

**DISASTER COGNITION AND PLANNING INTENTIONS OF  
STRATEGIC DECISION-MAKERS OF THE  
ACCOMMODATION SECTOR (SDMAS) IN THE SRI  
LANKAN TOURISM INDUSTRY**

**Lakmini N. Kannangara**

**A thesis submitted to the University of Salford Business School for  
the degree of Doctor of Philosophy**

**2019**

## **Dedication**

I dedicate this thesis to my husband Sean Perera and my son Onett Perera.

## **Acknowledgements**

My profound gratitude goes to my supervisor Professor Sunil Sahadev for guiding me through the research process for the last three years. His valuable advice and guidance helped me to overcome many challenges during the research process immensely and to complete this thesis successfully.

I would also like to convey my appreciation to my co- supervisor Dr Richard Bell.

Special thanks to all the friends and associates from the Ministry of Tourism, SLTDA, Disaster Management Centre of Sri Lanka and UN Sri Lanka for helping me with many aspects of my research including the successful completion of the survey. I should also thank all the SDMAS who participated in the survey for their contribution with the data collection.

My profound gratitude to my sister Thilanka and the staff for helping me with the fieldwork of the survey. Special thanks for Dr Mike Springer for all the support given to me in successfully completing my thesis.

Finally, I would like to express my gratitude to my family and friends Sean Perera, Onett Perera, Pandula Kannangara, Sriya Weerapperuma, Kushani Vidhanagama, Chandana Vidhanagama, Thilanka Weerathunga, Sanjaya Weerathunga, Sanjeewa Withana, Katie Davis, and Thilini Wijeratna for encouraging me in many ways.

## Abstract

Power-holding strategic decision-makers play an important role in tourism organisational dynamics due to the industry comprising a large number of medium to small businesses. Considering the escalation of disaster risk faced by tourism destinations around the world in recent years, such a lack of research on the strategic decision-makers' disaster management is somewhat disquieting. The current research therefore intends to fill the gap in this research area. The current research applied the theory of planned behaviour to understand the factors that influence disaster cognition and the planning intentions of strategic decision-makers.

**Approach:** In alignment with a positivist and deductive theoretical approach, a quantitative research design is considered most appropriate for the current research. A data set of 301 samples were collected through a questionnaire survey. AMOS SEM technique was used for data analysis. The results suggest that both attitude towards disaster planning and disaster cognition influence the intention to undertake disaster planning. Past disaster experiences, disaster training and level of education seem to influence disaster cognition among SDMAS. However, subjective norms and perceived behavioural control, do not show any significant influence on the intention to undertake disaster planning.

**Originality/value:** The current research made several significant contributions to both theory and practice. The current study was able to extend the TPB model through the inclusion of disaster cognition as one of the crucial constructs in determining the intention to undertake disaster planning, and this inclusion appears to have contributed to a more comprehensive disaster planning behaviour model. The construct and the measurement scale developed for measurement of disaster cognition will be useful for

future studies in numerous ways. It should also be noted that the findings of this study will be of interest to many tourism authorities, organisations and SDMAS, which are increasingly exposed to such risks in this volatile world environment.

# Table of Contents

Dedication .....	i
Acknowledgements .....	ii
Abstract .....	iii
Table of Figures .....	xiv
List of Tables .....	xv
List of Abbreviations .....	xvii
1. Introduction .....	1
1.1 Research Motivation .....	1
1.2 Introduction to the Research Area .....	2
1.3 Rationale of the Research .....	4
1.4 The Significance of the Research .....	6
1.5 Aim of the Research .....	7
1.6 Research Objectives.....	7
1.7 Research Questions .....	8
1.8 Hypotheses.....	9
1.9 Research Process .....	12
1.10 Thesis Outline.....	15
1.11Definitions of Terms.....	18
1.12 Chapter One Summary.....	19
2. Introduction to the Research Context.....	21
2.1 Introduction to the Tourism Industry in Sri Lanka.....	21

2.2	Tourism Industry in Sri Lanka .....	22
2.3	Tourism Governing Body of Sri Lanka .....	23
2.4	The Tourism Accommodation Sector in Sri Lanka.....	25
2.5	Strategic Decision-makers of the Accommodation Sector (SDMAS) .....	27
2.6	Past Disaster Experiences in the Context of Sri Lanka.....	27
2.7	Chapter Two Summary.....	31
3.	Literature Review .....	32
3.1	Introduction .....	32
3.2	Tourism and Its Development as a Field of Research.....	33
3.2.1	Defining Tourism .....	34
3.2.2	The Importance of Sustainable Planning and Development of Tourism.....	36
3.2.3	Multidisciplinary Approach to Tourism .....	38
3.3	Disaster Management and Tourism .....	39
3.3.1	Defining Crisis and Disaster in the Tourism Industry .....	39
3.3.2	Natural Disasters and Human-Induced Disasters.....	41
3.3.3	Negative and Positive Impacts of Disasters.....	42
3.3.4	How Disaster Impacts the Image of a Destination .....	44
3.3.5	Why Is Disaster Planning Important for the Tourism Industry? .....	48
3.3.6	Economic and Social Consequences of Possible Setback to the Industry.....	49
3.4	Disaster Management Frameworks and Theories.....	50
3.4.1	Main Components of Disaster Management Life Cycle .....	51

3.4.2	Comparison of Popular Disaster Management Frameworks .....	52
3.4.3	Popular MPRR Frameworks Adopted by Sri Lanka Disaster Management Centre.....	53
3.4.4	Faulkner's (2001) Framework.....	54
3.4.5	The Sendai Framework 2015-2030 for Disaster Risk Reduction .....	60
3.4.6	Linking Tourism Disaster Management Frameworks with the General Disaster Management Framework of Destinations.....	61
3.4.7	Limitations in the Contemporary Disaster Management Frameworks of Destinations .....	62
3.4.8	Disaster Preparedness through Planning .....	63
3.4.9	The Importance of Strategic Decision-makers.....	64
3.5	Strategic Choice Theory.....	65
3.5.1	Origins of the Concept of Strategic Choice.....	66
3.5.2	Organisation Studies and Strategic Choice .....	66
3.5.3	Exercise of Choice by Strategic Decision-makers .....	67
3.5.4	The Importance of Looking into Behaviour of the SDMAS.....	68
3.6	Theory of Planned Behaviour.....	70
3.6.1	Theories of Attitude and Attitude Change .....	70
3.6.2	Tripartite Theory of Attitude .....	73
3.6.3	Social Cognitive Theory and Self-Efficacy Theory.....	74
3.6.4	The Attribution Theory and Theory of Reasoned Action (TRA) .....	76
3.6.5	Theory of Planned Behaviour (TPB).....	79



3.6.6	Behavioural Beliefs and Attitude towards Behaviour .....	80
3.6.7	Normative Beliefs and Subjective Norms.....	81
3.6.8	Control Beliefs and Perceived Behavioural Control .....	82
3.6.9	Intention and Behaviour.....	84
3.6.10	TPB as a Predictor of Behaviour .....	85
3.6.11	Criticism and Limitations of Theory of Planned Behaviour .....	86
3.6.12	Inclusion of Additional Predictors to TPB .....	88
3.6.13	Uncertainty Avoidance and Perceived Risk as Other Cognitive Variables.....	90
3.6.14	Rationale for Applying the Theory of Planned Behaviour .....	91
3.7	Linking Managerial Cognition with Disaster Cognition .....	92
3.7.1	Managerial Cognition.....	93
3.7.2	Defining Cognition .....	94
3.7.3	The Origins of Managerial Cognition .....	95
3.7.4	Managerial Cognition and Its Theoretical Contribution .....	95
3.7.5	Individual Cognition .....	97
3.7.6	Cognitive Structures .....	98
3.7.7	Semantic Understanding.....	100
3.7.8	Episodic Memories.....	100
3.7.9	Learning Skills: Implicit Learning and Explicit Learning.....	102
3.7.10	Unconscious Interpretations.....	103
3.7.11	Situational Awareness.....	104

3.7.12 Disaster Cognition.....	105
3.8 Research Gap.....	110
3.9 Summary of the Literature Review.....	111
4. Hypotheses.....	114
4.1 The Influence of Past Disaster Experience on Disaster Cognition.....	117
4.2 The Relationship between Disaster Management Training and Disaster Cognition .....	118
4.3 The Relationship between Personal Demographics and Disaster Cognition	120
4.4 The Relationship between Disaster Cognition and Intention to Undertake Disaster Planning.....	122
4.5 The Relationship between Attitude and Intention to Undertake Disaster Planning .....	124
4.6 The Relationship between Subjective Norms and Intention to Undertake Disaster Planning.....	125
4.7 The Relationship between Perceived Behavioural Control and Intention to Undertake Disaster Planning.....	127
4.8 Conceptual Model.....	129
4.9 Methodological traditions in the field .....	132
4.10 Summary of the Hypothesis Development.....	134
5. Research Methodology .....	136
5.1 Ontological and Epistemological Standing of the Current Study.....	137
5.1.1 Research Philosophy .....	139

5.1.2 Interpretivist Approach .....	140
5.1.3 Positivist Approach.....	141
5.1.4 Positivist and Deductive Approach to Theory Development.....	143
5.2 Research Survey Design .....	145
5.3 Questionnaire Design .....	148
5.3.1 Development of the Questionnaire.....	148
5.3.2 Scale Development .....	150
5.3.3 Language of the Questionnaire .....	151
5.3.4 Questionnaire Instrument and Measures .....	151
5.3.5 Demographics of SDMAS .....	152
5.3.6 Disaster Management Training and Education .....	153
5.3.7 Past Disaster Experience .....	153
5.3.8 Measures of the TPB Constructs .....	154
5.3.9 Measures of Disaster Cognition .....	156
5.3.10 Measures of Intentions to Undertake Disaster Planning .....	157
5.3.11 Pilot Study .....	158
5.4. Ethical Considerations .....	159
5.5 Data Collection .....	160
5.5.1 Research Population and Sample.....	161
5.5.2 Sample Frame.....	162
5.5.3 Cluster Sampling.....	162

5.5.4 Sample Size .....	163
5.5.5 Limitations of Sampling .....	165
5.5.6 Internal Validity (Measurement Validity) .....	166
5.5.7 Reliability.....	168
5.5.8 Statistical Analysis tool Employed.....	169
5.6 Methodological Limitations and Risks.....	170
5.6.1 Cross-Sectional Method.....	170
5.6.2 Common Method Bias.....	171
5.6.3 Target Population and Sample Representation.....	173
5.7 Summary of Methodology.....	174
6. Data Analysis .....	178
6.1: First Stage: Data Entry and Screening .....	179
6.1.1 Data Entry Process .....	179
6.1.2 Data Screening Process.....	180
6.1.3 Missing Data, Unengaged Response and Outliers.....	180
6.2 Second Stage: Exploratory Data Analysis .....	181
6.2.1 Personal Demographics of the Sample.....	181
6.2.2 Organisational Demographics of the Sample.....	183
6.2.3 Disaster Management Training and Education .....	184
6.2.4 Explore the Constructs.....	185
6.2.5 Assessing Normality.....	190

6.3 Third Stage: Structural Equation Modelling (SEM) .....	193
6.3.1 Confirmatory Factor Analysis (CFA).....	194
6.3.2 Measurement Model Validation .....	195
6.3.3 Reliability.....	195
6.3.4 Measurement Model Fit / Goodness of Fit (GOF) .....	198
6.3.5 Construct Validity .....	201
6.3.6 Convergent Validity .....	201
6.3.7 Discriminant Validity .....	203
6.4 Fourth Stage: Path Analysis and Hypothesis Testing .....	205
6.5 Summary of the Analysis .....	211
7. Discussion and Implications.....	215
7.1 The Relationship between Past Disaster Experience and Disaster Cognition .....	218
7.2 The Relationship between Disaster Management Training and Disaster Cognition .....	219
7.3 The Relationship between Level of Education and Disaster Cognition.....	219
7.4 The Relationship between Age and Disaster Cognition.....	220
7.5 The Relationship between Managerial Experience and Disaster Cognition..	221
7.6 The Relationship between Disaster Cognition and Intention .....	222
7.7 The Relationship between Disaster Cognition and Attitude .....	223
7.8 The Relationship between Attitude and Intention.....	223
7.9 The Relationship between Subjective Norms and Intention.....	224

7.10	The Relationship between Perceived Behavioural Control and Intention ...	225
7.11	Theoretical and Managerial Implications and Contributions .....	226
7.11.1	Theoretical Contributions .....	226
7.11.2	Managerial Implications.....	228
8.	Conclusion .....	231
8.1	Summated Rationale of the Research .....	231
8.2	Summary of the Literature Review.....	233
8.3	Methodological Process.....	235
8.4	Data Analysis and Key Findings of the Research .....	236
8.5	Research Findings .....	237
8.6	Research Originality .....	241
8.7	Contributions to the Knowledge .....	241
8.8	Summary of Theoretical and Managerial Implications of the Research .....	242
8.9	Limitations and Future Directions .....	245
8.10	Concluding Remarks .....	246
9.	References.....	248
10.	Appendices .....	284

## Table of Figures

Figure 1.1: The factors that influence disaster cognition and the intention to undertake disaster planning (Source: Author).....	6
Figure 1.2: A conceptual model to test the hypotheses (Source: Author).....	11
Figure 1.3: Research process and design (Source: Author).....	13
Figure 3.1: World of Tourism; Adapted from “Creation of tourism knowledge” by Tribe (2004, p.50) (Source: Benckendorff & Zehrer (2013)). .....	34
Figure 3.2: Four-phase disaster management cycle (Source: Adapted from Coppola (2007)). .....	51
Figure 3.3: The framework of the Theory of Reasoned Action. ....	78
Figure 3.4: Theory of Planned Behaviour (Source: Adapted from Ajzen (1985)). ....	80
Figure 4.1: A conceptual model to test the hypotheses (Source: Author).....	131
Figure 5.1: Deductive approach to theory development used in the current study (Source: Author).....	143
Figure 5.2: The research design (Source: Author). ....	147
Figure 7.1: Disaster planning intentions model for SDMAS.....	217

## List of Tables

Table 3.3-1: Comparison of emergency management phases in different frameworks (Source: Author).....	52
Table 3.3-2: Disaster management framework by Faulkner (Source: Faulkner (2001)).	
Table 4-1: Methodological traditions in the field .....	132
Table 5.1: Cluster separation .....	163
Table 6.1: Demographics of the sample.....	182
Table 6.2: Cluster distribution.....	183
Table 6.3: Distribution of accommodation category .....	184
Table 6.4: Disaster management training.....	185
Table 6.5: Means and standard deviation for disaster management training experience .....	185
Table 6.6: Means and standard deviation for past disaster experience .....	186
Table 6.7: Means and standard deviation of attitude towards disaster planning ....	186
Table 6.8: Means and standard deviation for perceived behavioural control towards undertaking disaster planning .....	187
Table 6.9: Means and standard deviation for subjective norms towards undertaking disaster planning .....	188
Table 6.10: Means and standard deviation for disaster cognition .....	189
Table 6.11 Means and standard deviation for Intention to undertake disaster planning descriptive statistics .....	190
Table 6.12: Kolmogorov-Smirnov and Shapiro-Wilk tests .....	190
Table 6.13: Mean Standard Deviation Skewness and Kurtosis for Summated Scales .....	191
Table 6.14: Reliability statistics .....	198



Table 6.15: Model fit indices.....	200
Table 6.16: Convergent validity.....	202
Table 6.17: Factor correlation matrix with the square root of the AVE on the diagonal .....	203
Table 6.18: Discriminant validity table.....	204
Table 6.19: Hypotheses tested.....	205
Table 6.20: Structural model fit measure assessment.....	206
Table 6.21: Standard parameter estimates for the structural model.....	207
Table 6.22: Outcome of the hypotheses tested.....	211

## List of Abbreviations

CEO	Chief Executive Officer
DC	Disaster Cognition
DRR	Disaster Risk Reduction
DMC	Disaster Management Centre
IUCN	International Union for the Conservation of Nature
MDM	Ministry of Disaster Management
MPPR	Mitigation, Preparedness, Response and Recovery
MV	Method Variance
NCDM	National Council for Disaster Management
NDRC	National Disaster Relief Centre
PBC	Perceived Behavioural Control
SDMAS	Strategic Decision-Makers of the Accommodation Sector
SDMs	Strategic Decision-Makers
SLTDA	Sri Lanka Tourism Development Authority
SN	Subjective Norms
TMT	Top Management Teams
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TBL	Triple Bottom Line
UNWTO	United Nations World Tourism Organisation

# **CHAPTER ONE**

## **1. Introduction**

The aim of this chapter is to introduce the area of research, to explain the rationale for the research, to provide the research background, to identify the gaps that led to the development of this particular study, and to articulate the research problem. It then presents the aims and objectives of this research, followed by the research questions, conceptual framework, and hypotheses. In addition, the chapter introduces the methodology and research design adopted, and provides an overview of the rest of the study.

### **1.1 Research Motivation**

The selection of the particular research problem and context for a research study are mostly personal choices driven by personal experience or interest. In the case of the current study, the motivation to carry out research in tourism management and disaster sprang from the researcher's own interest in the field. The researcher worked as a strategic decision-maker in the accommodation sector in Sri Lanka for more than 15 years before commencing higher studies as a PhD student in the UK. The curiosity to conduct research on disaster planning was due to personal experience of disaster while being a strategic decision-maker in the tourism field. The researcher ran a hotel in Sri Lanka at the time the Indian Ocean Tsunami of 2004 struck the coastal region of the country, and experienced first-hand the effects of such a natural disaster on the sector. During this disaster the researcher experienced the extreme vulnerability of the industry and observed the importance of appropriate planning and preparedness not only at the level of government organisations but in individual businesses as well. Thus, the researcher was truly interested in looking deeper into disaster planning behaviour

of the tourism industry. The following section will provide an introduction to the broader research area.

## **1.2 Introduction to the Research Area**

According to statistics published by the United Nations World Tourism Organisation [UNWTO] (2018), the tourism has continuously expanded within the last 60 years to become one of the largest and fastest growing economic sectors in the world. In 2016, it reached US\$ 1.6 trillion in export earnings, the third in world export categories after fuels and chemicals, and ahead of automotive products and food. An increasing number of destinations around the world have invested in tourism, creating businesses and employment, export revenue and infrastructural development in order to secure socio-economic growth within their communities. For many countries around the world, tourism has become the driving force of socio-economic growth, and for many developing countries it has become the main source of income (United Nations World Tourism Organization [UNWTO], 2017).

For many tourist destinations, their natural environment is the primary attraction for visitors, and such unique geographical settings and environments are increasingly vulnerable to many disasters. This is due to the rapid expansion of the tourism industry around the world, and more and more tourist destinations and attractions being built in areas prone to disasters. The unique geographical settings and environments of these destinations when affected by disasters could bring serious adverse effects on the social and economic development of their dependent communities (Tsai & Chen, 2011). Furthermore, the tourism industry is highly vulnerable to unforeseen changes that may occur due to various disasters. For example, tourist arrivals to a destination depend heavily on the destination's levels of safety and security. Any threat to the

safety and security of tourists could negatively affect the influx of tourism to the destination in question. Such impacts include loss of property, infrastructure, livelihood or even lives. In recent years an increasing number of tourist destinations have been adversely affected by both natural disasters – such as tsunamis, floods and earthquakes, hurricanes, cyclones, landslides – and human-induced disasters such as terrorist activities, mass shootings, suicide bombings, civil unrest and war (Tsai & Chen, 2011).

Preparedness through sound disaster management planning could minimise and limit the extent of such adverse impacts. Despite increased global interest in the impact of disasters on the tourism industry, many tourism organisations and their strategic decision-makers seem to be reluctant to prepare for future disasters through disaster planning (Anderson, 2006). Furthermore, there has been limited research into how effectively such disasters are planned for and addressed at the organisational and decision-makers' level (Wang & Ritchie, 2012). Power-holding strategic decision-makers play an important role in tourism organisational dynamics due to the industry comprising a large number of medium to small businesses. Considering the escalation of disaster risk faced by tourism destinations around the world in recent years, such a lack of research on the strategic decision-makers' disaster management is somewhat disquieting. The current research therefore intends to fill the gap in this research area.

Since disaster planning is a difficult investment decision, the choice of whether or not to undertake disaster planning largely depends on the decision of the most powerful individuals for many tourism organisations, or in other words the strategic decision-makers within each organisation. Such choices made by the strategic decision-makers could be influenced or prejudiced by various psychological factors such as their cognitions, attitude, perceived behavioural control, subjective norms and intentions.

The current research therefore intends to understand the factors that influence disaster cognition and the planning intentions of strategic decision-makers.

The tourism industry comprises a broad range of diverse interrelated subsectors (accommodation, travel and transport, restaurant and food), representing a large number of individual enterprises. Therefore, in order to simplify the data collection process and avoid any difficulties in comparison, this research has only focused on the accommodation sector. Furthermore, according to the Sri Lanka Tourism Development Authority [SLTDA] (2017a) the accommodation sector is the most prominent subsector in the tourism industry in Sri Lanka. Choosing the accommodation sector for the current study was therefore considered to be the most appropriate. The following section will provide the rationale for the research followed by the significance of the research, the aims and objectives of the research.

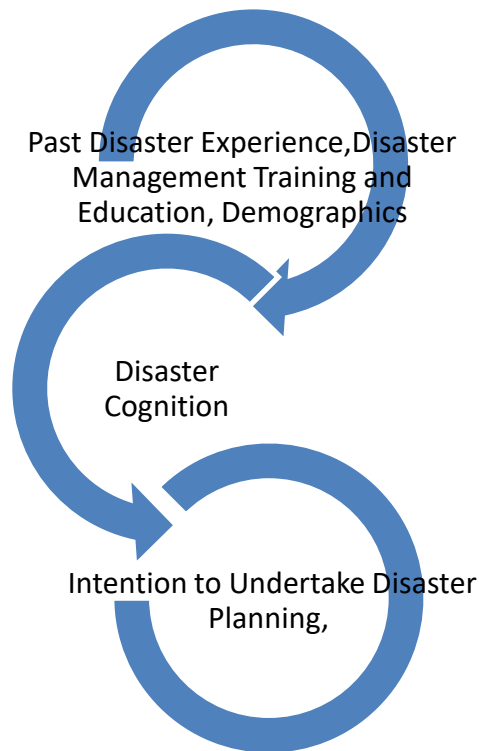
### **1.3 Rationale of the Research**

Due to the current economic, environmental and political volatility in the world, an increasing number of tourist destinations are prone to many disasters (floods, tsunamis, earthquakes, tornados, terrorist activities). However, a lack of systematic research on disaster management and planning within the tourism industry has resulted in many tourist destinations failing to establish a well-developed disaster management strategy to assist them in such an event (Faulkner, 2001). A number of researchers have thus pointed to the importance of carrying out scrupulous academic research on various dimensions of disaster management within the tourism industry (Faulkner, 2001; Santana, 2004; Richie, 2004, Becken & Hughey, 2013). Furthermore, Richie (2004) points out that the existing literature has mainly focused on various disaster management strategies and frameworks with simplistic prescriptive models

that only offer checklists or information for tourism managers to follow pre, during and post disaster scenarios, rather than looking into issues relating to the managerial and organisational level. There is therefore a growing need for the tourism and disaster management literature to adopt a more holistic approach, which factors in the organisational and decision-making level, in order to better understand issues in disaster management and planning within the context of tourism.

Researchers have thus far failed to identify the importance of the role played by the strategic organisational decision-makers in the context of disaster management in the tourism industry, and to elaborate the implications of this importance. This study therefore does this. Taking into consideration the above gap, the current study intends to obtain a deeper understanding of the factors that influence the disaster management planning intentions of strategic decision-makers in the tourism industry. Furthermore, Comfort (2007) brought to attention the importance of disaster cognition in disaster management and suggests that disaster cognition leads to better focused disaster planning and management. This study therefore intends to examine disaster cognition as a possible influencer of the disaster planning intentions of strategic decision makers.

Figure 1.1 below shows how past disaster experience, training and other possible factors could lead to better disaster cognition, resulting in the intention to undertake disaster planning.



*Figure 1.1: The factors that influence disaster cognition and the intention to undertake disaster planning (Source: Author).*

#### **1.4 The Significance of the Research**

The current study has made a significant contribution to the extant literature and practice in number of ways. The significance of the study is outlined in this section (detailed discussion in chapter 7 & 8).

- To the best of the author's knowledge, this study is one of the first such studies that explores disaster cognition of SDMAS in the context of an emerging economy, and investigated the association between disaster cognition, attitude and behavioural intention of SDMAS.



- This study has contributed to the extant literature on disaster cognition in the tourism industry by developing a comprehensive model of disaster planning intentions among SDMAS by extending TPB model.
- Further through identifying the key factors and establishing their relative strengths in impacting disaster planning intentions of SDMAS, the study contributes to the extant theory related to managerial cognition. The study also made a significant contribution to the existing literature in disaster planning by developing a measurement scale for the construct disaster cognition which could be useful for future researchers who intend to carry out research on disaster cognition.
- The findings of the study will be significant for government policy makers, disaster management authorities, tourism development bodies as well as tourism businesses and SDMAS in encouraging disaster planning behaviour.

### **1.5 Aim of the Research**

The aim of this doctoral research is to identify factors that could influence disaster cognition, the attitudes and disaster planning intentions of the strategic decision-makers in the accommodation sector (SDMAS); and whether SDMAS disaster cognition level could influence their intention to undertake disaster planning within their organisations.

### **1.6 Research Objectives**

- To identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry.
- To identify and explore the factors that influence the intention to undertake disaster planning among SDMAS.

- To examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour.
- To develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS.

In order to achieve the above, the following research questions have been developed.

### **1.7 Research Questions**

**RQ 1:** To what extent do the age, level of education, managerial experience, past disaster experience, and disaster training of SDMAS influence their disaster cognition level?

**RQ 2:** To what extent does SDMAS disaster cognition influence their attitude towards disaster planning?

**RQ 3:** To what extent does SDMAS disaster cognition influence their intention to undertake disaster planning?

**RQ 4:** To what extent does SDMAS attitude influence their intention to undertake disaster planning?

**RQ 5:** To what extent does the perceived behaviour control of SDMAS influence their intention to undertake disaster planning?

**RQ 6:** To what extent do the subjective norms of SDMAS influence their intention to undertake disaster planning?

**RQ 7:** To what extent can the TPB be used to predict the intention to undertake disaster planning amongst SDMAS?

In order to address the above research questions the following Hypotheses and conceptual framework (Figure 1.2) was developed.

## **1.8 Hypotheses**

**Hypothesis 1:** SDMAS with past disaster experience exhibit better disaster cognition than who have not experienced disaster.

**Hypothesis 2:** SDMAS with disaster management training and education exhibit better disaster cognition than who have not undertaken disaster management training.

**Hypothesis 3:** The higher the education levels of SDMAS, the greater their disaster cognition will be.

**Hypothesis 4:** The higher the age of SDMAS, the greater their disaster cognition will be.

**Hypothesis 5:** SDMAS with higher managerial experience levels will have better disaster cognition than those with lower experience levels.

**Hypothesis 6:** SDMAS disaster cognition levels will have a significant positive influence on their intention to undertake disaster planning within their organisations.

**Hypothesis 7:** SDMAS disaster cognition levels will have a significant positive influence on their attitudes towards disaster planning.

**Hypothesis 8:** The positive attitude of SDMAS towards disaster planning will have a significant positive influence on their intention to undertake disaster planning.

**Hypothesis 9:** The subjective norms of SDMAS will have a significant positive influence on their intention to undertake disaster planning.

**Hypothesis 10:** The perceived behavioural control of SDMAS relating to disaster planning will have a significant positive influence on their intention to undertake disaster planning.

Based on the above hypotheses, the following framework was proposed.

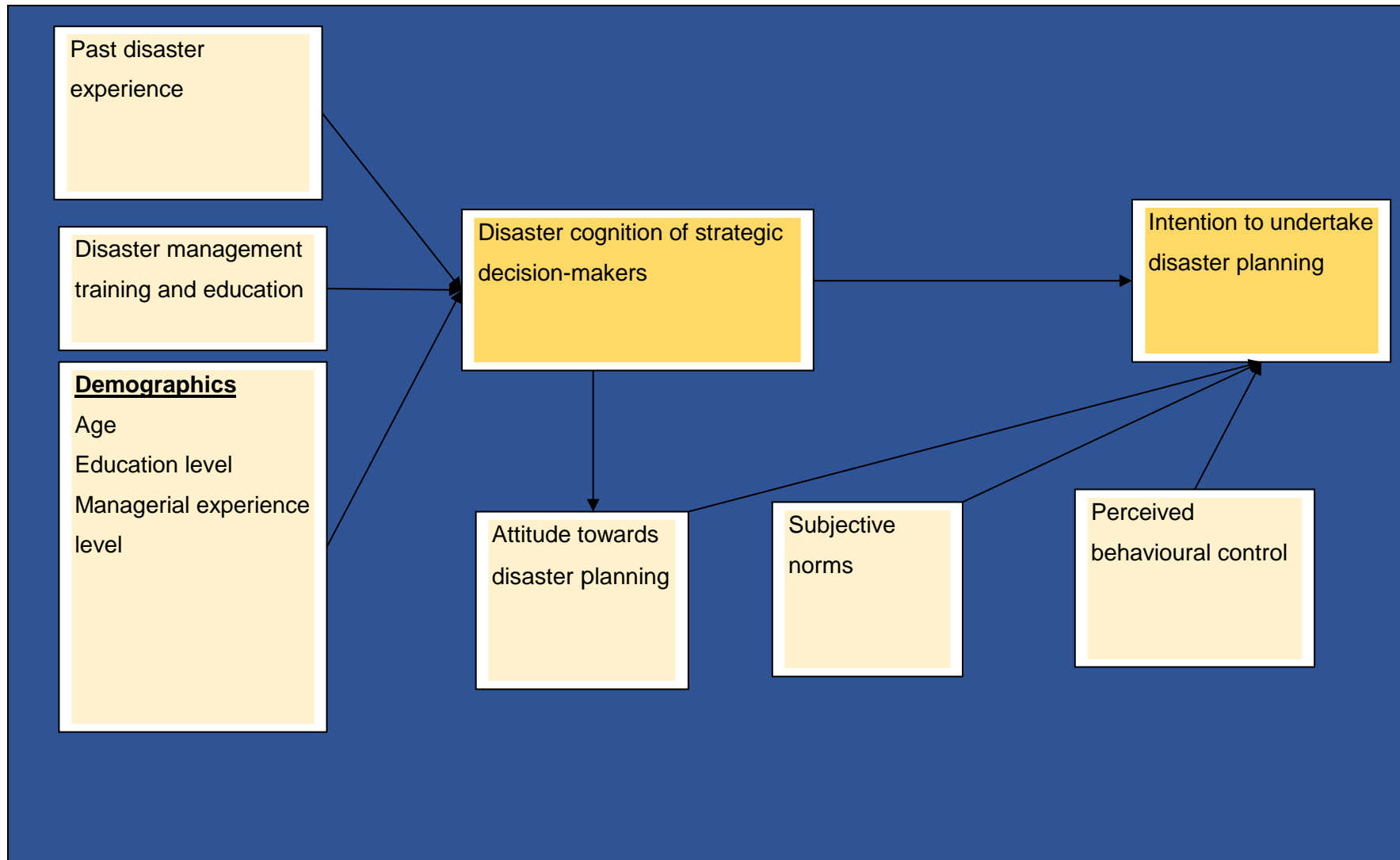


Figure 1.2: A conceptual model to test the hypotheses (Source: Author).

The conceptual framework was developed through integrating six independent predictor variables (past disaster experience, disaster management training and education, SDMAS personal demographics, attitude towards disaster planning, subjective norms, and perceived behavioural control) and two dependent variables (disaster cognition and intention to undertake disaster planning) with the aim of understanding the factors that influence SDMAS disaster cognition and intention to undertake disaster planning. The conceptual model was created based on an extension of the TPB to accommodate SDMAS disaster cognition (Figure 1.2).

The following section will briefly describe the research process and the steps it consists of to provide an overview of the study.

## **1.9 Research Process**

Figure 1.3 shows the steps of the research process followed in this study. The following diagram links the chapters of the study. The research process started with the special interest in the area of research, identifying the context of the research area, followed by a review of the existing literature. A thorough review of the literature made it possible to identify gaps where the study could make a meaningful contribution to both theory and practice. The next stage involved further refinement of the literature review, and identifying relevant theories for the possible development of a theoretical model.

