting tensions and needs, or oppositional paradoxes to which a social system naturally and continually returns.' (Sellnow *et al*., 2002: 273) **'Lock-in-effect'**: '…a strong network of mutually reinforcing relationships that…endure long after the initiating conditions have been superseded'. (Faulkner, 2000: 10)