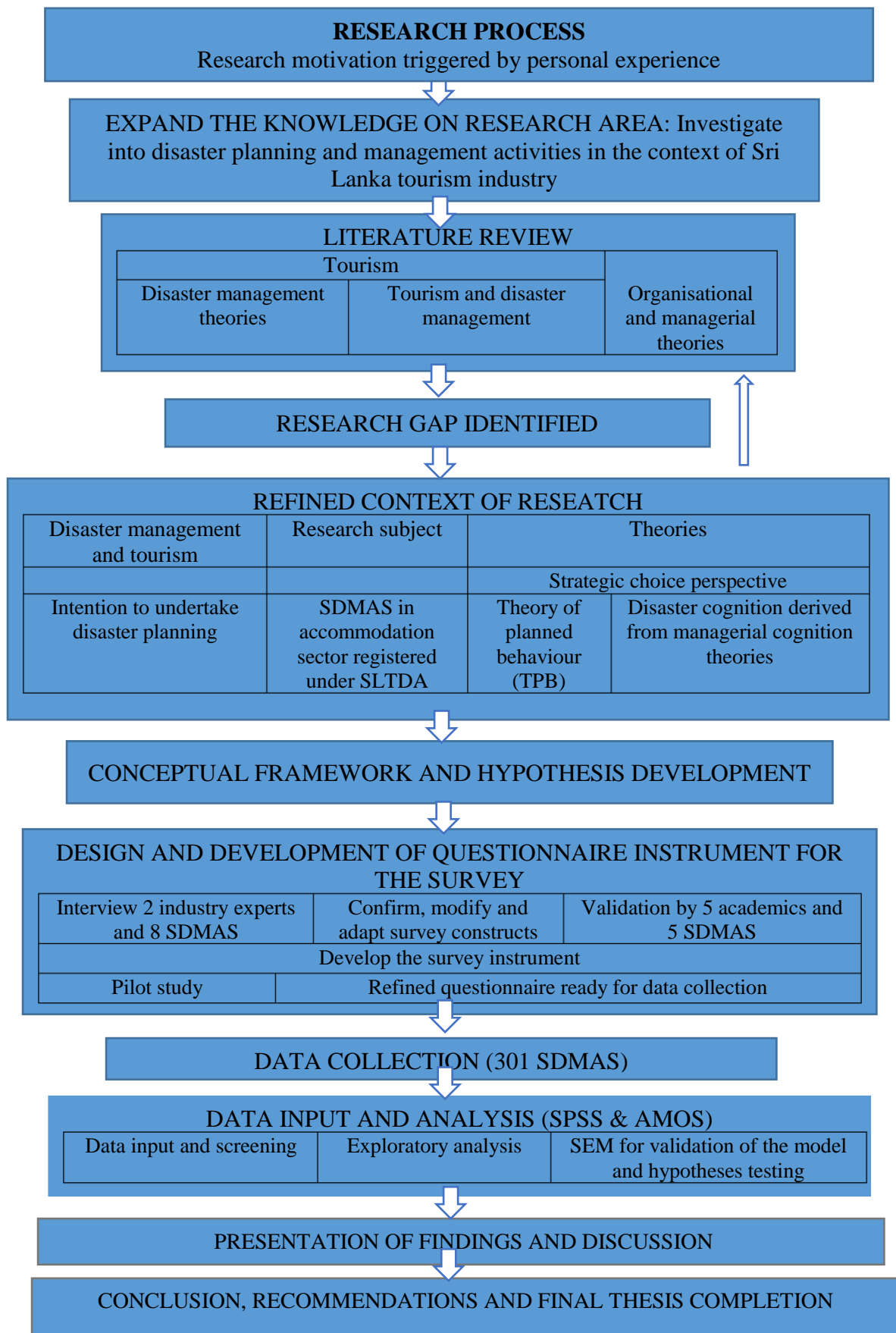


Figure 1.3: Research process and design (Source: Author).

The two main theories identified as being appropriate for the research model were the Theory of Planned Behaviour (TPB), and disaster cognition derived from managerial cognition theories. After identifying suitable theories, a suitable conceptual framework for the research was developed, along with a research hypothesis. The questionnaire was then designed in the following manner: constructs relating to the Theory of Planned Behaviour were adapted from a similar study carried out by Wang & Richie (2012), and the construct relating to disaster cognition was developed and validated prior to designing the questionnaire instrument for the survey. The questionnaire instruments were designed based on the research model and tested through a pilot study. The survey questionnaire was then distributed for data collection. When the completed surveys were received back, the data was analysed, and a final sample of 301 responses were used for data analysis. The statistical software tool SPSS was used for data screening and descriptive analysis and the statistical software SPSS and SPSS AMOS were used for structural equation modelling (SEM) analysis. Data analysis was carried out in the three steps of data screening, exploratory data analysis and SEM analysis. The two-step approach was adopted for SEM. In the first step confirmatory factor analysis (CFA) was carried out to validate the measurement model by examining the goodness of fit (GOF) of the model, testing reliability, convergent validity, and discriminant validity of the constructs used in the model. In the second step the CFA model was converted to a hypothesised structural model and assessed using path analysis technique in order to test the hypothesised relationships among the constructs proposed in the research model. Finally, the findings were discussed, and conclusions were presented together with strengths, limitations and future directions.



The following section will provide a brief outline of the subsequent chapters of the study.

### **1.10 Thesis Outline**

In addition to the introduction chapter, this thesis consists of seven further chapters, each of which is briefly outlined in this section.

**Chapter Two:** Chapter Two provides an overall introduction to the Sri Lanka Tourism industry in order to provide some insights into the background of the country and its tourism industry. This chapter will discuss the economic and social importance of the tourism industry, as well as its main governing body. It will then focus specifically on the accommodation sector, and provide a detailed classification of each category of accommodation available in the country. Finally, this chapter will briefly elaborate on possible disaster experiences in the context of Sri Lanka.

**Chapter Three:** Chapter Three provides an in-depth review of the prior literature related to the research area. This chapter begins with a review of the literature on tourism and its development as a field of research leading to a multidisciplinary approach to tourism. It then moves on to analyse the existing literature on disaster management, and various disaster management frameworks. Thereafter, it reviews the importance of disaster planning for tourism organisations. The shortfalls in the literature are then identified, shedding light on gaps in the research by highlighting the level of ignorance amongst researchers regarding the importance of the role of strategic organisational decision-makers in the context of disaster management in the tourism industry. This is identified as an opportunity to explore more deeply into the role of strategic decision-makers' in the context of disaster management in the tourism industry.

The literature review then moves on to analyse the literature on organisational theory and the concept of strategic choice theory, in order to clarify the rationale of the study's focus on strategic decision-makers rather than organisations. Subsequently, the literature review identifies the Theory of Planned Behaviour as a possible theoretical model, considering the disaster planning intentions of SDMAS and the use of the Theory of Planned Behaviour as a framework in predicting disaster planning intention and behaviour. The literature review then analyses the historical development and current state of the Theory of Planned Behaviour. By identifying the limitations of the Theory of Planned Behaviour in the context of the intended research, the possible extension of the theory to incorporate the disaster cognition of the strategic decision-makers will be investigated and justified.

**Chapter Four:** Chapter Four provides a review of the development of the study's conceptual model and hypotheses. The literature in this chapter will elaborate on the literature widely discussed in the literature chapter in the development of the hypotheses and of the conceptual model, within the extended framework of the Theory of Planned Behaviour (TPB). The conceptual model for intention to undertake disaster planning amongst SDMAS was developed using ten hypotheses, which will be discussed in this chapter in detail.

**Chapter Five:** Chapter Five outlines the methodology employed by the researcher in the research design and data collection. The chapter begins by elaborating various research philosophies and their associated methodological processes, and describes and justifies the positivist research philosophy approach adopted for the study. Thereafter, the chapter details how the positivist approach leads to the deductive and quantitative methodological process followed in the study, followed by detailed explanation of methodological design, including questionnaire development, validation,

pilot study and survey administration. Subsequently, the selection of the population, identification of the sample frame, sampling method, sample size, as well as limitations in the sampling method are discussed. In the next stage the chapter comprehensively presents the designing of the questionnaire, including questions used to measure disaster management training and education, past disaster experience, TPB constructs, disaster cognition, and intentions to undertake disaster planning. Finally, the chapter elaborates on measurement validity, pilot study, ethical consideration, research limitations and risks, including common method bias and how the study has overcome such limitations.

**Chapter Six:** Chapter Six presents the output and interpretation of the data analysis carried out using statistical software applications SPSS and AMOS. The data analysis will be presented in four sections. The first section will provide information involving data entry, the process of data screening and testing (missing values, unengaged responses and outliers) to look at the position and the relevance of data for the purpose of statistical analysis. The second section will present exploratory analysis of the data set, identify the sample demographics and test for normality of the data. The third section of the analysis chapter will present outputs and interpretations from confirmatory factor analysis (CFA) to validate measurement model (goodness of fit (GOF), reliability, convergent validity and discriminant validity). The fourth section of the analysis chapter will provide the output and interpretations from the hypothesised structural model and results of the tested hypothesis.

**Chapter Seven:** Chapter Seven provides a detailed discussion of the findings and implications of the study. First the chapter presents an overview of the main objectives of the research. It then summarises the findings presented in detail in the previous data analysis chapter. Then the chapter presents a detailed discussion of the findings

of the study together with relevant literature. The significance of the findings of each hypothesis will be discussed, together with existing literature in detail before conclusions are drawn. The chapter concludes by discussing theoretical and managerial implications of the study.

**Chapter Eight:** Chapter Eight is the concluding chapter of this thesis. This chapter presents a summated discussion of the entire study. First the chapter summarises the rationale of the research, then the main findings from the literature review, leading to research methodology, analysis and research findings, theoretical and managerial contributions of the research, and strengths and limitations of the study. Finally, the researcher concludes the study by discussing possible future research directions.

The following section will outline the definition of core concepts used in the study.

### **1.11 Definitions of Terms**

This thesis adopts the following definitions for its core concepts. These definitions have been adapted and created for the purpose of the research after a thorough examination of the existing concepts and definitions from related literature.

**Cognition:** A way of thinking, item of knowledge or decision-making process of a person moulded by his thoughts, past experiences, perceptions and beliefs.

**Disaster:** A situation in which organisations or destinations are faced with sudden, large-scale unforeseen natural or human-induced disruption, originating from the external environment, causing widespread human, material, economic or environmental damage.

**Natural disaster:** A humanitarian disaster that has been caused by natural events.

**Disaster cognition:** The capacity to recognise the emerging risks of potential disasters to which the organisation or a community is exposed.

**Accommodation sector:** Accommodations registered under the Sri Lanka Tourism Development Authority (SLTDA), excluding homestay units, apartments and house rentals.

**Strategic decision-makers:** The powerholders of an organisation, having the greatest say in the selection of an organisation's strategies and goals.

**Strategic choice:** The process whereby the power-holding strategic decision-makers of an organisation decide upon the course of strategic action.

**Intention to undertake disaster planning:** Intention to implement disaster planning within the next six months.

The following section will provide a concluding summary of the introductory chapter.

## **1.12 Chapter One Summary**

Considering the escalation of disaster risk faced by tourists around the world in recent years due to many disasters, the lack of research on managerial and organisational levels of disaster management is somewhat disquieting. Researchers appear to have an insufficient grasp of the importance of the role played by strategic organisational decision-makers in the context of disaster management in the tourism industry. This presents the need to explore the role of strategic decision-makers in the context of disaster management in the tourism industry more deeply. Taking into consideration the above gap, the current study aims to obtain a deeper understanding of the factors that influence the disaster management planning intentions of strategic decision-makers in the tourism industry. The aim of this doctoral research is therefore to identify

the factors that could influence disaster cognition, the attitudes and disaster planning intentions of SDMAS, and to assess whether disaster cognition level of SDMAS could influence their intention to undertake disaster planning within their organisations.

## **CHAPTER TWO**

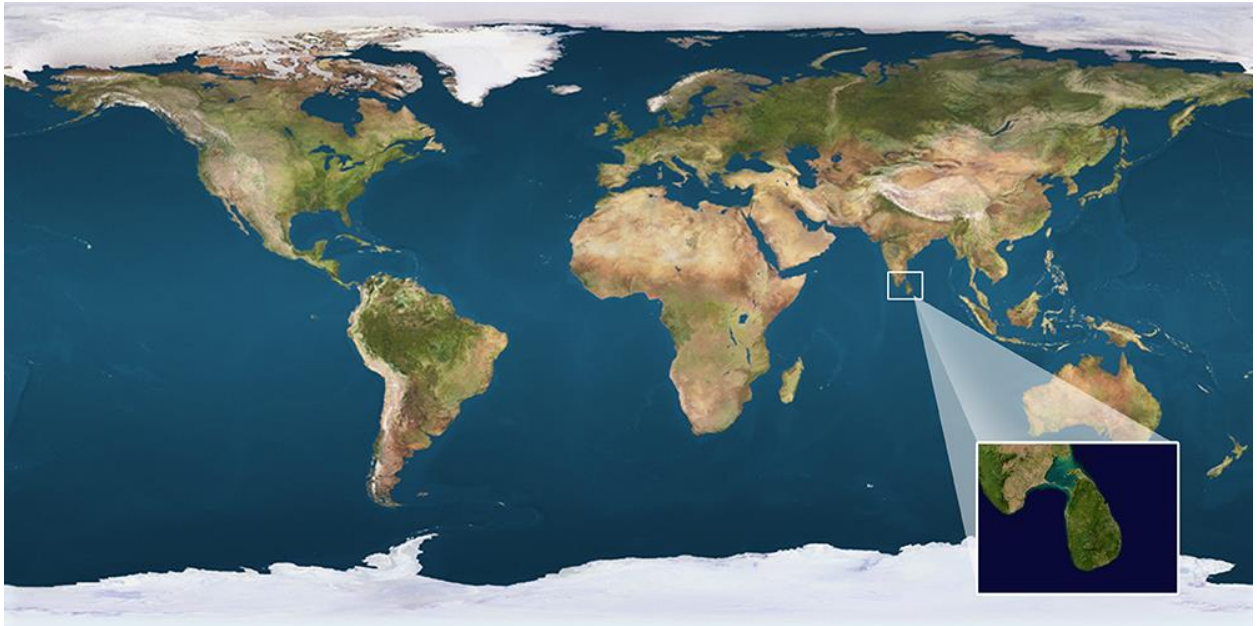
### **2. Introduction to the Research Context**

The main objective of this chapter is to explore the background of the research setting by providing a general introduction to Sri Lanka and the Sri Lankan tourism industry. It will discuss the economic and social importance of the tourism industry, its main governing body, and the accommodation sector. It will also provide a detailed description of the classification of tourist accommodation adopted in the country and about SDMAS. Finally, this chapter will briefly elaborate on the possible disaster experiences that SDMAS have most likely experienced in the context of Sri Lanka.

#### **2.1 Introduction to the Tourism Industry in Sri Lanka**

Since the current study was carried out in the context of Sri Lanka, it is important to gain some insight into the background of the country and its tourism industry. The following section will provide a brief overview about Sri Lanka, the Sri Lankan tourism industry and other relevant organisations associated with tourism and disaster management in the country.

Sri Lanka is an island in the Indian Ocean situated in South Asia, in very close proximity to South East India. Its population is 20,359,439 (Department of Census & Statistics Sri Lanka, 2017a). Sri Lanka is popular among tourists due to its diverse landscapes, sandy beaches, rainforests, ancient monuments and wildlife (Lonely Planet, 2017). The literacy rate in the country is 96.3 percent (UNESCO Institute for Statistics, 2019). Three languages are spoken in the country, namely Sinhalese, Tamil and English.



*Picture 2.1: Geographical location of Sri Lanka (Source: Maps of the World (2017)).*

## **2.2 Tourism Industry in Sri Lanka**

According to SLTDA (2017a), Sri Lanka has a long history of being a place of interest for visitors all around the world due to its unique geographical situation along the Silk Road. However, tourism only started to expand as an industry after the establishment of the Ceylon Tourist Board in 1966. Thereafter, the tourism industry expanded rapidly until the civil war started in 1983. The civil war within the North and East regions of Sri Lanka adversely affected the tourism industry in the country. As a result, tourism was almost wiped out in the conflict regions (North and East of Sri Lanka), and in other regions it continued to decline until the end of the civil war in 2009. However, for the past seven years the Sri Lankan tourism industry has regenerated and grown rapidly throughout the country (SLTDA, 2017a).

According to statistics published by the SLTDA (2015), the tourism industry is the third largest source of foreign exchange earnings in the national economy, with recorded foreign exchange earnings of Rs. 405,492 million (US \$ 2,980.6 million) in 2015.

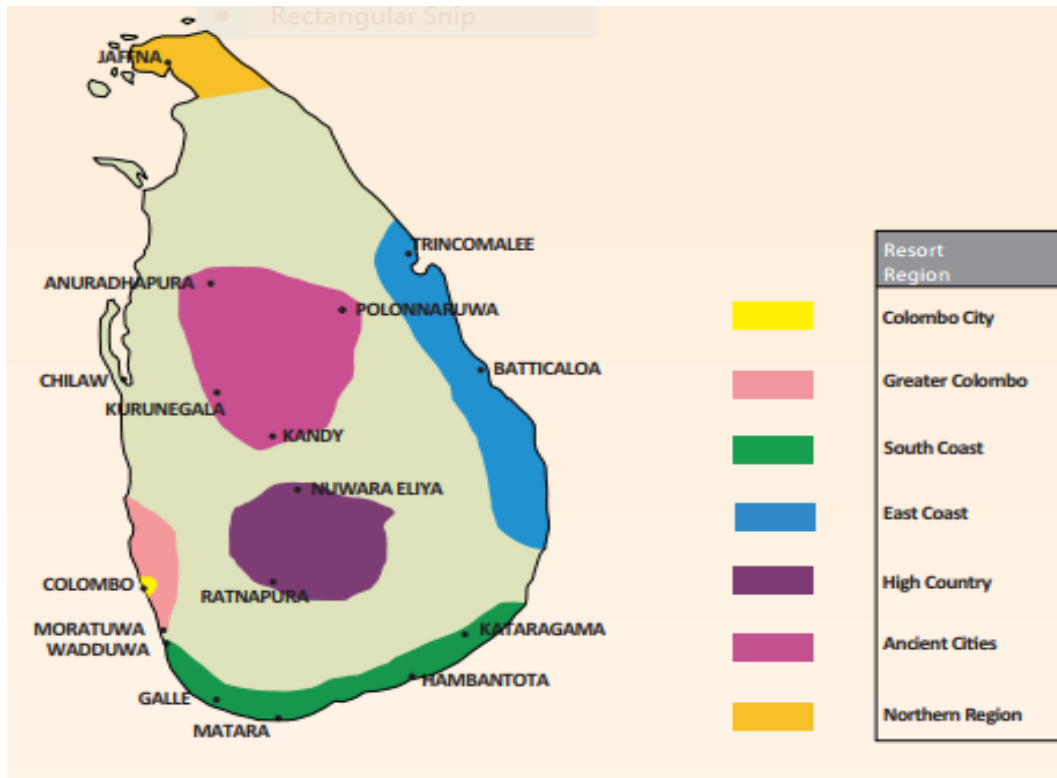


Foreign Worker Remittances (Rs. 948.95 billion), and Textiles and Garments (Rs. 654.79 billion) were the other two sectors that ranked above Tourism. The portion of total foreign exchange earnings contributed by Tourism in 2014 amounted to 12.4 percent. The Tourism demand market share is comprised of the following: Asia 45.7 percent; Western Europe 30.7 percent; Eastern Europe 7.2 percent; Middle East 5.6 percent; and North America 5.9 percent. India is the leading single-nation source of tourism to Sri Lanka, accounting for 17.6 percent of total traffic, followed by China and the UK. Employment generated directly by the tourism accommodation sector including restaurants in 2015 made up 109,567 jobs, of which 15,000 jobs are of a managerial, scientific or professional capacity.

### **2.3 Tourism Governing Body of Sri Lanka**

According to the SLTDA (2017a), tourism in Sri Lanka is governed by the Ministry of Tourism. The Sri Lank Tourism Development Authority (SLTDA), Sri Lanka Tourism Promotional Bureau, and Sri Lanka Institute of Tourism and Hotel Management are the main institutions involved in tourism activities in the country. From the above institutions, the main government body responsible for promoting, planning and accrediting tourism and development in Sri Lanka is the SLTDA. The SLTDA was first established in 1966 under the name “Ceylon Tourist Board” and continued to contribute towards the development and promotion of tourism in the country. In addition to approval and accreditation, the SLTDA also regulates tourism establishments. For statistical purposes the SLTDA separated the tourism industry into seven separate geographical areas: Colombo and Greater Colombo, South Coast, East Coast, West Coast, High Country, Northern Region and Ancient Cities (Picture 2.2). The current study has therefore followed the same geographical separation when

selecting suitable clusters for the selection of the sample. It focuses its study on the regions of Colombo and Greater Colombo, and the South Coast. The reasons behind selecting the above three regions for the survey is presented in detail in the Methodology chapter.



Picture 2.2: Seven tourist regions of Sri Lanka (Source: SLTDA, 2017b).

The tourism industry comprises a number of subsectors, including accommodation, travel agents, tour operators, aviation and transport, restaurant, food and beverages. However, the current study only focuses on the accommodation sector. A well-developed accommodation sector is one of the primary requirements in establishing tourism industry in any destination. The following paragraph will provide a brief overview of the existing accommodation sector within the tourism industry in the country.

## 2.4 The Tourism Accommodation Sector in Sri Lanka

The tourism accommodation sector of Sri Lanka comprises a range of establishments including star-class hotels (high-standard hotels maintained in accordance with international star grading), boutique hotels (small but exclusive properties that cater to affluent clientele with an exceptional level of service at premium prices), guesthouses, bungalows, homestays and rented apartments. The whole accommodation sector can be divided into two categories, SLTDA approved accommodations and other accommodations. However, this study only focuses on the strategic decision-makers from SLTDA approved accommodation. There are two main reasons for this: First, it is difficult to identify a complete list of all accommodation due to the lack of a comprehensive database; Second, all accommodation approved under SLTDA are externally regulated at a similar capacity and they were therefore considered to be a better sample for the purpose of the study.

According to statistics published by SLTDA (2017b), Sri Lanka Tourist Board-approved accommodation comprises 382 star-class tourist hotels or graded establishments, and 1,558 supplementary establishments, which include boutique villas, guesthouses, homestays, bungalows, rented apartments and rented homes.

SLTDA has classified the accommodation sector into the following categories:

**Boutique villas and resorts:** These are small luxury upscale accommodations situated in unusual hotel environments that tend to differentiate themselves from chain or branded hotels. The concept of boutique or designer hotels is becoming increasingly popular in Sri Lanka. Such hotels can be local or foreign owned.

**Graded Hotels:** High-standard hotels maintained in accordance with international star grading providing state-of-the-art facilities and services. Both local and foreign hotel chains, such as Jetwing Hotels, Hilton, and Cinnamon Hotels and Resorts, own many of the star graded hotels.

**Unclassified Hotels:** Well-maintained properties with adequate facilities that do not fall under star classifications.

**Guesthouses:** A guesthouse in Sri Lanka is normally a family-owned accommodation with five or more bedrooms. Many guesthouses are locally owned and managed. Guesthouses are likely to be small-scale hotels mainly in big cities, and may vary from low budget rooms to luxury apartments.

**Homestay Units (bungalows, rented apartments and homes):** Most properties that fall under the category of homestay are owned by locals who are interested in earning extra income for their existing residential properties. The main aim of these facilities is to provide clean, comfortable and affordable supplementary accommodation to tourists. Tourists in return will experience local customs and traditions, authentic cuisine, and other attractions of the location while staying with local hosts.

The latest addition to the accommodation sector around the world is web-based companies allowing ordinary people to rent out their residences as tourist accommodation (Guttentag, 2015). Such accommodation is mainly local residences which are not registered, regulated or monitored by any regulating body. The main criticism of such accommodation is that they may lack the basic health and safety measures that are present in traditional accommodation, which may lead to escalated risk in the event of disaster. However, the current study has excluded homestay units and apartment and house rental owners from consideration due to the limited business

acumen they may possess, which makes their consideration as strategic decision-makers of organisations questionable.

The following section defines and introduces SDMAS and their possible disaster experiences.

## **2.5 Strategic Decision-makers of the Accommodation Sector (SDMAS)**

The strategic decision-makers of the accommodation sector are the powerholders of the organisations and have the greatest say in the selection of an organisation's strategies and goals. According to statistics published by ALTDA (2017b), there are 15,000 people employed under managerial and professional categories within the accommodation sector. However, due to the fragmented nature of the accommodation sector in Sri Lanka it is difficult to establish the total number of SDMAS. Therefore, within the context of this study the accommodation sector will denote only those accommodations registered under the Sri Lanka Tourism Development Authority and therefore the SDMAS denote the most powerful strategic decision-makers of the accommodations registered under SLTDA.

Although Sri Lanka has faced many disasters in the past, the following section will look into some of the main disasters that have directly impacted the accommodation sector in the country.

## **2.6 Past Disaster Experiences in the Context of Sri Lanka**

Sri Lanka is an island prone to many disasters, regularly caused by floods, landslides, cyclones, coastal erosion and droughts. However, three significant disasters, namely the Indian Ocean Tsunami of 2004, terrorism-related activities prevailing within the period 1983–2009, and the more recent Easter bombings in 2019 have severely

impacted the tourism industry within the past few decades. The following section will provide a brief analysis of the three major disasters that have taken place in the country.

- **Indian Ocean Tsunami of 2014**

The Indian Ocean Tsunami occurred due to an earthquake on the West coast of Sumatra on 26 December 2004. A total of 227,000 people lost their lives across 14 countries and damage to the economy was estimated to be over US\$ 10 billion (The world Bank, 2014). The countries most severely affected were Indonesia, Sri Lanka and Thailand. According to the statistics of Department of Census and Statistics Sri Lanka, (2017b), Sri Lanka recorded a death toll of 31,000 people. Tourist establishments along the coastal belt of the country were severely affected, including loss of lives. Sharpley (2005) highlights the vulnerability of tourists and destinations to disasters such as the 2004 tsunami. It has been observed that the lack of prior information about the possible occurrence of a tsunami at the level of many coastal destinations was the main reason behind the increased number of casualties. Here, it should be noted that the Ministry of Disaster Management had received information about a possible tsunami from neighbouring countries as early as two hours prior to its actual impact to the coastal region, but the authorities failed to correctly recognise the emerging risk and therefore failed to act appropriately (Ministry of Disaster Management, 2018). As an island nation with a majority of tourism establishments situated in the coastal area, many SDMAS at the time experienced this natural disaster. This study will possibly capture the experiences of those SDMAS of the tsunami in 2004, and how this affected their disaster cognition, attitude and behavioural intentions relating to disaster planning.

- **Terrorism-related disasters**

There has been confusion in recent years among researchers regarding what is considered to be an act of terrorism. The question of what is considered terrorism entirely depends on the subjective view of the definer (Ganor, 2002). However, the general understanding is that terrorism is the use of purposeful violence against civilians for political, religious or ideological goals.

Within the period 1983–2009, terrorism has caused significant hardship for the population, environment and the economy of Sri Lanka. For over 25 years, the country has experienced some of the worst known acts of modern terrorism, such as suicide bombings, mass shooting and other terrorism-related acts which target civilians in the country. As would be expected, tourism was one of the industries in the country to be impacted the worst by this. Many countries issued travel warnings to their citizens due to the significant threat to the safety of tourists to Sri Lanka at the time.

However, since the end of war in 2009 the Sri Lanka Tourism industry has recovered and grown rapidly to become the third largest source of foreign exchange earnings in the national economy. According to Fernando (2016), in order to achieve the maximum potential in tourism, the country has to continue to safeguard its political stability, safety and security, which it had been accomplishing for the last seven years, and continue to promote itself as a safe tourist destination. However, this stability was shattered on Easter Sunday 2019 when another disaster impacted mainly the accommodation sector in the country, and reminded both the government and the tourism sector of the prime importance of having robust disaster mitigation and prevention practices in place. The following section will briefly outline how the Easter

bombings impacted three prominent five-star accommodations and took the lives of more than one hundred tourists.

- **Easter bombings 2019**

On 21 April, 2019 hundreds of people were killed in bomb explosions in three churches, three hotels and a guest house in Sri Lanka as a result of a suicide attack carried out by an Islamist terrorist group. This latest incident severely impacted the tourism industry in Sri Lanka and its image as a safe destination of political stability safety and security, which had prevailed in the country since 2010, was shattered (Ethirajan, 2019). It has been noted that the government authorities were aware of information about possible attacks but that the information had not been shared beyond a higher political level (Ethirajan, 2019). It should be noted that the impact and casualties of the disaster could have been minimised if the SDMAS had been aware of the emerging risk mainly because three of the four accommodation sector establishments which were attacked had their own security personal and surveillance systems which could have been used to identify and stop the suspects if they had had the correct approach to disaster planning.

From the above examples it is apparent that the accommodation sector is susceptible to various disasters. When reviewing recent events around the world (the Nairobi hotel attack 2019, the Inter-Continental Hotel Kabul Attack 2018, the Taj Mahal Hotel attacks in Mumbai in 2008, the Hotel Shamo bombing in Somalia in 2009 and the Dahab resort bombings in 2006) it appears that the accommodation sector seems to be even more vulnerable to disasters, making it even more important that SDMAS should be encouraged to take up disaster planning strategies in their organisations. This makes this study most timely and appropriate.



The following section will provide a concluding summary of the introduction to the research context chapter.

## **2.7 Chapter Two Summary**

Sri Lanka, an island situated in the Indian Ocean, has been a popular tourist destination for more than fifty years. In recent years tourism has become the third largest foreign exchange earner and therefore, is considered to be one of the most important industries in the country. SLTDA is the main government body responsible for promoting, planning and accrediting tourism and development in Sri Lanka. The accommodation sector in Sri Lanka can be classed under two separate categories, accommodations that are registered under SLTDA and other accommodations. The current study focuses only on the accommodations registered under SLTDA. This is due to the disjointed nature of the accommodation sector as a whole and therefore the non-availability of a comprehensive database of all accommodation. In addition, SDMAS approved by the SLTDA could be considered to provide a better sample for the purpose of the study because they are externally regulated in a similar capacity. Finally, the vulnerability of the tourism industry including the accommodation sector is apparent from the recent disasters experienced in Sri Lanka and other countries throughout the world, making the current study most appropriate and timely. In conclusion this chapter has provided a general introduction to Sri Lanka and the Sri Lankan tourism industry in order to familiarise the context of the research study. The following chapter will provide a thorough review of the literature relating to the broader area of study, including tourism, disaster management, disaster management frameworks relating to tourism, strategic choice theory, Theory of Planned Behaviour, managerial cognition theories and disaster cognition.

## **CHAPTER THREE**

### **3. Literature Review**

The main objectives of this chapter are to identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry and to identify and explore the factors that influence the intention to undertake disaster planning among SDMAS. In order to achieve the above objectives this chapter intends to provide a thorough review of the literature related to the area of the study.

#### **3.1 Introduction**

This chapter begins with a review of the literature on tourism and its development as a field of research leading to a multidisciplinary approach to tourism. Then it moves on to analysing the existing literature on disaster management, as well as various disaster management frameworks. Thereafter, it considers the importance of disaster planning for tourism organisations. The limitations of the literature are then identified, bringing to light gaps in the research. Primary among these is the failure of prior scholarship to consider the importance of the role played by strategic organisational decision-makers in the context of disaster management in the tourism industry. This lacuna presents an opportunity to explore this matter more deeply, providing a rationale for this study's focus on the role of strategic decision-makers' in the context of disaster management in the tourism industry.

The chapter then moves on to analyse the literature on organisational theory and the concept of strategic choice theory, in order to justify the study's focus on strategic decision-makers rather than organisations. Subsequently, the literature review identifies the Theory of Planned Behaviour as a good basis for a theoretical model for

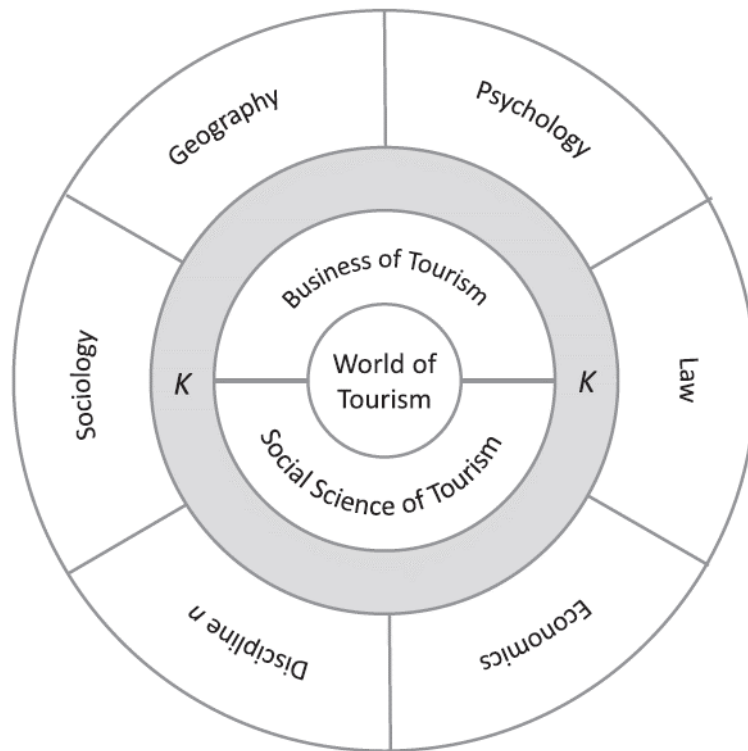
the study, and considers the disaster planning intentions of SDMAS and the use of the Theory of Planned Behaviour as an analytical tool to predict intention and behaviour. The historical development and current state of the Theory of Planned Behaviour is then analysed, before the chapter focuses on the limitations of the Theory of Planned Behaviour. These limitations provide the grounds for the proposed extension of the theory to incorporate the disaster cognition of strategic decision-makers.

### **3.2 Tourism and Its Development as a Field of Research**

According to Darbellay and Stock (2012), tourism was established as a field of enquiry in the 1950s alongside computer science, communication studies, gender studies, post-colonial studies etc. Given the emergence of specialised journals, departments and research centres, it is apparent that tourism has emerged as a prime field of enquiry (Darbellay & Stock, 2012). In the 1980s and 1990s there was a sharp increase in tourism related journals and publications, together with a rising number of doctoral theses (Coles, Hall & Duval, 2006; Huang, 2011). However, various scholars have highlighted the lack of theoretical grounding to much of this work (Dann & Cohen, 1991; Echtner & Jamal, 1997; Decosta & Grunewald, 2011; Belhassen & Caton, 2009; Benckendorff & Zehrer, 2013). By the 1990s, some were arguing that tourism had reached maturity as a single discipline. However, in subsequent years it has continued to evolve as an interdisciplinary field of study.

Hence, there is an ongoing debate among scholars as to whether tourism should be considered a separate discipline or not. Such confusion has occurred due to its imbrication with other areas, such as political, social, economic, marketing, geographic and cultural dimensions (Coles et al., 2006; Tribe, 2006; Decosta & Grunewald, 2011; Darbellay & Stock, 2012). Tribe (2010) points out that the field of tourism studies has

developed into two primary networks: business of tourism and tourism social science (Figure 3.1). Tribe (2010) proposes that researchers expand future research along networks in order to further develop the field of tourism. In line with this ambition, the current research represents an attempt to develop business tourism research along the network of managerial psychology.



*Figure 3.1: World of Tourism; Adapted from “Creation of tourism knowledge” by Tribe (2004, p.50) (Source: Benckendorff & Zehrer (2013)).*

### **3.2.1 Defining Tourism**

There seems to be a lack of consensus among tourism scholars and institutions regarding the definition of tourism. Many authors claim that tourism is difficult to define due to the multidimensional and complex activities involved within it (Holloway & Humphreys, 2016; Fletcher, Fyall & Gilbert, 2013; Goeldner & Ritchie, 2012). According to Holloway and Humphreys (2016), one of the earliest attempts to define

tourism was provided by Hunziker and Krapf in 1942. They defined tourism as “the sum of the phenomena and relationships arising from the travel and stay of non-residents, in so far as they do not lead to permanent residence and are not connected to any earning activity,” (cited in Holloway & Humphreys, 2016, p.6). This definition has successfully distinguished tourism from migration.

However, this definition tends to exclude day and business tourism. Goeldner and Ritchie (2012) argue that in order to develop a comprehensive definition it is important to take into consideration perspectives of many groups that participate in and are affected by the industry (tourists, businesses that are involved in tourism, government and the host community). Therefore, Goeldner and Ritchie (2012, p. 5), have defined tourism as “the processes, activities, and outcomes arising from the relationships and interactions among tourists, tourism suppliers, host governments, host communities, and surrounding environments that are involved in the attracting and hosting of visitors.”

Due to the complexity of such a comprehensive definition, the most commonly used definition in the field is the definition used by the United Nations World Tourism Organization: “Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, or other purposes,” (United Nations World Tourism Organization [UNWTO], 2010). Thus, any person who travels away from their usual residence for less than one year could be considered a tourist, and the related activities carried out as tourism.

### **3.2.2 The Importance of Sustainable Planning and Development of Tourism**

For the last half century, the common goal for countries around the world has been economic development and growth. The contribution of tourism to economic development and growth depends on its ability to be sustained as a profitable industry in the long run. Although the desire of people and governments to push for economic development is inevitable, such development has the potential to cause irreversible damage to the natural environment. Thus, the concept of Sustainable Development was introduced in order to address countries' needs to achieve economic growth while conserving their natural and social environment. The concept of Sustainable Development was further strengthened globally through the International Union for the Conservation Nature in 1980, followed by the Brundtland Report in 1987 (Bramwell & Bernard, 2008). Since then, sustainability has become one of the core concepts used within tourism development and planning discussions as a desirable and politically appropriate approach to tourism planning development (Sharpley, 2003). However, the concept of sustainability is the source of great debate and controversy among academics and those in the field, as is the question of how to achieve such sustainability within the tourism sector (Fletcher et al., 2013).

The term "sustainability or sustainable tourism development" has been widely used by a diverse range of organisations in promoting what have frequently been contrasting objectives. According to Mowforth and Munt (2009), this is mainly due to the inherent vagueness of the concept and differences of opinion on how to achieve sustainability. According to the Brundtland Report (1987), sustainability of tourism is defined as "meeting the needs of the present generation without compromising the ability of future generations to meet their own needs."

However, Liu, Tzeng, Lee and Lee (2013) argue that the purpose of sustainable tourism should be to obtain a balance between environmental protection, preservation of cultural integrity, the enhancement of the social standing of the host community, and economic growth by meeting the needs of the host community in the long term. It is apparent that sustainable tourism should therefore not only focus on preserving the natural environment on which it depends, but should also consider the socio-economic wellbeing of the community.

According to the UNWTO (2017), world tourism is estimated to account for 5 percent of global CO<sub>2</sub> emissions. Of this, 40 percent derive from air transport, 20 percent from hotels and other types of accommodation, and 40 percent are related to other types of transport segments (cruises, cars, railway, etc.) and tourism's recreational services. Due to growing concern about environment issues (global warming, pollution, natural disasters and CO<sub>2</sub> emissions), sociocultural problems (terrorism) and economic setbacks (poverty, economic crisis), greater focus has been directed to sustainable methods of tourism development and planning strategies (Mason, 2016; Weaver, 2006). However, a number of scholars have questioned the effectiveness, applicability and practicality of current sustainability theories (Liu, 2003; Gössling, Hall & Weaver, 2009). Furthermore, Liu (2003) points out that without the development of effective ways of implementing the theory in practice, sustainability will remain another concept that runs the risk of remaining irrelevant and inert as a viable strategic option in real world tourism development and planning.

One of the main limitations of sustainability is that it is difficult to measure in practice (Slaper & Hall, 2011). Triple bottom line (TBL), codes of conduct or sustainability indicators are the methods most commonly adopted in the measurement of sustainability. The TBL is a new accounting framework introduced by John Elkington

to measure sustainability. TBL dimensions are considered to be the main pillars of sustainability, and the framework measures not only economic performance but also social and environmental dimensions as well (Dwyer, 2005). Therefore, tourism businesses are encouraged to extend their strategic planning beyond short-term economic advancement towards long-term social and environmental wellbeing as well.

### **3.2.3 Multidisciplinary Approach to Tourism**

Belhassen and Caton (2009) regarded tourism research to be heavily influenced by other disciplines and considered it to be a growing area of study. Various theoretical approaches derived from other disciplines can be appropriately applied to the subject. In agreement, Dann and Cohen (1991) point out that, although tourism does not have a comprehensive unified theory, as with any other field of human endeavour, it comprises many fields and focuses where different theoretical approaches could be applied. Dann and Cohen (1991, p.167), further claim that in order to understand tourism, “the insights contributed by various approaches should be regarded as forming pieces of a jigsaw, which when assembled can supply the basis for a pluralistic sociological interpretation of touristic reality.”

Coles, Hall and Duval (2006) criticise scholars who try to restrict tourism research to a single discipline without considering the potential limitations implied by such an approach with respect to changing issues, challenges and complex human affairs in the field of tourism. It was therefore suggested that a post-disciplinary approach would encourage flexible modes of knowledge creation, in order to deal with the constantly changing issues, challenges and human matters of the field of tourism. Coles et al. (2006) further point out that, due to the multidisciplinary approach to tourism, it has become an interesting area of study for many researchers. It is therefore apparent that



a broader post-disciplinary approach would create a more flexible form of knowledge creation beyond single disciplines in order to address many complex issues and challenges such as disasters, security, sustainability, mobility and networks of tourism studies. Thus, the proposed research intends to achieve a multidisciplinary approach to its object of study by reaching out to disaster management literature as well as importing practical psychological research theories such as Theory of Planned Behaviour (TPB) and other cognitive theories. The following section will focus on disaster management and the tourism industry.

### **3.3 Disaster Management and Tourism**

Disasters have affected people's lives and wellbeing from the beginning of time, and throughout history people and societies have attempted to avoid, mitigate, or reduce the impacts of such disasters to the best of their understanding and ability. But due to social and economic developments in recent years, the importance of systematic and robust disaster management systems has come to be appreciated by many societies, governments, industries and organisations, both locally and internationally.

#### **3.3.1 Defining Crisis and Disaster in the Tourism Industry**

This section aims to critically analyse the debate surrounding crisis and disaster definitions. It will be made apparent that there is a lack of agreement among scholars' regarding the exact definitional boundaries of the terms' 'crisis' and 'disaster'.

A number of scholars have tried to define crisis and disaster to gain a better understanding of the situation. Hills (1998) claims that a disaster is commonly understood to be limited in time and effect. According to terminology published by the United Nations International Strategy for Risk Reduction (2009, p.13), a disaster is

defined as “a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.” According to Faulkner (2001, p.136), a disaster occurs when “an enterprise (or collection of enterprises in the case of a tourist destination) is confronted with sudden unpredictable catastrophic changes over which it has little control.” Falkner (2001) differentiates crisis from disaster by defining a crisis as to some extent self-induced, and attributable to the organisation itself; while a disaster is a situation in which the organisation, destination or community involved has very little control over the root causes.

However, Falkner’s definition does not elaborate the fact that a disaster, if not appropriately addressed, could lead to a crisis, which will then be attributed to the specific organisation or destination. For example, although organisations or destinations that are impacted by disasters such as tsunamis, floods, earthquakes, tornados or even terrorist activities have little control to eliminate them, if the organisation does not have a well-planned strategy in place to control, minimise and recover from such adverse impacts, a self-induced crisis situation may arise within the organisation. A similar perception is apparent in Hills’ (1998) claim that it is difficult to distinguish the boundaries between natural and human-induced behaviour. Furthermore, Richie (2008) points out that confusion may arise due to overlaps between the two, where a crisis may occur as a direct result of a disaster or series of crises may lead to a major disaster. On the other hand, Kim and Lee (1998) treat the terms ‘disaster’ and ‘crisis’ as synonymous. Furthermore, scholarly use of crisis synonyms such as ‘disaster’, ‘catastrophe’, ‘calamity’ and even ‘emergency’ to identify possible crisis or disaster situations has brought about further confusion and

vagueness. Therefore, it is apparent that there is lack of agreement among scholars' regarding the exact definitional boundaries of the terms crisis and disaster.

However, it is important to point out that the lack of universally accepted definitions for crisis and disaster is not due to ignorance but rather due to the complexity of the concepts, and difference in perspectives of researchers. Despite such complications, the definition provided by Faulkner (2001) provides a viable foundation when distinguishing between disaster and crisis. Thus, it is appropriate to conclude that crisis originates in the internal environment, while disasters originate from the external environment. However, the current study only intends to focus on catastrophic events that take place within the external environment of an organisation, such as natural disasters and human-induced disasters. Henceforth, for the purpose of this study, it is proposed that the word "disaster" will be defined as a situation in which organisations or destinations are faced with sudden, large-scale unforeseen natural or human-induced disruption, originating from the external environment, causing widespread human, and material, economic or environmental damages. A disaster may occur due to natural or human-induced causes, and the following section will review the literature defining natural disasters and human-induced disasters.

### **3.3.2 Natural Disasters and Human-Induced Disasters**

According to the Disaster Management Centre of Sri Lanka (2017), a natural disaster comprises "natural processes or phenomena occurring in the biosphere that may constitute a damaging event." However, according to the United Nations International Strategy for Disaster Reduction [UNISDR] (2017), the term "natural disaster" is ambiguous and inappropriate; the preferable phrase is "natural hazard", with a natural hazard having the potential to turn into a disaster only due to the damages it has

caused. Pelling (2003) defines a natural disaster as a humanitarian disaster that has been caused by natural events. Pelling (2003) points out that human exposure and lack of capacity to cope with the negative impacts turns natural hazards into a disaster. Natural disasters can be categorised according to their hydro meteorological, geological or biological origins (Disaster Management Centre of Sri Lanka, 2017).

According to the Disaster Management Centre of Sri Lanka (2017), human-induced disasters are caused by deliberate or negligent human activity, and such human activity should be identifiable. However, the main confusion arises when distinguishing between human activities that may lead to disasters. This was evident in Birkmann's (2006) claim that it is difficult to distinguish between natural and human-induced disasters due to ever increasing human interference in natural systems. For example, there is a global debate as to whether climate change is the product of human activity or a natural process. Many environmentalists argue that many natural disasters are indirectly linked to negligent human activity. Thus, one could argue that some of the disasters categorised as natural are in fact human-induced disasters.

The following section will consider the possible impacts of disasters on the tourism industry.

### **3.3.3 Negative and Positive Impacts of Disasters**

The literature reveals that a disaster can have both negative and positive impacts on tourism destinations, businesses and communities. Negative impacts include loss of lives, damage to the natural environment that such destinations mostly depend upon, damage to infrastructure and property, and economic setback due to a decline in the number of tourists (Carlsen & Hughes, 2008; Cioccio & Michael, 2007). With reference to Katherine Flood, Faulkner and Vikulov (2001) found negative impacts include loss

of infrastructure, setback in marketing strategies due to focus on recovery, and even tensions between the tourism sector and other business communities over distribution of resources. A number of researchers claim that there is a significant impact on tourism arrivals in the immediate aftermath of disasters (Page, Song & Wu, 2012). According to Huan, Beaman and Shelby (2004), disaster not only inflicts material and physical damage but leads to the creation of a negative image in terms of safety and security, discouraging tourists from visiting such destinations in the short term. This was apparent in the aftermath of the Easter bombings in Sri Lanka. Within one day Sri Lanka declined its selection as the best destination to visit in 2019 (Lonely planet, 2019) to issue travel warnings against travelling to the country. Biran, Liu, Li, and Eichhorn (2014) point out that significant disasters could totally wipe out natural or cultural attractions altogether, leaving the businesses and communities that depend on them vulnerable. Cioccio and Michael (2007), referring to a case study of the 2003 bushfires in northeast Victoria, Australia, claim that small tourism firms are more likely to feel the negative impacts of disasters due to limited resources and lack of preparedness for dealing with large-scale disasters.

However, a number of authors have pointed out that disasters not only have negative impacts, but may deliver positive impacts as well. According to Faulkner and Vikulov (2001), such positive impacts include an escalated media profile due to coverage of the disaster, and regeneration of infrastructure. Although a majority of researchers refer to escalated media coverage during a disaster as having a negative impact on destinations, Faulkner and Vikulov (2001) have pointed out that such media coverage could bring positive impacts as well. Faulkner and Vikulov (2001) further point out that disaster can have a positive outcome by allowing the destination and its authorities to develop tourism disaster management plans to face similar future disasters. Biran et

al. (2014) state that although a disaster may deter usual tourists from visiting, other tourist segments such as people with general interest in disaster or people who wish to commemorate victims may be encouraged to visit post-disaster destinations. This view was affirmed by the findings of a study carried out by Abeygunawardena (2005) on post-2004 tsunami recovery, in which it was found that a number of destinations recorded increased tourism activity in the immediate aftermath of the tsunami due to the arrival of a large number of rescue workers and volunteers from around the world to help with rescue and recovery. However, this represents a short-term boost, and tourism destinations need to re-establish and restore their traditional pre-disaster tourism markets in order to sustain their business in the long run. It is therefore essential that tourism destinations, organisations and strategic decision-makers gain a thorough understanding of the possible impacts of disasters in order to plan to mitigate and minimise the adverse effects.

#### **3.3.4 How Disaster Impacts the Image of a Destination**

Positive destination image is an important aspect of the success and development of tourism for any tourism organisation, destination or country. Therefore, within the tourism literature, destination image has received wide attention due to its importance in building, promoting and expanding tourism. According to Ryu, Bordelon and Pearlman (2013), 'destination image' refers in general terms to the mental picture created in the mind of people. A destination can be perceived as being positive, negative or neutral by potential tourists according to the information received regarding the destination (Ryu, Bordelon & Pearlman, 2013). Communicating the unique features of a destination can influence tourist behaviour towards that destination. Many tourism scholars have questioned the means and manner of the media coverage of events that occur in a tourist destination (Peel & Steen, 2007; Ajagunna, 2006;

Castelltort & Mäder, 2010). Journalists and editors are often criticised for over-emphasising negative aspects of instabilities or disasters that occur and failing to provide a similar emphasis on communicating the positive aspects within destinations (Castelltort & Mäder, 2010).

Destination image plays an important role in the mind of the potential tourists when travelling decisions are made. In the case of a disaster, overemphasised negative communication and over-highlighting of negative aspects of such destinations could create a longstanding negative image in the eye of the potential tourist, and may prevent them from travelling to such destinations. When potential tourists are exposed to prolonged media coverage of negative signs, visually and orally, they tend to stay away from such destinations due to the perceived risk associated with the destination. Perceived risk has been identified as a major concern for travellers around the world. Thus, it is difficult to promote tourism in a destination considered dangerous and risky (Reisinger & Mavondo, 2005), and this could lead to a loss of business. Ryu et al. (2013) similarly argue that the consistent publication of images of destruction in connection with a specific destination can lead to a prolonged loss of tourism activities, resulting in delay of recovery or a further crisis in the destination. In order to enhance the image of a destination it is vital to portray a positive image.

In contrast to the positive image which tourism is mostly associated with (leisure, pleasure, relaxation, fun and adventure), the word 'disaster' brings distress, fear, anxiety, trauma, and panic to people's minds. Thus, tourism destinations, organisations and managers tend to divert their interest away from such negative aspects. However, the risks of disaster faced by the industry and its organisations are real and they are increasing in complexity and frequency, in part due to the increase in natural disasters due to global warming, and the escalating terrorist activities in

tourist cities around the world. Tourism destinations, organisations and managers should address such issues without any delay. Thus, the following section explores the increasing importance of disaster management and planning to the tourism industry.

#### **3.3.4.1 *The Role of the Media***

In the event of a disaster, the media is of vital importance as a means of communication. On many occasions the media has been successfully used to communicate with people in a disaster zone. Thus, close collaboration with the media is as important as collaboration with any other stakeholder. Furthermore, the media as a secondary stakeholder has the ability and capacity to promote or degrade the destination, or even the image of specific organisations, leading to loss of business. Castelltort and Mäder (2010) state that the media has the capacity to overemphasise negative aspects of instabilities or disasters that occur, while failing to give similar emphasis when communicating positive aspects within destinations. Thus, close collaboration with media networks is essential to avoid any unrepresentative and unrealistic coverage of the destruction in post-disaster situations being portrayed. Mojtahedi and Bee (2014) point out that more attention should be paid to managing stakeholders systematically within the scenario of disasters. Boshier, Dainty, Carrillo, Glass and Price (2009) claim that key stakeholders should play a far more proactive role in mitigating and managing disasters, and collaborate collectively for the sake of disaster management and planning. Boshier, Dainty, Carrillo and Glass (2007) point out the importance of raising awareness among all stakeholders prior to, during and after disasters.



### **3.3.4.2 Stakeholder Collaboration**

Stakeholder collaboration is extremely important in disaster mitigation and management. Stakeholders play a major role within disaster planning and mitigation management processes. Identifying relevant stakeholders is of prime importance in the pre-planning process. Richie (2004) states that stakeholder collaboration at various levels – both internal (employees, managers, shareholders) and external (tourists, industry sectors, government agencies, general public, media) – is of prime importance when resolving a disaster situation successfully.

Many scholars consider primary stakeholder collaboration to be of prime importance for the survival of the organisation (Presenza & Cipollina, 2010; Freeman, 1984; Clarkson, 1995). Within the usual business environment, a higher level of dependency occurs between the organisations and their primary stakeholders (Freeman, 1984; Clarkson, 1995). However, in the event of a disaster the power of secondary stakeholders cannot be underestimated. Organisational managers should build up a close collaboration with government agencies that are involved in disaster management. In the case of disaster, secondary stakeholders such as national government, local government, disaster management entities, police and non-government organisations that provide various relief measures play a role in disaster planning, mitigation, readiness and recovery processes. Becken and Hughey (2013) have pointed out the importance of developing a comprehensive disaster management framework through partnership and collaboration of all related stakeholders, linking tourism destinations with the general disaster management system of destinations.

### **3.3.5 Why Is Disaster Planning Important for the Tourism Industry?**

This section is an analysis of why disaster management and planning is vital for the tourism industry. This section will also look at why the tourism industry and destinations that depend heavily on it are particularly vulnerable to disasters, and how such disasters can impact the communities involved socially and economically.

#### **3.3.5.1 *Tourism Business's Vulnerability to Disasters***

An increased amount of disasters, including terrorist attacks, natural disasters political instability, and economic recessions, have been affecting countries, businesses and destinations in recent years (Ritchie, 2004). It is challenging to prepare for emergencies and disasters, whether they be natural or human induced. The tourism industry is not immune to such unpredictable external shocks. Tourism destinations and businesses are increasingly vulnerable to disasters due to their geographical location and popularity. Faulkner (2001) claims that there is a very high rate of certainty of any given tourism organisations experiencing a disaster at some point. In recent years, a number of tourist destinations have been badly affected by natural disasters, such as the typhoon in Hong Kong (2018), earthquake and tsunami of Japan (2011), the Australian floods (2010/2011), the Christchurch (New Zealand) earthquakes (2010/2011), the Samoan tsunami (2009), Hurricane Katrina (2005), and the Indian ocean tsunami (2004).

Moreover, in recent years, there has been an escalation of human-induced hazards such as terrorism, specifically targeting tourism destinations and tourists around the world. For example, the Sri Lanka Easter attack in 2019, the Ivory Coast attack in 2016, the Tunisia attack in 2015, and the 11th September 2001 terrorist attack in the United States of America. The increase in disaster risk highlights the importance of

strengthening disaster management and planning to enhance mitigation, preparedness, response and recovery at all levels.

### **3.3.6 Economic and Social Consequences of Possible Setback to the Industry**

For many countries around the world, tourism has become one of the key industries for maintaining their socio-economic wellbeing. Disasters could have devastating economic and social consequences for destinations, in both the short and long term (Faulkner, 2001; Santana, 2004; Huan et al., 2004; Becken & Hughey, 2013). Becken and Hughey (2013) further explain that short-term effects could arise due to direct damage to the tourism infrastructure or other infrastructures used by the tourism industry, such as roads, airports, water, electricity and sewage systems. Furthermore, long-term adverse effects can occur due to the tarnishing of the image or reputation of a destination, or irrecoverable damage to the natural environment on which the specific destination depends.

Wang (2009) suggests that policymakers and industry experts should focus on understanding how a disaster could affect the demand for tourism, due to its direct impact on the economic standing of the tourism industry. Research shows that it takes an average of six to 12 months for the industry to recover from a disaster if it is not repeated within the given period (Araña & León, 2008). Such a recovery period could be a major financial setback for an industry with large numbers of stakeholders who directly or indirectly rely on the tourism industry. Thus, disaster management and planning at the organisational, national, regional and global levels is an essential requirement for the security, sustainability and development of the industry and its economies.

Furthermore, there is growing pressure on industry managers and policymakers to address such issues through effective disaster management planning and processes (Evans & Elphick, 2005). Tourism destinations are crowded with visitors, mainly during holiday seasons, increasing the risk of casualties in the event of a disaster. Although it is difficult to accurately pre-calculate such risk, by having a comprehensive disaster management and planning strategy in place, organisations and their managers can effectively minimise the possible damage and risk associated with such disasters and carry out the recovery process more efficiently and competently (Tsai & Chen, 2011).

The failure of proper disaster management and planning could result in disastrous consequences (Unlu, Kapucu & Sahin, 2010). These consequences may include significant property damage, loss of profit, adverse impact on the image of the destination and even loss of lives. Thus, disaster management and planning have become important competencies for managers in both public and private sector organisations. It is apparent that whatever the managerial level, organisational level or destination level, it is important to acquire the appropriate competencies through effective disaster management planning for the tourism industry. Thus, the following section explores disaster management frameworks discussed within the tourism literature, as well as the disaster management literature.

### **3.4 Disaster Management Frameworks and Theories**

In recent years tourism disaster management has attracted interest from tourism scholars due to the increased number of disruptions, crises and disasters experienced by the tourism industry in recent years (Faulkner, 2001; Ritchie 2004, 2008; Hystad & Keller, 2008; Wang & Ritchie, 2012; Becken & Hughey, 2013; Paraskevas, Altinay,

McLean & Cooper, 2013). The prime intention of disaster management is to prevent, minimise and mitigate destruction to life, property and the environment.

The existing literature on disaster management within the tourism industry can be grouped into four main areas: disaster mitigation; preparedness through pre-planning; response; and post-disaster sustainable recovery (Faulkner, 2001; Biggs, Hall & Stoeckl, 2012; De Mel, McKenzie & Woodruff, 2012; Becken & Hughey, 2013). A number of academics, as well as disaster management experts, have presented various frameworks for better understanding and effectively managing disaster and its cycles (Faulkner, 2001; Ritchie, 2004; Hystad & Keller, 2008). In the following paragraph, some of these frameworks will be discussed in detail.

#### **3.4.1 Main Components of Disaster Management Life Cycle**

According to Coppola (2011) a fully comprehensive disaster management framework should be grounded on four individual components: mitigation, preparedness, response and recovery (Figure 3.2).



*Figure 3.2: Four-phase disaster management cycle (Source: Adapted from Coppola (2007)).*

In addition to the above-mentioned popular four-phase disaster management cycles, a number of scholars have presented other adaptations as well. Some of these models have five or six phases rather than the four mentioned above. However, the four phases disaster management cycle is the most commonly used disaster management framework around the world (Coppola, 2015). The following section intends to investigate some of the prominent disaster management frameworks presented in the tourism literature. Four main frameworks and related theories will be discussed and analysed (Table 3.1) in the following paragraph, namely, Faulkner’s six-phase disaster management framework, the Sendai Framework proposed at the Third UN World Conference on Disaster Risk Reduction (WCDRR) in 2015, the framework adopted by the Sri Lanka Disaster Management Centre, and the popular four R system.

### 3.4.2 Comparison of Popular Disaster Management Frameworks

Table 3.1 below provides a comparison of popular management frameworks.

*Table 3.3-1: Comparison of emergency management phases in different frameworks (Source: Author).*

<b>Popular MPRR Framework adopted by Sri Lanka Disaster Management Centre</b>	<b>Faulkner’s Six-Phase Disaster Management Framework (2001)</b>	<b>Sendai Framework 2015-2030 for Disaster Risk Reduction (Source: UNISDR, 2017)</b>
<b>1. Mitigation/Prevention</b>	1.Pre-event	<ol style="list-style-type: none"> <li>1. Understanding disaster risk</li> <li>2. Strengthening disaster risk governance to manage disaster risk</li> <li>3. Investing in disaster risk reduction for resilience</li> </ol>
<b>2. Preparedness</b>	2.Prodromal	<ol style="list-style-type: none"> <li>4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction</li> </ol>
<b>3. Response</b>	<ol style="list-style-type: none"> <li>3.Emergency</li> <li>4.Intermediate</li> </ol>	

### **3.4.3 Popular MPRR Frameworks Adopted by Sri Lanka Disaster Management Centre**

From the above frameworks, the mitigation, preparedness, response and recovery framework (MPRR) is the most widely used disaster management framework within disaster management around the world. The four main components within this framework are mitigation, preparedness, response and recovery. The first two components usually take place before disaster strikes, and the last two take place subsequently. Although the terminology used in defining the four components were various between studies, the underlying interpretation of each component has been clearly defined by Coppola (2011).

**Mitigation:** “involves reducing or eliminating either the likelihood or the consequences of a hazard, or both. Mitigation seeks to ‘treat’ the hazard such that it impacts society to a lesser degree,” (Coppola, 2011, p.12).

**Preparedness:** “involves equipping people who may be impacted by a disaster or who may be able to help those impacted with the tools to increase their chance of survival and to minimise any financial and other losses,” (Coppola, 2011, p. 12).

**Response:** “involves taking action to reduce or eliminate the impact of disasters that have occurred or are occurring so as to prevent further suffering, financial loss, or combination of both. Relief, a term commonly used in international disaster management, is one of the components of response,” (Coppola, 2011, p. 12).

**Recovery:** “involves returning victims’ lives back to a normal state following the impact of disaster consequences. The recovery phase generally begins after the immediate response has ended and can persist for months or years thereafter,” (Coppola, 2011, p. 12).

### 3.4.4 Faulkner’s (2001) Framework

Out of the above frameworks, Faulkner’s (2001) has been used most frequently in studies on the tourism industry. Faulkner (2001) carried out research on broader disaster management literature to produce a general model (Table 3.2) specifically designed to analyse the disaster management strategies of the tourism industry.

Table 3.3-2: Disaster management framework by Faulkner (Source: Faulkner (2001)).

Phase in disaster process	Elements of the disaster management process	Principal ingredients of the disaster management strategies
<b>1. Pre-event</b> When action can be taken to prevent or mitigate the effects of potential disasters	<b>Precursors</b> <ul style="list-style-type: none"> <li>Appoints a disaster management team (DMT) leader and establish DMT</li> <li>Identify relevant public/ private sector agencies/ organisations</li> <li>Establish coordination /consultative framework and communication systems</li> <li>Develop, document and communicate disaster management strategy</li> <li>Education of industry stakeholders, employees, customers and community</li> <li>Agreement on, and commitment to, activation protocols</li> </ul>	<b>Risk assessment</b> <ul style="list-style-type: none"> <li>Assessment of potential disasters and their probability of occurrence</li> <li>Development of scenarios on the genesis and impact of potential disasters</li> <li>Develop disaster contingency plans</li> </ul>
<b>2. Prodromal</b> When it is apparent that a disaster is imminent	<b>Mobilisation</b> <ul style="list-style-type: none"> <li>Warning systems (including general mass media)</li> <li>Establish disaster management command centre</li> <li>Secure facilities</li> </ul>	<b>Disaster contingency plans</b> <ul style="list-style-type: none"> <li>Identify likely impacts and groups of risks</li> <li>Assess community and visitor capabilities to cope with impacts</li> </ul>
<b>3. Emergency</b> The effect of the disaster is felt, and action is necessary to protect people and property	<b>Action</b> <ul style="list-style-type: none"> <li>Rescue/evacuation procedures</li> <li>Emergency accommodation and food supplies</li> <li>Medical/health services</li> <li>Monitoring and communication systems</li> </ul>	<ul style="list-style-type: none"> <li>Articulate the objectives of individual (disaster specific) contingency plans</li> <li>Identify actions necessary to avoid or minimise impacts at each stage</li> <li>Devise strategic priority(action) profiles for each phase               <ul style="list-style-type: none"> <li>Prodromal</li> </ul> </li> </ul>
<b>4. Intermediate</b>	<b>Recovery</b> <ul style="list-style-type: none"> <li>Damage/audit monitoring system</li> </ul>	



A point where short-term needs of people have been addressed and the main focus of activity is to restore services and the community to normal	<ul style="list-style-type: none"> <li>• Clean-up and restoration</li> <li>• Media communication strategy</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency</li> <li>○ Intermediate</li> <li>○ Long-term recovery</li> <li>• Ongoing review and revision in the light of <ul style="list-style-type: none"> <li>○ Experience</li> <li>○ Changes in organisational structures and personnel</li> <li>○ Changes in the environment</li> </ul> </li> </ul>
<b>5. Long term (recovery)</b> Continuation of previous phase, but items that could not be attended quickly are attended at this stage. Post-mortem, self-analysis, healing	Reconstruction and reassessment <ul style="list-style-type: none"> <li>• Repair of damaged infrastructure</li> <li>• Rehabilitation of environmentally damaged areas</li> <li>• Cancelling victims</li> <li>• Restoration of business/consumer confidence and development of investment plans</li> <li>• Debriefing to promote input to revisions of disaster strategies</li> </ul>	
<b>6. Resolution</b> Routine restored or new improved state establishment	<b>Review</b>	

According to Faulkner’s disaster lifecycle model, there are six stages within the disaster management process: Pre-event, prodromal, emergency, intermediate, long-term recovery and resolution. In the pre-event phase, action could be taken to prevent or minimise the adverse effects of the potential disaster. The second phase (prodromal phase), is when a disaster is unavoidable, and it is hence important to focus on what actions could be taken at this stage. The third phase is when the disaster has already struck, and focuses on what strategies are necessary to protect people and property. The fourth phase is when the short-term needs of people have been met and essential services and community have been strategically restored. The long term is the phase in which reconstruction and reassessment take place. The final phase is the resolution, where disaster management strategies are reviewed and renewed.

Faulkner’s disaster lifecycle framework is an adaptation of concepts relating to mainstream disaster management and planning frameworks by Fink (1986) and Roberts (1994) to suit the tourism industry. Fink (1986) first introduced the disaster life cycle model with four stages: prodromal stage (when it becomes apparent that the

crisis is inevitable), acute stage (the point of no return when the crisis has hit and damage limitation is the main objective), chronic stage (clean-up, post-mortem, self-analysis and healing), and resolution (routine restored or new improved state).

Roberts (1994) then introduced a four-stage incidents framework where a pre-planning or disaster mitigation phase was introduced. Roberts's (1994) model seems to have avoided Fink (1986) prodromal stage, where it becomes apparent that the crisis is inevitable. Instead, a stage called the 'pre-event' is introduced, in which action can be taken to prevent disasters. The introduction of pre-event, where disaster management and planning aimed at mitigating and reducing the effects of possible disaster, seem to be the right move toward recognising the importance of disaster management and planning within organisations. The second stage introduced by Roberts (1994) is the emergency phase: when the effects of the disaster have been felt and action must be taken to rescue people and property. Then there is the intermediate phase, when communities' short-term needs must be fulfilled, and other essential services must be restored. The main objective at this point is to restore the community to normality as quickly as possible. The final stage is the long-term phase where the previous phase will be extended to address time-consuming aspects of the recovery such as repair of damaged infrastructure, correcting environmental problems, counselling victims, coming up with strategies for reinvestment, and making arrangements to improve and revise disaster strategies. Faulkner (2001) seems to have combined Roberts' (1994) framework with Fink (1986) to create an extensively elaborated six-stage lifecycle for the purposes of the tourism industry. The following section will further explore the pre-event and prodromal phases of Faulkner (2001) disaster lifecycle model.

**Pre-event:** Faulkner (2001) proposes to establish a disaster management team (DMT) and a team leader. Cassedy (1991) in his crisis management planning manual

highlights possible characteristics to take into consideration when selecting a team leader: managerial qualities such as effective communication, ability to carry out multiple tasks at the same time, ability to delegate, coordinate and control, and sound decision-making. Faulkner (2001) further proposes a coordinated team approach (stakeholder collaboration) in pre-event disaster management planning. This could be done by identifying relevant stakeholders (public and private sector organisations and agencies) and establishing a positive and effective association with them. Cassedy (1991) has emphasised the importance of developing relationships with other agencies and groups such as government agencies, other travel providers, emergency services, health services, media, community and tourists. Through close relationship and communication with other stakeholders, the disaster management team will be able to develop a more comprehensive disaster management strategy in alignment with other stakeholders. Furthermore, this will promote cohesion and positive coordination in the event of disaster.

Faulkner (2001) points out three key requirements of effective disaster management planning: a coordinated team approach, consultation, and commitment. Here, a coordinated team approach is vital to a multidimensional industry like tourism due to its range of private and public-sector organisations that are directly or indirectly associated with many services, such as transport, accommodation, food and many more. Thus, the disaster management team should ensure that their disaster management strategy merges with all other stakeholders as well. Furthermore, such pragmatically developed disaster management strategies should be communicated to the industry stakeholders, employees, customers and the community.

**Prodromal:** Faulkner (2001) and Cassedy (1991) have both highlighted the importance and value of a disaster management command centre with all the required

resources. When it is apparent that disaster is imminent, an effective warning system is required to communicate such information to all the relevant stakeholders. Faulkner (2001) proposes including general mass media to communicate any information and commands regarding the upcoming disaster. The devastation that occurred in the 2004 tsunami due to lack of warning systems is a prime example of the importance of having appropriate warning systems in place in any destination.

#### **3.4.4.1 Effectiveness of Falkner's Tourism Disaster Lifecycle Model**

Faulkner (2001) invited researchers to use the above framework to examine and analyse actual cases of tourism disasters in order to further test and refine his disaster management lifecycle model. Responding to this call, some researchers have tried to apply Falkner's six-phase disaster management framework to various actual disasters that have occurred around the world (Faulkner & Vikulov, 2001; Peters & Pikkemaat, 2005; Miller & Ritchie, 2003; Becken & Hughey, 2013).

Faulkner's (2001) framework tends to be useful when applied to disasters that occur within a limited geographical setting within a limited time frame, such as the Australia Day flood in Kathrine and the avalanche disaster in Austria (Faulkner & Vikulov, 2001; Peters & Pikkemaat, 2005). Faulkner and Vikulov (2001) used the above disaster management framework effectively to study and analyse the case of the 1998 Australia Day flood in Kathrine. The findings revealed that the framework could be used effectively, and the researchers proposed adding a further reappraisal of the marketing planning and policy regime to the final stage of the framework.

Faulkner and Vikulov (2001) believed that by incorporating marketing aspects to the disaster management framework the framework could become far more comprehensive and complete for the purposes of the tourism industry. Peters and

Pikkemaat (2005) used Faulkner's disaster lifecycle framework to analyse security and emergency measures taken in an Alpine resort Galtuer (Austria) which suffered a major avalanche disaster in 1999. In this instance, Peters and Pikkemaat (2005) managed to successfully utilise six stages of Faulkner's disaster lifecycle framework to discuss the failures and success factors in the disaster management process applied in Galtuer. The two main similarities between the Australia Day flood in Kathrine and the avalanche disaster in Austria is that they were both limited to a restricted geographical setting and the disaster itself was relatively short lived. Thus, it is apparent that Faulkner's (2001) framework tends to be useful when applied to disasters that occur within limited geographical setting within a limited period.

However, some scholars argue that Faulkner's disaster lifecycle framework is limited when tested on more complex disasters such as the foot and mouth outbreak in the UK and the Bali bombings of 2002 (Miller & Ritchie, 2003; Henderson, 2002). Miller and Ritchie (2003) applied Faulkner's disaster management framework to the foot and mouth outbreak that occurred in the United Kingdom in 2001. This study concluded that, although this model is useful as an analytical tool for examining how crises and disasters have been managed, due to the varied nature of disasters and the environments in which they can occur the model's applicability could be limited. In contrast, Becken and Hughey (2013) carried out a comparison of three different frameworks (Faulkner's 2001 framework, International frameworks and the framework used in the New Zealand Civil defence emergency management) and concluded that Faulkner's six-phase disaster management framework is aligned with other mainstream emergency management frameworks (Appendix 4).

### **3.4.5 The Sendai Framework 2015-2030 for Disaster Risk Reduction**

The Sendai Framework for Disaster Risk Reduction, a 15-year plan to reduce disaster risks and losses worldwide (Table 3.1), was adopted by UN Member States on 18 March 2015 at the Third UN World Conference on Disaster Risk Reduction in Sendai City, Miyagi Prefecture, Japan. The international strategy adopted by the Sendai Framework emphasises disaster reduction, and moving away from traditional frameworks that place greater emphasis on disaster prevention. According to the UNISDR (2017), by adopting the Sendai Framework, countries, communities or destinations could reduce the extent or severity of social and economic setbacks associated with disasters. The Sendai Framework points out the importance of understanding potential disaster risks at all levels, including vulnerability, capacity, exposure of persons and assets, hazard characteristics and to the environment. It calls for this knowledge to be used to assess the risks, and seeks for measures to prevent or mitigate such risks through planning and preparedness. Within the framework adopted by the Sri Lanka Disaster Management Centre, mitigation and preparedness tend to fulfil the same requirements as the Sendai Framework.

However, the framework adopted by the Sri Lanka Disaster Management Centre demonstrates equal emphasis on all four phases of the cycle (mitigation, preparedness, response and recovery). The framework adopted by the Sri Lanka Disaster Management Centre is comparable to Faulkner's disaster management life cycle model. The six-phase model created by Faulkner is in fact a more comprehensive elaboration and expansion of the four R's framework. Thus, it could be concluded that Faulkner's disaster management framework is in alignment with other mainstream disaster management frameworks. This suggests its usefulness

when incorporating and linking tourism disaster management frameworks with the general disaster management framework of destinations.

#### **3.4.6 Linking Tourism Disaster Management Frameworks with the General Disaster Management Framework of Destinations**

Although it is vital for the tourism industry to equip itself with a disaster management model specifically designed to analyse disaster management strategies of the tourism industry in the case of a disaster, it is almost impossible for the tourism industry to act alone to mitigate and minimise the effects of disaster. Thus, Becken and Hughey (2013) point out the importance of linking tourism disaster management frameworks with the general disaster management strategies in place at a particular destination.

Becken and Hughey (2013) point out that Faulkner's six-phase disaster management model does not make any reference to how the proposed disaster management strategy could be integrated with the destination's existing disaster planning frameworks. Research carried out in New Zealand by Becken and Hughey (2013) reveals that tourism is scarcely considered in the existing disaster risk reduction (DRR) system in the country. Thus, Becken and Hughey (2013) propose a template to integrate tourism into the wider field of DRR (Appendix 5) as well as propose an action plan to address tourism-specific needs that are not currently addressed within the existing DRR systems. Becken and Hughey (2013) emphasise the importance of creating a complementing strategy for disaster management for tourism destinations together with the existing disaster management strategies of the country or the local authority, and point out the importance of harmonious integration which does not disturb or disrupt the overall strategies adopted by local authorities and other disaster management bodies. Becken and Hughey (2013) further point out that activities

related to integration should be cost effective and relatively easy to implement; and finally, that integration should occur only if tourism has become a significant industry and has a high risk of being affected by possible disasters.

However, evidence suggests that due to the dissimilarity and diverse nature of disasters, it may be difficult to strictly adopt and implement such rigid and prescriptive disaster management models. The following section will discuss some of the limitations of having rigid and prescriptive disaster management models.

### **3.4.7 Limitations in the Contemporary Disaster Management Frameworks of Destinations**

This section considers a number of limitations associated with the application of contemporary disaster management models.

#### **3.4.7.1 *Diverse Nature of Disasters***

A number of authors have highlighted the difficulty in implementing a common disaster management framework due to the unpredictability and uniqueness of each disaster (Ritchie, 2004; Faulkner, 2001; Cioccio & Michael, 2007). Cioccio and Michael (2007) state that most disasters occur randomly, without any warning. Thus, it is quite a difficult task for strategic organisational decision-makers to predict a future disaster in a meticulous way and adjust to the existing disaster management frameworks. Another aspect is the uniqueness of the disaster itself. Rigid disaster management frameworks, which are intended to fit all disasters, seem to overlook the vast dissimilarities existing in many disasters.



### **3.4.7.2 *Difficulty of Accommodating Varied Interests of Diverse Groups***

The tourism industry and destinations are comprised of diverse and sometimes competing groups of stakeholders. Scott, Laws and Prideaux (2007) states that due to competitiveness, tourism organisations tend to be less cohesive. Diverse stakeholder groups include community and residents, tourism organisations, tourism operators, destination and regional tourism organisations, local government, national government and others. Such diverse and independent groups tend to have diverse interests, with different perspectives on the disaster situation, thus making it difficult to implement collective strategy with other stakeholders.

Disasters such as the Indian Ocean Tsunami of 2004, the September 11 attack of 2001, and the Japan earthquake and tsunami of 2011 are prime examples of the precept that disasters could happen any time, without an extensive period of warning. Countries, destinations, organisations and their strategic decision-makers need to be prepared to effectively manage any future disasters they may encounter. Thus, the following section provides a critical review of the importance of preparedness of tourism organisations and their managers.

### **3.4.8 Disaster Preparedness through Planning**

The UNISDR (2017) emphasises the importance of shifting from the traditional focus on disaster response to disaster reduction and preparedness, in order to promote a culture of prevention through sound assessment and planning. Disaster planning allows managers, organisations, destinations and emergency agencies to be ready for any potential disaster that may occur in the near future. According to Pelfrey (2005), the best way to understand preparedness is through a timeline that includes planning, training, equipping, exercising, evaluating, and taking action to correct and mitigate.

Fink (1986) warns organisations and their decision-makers that any time they are not facing an immediate disaster they should consider themselves in pre-disaster mode and prepare themselves for possible future disasters through disaster planning. Inadequate disaster planning will lead to limited preparedness, which will result in an ineffective response to disasters. Thus, disaster planning should be undertaken by all tourism organisations in order to respond effectively in case of any potential future disaster that may occur.

The lack of research on disaster planning and management initiatives at the managerial and organisational level is somewhat disquieting considering the escalation of disaster risk faced by tourists and tourism organisations around the world in recent years due to many disasters (Tsai & Chen, 2011). There appears to be a level of ignorance amongst researchers regarding the importance of the role played by strategic organisational decision-makers in the context of disaster management in the tourism industry. This has presented an opportunity to more deeply explore the role of strategic decision-makers in the context of disaster management in the tourism industry.

#### **3.4.9 The Importance of Strategic Decision-makers**

At the heart of any organisation, whether small or large, lies their strategic decision-makers who are responsible for the strategic decisions that drive or shape most of organisations actions and directions (Lynch, 2015). Hambrick and Mason (1984) emphasise the importance of the top management team of the organisation and claim that the strategic outcome of organisations reflects the values and cognitive backgrounds of their most powerful actors. Therefore, by gaining insights into such powerful actors of the organisations it is possible to understand how they are reflective

of, and impact on, organisational outcomes. Power-holding strategic decision-makers play an important role in the tourism organisational dynamics due to the industry comprising a large number of medium to small businesses. Many such tourism organisations are directed according to the strategic choices made by such individuals. However, preparing for disasters can be challenging for destinations, organisations and their strategic decision-makers. Pre-planning for disasters can be challenging due to the inconsistency and unpredictability of disasters, and the high demand for resources required in planning (McConnell & Drennan, 2006). Anderson (2006) carried out research on a number of subsectors of the tourism industry in Australia in order to evaluate organisations' preparedness to effectively respond to a disaster. The findings indicate that there was very little preparedness demonstrated by the organisations examined. Since disaster planning is a difficult investment decision, for many tourism organisations the choice of whether or not to undertake disaster planning will depend significantly on the choices made by power-holding strategic decision-makers within each organisation. According to Child (1972) organisational structure and process are mostly determined by strategic choices made by these most powerful individuals of the organisations. Therefore, it is vital to examine these power-holding strategic decision-makers of the tourism organisations. The following section provides a discussion of the theory of "strategic choice" in order to justify the importance of looking into the role of the most powerful individuals in the organisations.

### **3.5 Strategic Choice Theory**

The purpose of this section is to understand the concept of strategic choice and the reasons behind its development as a concept, and to examine the importance of the role played by strategic decision-makers.

### **3.5.1 Origins of the Concept of Strategic Choice**

The importance of choice within the strategic management field was first recognised by Chandler (1962, p.8), who stated, “While the enterprise may have a life of its own, its present health and future surely depends on the individuals who guide its activity”. In 1972, the term “strategic choice” was further developed by John Child to redress an imbalance in the study of organisations. Strategic choice was defined by Child (1997, p.45) as “the process whereby power-holders within organisations decide on courses of strategic action.” Child (1997) further elaborated on this by stating that such action could be directed to various targets through the exercise of power. Child’s theory emphasises the role played by top decision-makers or top decision-making groups in influencing an organisation through their decision-making power. The following section will examine the standing and the importance of strategic choice perspective within the study of organisations.

### **3.5.2 Organisation Studies and Strategic Choice**

The theory of the organisation mainly focuses on organisational design and structure, and the relationship of the organisation with its external environment and technology. Child (1972) points out that many organisational theory models imply that organisational behaviour can be understood by reference to functional imperatives such as organisational structure, environment and technology. According to Duncan (1976), the deterministic view held by the strategy research considers that the organisation’s fate is mainly controlled by the environment. This view implies that organisational managers are only able to act in a reactive manner for variations and complexities presented by the environment, which implies that their decisions and responses are considered secondary to the organisation’s structure and the

environment. However, a key question which remains important to many organisational theorists is why organisations act as they do (Hambrick & Mason,1984). Child (1972) points out that many organisational models have ignored the essential political process of organisations and interpreted the organisational structure as a product of economic pressures from the external environment. Even strategic process studies were viewed as flows of information and decisions which were disengaged from the involvement of decision-makers (Hambrick & Mason,1984). Child (1997) therefore draws attention to the element of agency and choice in decision-making. He offers a corrective view of the organisational structure by criticising the theory for failing to acknowledge and give due attention to the agency of choice by whoever has the power to direct the organisation. According to Child (1997), the main limitation of the traditional theories and models of organisational structure is that they overlook the fact that top decision-makers of the organisations, whether private or public, have the power to influence and direct their organisations to suit their own intentions and preferences. Conversely, strategic choice theory argues that not all organisations understand the environment in the same way and emphasise a social model of behaviour which results in organisations collecting information differently and developing their own perceptions of their environments (Roh, Turkulainen, Whipple & Swink, 2017).

### **3.5.3 Exercise of Choice by Strategic Decision-makers**

According to the strategic choice perspective, choices made by top managers are the critical determinants of organisational structure and process, with the environmental conditions only partially determining an organisation's functions (Child, 1972). Thus, the key assumption in the strategic choice perspective is that the strategic decision-makers of the organisations operating in a market economy are relatively free to follow

their own strategic choices. This is especially apparent in organisations involved in service industries such as tourism due to the high degree of creative freedom enjoyed by the strategic decision-makers in order to create unique experiences for their customers. Furthermore, due to the tourism industry comprising a large number of medium to small businesses, their top-level strategic decision-makers play a prominent role in tourism organisational dynamics.

Child (1972) states that strategic decision-makers may sometimes choose to disregard certain requirements and developments within the environment, to avoid any modification to the existing state of practices and affairs. For example, Anderson (2006) points out that, despite the rising need to have comprehensive disaster management systems in place for tourism organisations, there is a lack of proper disaster planning strategy and preparedness evident in some tourism organisations. Here, it is apparent that although there is a requirement for disaster planning and management within the environment, some tourism strategic decision-makers have chosen not to respond to this development for various reasons. Thus, it is apparent that the motivation or demotivation for disaster planning within an organisation is driven by the organisation's power-holding strategic decision-makers. The critical link lies in the decision-makers' evaluation of the organisation's position in the environment areas presumed important by them, and subsequent actions they may or may not take.

#### **3.5.4 The Importance of Looking into Behaviour of the SDMAS**

Since disaster planning is a difficult investment decision, the choice of whether or not to undertake disaster planning largely depends for many SDMAS on their perception of the importance and necessity of disaster planning. According to Hambrick and Mason (1984) the strategic decision-makers eventual perception of a situation, are

generally influenced by their cognitive background and values. It is therefore vital to look into the underlying cognitive backgrounds and values of these powerful actors in the tourism organisations (Hambrick & Mason, 1984).

The behavioural choices made by SDMAS could be influenced or prejudiced by various other factors such as their underlying cognitions, their attitude, feasibility of the task and social norms. In order to better understand the disaster planning behaviour of SDMAS, the current study therefore intends to investigate such underlying cognitions, attitude, perceived behavioural control, subjective norms and intentions that influence the disaster planning behavioural choices they make.

It is apparent that the examination of disaster planning and management within the tourism accommodation sector should start with looking into the intentions and behaviour of the strategic decision-makers of the sector. Accordingly, this study has selected a Theory of Planned Behaviour as the main framework for the assessment of intention to undertake disaster planning within their organisations. The Theory of Planned Behaviour [TPB] (Ajzen, 1991) has been adopted by many researchers, and has been established as a framework for the assessment of attitudes and intentions as well as understanding and predicting behaviour in many fields. To better understand the TPB there needs to be some reflection on the origins and historic perspective of TPB. Henceforth, the following section will start by providing an overview of the number of theories which are closely related to TPB, followed by a detailed discussion of the TPB (Ajzen, 1991) adopted as the theoretical framework for this work and its eligibility as a well-established framework for assessing attitudes and intentions as well as understanding and predicting behaviour, in the field of social sciences among many other fields.

### **3.6 Theory of Planned Behaviour**

The purpose of this section is to provide a detailed review of the TPB, a prominent model for predicting behavioural intention. In order to better understand the concept, first it will provide a brief overview of some relevant theories of attitude, Social Cognitive Theory, Self-Efficacy Theory and Attribution Theory leading to the Theory of Reasoned Action [TRA] as the conceptual foundation: TPB was developed by Ajzen (1985) as an extension to Fishbein and Ajzen's TRA (Fishbein & Ajzen, 1975). This will be followed by detailed analysis of TPB as a framework to predict intention and behaviour, as well as some of the prominent research it has generated. Finally, its effectiveness and limitations as a major framework for understanding and predicting human intentions and social behaviour is reviewed, leading to possible extensions to the theory.

#### **3.6.1 Theories of Attitude and Attitude Change**

This section will provide a brief overview of some of the prominent attitude theories in order to understand different approaches to attitude in the existing literature.

It is apparent that social scientists have long recognized the importance of attitude within psychological studies. Attitude theories have been studied by many scholars for more than 75 years. According to Ajzen and Fishbein (1980), the concept of attitude has a unique place in the field of social psychology throughout history. Theories of attitude were so closely associated with the social psychology field of research that some scientists identified social psychology as a scientific study of attitudes.

Attitude theories primarily emerged through two main schools of thought, namely, learning and behaviour theories of attitude, or cognitive consistency theories (Fishbein



& Ajzen, 1975). However, the literature seems to distinguish between a number of subcategories in attitude related theories, namely, cognitive consistency theories, learning theories, social judgemental theories and functional theories. Fishbein and Ajzen (1975) warn against strict classification of attitude theories and point out that distinctions between the origins and the phenomena various theories deal with are mostly vague. However, in order to better understand distinct approaches to attitude, they will be presented under the subcategories identified earlier.

### **3.6.1.1 *Cognitive Consistency Theories of Attitude***

The basic assumption of many cognitive consistency theories is the consistency between beliefs or attitudes as well as consistency between attitude and behaviour (e.g. Festinger, 1957; Heider, 1958). For example, Leon Festinger, in the late 1950s proposed the theory of cognitive dissonance. Cognitive dissonance is the psychological discomfort experienced by individuals when faced with two contradicting thoughts. Festinger's (1957) Cognitive Dissonance Theory considers the impact two contrasting cognitive elements have on an individual. According to Festinger (1957), when a person is faced with two incompatible beliefs, cognitive dissonance occurs and in order to eliminate the dissonance, he must alter his cognitions or attitudes in order to reduce the dissonance or reach cognitive consistency.

### **3.6.1.2 *Learning Theories of Attitude***

According to Fishbein and Ajzen (1975), most learning theories of attitude are interested in how attitude is acquired and based on stimulus response approach of behaviour theory (e.g. Doob, 1947; Hovland, Janis & Kelley, 1953; Bem, 1967). One of the early learning theorists, Doob (1947) identified attitude as a learned response occurring within the individual (implicit response) and not immediately observable to

an outsider. Hovland et al. (1953) carried out a series of experiments on fear arousal, general persuasibility, role playing, order of presentation, and group norms under the Yale studies in attitude and communication. Hovland et al. (1953) proposed that people will only change their persistent attitude after undergoing a learning process. Bem (1967) proposed the theory of self-perception to offer an alternative interpretation for a number of phenomena suggested by the theory of cognitive dissonance. Bem's (1967) Theory of Self-perception argues that people develop their attitudes by observing their own behaviour and drawing conclusions that their attitudes must have caused it.

### **3.6.1.3 Social Judgement and Functional Approach to Attitude**

Social judgment theories can be considered as an attitude change theory trying to apply principles of judgement to attitude change. According to Sherif and Hovland (1961), an individual compares every new idea with their present point of view in order to determine a place on the attitude scale of the mind of the individual.

On the other hand, a functional approach to attitude argues that people hold the attitudes they do because their certain attitudes fulfil certain individualistic needs and such attitudes allow individuals to successfully execute specific plans and achieve specific goals. Katz (1960) proposes that at the psychological level people hold or change attitudes according to the needs of the functions they perform. For example, Katz (1960) points out that a person may demonstrate an attitude of ego defence when aroused by threat, hatred or controlling command; such an ego defence attitude can be changed by removing the threat, or perhaps through self-awareness and understanding.

From the above discussion it is apparent that the concept of attitude was approached from numerous perspectives by various theorists. However, Fishbein and Ajzen (1975) point out that at the conceptual level most of the theories could be categorized as dealing with either with belief or attitude, or with both belief and attitude. Fishbein and Ajzen (1975) further suggest that the common goal of most of the theories is to acquire information about an object or about one's own beliefs, attitudes, intentions or behaviour, and that researchers have used explicit (means of communication) or implicit (direct observation) methods to gain such information.

Having discussed some of the prominent attitude theories here, the following section will briefly investigate some of the components of attitude discussed in the existing literature.

### **3.6.2 Tripartite Theory of Attitude**

The view of this tripartite theory is that attitude is a hypothetical construct distinguishable from the classes of affect, behaviour and cognition and therefore, attitude could be valuated from the information derived from these bases. Rosenberg, Hovland, McGuire, Abelson, and Brehm (1960) as well as a number of other psychological researchers identified a three-part perspective to attitude by introducing affective, behavioural and cognitive responses to attitude. Eagly and Chaiken (1993) state that attitude cannot be directly observed but can only be inferred from observable responses, and such responses could be affective, cognitive or behavioural basis. Rosenberg et al. (1960) state that the affective component of the attitude is reflected in sympathetic nervous, or in other words emotional, response and verbal statement of feelings; the behavioural component of the attitude is reflected in verbal statements concerning behaviour and observable actions, or in other words past behaviour and

experiences regarding an attitude object; and finally the cognitive component of the attitude is reflected in perceptual responses, or in other words factual knowledge and verbal statements of beliefs. However, Ajzen and Fishbein (1980) point out that the three class perspective of attitude introduced by Rosenberg et al. (1960) imply that in order to measure attitude all three components should be assessed and therefore may raise confusion, as the theory does not make clear whether prediction of behavior is required to measure all three aspects of attitude. Alternatively, Fishbein and Ajzen (1975) demonstrated that individuals form beliefs about objects, events or actions in their environment, and such beliefs represent the information they possess about the object, event or action. Thus, Fishbein and Ajzen (1975) argue that at any point of time an individual retains a limited number of principal beliefs about any given object, action or event and such principal beliefs could be served as the determining factors of his attitude towards that object, action or event. This concept was used in both TRA and TPB frameworks when creating the construct attitude.

### **3.6.3 Social Cognitive Theory and Self-Efficacy Theory**

Social learning theory started in the 1960s by Albert Bandura and developed into Social Cognitive Theory in 1986. Through Social Cognitive Theory Bandura (1986) aimed to explain why individuals behave the way they do and how individuals and groups acquire and maintain certain behavioural patterns. Social cognition theory was mainly designed to predict health behaviours (Armitage & Conner, 2001).

In the Social Cognitive Theory by Bandura (1986, 1999) it states that people should not be considered as merely the on-looking hosts of brain mechanisms orchestrated by the environment, but as agentic operators (active agents who both influence and are influenced by their environment). Bandura (1986) criticised the depiction of

cognition process by cognitive researchers as only being emergent brain activities, and argued that human cognition should not be considered as just a reactive process but as a determinative functioning process where people exert generative, creative, proactive and self-reflective influences. Bandura (1999) states that people should not be considered as autonomous agents (operating without any interference from the environment that they live in) or just mechanical conveyers of their environment influences. The central concept of the social cognitive model is its triadic reciprocal causation between individual's internal personal factors (cognitive, affective and biological events), environment (external social context), and behavioural (responses in order to achieve goals) by interacting and influencing one another bi-directionally (Bandura, 1986). However, these interactions and influences may vary according to the individual, the behaviour that is being studied and the context.

Self-efficacy is the main construct that differentiates social learning theory from Social Cognitive Theory. Self-efficacy is defined as a person's belief in his ability to successfully execute a behaviour in order to produce a specific outcome (Bandura 1977). In other words, it is a person's belief in his ability to successfully accomplish a task to produce a favourable outcome. According to Bandura (1982) self-efficacy is one of the most prominent constructs in all behaviours. An individual's belief in his own self-efficacy influences whether they will ultimately carry out the behaviour. Moreover, when individuals have high degree of self-efficacy, they tend to view complicated tasks as challenges to be overcome rather than viewing them as threats that need to be avoided (Papagiannakis & Lioukas, 2012). According to Wood and Bandura (1989) people's beliefs about their efficacy can be instilled and strengthened in four main ways, namely: performance accomplishments (past performance success), vicarious experiences (in comparison with others who succeed), verbal persuasion (realistic

encouragement) and emotional arousal. Perceived managerial self-efficacy influences managers' organisational achievements both directly and through its effects on their goal setting and analytical thinking (Wood & Bandura, 1989). Understanding social cognition theory and self-efficacy theory is important because of their similarity to the TPB. Ajzen (1985) himself acknowledged that the formation of the construct perceived behavioural control was influenced by Bandura's (1977) self-efficacy theory.

However, many critics argue that Social Cognitive Theory does not provide a comprehensive explanation of how the relationship between social cognition, environment and behaviour takes place. Thus, Social Cognitive Theory is considered too wide reaching and therefore found to be difficult to be operationalised in a pragmatic study.

#### **3.6.4 The Attribution Theory and Theory of Reasoned Action (TRA)**

To better understand the TPB there need to be some consideration of the historic perspective of the theory. Therefore, a brief overview of Attribution theory and the Theory of Reasoned Action will be presented. This section will also explain how the Theory of Reasoned Action developed to become the TPB.

Attribution theory was among the first cognitive theories in the field of human behavioural theories through which individuals explained the causes of behaviour and events. In other words, how individuals interpreted events and how this related to their thinking and behaviour (Weiner, 1986). Attribution theory was first introduced by Heider in the twentieth century. According to Heider (1958), people make attributions about other individuals' behaviours by attributing feelings, beliefs, and intentions to

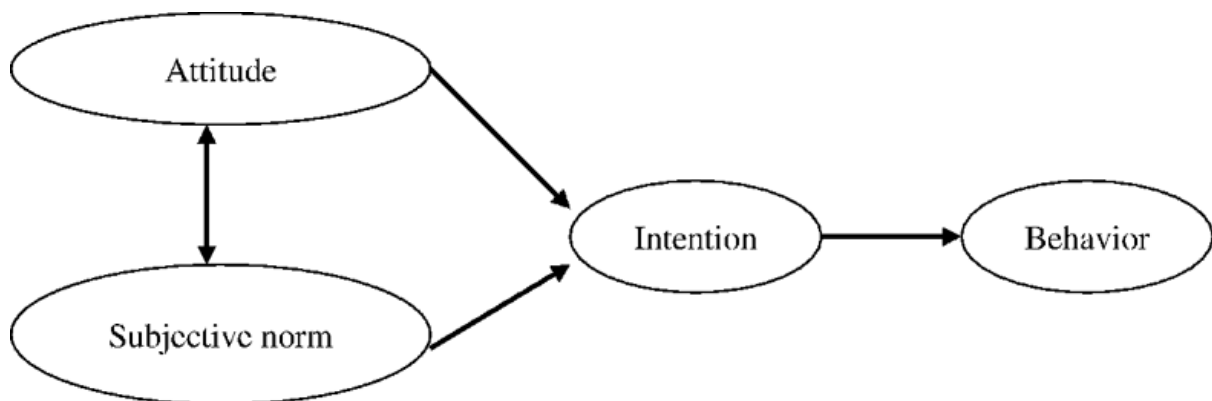
them. The theory examines what information is gathered and how it is combined to form a causal judgement. According to Heider (1958), the justifications of the behaviours are separated into situational attributions related to factors in the social and physical environment which cause a person to behave in a given way, and dispositional causes related to the individual's characteristics, such as one's intelligence and honesty levels. Attribution theory is closely associated with the concept of motivation and therefore has been widely applied in educational fields.

However, the main limitation in Attribution theory is that it only deals with beliefs, and these beliefs are interpretations of the reasons behind observed events or about an actor's personality (Fishbein & Ajzen, 1975). Therefore, judgements of one's behaviour are affected by various types of bias which can affect the causal attribution made. Thus, its effectiveness as a framework to predict behaviour is questionable. TRA was therefore developed in order to address the limitations of this earlier behaviour research.

TRA was developed by Fishbein in the late 1960s as the theory of behavioural prediction (Fishbein, 1967, p. 491) and was revised and further developed as TRA by Ajzen and Fishbein during the early 1970s. The underlying assumption of TRA is that the best predictor of behaviour is the intention to carry out the behaviour, which can be determined by the person's attitude towards such behaviour and perceived social perception regarding such behaviour (Fishbein, 1967; Fishbein & Ajzen, 1975).

According to the TRA, if a person's attitude towards a specific behaviour (attitude), is positive and if that person thinks others want him to perform the behaviour (subjective norm), that person is more likely to display a higher level of intention to perform such an action, and he is more likely to do so. The TRA was developed to predict and

explain volitional behaviour (Ajzen, 1985). In other words, behaviours that are easy to perform when motivated to do so. According to Ajzen and Fishbein (1980, p.5), “individuals are usually rational and make systematic use of information available to them.” People consider the implications of their actions before they decide to engage or not engage in a given behaviour. According to TRA both attitudes towards behaviour and subjective norms feed into a person’s behavioural intentions which then lead to actual behaviour (graphically presented in Figure 3.3). Ajzen (1985) emphasises that TRA only refers to an attitude towards behaviour and is not concerned with more traditional attitudes toward objects, peoples or institutions. In Figure 3.3 the subjective norms refer to an individual’s perception about the social pressures imposed on them to perform or not perform the behaviour in question.



**Source:** Fishbein and Ajzen (1975)

*Figure 3.3: The framework of the Theory of Reasoned Action.*

TRA has been successful in predicting behaviour in a number of studies (Langdrige, 2007). However, it was noted that TRA works most successfully when applied to behaviours that are under an individual’s volitional control. Therefore, despite the ability to predict human behaviour and behavioural intentions when under volitional control, TRA had been criticised for its limitation in predicting behaviour and behavioural intentions when they are not under full volitional control (Ajzen, 1985;



Langdrige, 2007). The main shortfall of TRA is that it does not take into account non-volitional behaviour. In other words, TRA does not take into account the difficulty or ease of performance of behaviour. For example, even though a person may demonstrate high positive attitude and subjective norms he will be reluctant to carry out the actual behaviour if that person believes that performing such behaviour is not feasible. Thus, a necessity arose for an extension in order to address the limitations of the TRA. As a result, Ajzen added another determinant of perceived behavioural control in order to develop the Theory of Planned Behaviour. In the following section the constructs of the Theory of Planned Behaviour will be discussed in detail.

### **3.6.5 Theory of Planned Behaviour (TPB)**

As with the Theory of Reasoned Action, the Theory of Planned Behaviour suggests that the central determinant of behaviour is one's intention to perform that particular behaviour. However, according to the TPB, in addition to the individual's attitude and subjective norms, perceived behavioural control works as an influencing factor when predicting individual intentions.

According to Ajzen (2012), although the TPB was mainly used by researchers to attempt to test the predictive validity of various behaviours, through a deeper understanding of human social behaviour researchers were able to go on to predict, plan and provide the basis for effective interventions designed to modify social behaviour in a desirable direction. The TPB has been widely used in healthcare sciences as well as across many other disciplines as a framework to help understand and predict human social behaviour and intentions. According to the TPB, attitude, perceived behavioural control and subjective norms are expected to feed into and

explain behavioural intentions and behaviours (Ajzen, 2011). Figure 3.4 provides a schematic representation of the Theory of Planned Behaviour.

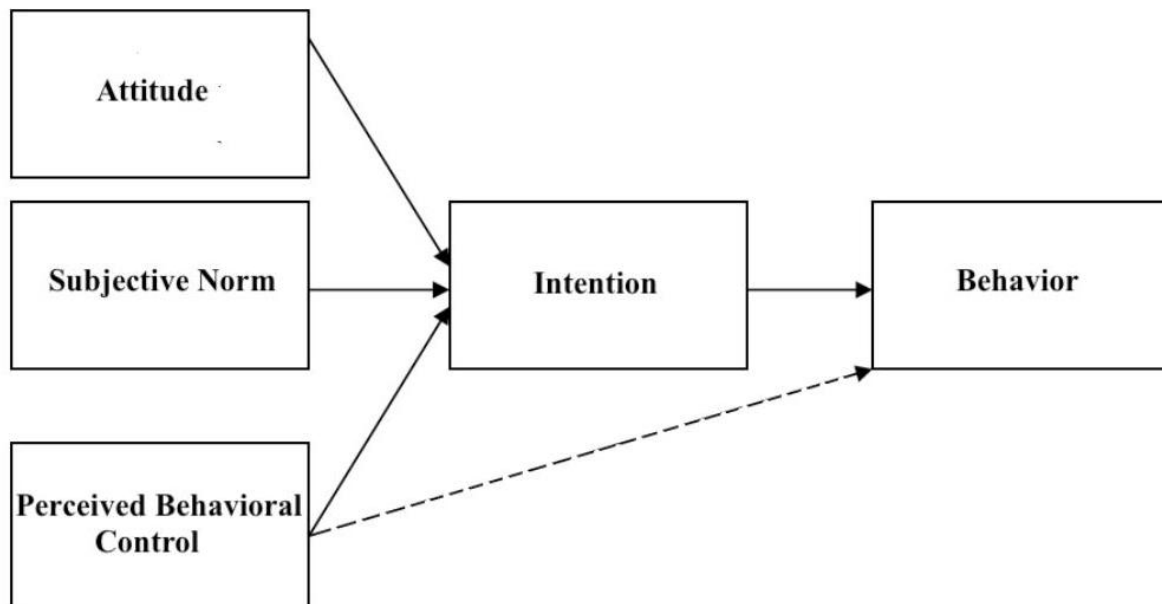


Figure 3.4: Theory of Planned Behaviour (Source: Adapted from Ajzen (1985)).

### 3.6.6 Behavioural Beliefs and Attitude towards Behaviour

Attitude has been used in academic research as a major construct for the explanation of human behaviour. According to Ajzen (2012), attitude is a person's outlook to respond favourably or unfavourably to an object, person, institution, or event. Ajzen (2012) further states that an individual's attitude tends to be constant over a period of time and can predict an individual's behaviour. An attitude towards behaviour could be positive or negative, and it is determined by a set of accessible behavioural beliefs linking behaviour with various outcomes. Fishbein and Ajzen (1975) state that a person's principal belief about certain behaviour's characteristics and by their evaluations of those characteristics determines that person's attitude towards the given behaviour. At any given time, a person holds a limited number of such principal beliefs regarding any given object, behaviour or event and such beliefs act as the main

determinants of that person's attitude towards the object, behaviour or event. According to the theory, behavioural beliefs produce a favourable or unfavourable attitude towards the behaviour. Therefore, Ajzen (1991) identifies attitude toward a behaviour as an assessment of whether performing the behaviour is good (favourable) or bad (unfavourable) to an object or matter, such as people, institutions, events, situations, places, ideas, or behaviours. For example, by looking into the principal beliefs of the SDMAS regarding disaster planning behaviour it is possible to establish whether their attitude towards disaster planning is positive or negative.

Ajzen (2012), further elaborates that people may demonstrate positive and negative attitudes towards an object or matter. Positive individual attitudes towards behaviour will lead to positive behavioural intention, therefore encourage the actual behaviour; and negative individual attitudes will lead to negative behavioural intention and therefore, discourage the individual from performing the particular behaviour. Therefore, in the context of the study, it could be predicted that SDMAS who exhibit positive attitudes towards undertaking disaster planning within their organisations will demonstrate positive behavioural intentions, and SDMAS who exhibit negative attitudes towards undertaking disaster planning within their organisations will demonstrate negative behavioural intentions.

### **3.6.7 Normative Beliefs and Subjective Norms**

Subjective norm is perceived social pressure to engage or not to engage in a particular behaviour (Ajzen, 2012). Subjective norms are determined by a set of accessible normative beliefs regarding the expectations of important others. Normative beliefs result in perceived social pressure to carry out a particular behaviour. Subjective norms are based on the individual's perception of a particular behaviour which is

influenced by social norms or pressure from significant others, in other words to close referral groups (e.g. family, colleagues, business partners, shareholders). Such referent groups play a significant role in determining and influencing people's intention to perform specific behaviour (Ajzen & Fishbein, 1980; Ajzen, 2012).

According to Ajzen and Fishbein (1980), when the subjective norms are favourable, the individuals' intention to perform the behaviour should be stronger. Conversely, when a person believes that their most important referral groups with whom they are motivated to comply think they should not perform the behaviour, such unfavourable subjective norms will put pressure on them to avoid performing the behaviour. Therefore, that individuals' intention to perform the behaviour would be weaker. For example, in the context of the study, it could be predicted, when the SDMAS believe their close referral groups (customers, employees, business associates, competitors, travel agents, government and tourism authorities etc.) think they should carry out disaster planning within their organisations, the SDMAS intention to carry out disaster planning within their organisations should be stronger. On the other hand, when the SDMAS believe their close referral groups think it is unnecessary to carry out disaster planning within their organisations, such subjective norms will put pressure on SDMAS to avoid performing the behaviour and, therefore, their intention to carry out disaster planning within their organisation will be weaker.

### **3.6.8 Control Beliefs and Perceived Behavioural Control**

Ajzen (1985) states that it is important to look into the question of volitional control because it is possible to fail to enact a behaviour due to difficulty in performing the behaviour. Many factors, both internal (e.g. information intelligence, individual differences, abilities, and willpower) and external (e. g. time, opportunity, and

dependence on others), can impair or facilitate the performance of a given behaviour (Ajzen, 2012). Henceforth, Ajzen (1985) proposed to include the aspect of volitional control as perceived behavioural control in predicting behavioural intentions. As a result, perceived behavioural control is added as another predictor of behavioural intentions and is a key variable to TRA to form the TPB. According to the TPB, perceived behavioural control is assumed to reflect anticipated barriers and difficulties and is thought to influence intention, and therefore to affect behaviour in an indirect manner. Moreover, perceived behavioural control is anticipated to have a direct effect on behaviour (as demonstrated in Figure 3.4).

Ajzen (2012) explains perceived behavioural control as perceived ability to execute a target behaviour. Perceived behavioural

control is “one’s perception of how easy or difficult it is to perform the behaviour,” (Eagly & Chaiken, 1993, p.185). Perceived behavioural control is determined by a set of accessible control beliefs about how easy or difficult it is to facilitate the behaviour. According to Ajzen (2012), a person who has the intention to perform a particular behaviour and has a high degree of control over it would be more likely to perform the behaviour. The control beliefs of an individual give rise to perceived behavioural control. According to Ajzen (1991) when a person holds strong control beliefs about the presence of factors that could influence or facilitate the behaviour, such an individual has high perceived control over behaviour and therefore, their intention to carry out such behaviour is strong. On the other hand, when a person demonstrates a low perception about the control they hold over the factors that could influence or facilitate the behaviour, such individual holds low perceived control over behaviour and this therefore, negatively influences their intention to carry out the behaviour in question. For example, in the context of the study, it could be assumed, if a strategic

decision-maker believes carrying out disaster management planning within their organisation is easy and straightforward, such a strategic decision-maker demonstrates strong perceived control over disaster planning behaviour, and this will therefore influence their intention to carry out disaster planning within their organisation. Conversely, if a strategic decision-maker believes carrying out disaster management planning within their organisation is problematic, such a strategic decision-maker demonstrates weak or negative perceived control over the disaster planning behaviour, and it will negatively influence their intention to carry out disaster planning within their organisation. In other words, they will be reluctant to carry out disaster planning within their organisation. Thus, examining the perceived behavioural control is of great significance because disaster planning is generally considered to be difficult due to the unpredictability and disparity of occurrence of disasters.

### **3.6.9 Intention and Behaviour**

Intention is an indication of a person's readiness to perform a given behaviour, and is considered to be the immediate antecedent of behaviour. The intention is based on attitude towards behaviour, subjective norms and perceived behavioural control. According to the TPB, individuals' intentions and actions can be determined by their beliefs. According to Ajzen and Fishbein (1980) intention demonstrates an individual's cognitive readiness to perform a particular behaviour. Intention, in other words, could be elaborated as willingness to carry out a specific behaviour. Stronger intention to engage in a particular behaviour results in successfully carrying out the actual behaviour. Ajzen (2012) further claims that intention is the mediator between attitude, subjective norms and perceived behavioural control and behaviour. Intention is therefore assumed to be the immediate originator of behaviour. For example, in the context of the current study, when SDMAS demonstrate a strong intention to carry out

disaster planning within their organisations, this could be considered a strong indication that they will truly carry out disaster planning.

### **3.6.10 TPB as a Predictor of Behaviour**

TPB has received wide attention in the literature (Kautonen, Gelderen & Tornikoski, 2013; Carr & Sequeira, 2007; Wolff, Nordin, Brun, Berglund & Kvale, 2011) and it is mainly used as a predictor of behavioural studies. In many TPB studies, behavioural intentions are considered to lead to action at a future date (Sparks & Pan, 2009). For example, Kautonen et al. (2013) effectively tried to apply the TPB to predict entrepreneurial behaviour and intention to start up a business, as well as the actual behaviour this led to at a later stage. The survey considered a Finnish working age population. The survey was carried out as a two-wave survey (2006 and 2009) to find out whether people who conveyed a strong intention to start a business in the survey in 2006 subsequently developed entrepreneurial behaviour of actually starting a business by 2009. Findings revealed that all three components of TPB (attitude, perceived behavioural control and subjective norms) are significant predictors of entrepreneurial intention. Furthermore, the findings revealed that intention and perceived behavioural control are significant predictors of subsequent behaviour, thus strongly supporting the predictions outlined by the TPB. According to the findings of Kautonen et al. (2013), complex economic behaviour such as establishing a business could be accurately predicted using TPB much earlier than it actually takes place. Ajzen (1991) himself conducted a review of 16 studies, considering a range of behaviours in various fields and found that the theory received good empirical support. However, it is important to note that Ajzen (2011) has acknowledged that although TPB could be used accurately to predict behavioural intention, it does not always result

in accurately predicting actual changes of behaviour as a result of such intentions. Ajzen (2011) claims this could be due to two main reasons; the longer time gap between the measurement of intention and observation of behaviour, or actual control over behaviour. Ajzen (2011) points out that through time, there could be an increased number of intervening events that take place which could change people's behavioural, normative and control beliefs, modify their attitudes, subjective norms or perception of control leading to changes in behavioural intentions. Therefore, it is apparent that at its core TPB is mainly focused on the prediction of behavioural intentions and that intention-behaviour relationship may depend on other factors beyond the individuals control and thus may not accurately predict sometimes.

In addition to the above, several other limitations have been raised by researchers which will be discussed in the next section.

### **3.6.11 Criticism and Limitations of Theory of Planned Behaviour**

There are several issues raised in the Theory of Planned Behaviour literature that warrant discussion. The following section will consider some of the main criticisms and limitations of the TPB.

#### **3.6.11.1 *Self-reported Bias***

Self-reporting in the determination of the respondents' attitude and their behavioural intention is considered one of the limitations of TPB. Ross, McFarland, Conway, and Zanna (1983) claim that people tend to exaggerate their positive or negative actions, thus making self-reported data subjective and unreliable. Furthermore, Ogden (2003) states that self-reported behaviour can be contaminated by self-reported bias, making the relationship between self-reported intentions and behaviour potentially inaccurate



when measuring. Such bias may often result from respondents exaggerating their performance of socially desirable behaviours and downplaying socially undesirable behaviour (Armitage & Conner, 2001). According to the findings of Armitage and Conner (2001), although such exaggeration could magnify the level of intention and behaviour, it does not seem to undermine the validity of the framework due to the frameworks' capability to explain the variance of actual measures in a significant manner. Furthermore, the construct 'perceived behavioural control', which contains control beliefs and their perceived power, validates that intention is influenced both by how difficult the task is perceived to be, and whether the person expects to successfully complete the behaviour. Thus, Schifter and Ajzen (1985) argue that the Theory of Planned Behaviour seems to overcome self-reported bias and exaggeration, as it addresses behaviours which occur without a person's volitional control.

#### ***3.6.11.2 TPB Does Not Account for Other Cognitive Variables That May Influence Behavioural Intention***

One of the main criticisms faced by the TPB is that its constructs are too broad to allow accurate predictive testing. The fact that TPB does not take into consideration other cognitive variables (e.g. fear, threat, mood, past experience) that can influence behavioural intention has been criticised by some authors (Wegner, 2002; Wolff et al., 2011). Wolff et al. (2011) point out that TPB is too simplistic to analyse complex human social behaviour and highlight the need to extend the theory to accommodate other cognitive influences towards behavioural intentions. Moreover, Sniehotta, Pesseau and Araújo-Soares (2014) state that one of the main limitations of TPB as the theory does not take into account any cognitive influences that lead to changes in the behaviour. Ajzen (2011) acknowledges that TPB puts more emphasis on controlled aspects of human information processing and decision-making. However, Ajzen (2011)

rejects this claim and points out that peoples' behavioural, normative and control beliefs adequately mirror their cognitive backgrounds and therefore the predictive quality of the model is not impaired.

However, research indicates that adding variables to the model may improve the predictive ability (see e.g., Ajzen, 1991; Armitage & Conner, 2001; Darvell, Walsh, & White, 2011; Chan & Bishop, 2013). Ajzen (1991, p.199) himself advocates that the Theory of Planned Behaviour should be "open to the inclusion of additional predictors if it can be shown that they capture a significant proportion of the variance in intention after the theory's current variables have been taken into account." The following sections review some important extensions which are most relevant to the current study. Since TPB is largely used in the fields of psychology and healthcare, some of the prominent extensions within the TPB literature on healthcare as well as management will be discussed.

### **3.6.12 Inclusion of Additional Predictors to TPB**

The influence of past behaviour on current and future behaviour has attracted interest within the research field (Eagly & Chaiken, 1993; Carr & Sequeira, 2007). Moreover, it is argued that past behaviour has a more direct influence in determining future behaviour than components researched within TPB such as attitude, perceived behavioural control and subjective norms. Carr and Sequeira (2007) point out that past behaviour is the main influence in determining all the components in the TPB. However, Ajzen (1991, p.204) points out that "perceived behavioural control can play an important role in mediating the effect of past on later behaviour." Thus, it is apparent that Ajzen (1991) believes that the influence of past behaviour can be captured within the construct of perceived behavioural control, because the repeated behaviour of

individuals should lead to improvement in their perceptions of control. Ajzen (2011) further points out that past behaviour does not meet the requirement of causal antecedent of intention and therefore cannot be included in the TPB. In other words, it is difficult to argue that the performance of a particular behaviour in the past influences that person's intention. Ajzen (2011) therefore claims that the strong correlation between past behaviour and future behaviour is a representation of strength of habit rather than behavioural intentions.

However, the strength of habit does not apply in explaining correlation between past experience and future intentions and the behaviour reported in number of studies (Anderson, 2006; Wang & Ritchie 2012). It could be argued that the experience of an event does not meet the requirement of causal antecedent of intention and therefore can be included in the TPB. For example, a strategic decision-maker who has negative attitudes towards disaster planning and initially does not intend to carry out disaster planning within his organisation may change his attitude and intentions after experiencing such a situation personally. It could therefore be argued that the past experience of a situation can influence a person's attitude and intentions. This was confirmed by a prominent study carried out by Wang and Ritchie (2012), identifying the attitudes and perceptions of crisis planning behaviour, which found that "past experience" played a significant role in predicting behavioural intentions. It can be concluded that although past behaviour is not considered an appropriate causal measure of behavioural intentions, past experience could be an appropriate causal measure of behavioural intentions.

### **3.6.13 Uncertainty Avoidance and Perceived Risk as Other Cognitive Variables**

Wolff et al. (2011) successfully extend the TPB by incorporating affective and cognitive expected outcomes to the questionnaire in addition to subjective norms, perceived control and uncertainty avoidance. The study was carried out in the context of the field of Norwegian healthcare. The findings of the survey results, with 874 participants, revealed that the extended cognitive variable “uncertainty avoidance” is the main predictor of behavioural intentions. Both subjective norms and perceived behavioural control did not have a significant influence on intention. Furthermore, a study carried out by Quintal, Lee and Soutar (2010) manages to successfully support and extend the Theory of Planned Behaviour by incorporating perceived risk and perceived uncertainty as additional constructs in addition to attitude, subjective norms and perceived behavioural control. The study was carried out to examine the relationship between perceived risk and uncertainty and Theory of Planned Behaviour constructs in the context of travel decision-making. The sample was taken from three countries, namely Japan, China and South Korea, and the results reveal that both perceived risk and perceived uncertainty negatively impacted tourists’ attitude towards visiting Australia.

The above examples are just a hand full of studies out of a very large number that attempt to extend the Theory of Planned Behaviour according to the requirements of the research area in order to improve predictive validity of the overall model. The current study has therefore incorporated disaster cognition as an additional predictor of attitude and intention. A detailed analysis and reasons behind the requirement to add disaster cognition as a predictor on attitude and intention are discussed in the

sections on managerial and disaster cognition. The following section will provide the rationale for selecting TPB as the base framework for the current study.

#### **3.6.14 Rationale for Applying the Theory of Planned Behaviour**

This study employs the TPB as the base framework through which to understand the factors that influence the intention to undertake disaster planning among strategic decision-makers in the accommodation sector in the tourism industry. The applicability of the TPB, and the reasons for selecting it in the context of this study, are justified in this section.

As detailed in the previous section, the TPB has been selected for this study for several reasons. Firstly, the TPB has been well established in the field of social sciences as a framework for the assessment of attitudes and intention as well as for understanding and predicting behaviour. Secondly, the TPB best fits the aim of this study to understand the factors that influence the intention to undertake disaster planning among strategic decision-makers in the accommodation sector in the tourism industry, which is looking into how intentions lead to predicting behaviour, since the TPB is widely recognised as having good predictive powers in explaining human intentions and behaviour (Ajzen, 1991). Thirdly, the TPB has been successfully applied and tested by many researchers in various disciplines (Kautonen et al., 2013; Carr & Sequeira, 2007; Quintal et al., 2010; Wolff et al., 2011). Fourthly, the TPB is open to extension by adding other predictors to suit different areas of study. Adding variables to the model may improve the predictive ability (see e.g., Ajzen, 1991; Armitage & Conner, 2001; Darvell et al., 2011; Chan & Bishop, 2013). As pointed out above, Ajzen (1991, p.199) himself has acknowledged the possibility of additional constructs being added to the model, which has allowed the current research to include disaster

cognition and other additional predictors for purposes of study. Finally, of the limited number of studies in the tourism industry that have applied the TPB to assess intention and behaviour (Wang & Ritchie, 2012; Quintal et al., 2010), none have extended it to incorporate disaster cognition as a predictor of intention to undertake disaster planning in the accommodation sector in the tourism industry. Therefore, using the TPB framework, and extending it to include additional predictors such as disaster cognition for the purpose of the study, could be considered reasonable and justified.

As elaborated in Chapter 3.5, the section on Strategic Choice, the direction of the organisation and various planning and investment strategies are determined by fundamental decisions and choices made by its top-level strategic decision-makers. However, according to Simon (1982), due to various limitations in the cognitive capabilities of decision-makers to interpret the complex and uncertain environments, their decisions may generally vary. As a result, the strategic decisions and choices of such strategic decision-makers are led by their different perceptions and interpretations of the environments according to their cognitive backgrounds and influences. The current study thus examines more deeply the cognitive backgrounds and influences that could impact the disaster planning intentions among SDMAS. The following section intends to analyse possible cognitive aspects that could influence the disaster planning intentions of the SDMAS.

### **3.7 Linking Managerial Cognition with Disaster Cognition**

The aim of the final section of the literature review is to look deeper into the cognitive background of SDMAS in order to better understand the causal influences of disaster cognition.

The section will start by introducing managerial cognition. This will lead to a review of individual cognition and other cognitive processes that individuals apply in their complex decision-making processes. Finally, the researcher shall define, analyse and review disaster cognition of strategic decision-makers and how disaster cognition could impact their intention to undertake disaster planning within their organisations and businesses. It should be noted that the topic managerial cognition is a vastly expansive concept which has been used by many researchers to describe and analyse a wide range of thoughts and thought processes in numerous disciplinary fields. Given the breadth of the subject, the researcher intends to focus on providing a detailed overview of selected areas of managerial cognition, focusing on the sectors relevant to the current research, prior to moving on to the disaster cognition of the strategic decision-makers of the accommodation sector.

### **3.7.1 Managerial Cognition**

Managerial cognition is a broad area of study that could be used to define and elaborate a wide range of managerial thinking patterns or mental (cognitive) maps. The study of managerial cognition is associated with cognitive science or cognitive psychology. The literature on organisational and managerial cognition is sometimes considered confusing and inexact due to its vastly diverse and complex terminology (Walsh, 1995). It could thus be argued that the main weakness in cognitive literature is the inconsistency in the terminology used in various sub-disciplines. However, it is not the researcher's primary intention to provide a deep analysis of the literature relating to cognition which has been produced in this vast area of sub-disciplines, but rather to provide an introduction to and review of managerial and organisational cognition literature, leading to the current study of the disaster cognition of the SDMAS.

### 3.7.2 Defining Cognition

The literature reveals that many researchers refrain from providing an unambiguous definition for cognition. This may be due to the complexity of the area of study. Wyer and Srull (2014) state that it is difficult to capture an individual's past experiences and future aspirations with a single sentence. However, in order to avoid ambiguity and misinterpretation, it is essential to understand what is denoted by the term 'cognition'. The word "cognition" derives from the Latin word "cogito" which means "to know". Lindell, Melin, Gahmberg, Hellqvist and Melander (1998, p.78) refer to cognition as "mental structures, moulded by past experiences." However, one could argue that such a definition confines the managers' cognitive ability to those predominantly derived from past experiences. According to Hellgren and Melin (1993), cognition is a concept of a way of thinking to better understand the relationship of managers' thoughts and actions. A similar definition was given by Niu, Lu and Zhang (2009), who refer to cognition as mental processes associated with acquiring, maintaining and using knowledge. Furthermore, Khalid and Ramli (2012) point out that cognition should incorporate human beliefs, values and perceptions. A far more comprehensive definition was provided by Colman (2006), who proposes that cognition has two parallel meanings: (1) "The mental activities involved in acquiring and processing information," and (2) "An item of knowledge or belief." Here, cognition was defined as a way to explain both the mental process of decision-making of a person or his awareness of a situation. Such a dual definition is in line with the two different paths taken by researchers of cognition. It is therefore more appropriate to conclude that cognition should be considered a way of thinking, an item of knowledge or a decision-making process of a person moulded by his thoughts, past experiences, perceptions and beliefs.



### **3.7.3 The Origins of Managerial Cognition**

The study of cognition falls under the purview of cognitive science and social psychology. Managerial cognition gained recognition within the strategic management field as a solution to the preponderance of structural explanations provided for organisational performance and as a way to bring key decision-making managers back to the centre of focus (Hambrick & Mason, 1984). The development of the study of managerial cognition has occurred against a backdrop of both sociological and economic philosophy and cognitive and social psychology.

#### ***3.7.3.1 Sociological and Economic Philosophy and Cognitive and Social Psychology***

According to Walsh (1995), in the 1980s sociological and economic thinking started to question the ability of individual managers to contribute to firm value. Prior to that, managers were considered to be a source of error variance or of organisational failure in organisational performance equations and conceptualisations. Managerial cognition was introduced to address the theoretical perspective of how managers may increase or decrease firm value. Thus, re-framing the positive contribution of managers combined with developments in cognitive and social psychology shaped the managerial cognition perspective.

### **3.7.4 Managerial Cognition and Its Theoretical Contribution**

The field of managerial cognition has made two significant theoretical contributions: conceptualisation of cognition and its use of cognitive mapping methods in relation to organisational learning and knowledge management; and managerial cognition as a means of conceptualising the linkage between cognition, behaviour and organisational

outcomes. Such topics researched by management scholars include managerial thinking and decision-making processes (Helfat & Peteraf, 2015), knowledge structures, cognitive maps (Gary & Wood, 2011), and organisational learning. Of these, firstly, the most prominent and vastly researched area is information processing theory, in which researchers study the knowledge structures of managers to better understand their decision-making process. For example, researchers have studied various knowledge structures and frames used by different managers in similar or different situations to gain a better understanding of the managerial decision-making processes and underlying cognitive determinants and decisions made by organisational managers. A study carried out by Geoffrey, Goodhew and Hamilton (2005) on 30 organisational managers to clarify the relationship between managers' cognition and their performance found that when the demands of the role were clear and simple, higher performing managers had simpler cognitive structures maps. However, if the role demands were complex, varied and unclear, higher performing managers had complex cognitive structures.

Secondly, managerial cognition is used as an item of knowledge, belief or situational awareness linking cognition, behaviour and organisational outcomes. For example, a study carried out by Isenberg (1986), using 12 senior managers and three undergraduate students, discovered that managers tend to plan their course of action relatively earlier, and with far less information, than students. Thus, Isenberg (1986) claimed that the advanced knowledge structures of managers allow them to focus on relevant data, and that their past experiences may help them to build up cognitive structures which allow them to plan suitable courses of action using limited information available at hand. Shang, Huang and Guo (2010) carried out research to explore how managerial cognition helps in the acquisition and maintenance of competitive

advantage in dynamic environments. The research findings reveal that top management managerial cognition has a direct critical effect on firms' strategic actions in acquiring competitive advantage. The current study focuses on the latter of these two by exploring the factors that influence disaster cognition among SDMAS and examining whether disaster cognition is a potential predictor of disaster planning behavioural intentions.

### **3.7.5 Individual Cognition**

Sparrow (1998) points out that in order to understand a person's intentions, decisions and actions, one needs to establish their way of thinking. Strategic decision-makers are required to absorb processes and analyse information regarding issues, opportunities and problems of potentially great complexity in order to make sound decisions and solve problems that arise within the organisation (Walsh, 1995). Therefore, managers use managerial mind-sets – also known as mental maps, knowledge structures, mental models or cognitive orientations (Walsh, 1995) – to deal with the complexity of the organisational and contextual conditions, in other words to deal with the external or internal environments of the organisation (Manral, 2011). These knowledge structures help individuals to understand the world around them. Furthermore, the managers decide on a course of action through an interpretation of the strategic situation based on their knowledge structures (Eden & Spender, 1998). According to Walsh (1995) such a course of action could be guided by similar experience in the past or, if it is a novel situation, by interpreting the current information context. However, capturing such a wide range of cognitive processes that a person applies in solving complex issues tends to be quite difficult when considering the fact that such cognitive processes are private and cannot be directly observed by a third person.

### **3.7.6 Cognitive Structures**

The concept of mental maps or cognitive structures were first introduced by Tolman (1948), who discovered that rats were able to navigate through a complicated maze using a mental image or a cognitive map of the maze. People tend to process complicated information processes using cognitive structures. The use of cognitive structures tends to be varied by effectiveness and from person to person. Thus, researchers were interested in finding out how highly efficient organisational managers were able to process the vast amounts of information they receive. Walsh (1995) believes that a person can approach information in two ways. The top-down style uses cognitive structures generated from past similar experiences to process new information; while the bottom-up (theory driven), data driven style occurs when information itself shapes a person's response to it.

Many scholars who have studied managerial cognition have focused on cognitive mapping in order to understand managerial thinking patterns. A cognitive map is a specific kind of mathematical model created to measure a person's belief system. When a cognitive model is interpreted as a normative model, it does not reflect how the person being researched derives new beliefs from the old beliefs leading to decisions, but only points out how a person should carry out the tasks. When the cognitive model is interpreted as an empirical model, such cognitive maps claim to indicate how a person truly performs certain cognitive operations. Thus, cognitive maps can be considered as a visual aide to understand certain selective elements of the individual's thoughts, but not their thinking pattern as a whole. Thus, it is apparent that, while cognitive mapping is a useful tool in understanding the cognitive process in both individuals and groups, it can only plot the information given by the participants. The validity of such information and how an individual can convey his or her complex

mental thoughts is highly questionable. Furthermore, mapping vast volumes and the aspects of thought processes involved in a single decision could also be problematic for researchers. Thus, due to the complexity of carrying out the mapping of vast volumes of thought processes of SDMAS the current study opted for a more direct approach in understanding the behavioural intentions of SDMAS by using TPB (presented in detail in Chapter 3.6). However, insights gained through the analysis of managerial cognition will be utilised to better understand disaster related cognitions among SDMAS, and to include disaster cognition as an additional predictor of behavioural intentions in order to improve the predictive validity of the TPB.

Both Child's (1972) strategic choice perspective, and Hambrick and Mason's (1984) upper echelon perspective argue that the top strategic decision-makers of organisations are responsible for the organisational strategic directions and outcomes. Such strategic outcomes and directions are a result of their choices (Child, 1972) and their cognitive backgrounds (Hambrick & Mason, 1984). Nadkarni and Barr (2008) argue that the relationship between the environment of the industry and strategic action is mediated by managerial cognition according to their own perception and rationality. To better understand managerial cognition, it is essential to distinguish the different cognitive structures that individual strategic decision-makers use in order to comprehend and make sense of the environment around them and allow them to make appropriate strategic decisions within the organisation. The following section will analyse some such cognitive structures and backgrounds that could influence the disaster cognition and behavioural intentions of the SDMAS.

Cognitive structures are also known as "mental material" or "schemas" (Sparrow, 1998). According to Sparrow (1998) an individuals' learning or experiences can be

categorised into five types of mental materials: semantic understanding, episodic memories, skills, tacit feel, and unconscious interpretations.

### **3.7.7 Semantic Understanding**

Within semantic understanding, a person tends to interpret the world around them according to their individual constructs (Sparrow, 1998). In other words, semantic understanding highlights how different people may interpret a situation in different ways according to their own understanding. For example, a possible disaster situation could be perceived as severe by one person, but another person may perceive the same disaster to be minor. The meaning of the disaster and its severity are created by his or her personal construct which creates the individual's perception of the disaster. A person may acquire some information and understanding from education, life experiences or both. For example, SDMAS who have undergone appropriate disaster training may be able to recognise possible future hazards more effectively than SDMAS who have not undergone such training. In another situation, a person who has experienced a disaster first hand or actively managed a disaster situation could have a more increased registration of the situational aspect of the disaster than a person who heard about it through a third person or on media. The former will demonstrate a higher degree of semantic understanding.

### **3.7.8 Episodic Memories**

Some decisions made by individuals could be affected by past memories. Episodic memories are a collection of past personal experiences that occur at a particular time and place. For example, if a person experiences a disaster and he or she remembers

the experience, this is an episodic memory. They allow an individual to travel back in time cognitively to remember the event that took place at that specific time and place. It is the only memory system that allows people to consciously re-experience past experiences (Tulving, 2002). This could happen not only due to past first-hand experiences but also due to recounting third party information or the interpretation of an observed sequence of events.

While a person may possess a higher degree of involvement with some episodic memories, another episodic memory may possess less involvement. According to Sparrow (1998) a person could experience an increased level of situational awareness due to a higher degree of involvement in an event, and this could produce an enhanced meaning for that person. For example, a person who has experienced a disaster first hand could have a higher recollection of the situational aspect of that disaster than a person who heard about it through a third person or on the media. However, the ability to retrieve episodic memories differs from individual to individual (Tulving, 2002). Thus, decision-making could be influenced by the individual's retrieval capacity rather than the personal experience itself.

Some scholars argue that episodic memories can turn into semantic memories over time. Baars and Gage (2007) argue that repeated similar episodic memories may lead to the formation of semantic understanding in people. Over time people tend to forget episodic memories and only the semantic understanding derived from the episodic memories prevail. Thus, there is evidence to suggest that semantic and episodic memories may be interconnected, and episodic memories of an individual may feed into form the person's semantic understanding. Therefore, it is possible that a person's episodic memories of a disaster could shape their semantic understanding of disaster.

### **3.7.9 Learning Skills: Implicit Learning and Explicit Learning**

Various skills are acquired by individuals in their personal and working life. According to Sparrow (1998), such learning is achieved through an implicit or non-declarative system, and an explicit or declarative system.

A person may learn new skills through implicit learning, where learning occurs without awareness of what is being learned. Such learning includes activities such as riding a bicycle, or the attitudes and habits a person feels or carries out but is unable to explain. Some scholars have identified such implicit learning as tacit knowledge or tacit knowing (Polanyi, 1962). According to Polanyi (2009), tacit knowing is knowledge that cannot be adequately expressed by verbal means, and all understanding is rooted in tacit knowing.

According to Sparrow (1998), some of the expertise which people have could be considered pure tacit knowledge, and does not appear to have ever been verbal knowledge. The key factor behind the intuition and better decision-making capacity of some of the top managers can be put down their tacit knowledge (Ganguly, Talukdar & Chatterjee, 2019). For example, a well experienced SDMAS who has acquired tacit knowledge may be capable of scanning the environment to recognise future disaster and other hazard risks more effectively than SDMAS who have less experience in the field.

A person may learn new skills through an explicit or declarative system through memorising a series of facts, generating and testing hypotheses, solving problems and seeking out the structure of information presented to them. Explicit learning takes place consciously, and the individual is aware of what is being learned. Explicit knowledge can be easily documented and therefore easily transferred (Ganguly et al.,



2019). For example, the disaster planning strategic process of an organisation could be well planned and documented and therefore such knowledge could be transferred easily among relevant members of an organisation. However, tacit knowledge, which is embedded as intuition within some SDMAS, can be important in identifying potential disaster accurately in advance. A person goes through a number of stages in order to learn or gain skills, starting from beginner and leading to expert. According to Sparrow (1998), during the early stages of skill acquisition, more deliberate and conscious learning takes place. However, as the person becomes an expert, the actions become automated and tasks may be carried out relatively unthinkingly. In this way, repeated explicit learning may lead to implicit knowledge. Thus, it is possible that through repeated training and learning SDMAS will be able to gain appropriate cognitive skills, and such skills, whether explicit or implicit, will influence their ability to identify the potential emerging risks of disaster, in other words their disaster cognition.

### **3.7.10 Unconscious Interpretations**

According to Sparrow (1998), unconscious interpretations refer to individuals' thinking processes regarding decision-making and their perceptions at a non-conscious level. This could be further described as the individual's unconscious preference and interpretation of various situations. Thus, during certain situations unconscious interpretations may act as a sense-making and biasing cognitive foundation and could influence decisions. Hambrick and Mason (1984) argue that the strategic outcomes of organisations reflect the values and cognitive backgrounds of its most powerful strategic decision-makers. However, a person may not even be aware of these unconscious views and opinions or be aware of how they will impact or bias the decision-making processes. For example, although unconscious interpretations could influence how a strategic decision-maker may evaluate or interpret identify emerging

risk of disaster and take strategic action, it is not always easy to observe and interpret such unconscious cognitive differences mainly because such characteristics are firmly embedded within the persons character himself. Individuals could have varied unconscious interpretations due to numerous reasons, such as variations in their backgrounds, cultural environments, education level, training and personal experiences. Hambrick and Mason (1984) argue that age, carrier paths and other carrier experiences, education, cultural and socio-economic roots are observable representations of cognitive foundations of strategic decision-makers and therefore, that such managerial characteristics act as reliable indicators of unobservable cognitive constructs. Thus, it is important to look into the demographic characteristics of SDMAS and their possible influence in the disaster related cognitions of SDMAS.

### **3.7.11 Situational Awareness**

Situational awareness has been used by many scholars to speculate on the processes and strategies which are helpful in understanding what is happening in the environment both immediately and in the near future. Endsley and Garland (2000) state that situational awareness is knowledge about what is going on around you. Situational awareness is important for strategic decision-makers when making decisions.

The strategic choice of strategic decision-makers of whether to carry out disaster planning could largely depend on their awareness of the environment in order to identify the potential threat of disaster in the near future. For example, in the recent Easter bombings the spokespersons of the impacted tourism business in the accommodation sector pointed out that they had not been aware of any threat of terrorist activity and had therefore failed to plan or take strategic action against such

a threat. However, when observed closely, terrorism against the tourist industry is a global threat and the accommodation sector is a prime target. There is therefore a very high potential risk of a terrorist attack against the accommodation sector organisation of any country around the world at any given point of time. The lack of situational awareness among the accommodation sector is therefore apparent in this situation.

Simon (1957) points out that individuals have only limited cognitive capabilities in analysing complex and mostly uncertain environments. The decisions they make will therefore be restricted by their cognitive limitations in understanding the environment (Kim, Tyge Payne, & Tan, 2006; Beach & Connolly, 2005). Such cognitive limitations or different interpretations of strategic decision-makers could be associated with their semantic understanding, episodic memories, explicit learning and tacit knowledge or other cognitive and demographic backgrounds. It is worth understanding more deeply the factors that influence disaster related cognition among SDMAS. In the case of the disaster planning intentions of the SDMAS, it is vital to be aware of potential disaster risks in order to strategise appropriate disaster planning system within their organisation. The following section will investigate the importance of disaster cognition for SDMAS and conclude with a discussion of the related literature.

### **3.7.12 Disaster Cognition**

By using various concepts related to managerial cognition the researcher demonstrates how different factors such as semantic understanding, past experiences (episodic memories), education and training (explicit learning), intuitive understanding (tacit knowledge) and other cognitive background characteristics such as demographics could influence the cognition of strategic decision-makers which lead to variations in strategic choices and behaviour. Following the same theoretical

concept, the study argues that the disaster related semantic understanding, disaster related past experiences, disaster training and education, tacit knowledge and demographic characteristics of SDMAS could influence their disaster cognition. Therefore, that the disaster cognition of SDMAS influences their disaster planning behavioural intentions and behaviour. The aim of this section is to define disaster cognition and review the related existing literature in order to demonstrate the importance of disaster cognition in disaster management and planning.

### ***3.7.12.1 What Is Denoted by Disaster Cognition***

In order to better understand what is denoted by disaster cognition it is important to provide a clear definition of the concept. Disaster cognition is defined as “the capacity to recognise the degree of potential emerging risk to which a community may be exposed and to act on that information,” (Comfort, 2007 p.189). Disaster cognition comprises risk perception and situational awareness appraisal influenced by beliefs. Perception of risk is the first cognitive step that triggers disaster planning and mitigation behaviour (Sun, Zhou, Wall & Wei, 2017). According to Sun et al. (2017) perception of risk is the decision-maker’s estimation of the probability of disaster. An individual’s perception of disaster is then cognitively evaluated through situational awareness appraisal. The final recognition of the degree of potential emerging disaster risk completes the individual’s disaster cognition. In keeping with Comfort’s (2007) definition, the disaster cognition of the SDMAS will be defined as the strategic decision-makers capacities to recognise the degree of emerging risks of potential disasters to which their organisations maybe be exposed.

The literature has highlighted the importance of disaster related cognition and awareness in emerging disaster situations (Comfort, 2007; Pearson & Clair, 1998;

Manen, 2014; Sun et al., 2017). Comfort (2007) analyses the record of operations during Hurricane Katrina and finds that the failure to effectively manage this catastrophic event was due not to lack of communication but rather the level of cognition regarding the risk posed by the storm. Comfort (2007) points out the importance of cognition in disaster management and proposes that cognition be added as a fourth condition to the pre-existing three Cs (Communication, Coordination and Control) of emergency management. Sun et al. (2017) point out that people could reduce the damage from disasters by having sensible disaster risk cognition to adopt appropriate disaster mitigation measures.

However, the disaster cognition of strategic decision-makers may fluctuate due to their cognitive capabilities and limitations, as well as their socio and cognitive backgrounds (analysed in detail in Chapter 3.7). Thus, it is important to understand the factors that influence disaster cognition among SDMAS. Although a number of scholars have identified the importance of disaster cognition within the disaster management literature, only very few literature has focused on actually looking to disaster cognition at a deeper level. The current study therefore intends to address the gap in the literature by looking at factors that influence disaster cognition among SDMAS. In addition to disaster cognition it is important to evaluate the relationship between disaster cognition, intention and behaviour. The following section will look into the association between disaster cognition and disaster planning behaviour.

### ***3.7.12.2 Linking Disaster Cognition Intention and Behaviour***

The literature has acknowledged the importance of disaster related cognitions within disaster planning behaviour and activities. The aim of this section is to examine some of most relevant studies in this area.

Paton (2003) points out the importance of looking deeper into the reasons and judgements that underpin the intention to prepare for disasters. They propose a critical awareness of the disaster, risk perception and hazard anxiety as the best motivators or precursors in intention formation. Here critical awareness, risk perception and hazard anxiety encompass the concept of disaster cognition and suggest that disaster cognition has a strong relationship with behavioural intentions. According to Comfort (2007) cognition enables experienced managers to narrow down the contrast between planning and practice, which is a gap that emergency management theorists have been eager to close. Here Comfort (2007) argues that disaster cognition allows managers to focus and narrow down disaster planning strategies according to the specific requirements and therefore that such strategies tend to be more successful and effective.

Mendonça, Webb, Butt and Brooks (2014) study the cognition and behaviour of the police personnel who responded to two significant US disasters: the 1995 bombing in Oklahoma City and the 2001 attack on the World Trade Center in New York City. The results suggest that when conventional behaviour is connected with cognitive processes, police personnel display more explicit reasoning processes. Thus, the value of understanding how the cognitive foundation influences behaviours to enhance the understanding of human response to disaster is evident.

In a non-disaster related study carried out by Kaplan (2008) on how the cognition, organisational capabilities and organisational incentives of the Chief Executive Officer (CEO) interact to shape firm strategy it was found that the context of the specific CEO cognition has a strong influence on the consequent strategic direction of that firm. Kaplan (2008) further finds that any change in CEO cognition could lead to changes in their investment pattern and Kaplan (2008) suggests that it is the CEO of an

organisation, or in other words the top strategic decision-maker, who need to shift attention in order for the firm to acquire organisational changes. Kaplan (2008) also suggests that education, job experience and experience strengthen the cognitive capabilities of CEOs.

### ***3.7.12.3 Possible Cognitive Structures in Disaster Cognition***

A study carried out by Mishra and Suar (2007) to examine whether past disaster experience (such as flood or heatwave) or disaster education (flood or heatwave) could initiate flood and heat wave preparedness found a positive correlation between, on the one hand, past disaster experience and education, and, on the other, future disaster preparedness. Mishra and Suar (2007) found that people who had experienced similar disasters in the past or had undergone disaster management training programs had a heightened risk perception leading to preparedness to face similar disasters in the future. However, Morrissey and Reser (2003) report counter intuitive findings. Their research found that people with prior traumatic disaster experience demonstrate a lack of psychological and physical preparedness.

Karanci, Aksit and Dirik (2005) carried out research in Turkey to assess the disaster related cognitions (disaster expectations, worry about future disaster, loss estimation of possible disaster, belief in the possibility of mitigation and preparedness through planning) and reported preparedness behaviour of the community. The research was carried out among 400 randomly selected participants from a group of four thousand community members who had undergone a disaster management training program together with 400 community members who had not participated in any disaster training program. The results revealed that participants of the community who had

attended the disaster training program demonstrated a higher level of disaster related cognitive traits than participants who had not attended the training program.

The previous sections of the literature review chapter comprehensively reviewed relevant existing literature relating to the current study. The final section will present number of gaps in existing literature identified throughout literature review that opened an opportunity for the current study to fill.

### **3.8 Research Gap**

The review of the existing literature identified a number of gaps in the literature that the current study intends to fulfil.

Although the literature review discussed a number of important studies on disaster management and tourism industry (Faulkner, 2001; Ritchie 2004, 2008; Hystad & Keller, 2008; Becken & Hughey, 2013; Paraskevas et al., 2013). The majority of such studies have mainly focused on different ways of adopting disaster management frameworks to the tourism industry and destinations. However, only a very limited number of studies have investigated disaster management behaviour at the organisational or managerial level (Wang & Ritchie, 2012). Previous studies have largely failed to identify the importance of the role played by the strategic decision makers within disaster management in the tourism industry. Although a limited number of previous studies have emphasized the importance of disaster cognition (Comfort, 2007; Sun et al., 2017) none of the existing studies seem to have studied the influence of disaster cognition on attitude and intentions of SDMAS. Finally, none of the existing studies seem to have attempted to extend TPB to incorporate disaster cognition as a potential predictor of both attitude and intention.



In conclusion, the above review of existing studies has revealed the importance of disaster related cognitions and their association with disaster planning behaviour. However, none of these studies are specifically focused on gaining insights into the SDMAS. When considering the recently escalated impact of disasters on the tourism industry and the many scholars drawing awareness to the lack of appropriate disaster planning in the sector, the current study could be considered a timely intervention from both a managerial and academic point of view. Following section will provide a summary of the literature review chapter.

### **3.9 Summary of the Literature Review**

It has been argued that a broader post-disciplinary approach would create a more flexible form of knowledge creation beyond single disciplines in order to address many complex issues and challenges within tourism studies. The proposed research thus aims to take a multidisciplinary approach to its object of study by reaching into disaster management literature, managerial theories (such as organisational theory and strategic choice theory), as well as drawing on behavioural and psychological research theories such as the TPB as well as managerial and disaster cognition theory.

Disaster management literature reveals a number of gaps, including the failure of previous scholars to take into account the importance of the role played by strategic organisational decision-makers in the context of disaster management in the tourism industry. Furthermore, according to McConnell and Drennan (2006), preparing for disasters can be challenging for destinations, organisations and their strategic decision-makers due to the inconsistency and unpredictability of disasters, and the high demand for the resources required in planning. This literature presents an opportunity to explore this matter more deeply, providing a rationale for this study's

focus on the role of strategic decision-makers in the context of disaster management in the tourism industry.

A review of the literature on organisational theory and strategic choice perspective reveals that Child (1997) criticises organisational theory for failing to acknowledge and give due attention to the agency of choice by whoever has the power to direct the organisation. According to Child (1997) the top decision-makers of organisations have the power to influence and direct their organisations to suit their own intentions and preferences. Since power-holding strategic decision-makers play an important role in tourism's organisational dynamics due to the industry comprising a large number of medium to small businesses, such tourism organisations are therefore directed according to the strategic choices made by such individuals. The conclusion which can be taken from the literature is that the focus of the current study on the disaster planning behavioural intentions of strategic decision-makers is appropriate and justified.

The literature review subsequently identifies the TPB as a viable basis for a theoretical model for the study. The literature reveals that several factors in the theory make it the most suitable theory to accomplish the research aims. These aspects include the well-established nature of the TPB in the field of social sciences as a framework for assessing attitudes and intentions, as well as understanding and predicting behaviour. In addition, the TPB fits the aim of this study, which intends to look into intentions leading to predicting behaviour. Furthermore, the TPB is widely recognised as having good predictive power in explaining human intentions and behaviour (Ajzen, 1991). Finally, studies in the literature consider the effectiveness and limitations of the TPB and the possible extension of the model in order to improve the predictability. A review of the literature relating to TPB in previous studies identified a number of limitations

that allow possible extensions to the theory that could improve its predictive validity. These limitations then provide the grounds for the proposed extension of the theory to incorporate disaster cognition as a predictor of behavioural intentions of the SDMAS.

The literature review then focused on the disaster cognition perspective and elaborated its standing grounds through a review of the literature on managerial cognition theories. The disaster cognition of the SDMAS was defined as their capacity to recognise the degree of potential emerging disaster risk to which their organisations could be exposed. The literature identified semantic understanding, past experiences (episodic memories), education and training (explicit learning), intuitive understanding (tacit knowledge) and other cognitive background characteristics reflected by demographics as possible influences of disaster cognition among SDMAS. The literature identified disaster cognition as a possible strong influencer of the disaster planning behavioural intentions of strategic decision-makers. Finally, the literature discussed some of the most relevant existing research in the area of cognition and behaviour. It concluded that there is a gap in the literature on the factors that influence disaster cognition and disaster planning intentions and of understanding disaster cognition as a possible strong predictor of the disaster planning behavioural intentions of the SDMAS, which is intended to be addressed in the current study. Following chapter will provide a detailed discussion on development of hypotheses and the conceptual model.

## **CHAPTER FOUR**

### **4. Hypotheses**

The main objective of this chapter is to discuss the hypothesis developed in order to examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour and to develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS. This chapter will elaborate on the development of the conceptual model, within the extended framework of the TPB. TPB was extended to include other key constructs namely Disaster cognition, disaster management training and education, past experience and demographics factors. The conceptual model of intention to undertake disaster planning amongst SDMAS was developed using ten hypotheses, which will be discussed in this chapter in detail. This section is informed by the literature which was widely discussed in the previous literature review chapter (Chapter 3). It includes various determinants of the behavioural intentions of SDMAS, including TPB constructs.

The TPB suggests that the central determinant of behaviour is one's intention to perform the particular behaviour. According to Ajzen (2012), although TPB was mainly used by researchers to attempt to test the predictive validity of various behaviours, through a deeper understanding of human social behaviour, researchers could go on to predict, plan and provide the basis for effective interventions designed to modify social behaviour in a desirable direction. TPB has been widely used across many disciplines, including business and healthcare, as a framework to help understand and predict human social behaviour and intentions. According to the TPB, attitude,

perceived behavioural control and subjective norms are expected to feed into and explain behavioural intentions and behaviours (Ajzen, 2011). As elaborated in Section 3.6, there is empirical evidence across various fields of study that support a positive influence between intention and behaviour (Kautonen et al., 2013; Bruijn & Kremers, 2007). It could thus be argued that the intention to undertake disaster planning amongst SDMAS should have a positive influence on them actually carrying out disaster planning within their organisation. The prediction is that a positive behavioural intention to undertake disaster planning within the organisation will reflect their actual behaviour in the future. By using TPB the researcher intends to examine the influence which the attitude, perceived behavioural control and subjective norms of SDMAS has on their behavioural intentions to undertake disaster planning within their organisation as a predictive determinant of their actual behaviour.

In addition, the literature has demonstrated a strong link between cognition and decision-making (Simon, 1982; Hambrick & Mason, 1984). Through bounded rationality Simon (1982) suggests that an individuals' rationality in decisions are restricted by their cognitive capabilities in interpreting the complex and uncertain environments within a limited time period. It could therefore be argued that the strategic decisions and choices of strategic decision-makers regarding disaster planning may be restricted and varied according to their different perceptions and interpretations of the disaster environments due to their cognitive limitations, backgrounds and influences. The researcher expects disaster cognition to be a predictor of the behavioural intentions of SDMAS. Furthermore, the literature identified other factors, such as episodic memories (past experiences), explicit learning (training and education) and tacit knowing, semantic understanding and unconscious

interpretations (reflected by demographic characteristics) that may influence the cognition of individuals.

Disaster cognition is defined by Comfort (2007), as an individual's capacity to recognise the degree of emerging risk to which a community is exposed. Thus, the researcher argues that the most powerful strategic decision-makers of the accommodation sector organisation's disaster cognition may influence their attitude and behavioural intentions. Disaster cognition comprises of risk perception and situational awareness appraisal influenced by beliefs about disaster occurring in the near future. Sparrow (1998) points out that in order to understand a person's intentions, decisions and actions one needs to establish their cognitive and learning traits. Here, the researcher is most interested in episodic memories. Some decisions made by individuals could be affected by past memories. Episodic memories are a collection of past personal experiences that occurred at a particular time and place. For example, if a person experiences a disaster and he or she remembers such an experience, this is an episodic memory. They allow an individual to travel back in time cognitively to remember the event that took place at that specific time and place in the past. It allows people to consciously re-experience past experiences (Tulving, 2002). This could happen not only as a result of past first-hand experiences but also due to the recounting of third-party information or interpretation of an observed sequence of events.

In summary, the researcher predicts that the disaster cognition, attitude, subjective norms and perceived behavioural control could influence the intention to undertake disaster planning amongst SDMAS. The following section will discuss in detail the hypothesis built to address these predictions.

#### **4.1 The Influence of Past Disaster Experience on Disaster Cognition**

Here, the researcher argues that disaster experience will allow the SDMAS to have increase disaster cognition level than SDMAS who have never experienced a disaster. While a person may possess a high degree of involvement with some episodic memories, another episodic memory may possess less involvement. According to Sparrow (1998) a person could experience increased level of situational awareness due to a high amount of individual involvement in an event and this could produce an enhanced meaning to that person. For example, it could be predicted that a person who has experienced a disaster first hand would have an increased registration of the situational aspect of the disaster, leading to higher level of disaster cognition, than a person who heard about it through a third person or on the media. These predictions are stated formally in the following hypothesis, which is proposed to test the relationships between past disaster experience and disaster cognition.

**Hypothesis 1: SDMAS with past disaster experience exhibit better disaster cognition than those who have not experienced disaster**

*(Question numbers 20, 21,26, 27 and 28 in the survey intend to capture relevant data required to test the above hypothesis).*

The existing literature supports the association between past experiences and disaster related cognition (Mishra & Suar, 2007; Sun et al., 2017; Paton, Johnston, Bebbington, Lai & Houghton, 2001; Becker, Smith, Johnston & Munro, 2001). Research carried out by Mishra and Suar (2007) found that people who possess previous experience of a flood or heatwave situation demonstrate a higher perception of similar risk in the future leading to better preparedness. Becker et al. (2001) carried out research on experience of volcanic eruption and volcanic hazard cognitive understanding and

revealed that experiencing an eruption firsthand had a greater influence on hazard perception and cognition. However, Morrissey and Reser's (2003) findings show that people with prior traumatic disaster experience demonstrated a lack of psychological and physical preparedness. It should be noted that disaster experience, whether mild, average or traumatic, is a cognitive interpretation of the person who experienced it and therefore, a disaster experience categorised as traumatic by one person may be a positive experience to another.

## **4.2 The Relationship between Disaster Management Training and Disaster Cognition**

The researcher argues that disaster management training allows SDMAS to gain explicit knowledge and skills about potential disasters. According to Sparrow (1998) a person could gain knowledge through an explicit or declarative system through memorising a series of successive facts, generating and testing hypotheses, solving problems and seeking out the structure of information presented to them. It could be thus argued that SDMAS who undergo disaster management training are gaining knowledge about their disaster environment and therefore possess more improved disaster cognition than SDMAS who have not undergone training. However, Paton (2003) claims that public disaster educational programs that provide general information on disaster mitigation do not directly influence disaster related cognition among participants. But the researcher argues that strategic decision-makers who convey that they have undergone relevant, effective and comprehensive disaster, management programs demonstrate that they have gained increased amount of learning and knowledge regarding disaster planning and management due to training, and therefore, exhibit more positive influences on disaster cognition, which will



ultimately lead to enhanced attitude and behavioural intentions. Furthermore, such explicit learning will lead to good semantic understanding about the world around them as well as enhanced tacit knowledge (insights) which influence the disaster cognition within decision makes.

These predictions are stated formally in the following hypothesis, which is proposed to test the relationships between disaster management training and education and disaster cognition.

**Hypothesis 2: SDMAS with disaster management training and education exhibit better disaster cognition than who have not undertaken disaster management and training**

*(Question numbers 14, 15, 16, 17, 18, 19, 26, 27 and 28 in the survey intend to capture relevant data required to test the above hypothesis).*

A number of existing studies support the association between training and perception of disaster (Karanci et al., 2005; Perry & Lindell, 2008; Mishra & Suar, 2007). A study carried out by Karanci et al. (2005) to assess the disaster related cognitions of community members in Turkey found that participants of the community who attended the disaster training program demonstrated a higher level of disaster related cognitive traits than participants who did not attend the training program. Furthermore, Mishra and Suar (2007) found people who undertook disaster management training demonstrated an enhanced risk perception. However, Paton (2003) and Ballantyne, Paton, Johnston, Kozuch and Daly (2000), both claim that public hazard educational programs may actually reduce the perceived risk and preparedness amongst participants due to a lack of focus or direction of many such training programs. Therefore, the perceived effectiveness within a person is important in training

programs to have a positive cognitive impact for that person. Questions were formatted to address the effectiveness, relevance and comprehensiveness of the training programs in order to gather a more comprehensive assessment of the level of cognitive stimulation each strategic decision-maker had gained through disaster management training.

### **4.3 The Relationship between Personal Demographics and Disaster**

#### **Cognition**

Here, the researcher directs attention to the upper echelon perspective (Hambrick & Mason, 1984) where the organisational strategic outcome is viewed as a reflection of the cognitive background and values of its powerful decision-maker. Furthermore, Hambrick and Mason (1984) argue that the age, career path and other career experiences, education, cultural and socio-economic roots are observable representations of cognitive foundations of strategic decision-makers and therefore, such managerial characteristics act as reliable indicators of unobservable cognitive constructs. The researcher points out that it is important to examine the demographic characteristics of the SDMAS and their possible influence on disaster cognition among SDMAS. Furthermore, it could be argued that the demographic background characteristics of SDMAS could influence their semantic understanding of the environment around them and influence unconscious interpretations of the environment.

The existing literature strongly supports the use of observable socio-background variables such as age, career paths and other career experiences, education, cultural and socio-economic roots in order to understand the cognitive direction of strategic decision-makers (Hambrick & Mason, 1984; Carpenter, Geletkanycz & Sanders,

2004). Carpenter et al. (2004) reviewed a number of studies that have successfully used the background characteristics of top decision-makers of organisations to gain insights into their cognitive settings and behaviour. Thus, the current study intends to look at whether the age, level of education and managerial experience of the SDMAS has a positive influence on disaster cognition.

These predictions are stated formally in the following hypotheses, which are proposed to test the influence of the level of education on disaster cognition; the influence of the level of age on disaster cognition and finally the influence of managerial experience on disaster cognition.

**Hypothesis 3: The higher the education levels of SDMAS, the greater their disaster cognition will be**

*(Question numbers 7, 26, 27 and 28 in the survey questionnaire intend to capture relevant data required to test the above hypothesis).*

**Hypothesis 4: The higher the age of SDMAS, the greater their disaster cognition will be**

*(Question numbers 3, 26, 27 and 28 in the survey questionnaire intend to capture relevant data required to test the above hypothesis).*

**Hypothesis 5: SDMAS with higher managerial experience levels will have better disaster cognition than those with lower experience levels**

*(Question numbers 6, 26, 27 and 28 in the survey questionnaire intend to capture relevant data required to test the above hypothesis).*

#### **4.4 The Relationship between Disaster Cognition and Intention to Undertake Disaster Planning**

Disaster cognition is the capacity of strategic decision-makers to recognise the degree of emerging risk to which their organisation may be exposed. In order to complete, disaster cognition is comprised of risk perception, and situational awareness appraisal influenced by the decision-makers beliefs. Comfort (2007) points out the importance of cognition in disaster management and highlights that disaster related cognition is the cognitive trigger of subsequent changes in attitude, behavioural intention and action.

Paton (2003) suggests critical awareness of the disaster, risk perception and hazard anxiety are antecedents of disaster mitigating behaviour. Here critical awareness, risk perception and hazard anxiety encompass the concept of disaster cognition and therefore suggest that disaster cognition has a strong causal relationship with behavioural intentions. Therefore, the current study continues to argue that disaster cognition fuelled by a number of disasters related to cognitive influences discussed in a number of previous hypotheses act as a predictor of behavioural intentions of disaster planning.

Although there seems to be very limited research that directly examines the association between disaster related cognition and intention, a handful of existing studies demonstrate a positive association between disaster related cognition and behaviour (Comfort, 2007; Mendonça et al., 2014). Comfort's (2007) study of disaster management behaviour during 'Hurricane Katrina' in August 2005, found that failure in managing the disastrous event was due to low level of cognition regarding the emerging risks of the hurricane. In another study carried out by Mendonça et al. (2014)

looking into the cognition and behaviour of police personnel who responded to the 1995 bombing in Oklahoma City and the 2001 attack on the World Trade Centre in New York City found that police personnel demonstrated a clear reasoning process when conventional behaviour was connected with cognitive processes.

Accordingly, the current research predicts that strategic decision-makers who demonstrate higher level of disaster cognition exhibit a significantly positive influence on their attitude towards disaster planning as well as their intention to undertake disaster planning within their organisations. These predictions are stated formally in the following two hypotheses, which are proposed to test the relationships between disaster cognition of SDMAS and intention to undertake disaster planning within their organisations as well as disaster cognition of SDMAS and their attitudes towards disaster planning.

**Hypothesis 6: SDMAS disaster cognition levels will have a significant positive influence on their intention to undertake disaster planning within their organisations**

*(Question numbers 26, 27, 28 and 30 in the survey questionnaire intend to capture relevant data required to test these two hypotheses).*

**Hypothesis 7: SDMAS disaster cognition levels will have a significant positive influence on their attitudes towards disaster planning**

*(Question numbers 23, 26, 27 and 28 in the survey questionnaire intend to capture relevant data required to test these two hypotheses).*

## **4.5 The Relationship between Attitude and Intention to Undertake Disaster Planning**

Here, the researcher predicts, on the strong theoretical grounds of TPB, that the attitude towards disaster planning will influence the disaster planning behavioural intentions of SDMAS. Attitude has been used in a vast amount of academic research as a major construct to explain human behaviour in various fields. According to Ajzen (2011), attitude tends to influence intention by increasing the motivation to engage in a particular behaviour. A person's attitude could be either positive or negative and therefore its influence on behavioural intentions could be positive or negative encouraging positive or negative behaviour. Therefore, in the context of the study, it has been argued that SDMAS who exhibit a positive attitude towards undertaking disaster planning within their organisations will demonstrate positive behavioural intentions, and SDMAS who exhibit negative attitudes towards undertaking disaster planning within their organisations will demonstrate negative behavioural intentions.

A significant amount of previous studies in various disciplines has demonstrated the causal association between attitude and behavioural intentions (Kautonen et al, 2013; Carr & Sequeira, 2007; Wolff et al., 2011; Wang & Ritchie, 2012). Accordingly, the current research predicts that strategic decision-makers who demonstrate a positive attitude towards disaster planning exhibit a significantly positive influence in their behavioural intentions to undertake disaster planning within their organisations. This prediction is stated formally in the following hypothesis, which is proposed to test the relationships between attitude and intention to undertake disaster planning amongst SDMAS.

**Hypothesis 8: The positive attitude of SDMAS towards disaster planning will have a significant positive influence on their intention to undertake disaster planning**

*(Question numbers 23 and 30 in the survey questionnaire intend to capture relevant data required to test the above hypothesis).*

#### **4.6 The Relationship between Subjective Norms and Intention to Undertake Disaster Planning.**

TPB predicts that subjective norms will influence an individual's intention to perform specific behaviours (Ajzen, 2012). Here the researcher argues that social pressure from other important stakeholders of SDMAS (such as business colleagues, tourism agents, tourists, shareholders, competitors etc.) may influence them to perform disaster planning behaviour within their organisations. Subjective norms are based on the individual's perception of particular behaviour which is influenced by social norms. In the context of the SDMAS, if the SDMAS think their important referent groups (such as colleagues, business partners, agents, customers, other strategic decision-makers, shareholders) consider disaster planning is important and want them to carry out disaster planning they are more likely to be influenced to implement a disaster planning strategy within their organisations. Conversely, if SDMAS think their important referral groups do not consider that disaster planning within organisations is important, they are more likely to refrain from implementing disaster planning activities in their organisations.

The influence of subjective norms on behavioural intentions show mixed results in various studies. Therefore, subjective norms are not always considered to be a strong

predictor of behavioural intentions in various contexts (Armitage & Conner, 2001; Wolff et al., 2011; Wang & Ritchie 2012). Such differences in the predictive ability of intentions are assumed to be cultural and social variations in different contextual influences (Trafimow & Finlay, 2001). Furthermore, a study carried out by Trafimow and Finlay (2001) across 30 behavioural contexts to find out whether individuals are under attitudinal or normative control found that some individuals are more strongly driven by their attitude while others are strongly driven by norms. The current study will allow room to understand whether ADMAS behavioural intentions are more influenced by their attitudes, norms or both.

Previous studies in various disciplines have demonstrated that subjective norms will influence an individual's intention to perform specific behaviours (Bonne, Vermeir, Bergeaud-Blackler & Verbeke, 2007; Kautonen et al., 2013; Carr & Sequeira, 2007).

Therefore, the current research predicts that the subjective norms of SDMAS will influence their intention to undertake disaster planning within their organisations. This prediction is stated formally in the following hypothesis, which is proposed to test the relationship between subjective norms and intention to undertake disaster planning amongst SDMAS.

**Hypothesis 9: The subjective norms of SDMAS will have a significant positive influence on their intention to undertake disaster planning.**

*(Question numbers 25 and 30 in the survey questionnaire intend to capture relevant data required to test the above hypothesis).*



## **4.7 The Relationship between Perceived Behavioural Control and Intention to Undertake Disaster Planning**

Perceived behavioural control is “one’s perception of how easy or difficult it is to perform the behaviour” (Eagly & Chaiken, 1993, p.185). Perceived Behavioural Control is determined by a set of accessible control beliefs about how easy or difficult it is to facilitate the behaviour. Perceived Behavioural Control is considered the key construct that differentiates TPB from TRA. The main reason behind the addition of the perceived behavioural control construct to the TPB was that it would allow for a prediction of behaviours that were not under complete volitional control (Wood & Bandura, 1989). For example, due to complexity in the environment and difficulty in accurately predating possible emerging disasters some SDMAS may consider disaster planning to be a difficult strategic process and therefore disaster planning could be considered as a behaviour that is not under complete volitional control.

Perceived Behavioural Control variable is the key variable that plays an important role in influencing both intentions and behaviour in the TPB model. Factors such as perception of ability, willpower, dependence on others can impair or influence performance of individual’s behaviour (Ajzen, 2012). According to Ajzen (2012), a person who has the intention to perform a particular behaviour and has a high degree of control over it would be most likely to have higher intention and therefore would be most likely to perform the behaviour. For example, SDMAS who perceive that implementing disaster planning strategy within their organisation is not difficult are most likely be influenced in their intention to carry out disaster planning as well as their actual behaviour. Since the current study does not intend to investigate actual behaviour it will only hypothesise the relationship between perceived behavioural

control and behavioural intentions of the SDMAS. The current research predicts that SDMAS positive perceived behavioural control will influence their intention to undertake disaster planning within their organisations. This prediction is stated formally in the following hypothesis, which is proposed to test the relationships between perceived behavioural control and intention to undertake disaster planning amongst SDMAS.

**Hypothesis 10: Perceived behavioural control of SDMAS relating to disaster planning will have a significant positive influence on their intention to undertake disaster planning.**

*(Question numbers 24 and 30 in the survey questionnaire intend to capture relevant data required to test the above hypothesis.)*

A number of existing studies support the association between perceived behavioural control, intention and behaviour (Quintal et al., 2010; Lam & Hsu, 2004; Kautonen et al., 2013). Quintal et al. (2010) carried out research to find out the impact that risk and uncertainty have on travel decision-making in the tourism industry and found that perceived behavioural control has a significant impact on intention. Kautonen et al. (2013) applied TPB in a longitudinal study to examine entrepreneurial intention and behaviour in business start-ups. The study was carried out in two waves, first to investigate the start-up intentions and subsequently to examine the actual behaviour. The findings revealed that all three constructs (attitude, perceived behavioural control and subjective norms) are significant predictors of entrepreneurial intention; and intention and perceived behavioural control are significant predictors of subsequent behaviour. In contrast, a study carried out by Wang and Ritchie (2012) on the intention

of tourism managers to carry out disaster planning did not find a positive association between perceived behavioural control and intention.

In conclusion it is important to note that Ajzen (1991) states that the influence of attitude, subjective norms, and perceived behavioural control in the prediction of intentions could vary according to different behaviours and situations. Ajzen (1991) further points out that it is possible for some applications to find that only attitude which has a significant impact on intentions, while others may find attitude and perceived behavioural control to have significant impact on intentions and other applications may find all three predictors independently influence their intentions. Thus, the above hypothesis will allow the researcher to establish the strength of the relationship that attitude, subjective norms and perceived behavioural control, in addition to cognition, have on the disaster planning behavioural intentions of the SDMAS in the context of Sri Lanka.

#### **4.8 Conceptual Model**

The purpose of this section is to present the conceptual model, within the extended framework of the TPB. The TPB was extended to include other key constructs namely Disaster cognition, disaster management training and education and past experience. The conceptual model of intention to undertake disaster planning amongst SDMAS was developed using ten hypothesis which were discussed in the previous section of the chapter in detail. The conceptual model which was created to test the hypothesis is presented in Figure 4.1 below.

According to the conceptual model, past disaster experience, disaster management training and education and cognitive background characteristics (age, educational level and managerial experiences) are assumed to influence disaster cognition. On

the other hand, disaster cognition is assumed to influence both the attitude and disaster planning intentions of SDMAS. Finally, all the constructs of TPB; attitude, subjective norms and perceived behavioural control are assumed to influence the intention to undertake disaster planning of the SDMAS. This conceptual model was tested together with the hypothesis using structural equation modelling and the results are presented in detail in the data analysis and discussion chapters.

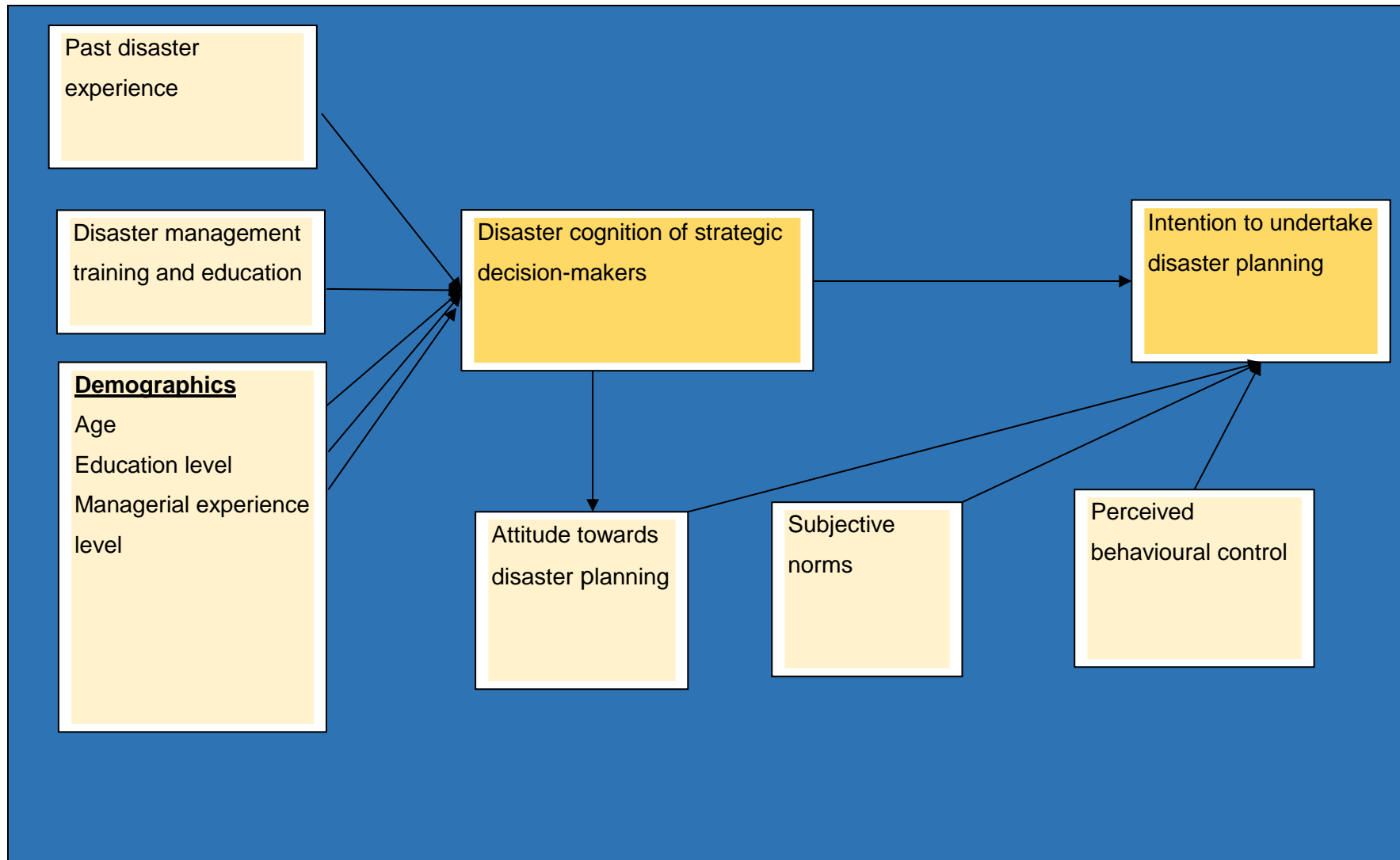


Figure 4.1: A conceptual model to test the hypotheses (Source: Author).

## 4.9 Methodological traditions in the field

In general, qualitative, quantitative and mixed methodological approaches have been used in the field of disaster management and tourism research fields (Table 4.1). Although mixed method approach seems to be the dominant methodological approach within tourism literature (Hystad & Keller, 2005; Biran et al., 2014; Sun, Zhou, Wall & Wei, 2017), quantitative methodological approaches were favoured by researchers who have used TPB as their theoretical base (e.g. Quintal, Lee & Soutar, 2010; Wolff et al., 2011; Wang and Ritchie, 2012).

In addition, case studies have been used by number of authors (e.g. Faulkner & Vikulov, 2001; Biran et al, 2014) to address many issues in the field. Majority of these case studies have focussed on one geographical location or destination as the case study, adopted one time point for data collection and limited themselves to a single case study. The main limitation in single case study is that, due to dissimilarity between such case studies, it is difficult to make comparisons between different cases. However, number of researchers have carried out follow up studied in order to overcome such limitations (e.g. Hystad & Keller, 2005 and Hystad & Keller, 2008). Qualitative quantitative and mixed method approaches can be observed within these case studies.

*Table 4-1: Methodological traditions in the field*

<b>Author</b>	<b>Research Topic/ Area</b>	<b>Methodological Approach</b>
Faulkner and Vikulov (2001).	A framework for tourism disaster management	case study of the 1998 Australia Day flood at Katherine

Hystad and Keller (2005).	Tourism industry preparedness impact and response to 2003 forest fires	Mixed method: telephone survey and personal interviews with representatives from 104 tourism businesses
Hystad and Keller (2008).	Tourism disaster management framework: Long term lessons from forest fire disaster	Quantitative: telephone survey from 60 tourism businesses and secondary data from three additional surveys
Biran et al. (2014).	Tourist behaviour in post disaster destinations	Case study of Sichuan China Semi structured interviews and Questionnaire survey
Becken and Hughey (2013).	Linking tourism into emergency management structures to enhance disaster risk reduction	Mixed method: Stakeholder interviews, survey and final in-depth meetings with key stakeholders
Wang and Ritchie (2012).	Understanding crisis planning intentions	Quantitative: Online survey of 386 tourism managers
Jiang and Ritchie (2017).	Disaster collaboration in tourism	Qualitative: 15 in depth interviews with key stakeholders that were directly involved in tourism disaster management
Sun, Zhou, Wall and Wei (2017).	Cognition of disaster risk in a tourism community	Mixed method: Survey and in-depth interview
Quintal, Lee and Soutar (2010).	Risk, uncertainty and TPB	Quantitative: Online survey in Australia, South Korea and Japan
Wolff et al. (2011).	Affective and cognitive attitudes, uncertainty avoidance and intention: an extension of TPB	Quantitative : Questionnaire Survey by mail on 874 participants
Paraskevas, Altinay, McLean and Cooper (2013).	Crisis knowledge in tourism	Qualitative: Interview 21 tourism executives using critical incident technique (ask participants to recall and describe a crisis they experienced in their organisation).

#### **4.10 Summary of the Hypothesis Development**

In summary, the previous section of this chapter brought together the literature widely discussed in the literature review chapter in order to explain the construction of the hypotheses for the purpose of the current study.

TPB has been successfully used across many disciplines as a framework to help understand and predict human behavioural intentions and behaviour. The TPB predict that attitude, subjective norms and perceived behavioural control influences people's behavioural intentions, which consequently lead to changing their behaviour (Ajzen, 1991). Therefore, the current study assumes that the attitude, subjective norms and perceived behavioural control of SDMAS will predict their intention to undertake disaster planning. In addition, Ajzen (1991, p.188) states that "The relative importance of attitude, subjective norm, and perceived behavioural control in the prediction of intention is expected to vary across behaviours and situations." Therefore, the study intends to establish the strength that the relationship of attitude, subjective norms and perceived behavioural control have on disaster planning behavioural intentions of the SDMAS in the context of Sri Lanka.

In addition, the literature has shown a strong association between cognition and decision-making behaviour (Simon, 1982; Hambrick & Mason, 1984). Disaster cognition is defined by Comfort (2007), as an individual's capacity to recognise the degree of emerging risk to which a community is exposed. Thus, the researcher predicts that the disaster cognition of the SDMAS may influence their attitude and behavioural intentions. Furthermore, the current study argues that disaster related tacit knowing, explicit learning and episodic memories of the strategic decision-makers may influence their disaster related cognition. Therefore, finally the study predicts that the



additional constructs of past disaster experience, disaster training education and demographic characteristics of the SDMAS could influence disaster cognition among SDMAS. In conclusion the current study has developed ten hypotheses in order to identify the factors that influence disaster planning intentions of the SDMAS. A conceptual model was created to test the hypotheses developed in the study.

The following chapter will present in detail the methodology process carried out in the current study.

## **CHAPTER FIVE**

### **5. Research Methodology**

The main objective of this chapter is to provide a detailed clarification of the methodological process followed in the current study in order to identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry; to identify and explore the factors that influence the intention to undertake disaster planning among SDMAS; to examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour; and to develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS.

In order to accomplish the above, first it will justify the design of the research. Then it will critically evaluate the methodology used to identify and evaluate inherent limitations. Thereafter, the chapter details how the positivist approach leads to the deductive and quantitative methodological processes followed in the study, followed by detailed explanation of methodological design, including questionnaire development, validation, pilot study and survey administration. Subsequently, selection of the population, identification of sample frame, sampling method, sample size as well as limitations in sampling method are discussed. In the next stage the chapter comprehensively describes the designing of the questionnaire, including questions used to measure disaster management training and education, past disaster experience, measures of the TPB constructs, measures of disaster cognition, and measures of intentions to undertake disaster planning. Finally, this chapter elaborates

on measurement validity, pilot study, ethical considerations, research limitations and risks, including common method bias and how the study has overcome such limitations.

### **5.1 Ontological and Epistemological Standing of the Current Study**

Ontology is associated with the structure of reality or nature of existence (Crotty, 1998). According to Saunders, Lewis and Thornhill (2016) ontology refers to the assumptions of the researcher about the nature of the reality that shape the research study. In simpler terms ontology determines how the researcher sees the world of business and management, leading to the choice of what to research for the research project. On the other hand, epistemology is concerned with the nature of the knowledge; however, it is difficult to conceptually separate ontology and epistemology as these tend to emerge together (Crotty, 1998). According to Bryman and Bell (2015), researchers can take one of two different stances in their ontological assumptions, objectivism and constructionism (also known as constructivism or subjectivism in the literature).

Objectivism is an ontological position that implies the social reality that is being researched comprises external factors beyond the influence or reach of social actors (Saunders et al., 2016). From the objectivist point of view, social and physical phenomena exist independently of each other and therefore, it is more appropriate to follow a more scientific approach to research. According to Crotty (1998, p5). Objectivists believe that “things exist as meaningful entities independently of consciousness and experience, that they have truth and meaning residing in them as objects” and this objective truth could be attained through careful scientific research. According to Saunders et al. (2016), from an epistemological point of view, objectivists

pursue the reality about the social world, by using observable, measurable facts, where generalisations can be drawn regarding the universal social reality. Axiologically, objectivists tend to keep their personal values disconnected from the current research to avoid any biases to the findings.

In contrast, constructivism (or subjectivism) is an ontological position that assumes that social reality is made from the perceptions and consequent actions of people (Saunders et al., 2016). Unlike objectivist researchers, who try to uncover universal facts and laws ruling social behaviour, the subjectivist researcher seeks different opinions and narratives that can assist in accounting for different social realities of different people. The constructionist view is that meaningful reality is not discovered but constructed by people through engagement, interactions and interpretations between human beings and their world around them (Crotty, 1998). Therefore, subjectivist researchers tend to openly acknowledge and actively reflect on their own values and include them in their research.

Of the above two ontological standings, the researcher is more inclined to the objectivist viewpoint in approaching the current research. The researcher holds the view that social and physical phenomena exist independently of each other and therefore this universal reality could be better understood through a more scientific approach using observable, measurable facts. The purpose of the research is to obtain an answer for the probability of causation that can be used to forecast general patterns in human activity. Therefore, epistemologically, the current study follows an empiricist approach. The focus of the research was to establish the relationships between disaster cognition, attitude, subjective norms and perceived behavioural control, on the one hand, and intention to carry out disaster planning among SDMAS on the other.

The researcher believes that the most appropriate approach to establish this is through empiricist approach by testing hypothesis objectively using collected data while remaining distant from the research to avoid any biases that can distort the findings. Following section will elaborate in detail the research paradigm of the current study in detail.

### **5.1.1 Research Philosophy**

Research philosophy is a set of ideas, assumptions and beliefs that create, direct and guide the research process. According to Saunders et al. (2016), at every stage of a research, consciously or not, a researcher makes assumptions about human knowledge (epistemological assumptions), about realities that they encounter in the research (ontological assumptions), and about the ways their own values and beliefs influence the research process (axiological assumptions). Different philosophical approaches lead to different methodologies. Thus, it is important to identify and justify the research philosophy adopted in the current research.

When emerging as an academic discipline, business management drew its theoretical base from a number of disciplines, such as the social sciences, natural sciences, applied sciences, humanities, as well as practising organisations. Thus, unlike in natural science disciplines, business management researchers do not agree upon one best philosophy, but rely on various methodological approaches through different research philosophies, paradigms and methods. Although there seems to be debate among scholars regarding the effectiveness of having diverse philosophies, such a diversity of approaches has contributed to enriching the field of business management.

According to Saunders et al. (2016), business and management research philosophies can be divided into five main approaches: positivist, critical realist, interpretivist,

postmodernist, and pragmatist. There is debate among scholars within the social sciences field regarding the most suitable philosophy, due to each research approach having some strengths and limitations. Creswell (2014) highlights that the three research paradigms most commonly used in social science research are positivism, interpretivism, and pragmatism. In the following section, the positivist and the interpretivist approaches, each of which relies on different concepts and methodological processes for conducting research, will be discussed.

### **5.1.2 Interpretivist Approach**

The interpretivist approach emphasises that humans create meanings, and argues that human beings and their social worlds can therefore not be studied in the same way as physical phenomena. Thus, social science research has to be different from the natural sciences, and therefore requires social scientists to understand the subjective meaning of social action (Bryman & Bell, 2015). This philosophical approach supports that reality is subjective and socially constructed by the individual rather than objectively determined. Interpretivism requires the researcher to enter the social world of the participants and understand and interpret data from the perspective of the people being studied (Saunders et al., 2016). Findings from such research may have multiple meanings, interpretations and realities, making the theories and concepts more simplistic (Saunders et al., 2016).

Researchers using the interpretivist research paradigm adopt a qualitative methodological approach (Jonker & Pennink, 2010). Interpretive approaches rely heavily on naturalistic methods such as interviewing and observation and need to ensure adequate dialogue between the researcher and participants to ensure that meaningful interpretations emerge (Lee & Lings, 2008). Interviews in such contexts

often tend to include open-ended questions, which gives the respondents the opportunity describe things openly. From the interpretive perspective, the object of the research is to understand the social world from the perspective of the participant through unique stories shared by them, rather than to collect facts about an independent reality, as is the case in the positivist approach.

### **5.1.3 Positivist Approach**

On the other hand, the positivist philosophical approach relies specifically on scientific evidence, such as statistics and experiments, to study the object of inquiry in order to obtain a true reflection of how the society operates. According to Bryman and Bell (2015), the principle of positivism has been used in a number of ways by many researchers, and it is thus a challenging task to pin down and define positivism precisely. The positivist approach relates to working with observable social reality to produce unambiguous and accurate knowledge (Saunders et al., 2016). In other words, this approach is developed around the idea that the social world exists externally, and that its properties should be measured through objective methods. Thus, in positivist studies, the role of the researcher is perceived to be independent of, external to and objective from the research (with minimal interaction with the research participants when carrying out the research). Positivists may seek to remain detached from the research and data in order to minimise personal influence over the findings. However, one could argue that it is impossible to totally exclude the researcher's personal values from a research due to the researcher's ability to exercise choice in identifying issues, setting objectives and even with regard to which data is collected. In a positivist paradigm the researcher is focused on facts and causalities, where fundamental laws are enquired into.

Positivism may contain both deductive and inductive elements (Bryman & Bell, 2015). For example, the positivist approach usually incorporates the principles of deductive logic, where hypotheses are developed and tested during the research process (Jonker & Pennink, 2010). A positivist researcher may use existing theory to develop hypotheses (Saunders et al., 2016). However, knowledge is obtained using the inductive strategy by gathering facts that provide the basis for revised or new theories. Research carried out according to positivism is commonly quantitative in nature, and often involves in measuring the relationship between specific variables.

Positivists believe that people's actions can generally be explained. The ultimate purpose is to attain a solution for the probability of causation, which can be used to predict and estimate human behavioural patterns. Positivism is concerned with the forces that act on human behaviour rather than empathetic understanding of human action, as is the case in interpretivism. According to Creswell (2014), influence, causes, factors, determinants, relationships and effects are in alignment with the positivist paradigm. Thus, the current study, where the intention is to find out what factors influence the behavioural intentions of strategic decision-makers of the tourism industry, aligns with the positivist approach. As highlighted by Creswell (2014), each researcher has the freedom of choice and they are entitled to choose methods, techniques and procedures in order to accomplish their research aims and purposes. Thus, the researcher's view is that a positivist approach best suits the aims and purposes of the current research.



#### 5.1.4 Positivist and Deductive Approach to Theory Development



*Figure 5.1: Deductive approach to theory development used in the current study*

*(Source: Author).*

As elaborated in the previous section, the current research was carried out following a positivist philosophical stance. Thus, the approach to theory development has accordingly followed deductive logic (Figure 5.1). Deductive logic is the process of drawing conclusions from rationale and existing theory to develop hypotheses, which are then tested against gathered data that provide the basis for revised or new theories.

All three types of methodological approached, qualitative, quantitative and mixed methods, are widely used in business management research according to the various philosophies (Saunders et al., 2016). Generally, selection of research approach to theory development and methodological choice should be based on the research philosophy and the nature of the research question (Flick, 2018).

When a research is exploratory and inductive, a qualitative method is most appropriate (Creswell, 2014). Qualitative research is mainly associated with an interpretive philosophical stance and therefore mostly opted for inductive approach to theory development (Flick, 2018). However, a deductive approach could also be used to test the existing theory. Through qualitative approach researchers could examine people's experiences in depth (Hennink, Hutter & Bailey 2011). According to Patton (2015) in-

depth open-ended interviews, direct observation and written documents are mainly used as data collection techniques within qualitative research. A qualitative research design could be mono method (Single data collection method) or multi-method qualitative study. Denzin and Lincoln (2018) point out that multi- method qualitative study and triangulation (use multiple methods, data sources) could provide more deep and detailed understanding to qualitative study. According to Creswell and Creswell (2018) In qualitative research, the researcher makes interpretations of the meaning of the data; focusses on individual meaning and the importance of reporting the complexity of the situation. Therefore, a qualitative researcher needs to be open minded and able to listen to people telling their own story (Hennink, Hutter & Bailey 2011). The main criticism directed at the qualitative research findings are that they are subjective, unscientific and only exploratory (Denzin & Lincoln, 2018).

Alternatively, for deductive research a quantitative method should be used (Creswell, 2014). Thus, in alignment with the positivist and deductive theoretical approach (discussed in section 5.1.3 & 5.1.4), a quantitative research design is considered most appropriate for the current research. Quantitative research usually focuses on using data to test theory and such research examines the relationship between variables (Saunders et al., 2016). The current research intends to explore possible relationships between disaster cognition, attitudes, subjective norms, perceived behavioural control and intentions, and thus a quantitative approach best suits the purpose of the research. Thus, taking into consideration the purpose of this study based on the objectives extended in the first chapter, the researcher opted for a quantitative approach.

Quantitative research involves numeric data (numbers) and usually involves data collection from large groups or sources, including data collection techniques such as questionnaires and data analysis procedures such as graphs and statistics (Saunders et al., 2016). Questionnaires are mostly used when the researcher is required to analyse a sample in terms of numbers (e.g. the proportion of the sample in different age groups) or to be able to count the frequency and association of occurrence of opinions, attitudes, experiences, processes, behaviours, or predictions (Rowley, 2014). A questionnaire survey is likely to be most appropriate for the aim of the current study. Therefore, the data collection method adopted within the current research was self-completed questionnaire survey. In order to enhance respondent participation, a delivery and collection method was used to carry out the survey.

## **5.2 Research Survey Design**

The research design involves three stages (Figure 5.2). The three stages include designing of the questionnaire, data collection and data analysis. In the following sections, the outline of the three stages will be presented, followed by detailed description of the research design.

The first stage was utilised to explore various designs and develop and validate the questionnaire. Preliminary, semi-structured interviews were carried out to determine what needed to be measured, and to identify and confirm survey constructs, as well as other background information required for the survey. By the end of the preliminary interviews the researcher was able to confirm, modify and adapt constructs derived from empirical work from existing literature according to the context of the study, generate an item pool for designing an appropriate construct for disaster cognition, establish the most appropriate survey method for the study, and make improvements

to the survey instrument and the research model accordingly. Afterwards, questions designed for the measurement of disaster cognition were presented for measurement validation by five academics and five SDMAS. After validation, the questionnaire was refined and developed for testing.

The second stage of the research was utilised to carry out a pilot study with 20 SDMAS in order to test the design of the questionnaire instrument prior to the final survey. The questionnaire was tested for the following criteria: questionnaire completion time, clarity of the instructions, any unclear or ambiguous questions, any difficult or sensitive questions and any other relevant comments about the questionnaire. After necessary changes were made, the questionnaire instrument was judged ready for the final survey. A total of 301 fully completed questionnaires were collected for final data analysis.

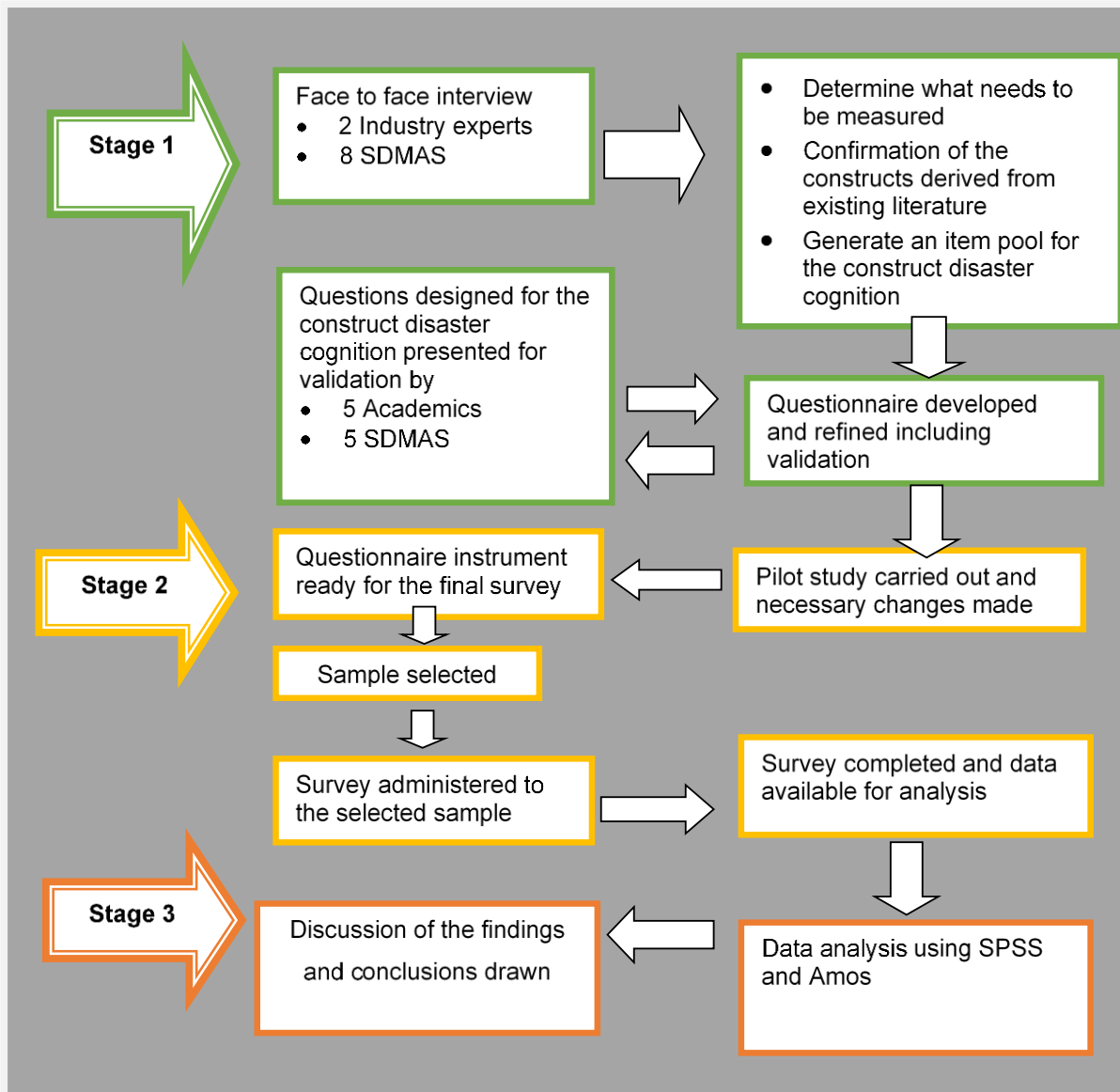


Figure 5.2: The research design (Source: Author).

In the third stage, data analysis was carried out and final discussion and conclusions were drawn. A final sample of 301 responses were used for data analysis. The statistical software tool SPSS was used for data screening and descriptive analysis, and the statistical software SPSS AMOS were used for structural equation modelling (SEM) analysis. The descriptive analysis of the survey presented the demographic profile of the sample, results of the normality tests and mean and standard deviation of each construct followed by confirmatory factor analysis (CFA) to validate the model

and test the model fit to the data, and finally test the hypotheses. The two-step approach was adopted in SEM. In the first step, CFA was carried out to validate the measurement model by examining the GOF of the model, testing reliability, and convergent validity and discriminant validity of the constructs used in the model. In the second step the CFA model was converted to a hypothesised structural model and assessed using the path analysis technique in order to test the hypothesised relationships among the constructs proposed in the research model.

### **5.3 Questionnaire Design**

Unlike in-depth and semi-structured interviews, questions in questionnaires must be phrased very precisely, due to the inability for respondents to ask for clarification or to explore issues further with the researcher (Zikmund, Babin, Carr & Griffin, 2013). Questionnaire offers just a single opportunity to collect all the relevant information. Thus, the design of a questionnaire should be done prudently. In this section, the development of the questionnaire will be discussed.

#### **5.3.1 Development of the Questionnaire**

When designing individual questions for questionnaires, researchers can either adopt questions used in other questionnaires, adapt questions used in other questionnaires, or develop their own questions (Saunders et al., 2016). Adopting or adapting questions could be more efficient and allow comparison of current findings with another study as well as ensuring reliability to be assessed. The current study adopted and adapted questions from the questionnaire used by Wang and Ritchie (2012) in a similar study on major constructs from the TPB, in addition to developing original questions for the construct disaster cognition after assessing reliability and validity for the construct. In addition, the current study has closely followed and constantly compared with the

guidelines given by Ajzen (2002, 2012) when creating a TPB questionnaire in order to maintain a high accuracy level.

Construction of the questionnaire is an important step in survey design in order to accomplish research goals. There were several steps involved in the development of the questionnaire: design exploration, questionnaire development and validation. Preliminary, semi-structured interviews were carried out to determine what needed to be measured, and to identify and confirm survey constructs as well as other background information required for the survey. By the end of the preliminary interviews the researcher was able to confirm and modify constructs derived from empirical work from existing literature according to the context of the study, generate an item pool for designing an appropriate construct for disaster cognition, establish the most appropriate survey method for the study, and make improvements to the survey instrument and the research model accordingly. Afterwards, the questions designed for the measurement of disaster cognition were presented to five academics and five SDMAS for measurement validation. After validation, the questionnaire was refined and developed for testing.

Zikmund et al. (2013) state that the wording of the questionnaire is very important, as words used in a questionnaire should be readily understandable to all respondents. Thus, wording for all questions was kept simple by using conversational language, as much possible. Furthermore, the researcher took careful measures to avoid ambiguity in questions. For example, to avoid possible ambiguity of what is meant by 'disaster' a brief introductory sentence defining disaster was added prior to the questions. This allowed the participants to better understand and reflect their disaster experiences without ambiguity. Furthermore, questions adopted from the review of existing

literature were compared with the findings of the preliminary interviews with the two industry experts and eight SDMAS and adaptations were made accordingly. Both the reviewed literature and the discussions with the SDMAS and tourism experts helped to improve the questionnaire in terms of relevance to the context, wording as well as clarification.

The second stage of the research was utilised to carry out a pilot study among 20 SDMAS in order to test the design of the questionnaire instrument prior to the final survey. The questionnaire was tested to establish the following: questionnaire completion time, clarity of the instructions, any unclear or ambiguous questions, any difficult or sensitive questions, and any other relevant comments about the questionnaire. After necessary changes were made, the questionnaire instrument was judged to be ready for the final survey.

### **5.3.2 Scale Development**

Scales used in this study are nominal scale, Likert scales and bipolar scales. Nominal scales were mainly limited to demographic characteristics of the survey participants. Likert scales were used to check how strongly they agree or disagree with very carefully constructed statements. The Likert scale requires participants to decide on their level of agreement with the given statement (Zikmund et al., 2013). Zikmund et al. (2013) suggest that Likert-scale rating points of between five and nine should be used according to the circumstances and requirements of the research. Ajzen (2012) recommended the use of five- or seven-point rating scales when developing a TPB questionnaire. The current study selected the seven-point rating scale due to its popularity in similar studies in the field (Wang & Ritchie, 2012; Davis, Ajzen, Saunders & Willians, 2002). Miller (1956) states that the human capacity of processing and



distinguishing information is seven plus or minus two different items. Therefore, a seven-point Likert scale is considered most appropriate for this study based on previous studies, recommendations and appropriateness discussed above.

### **5.3.3 Language of the Questionnaire**

The questionnaire was originally written in English. Other than the English language, there are two other languages – the Sinhalese language and Tamil language – used in different parts of the nation. However, questionnaire survey was limited to the southern and western parts of the country, where the English and Sinhalese languages were mainly used. Therefore, to avoid additional costs of translation into two other languages, the questionnaire was only translated to Sinhalese. Professional bilingual translators were used to translate the English version of the original questionnaire into Sinhalese. In order to ensure the accuracy of the translated questionnaires, the translated questionnaires were blindly translated back to English by a third bilingual and any discrepancies were resolved together with the translators to ensure translation accuracy. However, it should be noted that since tourism industry personnel work extensively with English for communication purposes, the majority of SDMAS preferred to answer the questionnaire in English language over Sinhalese language. The following section will discuss in detail the measurement constructs and questions included in the questionnaire in order to measure each construct.

### **5.3.4 Questionnaire Instrument and Measures**

This section will discuss the questions adopted and adapted for measurement of the constructs, which include the original TPB constructs and additional constructs added to the research model.

The questionnaire used in this study was designed to assess the constructs disaster cognition as well as key constructs in the TPB. The TPB requires the target behaviour to be meticulously defined in terms of Target, Action, Context, and Time (TACT) (Ajzen, 2012). For this study, the target is defined as disaster planning activities, the action is carrying out disaster planning activities, the context is the population of SDMAS in the Sri Lankan tourism industry, and the time occurs during the management and decision-making within accommodation organisations. The questions were designed to address the following key areas: personal demographics of SDMAS, disaster management training and education, past disaster experience, attitude towards disaster planning, subjective norms, perceived behavioural control, disaster cognition, and intention to carry out disaster planning. Both bipolar and seven-point Likert-type scales were used in the questions.

### **5.3.5 Demographics of SDMAS**

The first section of the questionnaire contains questions designed to identify demographic information of the participants. The first question was designed to establish the SDMAS' eligibility to participate in the survey by asking "Are you directly responsible for taking the most important decisions in your organisation?" If the answer was "No", the participants were advised to exit the survey. The other demographic questions are mainly category questions intended to establish the respondent's gender, age, managerial work experience, current position and level of education. In addition, some questions were designed to understand organisational demographic information. This information was gathered from participants in order to establish the organisational category they are currently engaged in.

### **5.3.6 Disaster Management Training and Education**

Six items were used to assess disaster management training and education of SDMAS. Questions include whether the participants attended any disaster management training programs, and if so, how many and when, and the effectiveness, relevance and comprehensiveness of the training. The participants who acknowledged that they have taken disaster training programs in the past were then asked to rate their past disaster training experiences on overall effectiveness, relevance and comprehensiveness. From the six questions, the three questions relating to effectiveness, relevance and comprehensiveness were used to create the construct disaster management training of SDMAS at the stage of data analysis.

### **5.3.7 Past Disaster Experience**

Five items were used to inquire about past disaster experience of SDMAS. Questions included listing up to three disasters experienced, the severity of each disaster experience, and how many occasions the respondents had actively managed disasters within the accommodation industry. From the five questions, three questions capturing the severity of the disaster the respondents have experienced were used to create the construct past disaster experience. A similar study carried out by Wang and Ritchie (2012) only used a single question (have you previously experienced a crisis? Yes/no) to capture the participants' disaster experiences. Following the advice received during the preliminary interviews with the industry experts and SDMAS, the current study added three additional questions in order to capture the severity of the disaster experience from the point of view of the participants. This will allow the participants to convey their disaster experience more comprehensively.

### **5.3.8 Measures of the TPB Constructs**

The three main theoretical constructs of TPB (attitude towards disaster planning, subjective norms and perceived behavioural control over implementing disaster planning) were assessed through a series of questions. These questions relating to all the constructs of TPB were designed strictly following the guidelines given by Ajzen in creating questionnaires to assess TPB as well as questions used by Wang and Ritchie (2012) in a similar study. Ajzen (2002) advises that five to eight items should be formulated to assess each of the theory's major constructs, and claims that a bipolar or seven-point Likert-type scale best this purpose.

#### ***5.3.8.1 Attitude towards Disaster Planning***

Following Ajzen (2002), eight semantic differential rating questions were used to determine underlying attitudes towards implementing disaster planning within their organisations. A series of bipolar rating scales, where each bipolar rating scale is described by a pair of opposite adjectives, were designed to assess respondents' attitudes. Respondents were asked to mark the value that best describes their personal opinion in response to the statement: i.e. "For me to undertake disaster planning in my organisation is" bad-good, wrong-right, harmful-beneficial, negative-positive, unfavourable-favourable, foolish-wise, useless-useful and undesirable-desirable. These eight questions were used to create the construct attitude of SDMAS at the stage of data analysis.

#### ***5.3.8.2 Subjective Norms***

Francise et al. (2004) advise that three items are adequate to measure subjective norms, and additional items can be added if they seem appropriate and if

questionnaire length is not a concern. Four items were used to assess subjective norms with regard to implementing disaster planning. A seven-point Likert-type scale was used to determine respondent's beliefs towards disaster planning, from 1 = definitely false and 7 = definitely true. Respondents were asked to indicate the extent to which they agree or disagree with the following statements: "Most people who are important to me think that I should implement disaster planning activities", "It is expected of me that I implement disaster planning activities", "I feel under social pressure to implement crisis planning activities" and "Most people who are important to me feel that I should not implement disaster planning activities". All four questionnaire items were used to create the construct subjective norms of SDMAS, at the stage of data analysis.

#### ***5.3.8.3 Perceived Behavioural Control***

According to Francise et al. (2004) items should reveal respondents' level of confidence in their capability to perform the targeted behaviour. This can be achieved by assessing their self-efficacy and their beliefs about the controllability of the behaviour. One way to do this is by asking the respondents to report on: how difficult it is to perform the behaviour, and how confident they are that they could do it. Controllability is assessed by asking people to report whether performing the behaviour is up to them and whether factors beyond their control determine their behaviour (Francise et al., 2004).

Accordingly, five items were used to assess perceived behavioural control with regard to implementing disaster planning. A seven-point Likert-type scale was used to determine respondent's beliefs towards disaster planning, from 1 = strongly disagree and 7 = strongly agree. Respondents were asked to indicate the extent to which they

agree or disagree with the statements “I am confident that I could implement disaster planning if I want to”, “The decision to implement disaster planning is beyond my control”, “For me to implement disaster planning is difficult”, “Whether or not I implement disaster planning is completely up to me” and “For me to implement disaster planning is easy”. All five questionnaire items were used to create the construct perceived behavioural control of SDMAS, at the stage of data analysis.

### **5.3.9 Measures of Disaster Cognition**

Disaster cognition is defined as “the capacity to recognize the degree of emerging risk to which the community is exposed and to act on that information” (Comfort, 2007, p.189). Disaster cognition is comprised of risk perception and situation cognition appraisal influenced by beliefs. Due to the non-existence of suitable scales to measure disaster cognition level of SDMAS, new scales were developed for this purpose. First, a pool of 20 suitable questions were created after preliminary interviews at the first stage of the research. Subsequently, questions designed for measurement of disaster cognition were presented for validation to five academics and five SDMAS. Questions were ranked “essential”, “useful, but not essential”, or “not necessary” by the panel. Thereafter, highest ranked questions were selected as validated. These questions were presented again to the five academics for face validation. After face validation, the following seven questions were used in the questionnaire to measure respondents’ disaster cognition, or in other words capacity to recognise the degree of emerging risk of possible disaster in the near future:

**Question 1:** “How likely do you think it is that a disaster would affect your organisation within the next 12 months?” (Seven-point scale from extremely unlikely to extremely likely).

**Question 2:** “In your opinion, what kind of disaster is most likely to affect your organisation?” (list question).

**Question 3-7:** A seven-point Likert-type scale was used to determine respondents’ beliefs towards emerging disaster risks, from 1 = strongly disagree to 7 = strongly agree. Respondents were asked to indicate the extent to which they agree or disagree with the following statements: “There is a probability of disaster affecting my organisation in the next 12 months”, “I am concerned about a disaster affecting my organisation over the next 12 months”, “There is a risk of disaster affecting my organisation over the next 12 months”, “I am concerned about possible losses for my organisation if a disaster occurs” and “I expect losses for my organisation if a disaster occurs”. From the seven questions, six Likert-type questionnaire items were used to create the construct disaster cognition of SDMAS, at the stage of data analysis.

### **5.3.10 Measures of Intentions to Undertake Disaster Planning**

One of the most prominent contributions of the TPB model when compared to other behavioural models is that, although there is not a perfect relationship between behavioural intention and actual behaviour, intention can be used as a proximal measure of behaviour (Francise et al., 2004; Ajzen, 2002). Thus, the variables in this model can be used to determine the effectiveness of behaviour through the strength of the intention to undertake such behaviour. Thus, the final section of the questionnaire is intended to measure behavioural intentions to undertake disaster planning.

Accordingly, three items were used to assess intention to undertake disaster planning in their organisation. A seven-point Likert-type scale was used to determine the respondent’s intention to undertake disaster planning, from 1 = strongly disagree to 7

= strongly agree. Respondents were asked to indicate the extent to which they agree or disagree with statements: “I expect to undertake disaster planning activities in the next six months”, “I want to undertake disaster planning activities in the next six months”, and “I intend to undertake disaster planning activities in the next six months”. All three questionnaire items were added to the construct disaster cognition of SDMAS, at the stage of data analysis. Ajzen (2002) further advises that, when constructing questionnaires, one should include items to assess past behaviour. Therefore, the question “Has your organisation undertaken any disaster planning activities in the past six months?” was included, along with a scale question (1 = not prepared at all to 7 = fully prepared) which asked the respondents to indicate how well prepared they believe their organisation to be to cope with a disaster. However, this questionnaire item was excluded from the stage of the data analysis because the current study only intended to explore the behavioural intentions of the SDMAS.

### **5.3.11 Pilot Study**

Pilot study serves as a guide for a larger study or to examine specific identified aspects of the research in order to confirm the effectiveness of the planned final survey (Zikmund et al., 2013). According to Bryman and Bell (2015), before using the questionnaire to collect data it should be pilot tested among similar respondents. Pilot testing is very important to pre-test any discrepancies in the survey, such as wording and sequencing, and to check any procedural errors of the analysis (Rowley, 2014). Thus, pilot study was carried out among 20 SDMAS to reduce the risk of flaws in the final study. As elaborated in the Research Design section (Figure 5.2), the second stage of the research was utilised to carry out a pilot study with 20 SDMAS in order to test the design of the questionnaire instrument prior to the final survey. The



questionnaire was tested for the following criteria: questionnaire completion time, clarity of the instructions, any unclear or ambiguous questions, any difficult or sensitive questions and any other relevant comments about the questionnaire. The time taken by each pilot study participant was noted to make the average questionnaire reply time 15–20 minutes. Thereafter, final improvements were made to the questionnaire according to the feedback received from the pilot study and the survey instrument completed for final full study.

#### **5.4. Ethical Considerations**

Ethical consideration is one of the critical aspects for the success of any research project. In recent years the importance of carrying out ethical research has been brought to forefront in almost every field. Research that involves human samples involves the greatest ethical concerns, and business management research almost inevitably involves human participants (Saunders et al., 2016). Involving human participants is complex and could lead to the inclusion of personal and sensitive questions; and if not carried out appropriately may involve various ethical, legal, political and social issues. Before a research study is conducted, the researcher should reflect carefully on their research practices to ensure principles of ethical research are being followed, including the anonymity of the respondents, data security and confidentiality, maintaining integrity, acquiring informed consent, avoiding pressurising the participants, and any other potential harm to the respondents that could lead to psychological stress, anxiety or other negative consequences. Thus, universities require researchers to obtain formal Research Ethics Committee approval for the proposed research before beginning the research project.

This research project received ethical approval from the University of Salford Business School Research Ethics Approval panel (Appendix 1). Therefore, this ensures that this study follows the ethical guidelines required in the University of Salford's Code of Practice on Ethical Standards, and relevant academic and professional guidelines. Furthermore, the researcher ensured that principles of ethical research were followed throughout the study by maintaining the anonymity of the respondents, data security and confidentiality throughout the research project. In addition to verbal consent obtained from each respondent prior to delivering the questionnaire, a cover letter was attached to each questionnaire explaining the research and its purposes and requesting them to give consent to take part in the study. In order to avoid pressurising the participants, they were given the freedom to leave the research process at any point without explanation, if they so wished. The researcher was aware that there may be participants who may have had traumatic disaster experiences in the past and sometimes they may find recalling such experiences traumatic. Giving them the freedom to leave the study without any explanation will make it easy for any participant to leave the study without undue pressure to complete the study if they do not wish to do so.

## **5.5 Data Collection**

The data collection method adopted for the current study was self-completed questionnaire. The preliminary intention was to use an online survey. However, taking into consideration the strong negative feedback received from the industry experts from the Sri Lanka Development Authority, to the effect that such lengthy surveys pose a very high risk of failure due to a very low response rate, the delivery and collection method was used to carry out the survey. Thus, in order to enhance respondent

participation and improve the reliability of data, the delivery and collection method was used to carry out the survey. Furthermore, this method allowed greater control over ensuring respondents are power-holding strategic decision-makers, which is essential to the current research. Moreover, this method allowed the researcher to establish whether the questionnaires were fully completed at the point of collection, thus minimising the risk of incomplete data sets.

### **5.5.1 Research Population and Sample**

The target population of this study consists of power-holding strategic decision-makers of the accommodation sector of the tourism industry, registered under SLTDA. The probability cluster sampling method was used.

There is no complete database of all the tourist accommodations of Sri Lanka or their power-holding strategic decision-makers. Due to the fragmented nature of the accommodation sector in Sri Lanka, it lacks a complete database, making it difficult to establish a probability sample with a complete list of all the SDMAS of accommodations in Sri Lanka. Therefore, the target population was limited to strategic decision-makers of the accommodations registered under SLTDA in Sri Lanka. As a result, a sample frame was created using the list of SLTDA-registered accommodations. Organisations were contacted to establish which SDMAS are directly responsible for taking most important strategic decisions within the organisations and they were then contacted to request their consent to participate in the survey.

### **5.5.2 Sample Frame**

The tourism accommodation sector of Sri Lanka comprises a range of establishments including star-class hotels (high-standard hotels maintained in accordance with international star grading), boutique hotels (small but exclusive properties that cater to affluent clientele with an exceptional level of service at premium prices), guesthouses, bungalows, homestays and rented apartments. According to the statistics published by SLTDA (2017b), Sri Lanka Tourist Board-approved accommodation comprises 382 star-class tourist hotels or graded establishments, and 1558 supplementary establishments, which includes boutique villas, guesthouses, homestays, bungalows, rented apartments and rented homes. However, the current study has excluded home stay units and apartment and house rental owners from consideration for the survey, due to the limited business acumen they may possess to be considered as strategic decision-makers of organisations.

According to Zikmund et al. (2013), the cluster sample method is adopted by researchers in order to make the process of sampling economical while maintaining the characteristics of the probability sample. The current study adopted the cluster sampling method and the following section will provide detailed description of the clusters selected for the sample.

### **5.5.3 Cluster Sampling**

SLTDA accommodation sector establishments are grouped into seven geographical regions: Colombo City, Greater Colombo, South Coast, East Coast, High Country, Ancient Cities, and North Region (Table 5.1). The sample was separated into seven clusters according to the above geographical regions.

Table 5.1: Cluster separation

Cluster number	Geographical region
1	Colombo City
2	Greater Colombo
3	South Coast
4	East Coast
5	High Country
6	Ancient Cities
7	North Region

In order to maximise the amount of data the researcher can collect, the most compact three clusters (Colombo City, Greater Colombo, and South Coast) were selected as the sample population. Given the complex nature of the study, which involved direct contact with SDMAS and the collection of data within two time points (questionnaire being completed with a time gap to avoid common method bias), it was not feasible to choose samples across the whole nation. Thus, the cluster sampling method was considered most appropriate for the study. Moreover, these three geographical areas are the main tourist areas, and the accommodation sector here is therefore the established and most longstanding of all those in the seven regions.

#### 5.5.4 Sample Size

Determination of sample size is an important part of study design. The researcher should ensure that the selected sample is sufficient and appropriate to enhance the quality and accuracy of the research (Rowley, 2014). There are numerous ways to decide the suitable sample size. According to Sekaran and Bougie (2013), the size of the sample can be determined by taking into consideration six factors: the research

objective, the level of precision desired, the acceptable risk in predicting the level of precision, the amount of variability of the population, the cost and time constraints, and the size of the population. Sekaran and Bougie (2013) further state that a sample size of more than 30 and less than 500 is adequate for most studies. When samples need to be separated into subsamples (e.g. SDMAS who have past disaster experiences and SDMAS who do not have past disaster experiences), a minimum sample size of 30 for each category will be required (Sekaran & Bougie, 2013). Taking into consideration all the above aspects as well as cost and time restrictions, the targeted sample size was 250 to 350 samples.

The three clusters account for 704 accommodations. Contact was made over the phone to provide a brief introduction and the intentions of the survey, to identify the most influential SDMAS and inquire about their willingness to participate in the survey. A total of 350 participants agreed to participate. Questionnaires were hand delivered and collected, for three main reasons: personal delivery and collection was judged best to ensure that the questionnaire was completed by the intended person (in this case, the SDMAS); it significantly reduced non-response rate; and it allowed the researcher to apply the time gap required (to minimise common method variance) in the questionnaire administration correctly. Ultimately, a total of 308 strategic decision-makers from 308 accommodation establishments completed the self-administered questionnaire. However, data from seven questionnaires were rejected and discarded at the point of data screening and therefore, 301 fully completed questionnaires were available for final data analysis.

### **5.5.5 Limitations of Sampling**

Generally, the cluster sampling technique is considered to provide an adequate representation of the target population (Zikmund et al., 2013). However, restricting the sample to a few geographical clusters may reduce the representativeness of the sample. According to Zikmund et al. (2013), problems may arise if characteristics and attitudes of the elements within the cluster become too homogeneous as to be considered as a mirror image of the population. Nevertheless, selected geographical areas are the areas' most densely populated with accommodations (comprising close to fifty percent of all accommodations in the country), and therefore could be considered to include heterogeneous characteristics and elements within the sample; which has contributed largely to the strength of representativeness of the sample.

A relatively smaller sample size of 301 samples could enhance the risk of likely error in generalising to the target population; however, the researcher is confident that the selected sample closely represents the characteristics of the target population and will hence not affect the quality of the research. Bryman and Bell (2015) recommended a minimum sample size of 30 as a useful measure for each construct within the sample. The current study has seven constructs and therefore a sample of 210 or more would be adequate for data analysis. Furthermore, Schumacker and Lomax (2016) consider a sample of more than 200 as adequate to carry out analysis using structural equation modelling. Many statisticians have also agreed that a sample as small as 30 usually results in sampling distribution for the mean that is very close to a normal distribution (Saunders et al., 2016). Therefore, sample size is considered justified and adequate.

Non-response due to non-availability or refusal to participate could result in non-response error. Non-response error will occur if subjects who respond to the survey

differ from those who do not on any one of the characteristics of interest to the study (Sekaran & Bougie, 2013). Subjects for the sample of the current study were randomly selected to cover all required categories of accommodations. However, in some instances due to unwillingness, time pressures of or non-availability of some SDMAS, the researcher was unable to acquire survey information from some subjects included in the sample. Zikmund et al. (2013) suggest that by comparing demographics of the sample and the population a researcher can identify whether any particular group is underrepresented in the survey and, thereafter, take additional steps to obtain data from the underrepresented segment. Thus, in order to minimise non-response error, non-response subjects were replaced by SDMAS from a similar accommodation category; thus, non-response error will be minimised.

#### **5.5.6 Internal Validity (Measurement Validity)**

Validity is concerned with how well the characteristics of the concept of interest are represented by the scale, and it refers to concerns about whether the findings of a particular questionnaire actually reflect the actual concept that is being measured. Four types of validity are often discussed in the literature, namely face validity, content validity, criterion related validity and construct validity (Bryman & Bell, 2015; Zikmund et al., 2013; Saunders et al., 2016). Criterion validity (predictive validity) and construct validity are assessed at the time of the statistical analysis; thus, they will be discussed in detail in the data analysis chapter. However, face validity and content validity of the questionnaire will be discussed in the following section.

##### **5.5.6.1 Face Validity**

According to Bryman and Bell (2015), a researcher who develops a new measure should establish face validity of the measure by asking people who have experience



and expertise in the field to act as judges to determine whether, on the face of it, it seems to reflect the concept concerned. In the current study, a new measure was developed for the construct disaster cognition as presented in detail in the questionnaire design section. The designed new measure was then presented to five academics for inspection and final agreement as to whether the scale items appear to make sense and match the definition of the scale. Face validity was established and confirmed by the five academics after inspecting the scale and agreeing that the scale items matched the definition of the scale.

Face validity was not essential for the constructs attitude, subjective norms, perceived behavioural control and intention, as they were adapted and modified from a pre-tested questionnaire from a similar study carried out by Wang and Richie (2012). However, adapted questions were presented to two industry experts and eight SDMAS to verify their suitability to administer in the context of Sri Lanka. Slight modifications were introduced according to their feedback. One such variation was the introduction of three reverse-worded items to the constructs subjective norms and perceived behavioural control. This greatly increased the strength of the validity of the questionnaire.

#### ***5.5.6.2 Content Validity***

Content validity is used to validate the extent to which the measurement devised (questions in the construct or the questionnaire) provides adequate coverage of all aspects of a given construct (Saunders et al., 2016). According to Saunders et al. (2016), content validity can be achieved through careful definition of the construct, or via literature review and discussion with others; or the researcher can use a panel of individuals to evaluate each question for the construct. For this study, content validity

of the constructs was assured by defining each construct after carefully scrutinising the existing literature. Furthermore, due to limited literature available for disaster cognition, the researcher developed the constructs for disaster cognition and, therefore, the content validity of the constructs was evaluated by a panel of five scholars and five SDMAS. A questionnaire item pool was developed for the construct disaster cognition after thorough review of existing literature and taking into consideration the background information received from preliminary interview. Five scholars and five SDMAS were presented with the item pool for the questions, and they selected all the questions that they considered necessary to cover all the aspects of the scale, and removed any question items that they thought may have gone beyond the concept that was being measured. Finally, content validity was established by including the seven questions selected as most essential and useful in covering all the aspects of the construct by the experts.

### **5.5.7 Reliability**

Reliability refers to the consistency and robustness of the questionnaire, and whether it is able to produce consistency in findings at different times and conditions (Saunders et al., 2016). It is important to consider reliability measures at the time of the questionnaire design stage.

Test-retest: In test-retest reliability, the same participants are administered the same sets of scale items at two different times, with conditions as near equivalent as possible. The questionnaire needs to be delivered and completed twice by the respondents, which may not be feasible to many researchers due to time limitations and difficulty in persuading respondents to respond to the same questionnaire a second time. An alternative form of test-retest reliability offers questionnaire reliability

through comparison of responses to the same questions or groups of questions. When taking into consideration the length of the current questionnaire, it was not judged effective to further increase the length of the questionnaire, which in turn may exhaust the respondents. Therefore, in the present study it was judged ineffective to carry out test-retest or alternative methods due to the impracticality for the respondents to answer the same questionnaire twice or increase the length of the questionnaire, as well as limitations in time and resources to carry out the survey for the second time.

Therefore, internal consistency was calculated using Cronbach's alpha. Cronbach's alpha is used to measure the regularity of the responses with the scale items. This was done at the statistical analysis stage and therefore results were presented in data analysis chapter (Chapter Six).

#### **5.5.8 Statistical Analysis tool Employed**

Statistical analysis tools are essential for social science researchers in order to analyse and confirm their research findings. However, the first-generation techniques such as correlation and regression analysis had a number of limitations, such as the difficulty in analysing complex model structures and the assumption that all variables are observable and measured without error, which restricted their applicability (Byrne, 2010). In order to overcome various limitations in the first-generation techniques, structural equation modelling (SEM) was introduced. SEM has emerged as one of the most important statistical methodologies in many areas of social science and psychology fields.

Structural equation modelling (SEM) depicts relations among latent and observed variables in various types of theoretical models, and therefore various theoretical models are hypothesised and tested using SEM (Schumacker & Lomax, 2016).The

term structural equation modelling (SEM) refers not just to one statistical technique, but rather the integration of a number of statistical techniques into one procedure (Pearl, 2012). Factor analysis, path analysis and regression come together to form SEM (Kline, 2016). According to Byrne (2010), SEM has gained popularity in psychological research and the use of SEM has been increasing since the late 1990s. The main advantage of using SEM is its ability to present complex theories in diagrams rather than using complicated notations. SEM is also referred to as covariance structure analysis, covariance structure modelling or causal modelling. However, to avoid confusion, the term SEM will be used in the current study. There are number of computer programs that allow SEM, namely, LISREL, AMOS, Mplus, EQS etc. The current study used the computer software AMOS to carry out SEM analysis.

## **5.6 Methodological Limitations and Risks**

Possible methodological risks and limitations of the study will be discussed in this section.

### **5.6.1 Cross-Sectional Method**

The study was carried out using the cross-sectional method. The TPB often tends to use cross-sectional rather than longitudinal designs. In the field of social sciences, it is considered to be difficult to conduct longitudinal research, even in the natural environment. Therefore, the most common method used by many researchers is cross-sectional data collection (Zikmund et al., 2013). According to Zikmund et al. (2013) a cross-sectional study takes a snapshot of a population at a certain time, allowing conclusions about a phenomenon across a wide population to be drawn. The advantage of using this method is that it allows researchers to study the natural environment, thus improving the external validity of the study. However, such cross-

sectional studies of the relationship between attitude and behaviour are vulnerable to enhanced correlation due to common method variance (Lindell & Whitney, 2001). Method biases can be considered one of the main sources of measurement error, and such errors could threaten the validity of the conclusions regarding the relationship between measures (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Thus, the following section will evaluate how the current study intends to overcome such measurement errors.

### **5.6.2 Common Method Bias**

Common method variance is a potential variance issue when carrying out behavioural research and can create problems by creating measurement error. Due to such measurement error, a researcher may reach invalid conclusions regarding the relationship between measures, and this could be a serious issue for the researcher, as there may be an alternative explanation for the observed relationship. Observed relationships between constructs could inflate or deflate the relationships observed (Podsakoff et al., 2003). A number of such biases could have a negative impact on research findings. Thus, researchers should carefully assess their data collection procedure and identify any potential sources of method biases that could create measurement error.

Accordingly, after careful assessment of the conditions in which the data is being collected, the current study identified self-report bias as the bias most likely to affect the study. Self-report bias derives from the fact that respondents desire to appear consistent in their answers and answer accordingly, which in turn creates a superficial relationship between answers. Self-report bias is most likely to have an effect in situations where respondents' attitudes, perceptions and behaviours are examined

(Bauhoff, 2011). The current study intends to explore SDMAS' attitudes, perceptions and behaviour. Thus, it is important to take steps to control such biases.

A number of ways to control for common method variance have been discussed in the existing literature. Researchers can adopt both statistical and procedural measures in order to minimise biases. One way of controlling such method variance (MV) is to collect the measures of the variables from a different source (Podsakoff et al., 2003). This method includes obtaining the predictor variable from one person and collecting criterion measures from another. However, this method may not be appropriate for some studies due to difficulty in observing individuals' perceptions from another person (Brannick et al., 2010). For example, the current study intended to explore individuals' perceptions in both predictor and criterion variables. Therefore, collecting predictor and criterion measures from different individuals would not be appropriate.

Another common method used to control MV is by separation of the measurement of the predictor and criterion variable by introducing a separation between the measurement of the predictor and criterion variables (Podsakoff et al., 2003). According to Brannick, Chan, Conway, Lance and Spector (2010) such separation could be a time delay between the measures, physical distance or psychological separation. According to Podsakoff et al. (2003), such separation reduces the respondent's capability to recall previous answers in order to link with later questions. The effectiveness of introducing a time separation between the predictor and the criterion variable has been confirmed in a number of studies (Ostroff, Kinicki & Clark, 2002; Johnson, Rosen & Djurdevic, 2011). Accordingly, the current study opted to adopt a time delay when administering the questionnaire to the respondents by separating the questionnaire into two sections and administering them to the

respondents on two separate occasions. The first part of the questionnaire was hand delivered to the respondents, and after two weeks' time delay the final part of the questionnaire was hand delivered, and the completed questionnaire were collected at the same time as the final delivery of the second part of the questionnaire. Alternatively, Podsakoff et al. (2003) suggests that in order to minimise method bias, researchers could incorporate appropriate statistical remedies as well. Therefore, as a precaution the questionnaire was designed including a marker variable as a statistical remedy. According to Lindell and Whitney (2001), the best way to eliminate MV is for the researcher to include an additional scale that is theoretically unrelated to at least one other scale in the questionnaire. The unrelated marker variable added to the questionnaire was the consumer ethnocentrism scale (CETSCALE). However, since the survey was successfully administered with a time gap to avoid common method variance, the added marker variable was omitted from the study at the level of analysis.

### **5.6.3 Target Population and Sample Representation**

As discussed earlier in the chapter, the sample was not selected from all the geographic areas of the country. The researcher opted for cluster sampling method due to the complexity of survey (delivery and collection method and survey administered in two parts with a time gap). However, the literature confirms that the cluster sampling technique is considered to provide adequate representation of the target population and is therefore considered as a probability sampling method (Zikmund et al., 2013; Saunders et al., 2016).

Due to the non-availability of a fully comprehensive database of all the tourist accommodations or SDMAS in Sri Lanka, the target population of this study was

limited to power-holding strategic decision-makers of the accommodation sector of the tourism industry, registered under SLTDA. SLTDA-registered accommodations are regulated under similar capacity and level, and one could hence argue that it is more appropriate to select SDMAS from such accommodations for the study. In other words, since all SLTDA-registered accommodations are controlled and regulated in similar manner (health and safety requirements, fire safety and drills etc.), the SDMAS from such accommodations are most appropriate for the study because the impact from the external environment can be considered homogeneous. However, by doing so, findings of this study may not represent SDMAS of the unregulated accommodations sector. Thus, there is a possibility for future study to assess disaster planning among SDMAS of the many unregulated accommodations in the country.

## **5.7 Summary of Methodology**

As elaborated in the beginning of this chapter, the researcher's ontological standing regarding the current research is more inclined to the objectivist view, and the empiricist approach to the research was therefore considered most appropriate. In alignment with the ontological and epistemological standing of the researcher, the current research was carried out following a positivist philosophical approach. Thus, the approach to theory development has accordingly followed deductive logic. Deductive logic is the process of drawing conclusions from rationale and existing theory to develop hypotheses, which are then tested against gathered data that provide the basis for revised or new theories. Thus, in alignment with the positivist and deductive theoretical approach, a quantitative research design is considered most appropriate for the current research.



The research design involves three stages; the first stage was utilised to explore various designs, and develop and validate the questionnaire; the second stage of the research was utilised to carry out a pilot study with 20 SDMAS, and then the final survey was carried out; and in the third stage data was analysed and conclusions drawn. The research methodology chapter provided a detailed discussion of the first two stages.

Construction of the questionnaire is an important step in survey design in order to accomplish research goals. There were several steps involved in the development of the questionnaire: design exploration, questionnaire development and validation.

The data collection method adopted for the current study was self-completed questionnaire. Taking into consideration the strong negative feedback received from the industry experts from the Sri Lanka Development Authority, to the effect that such lengthy surveys pose a very high risk of failure due to a very low response rate, the delivery and collection method was used to carry out the survey. Delivery and collection method granted the benefits of enhanced respondent participation and improved reliability of data. This method also allowed greater control over ensuring respondents are power-holding strategic decision-makers, which is essential to the current research and allowed the researcher to successfully administer the survey with a time delay in between in order to minimise measurement errors (common method variance) affecting the survey data. The target population of this study consists of power-holding strategic decision-makers of the accommodation sector of the tourism industry, registered under SLTDA. The probability cluster sampling method was used. A total of 301 fully completed questionnaires were collected for final data analysis.

This research project received ethical approval from the University of Salford Business School Research Ethics Approval panel. Therefore, this ensures that this study follows the ethical guidelines required in the University of Salford's Code of Practice on Ethical Standards, and relevant academic and professional guidelines. Furthermore, the researcher ensured that principles of ethical research were followed throughout the study by maintaining the anonymity of the respondents, data security and confidentiality throughout the research project.

The current study includes several methodological limitations that offer opportunities for future research. Restricting the sample to a few geographical clusters may reduce the representativeness of the sample. However, selected geographical areas are the areas' most densely populated with accommodations, and thus, such effects are minimised. In addition, the researcher is confident that the selected sample closely represents the characteristics of the target population and will hence not affect the quality of the research. In addition, due to the non-availability of a fully comprehensive database of all the tourist accommodations in Sri Lanka, the target population of this study was limited to power-holding strategic decision-makers of the accommodation sector of the tourism industry, registered under SLTDA. SLTDA-registered accommodations are regulated under similar capacity and level, and one could hence argue that it is more appropriate to select SDMAS from such accommodations for the study. However, by doing so, findings of this study may not represent SDMAS of the unregulated accommodations sector. Finally, the study was carried out using the cross-sectional method. Although the most common method used by many researchers is cross-sectional data collection, such cross-sectional studies of the relationship between attitude and behaviour are vulnerable to method errors due to common method variance (Lindell & Whitney, 2001). Therefore, in order to avoid such

errors, the study has taken procedural remedial measures (time delay when administering the questionnaire to the respondents), as well as statistical remedial measures (including marker variable within the questionnaire).

After successful completion of the survey data, analysis was carried out using SPSS and AMOS. The following chapter will discuss data input and the analysis process of the study in detail.

## **CHAPTER SIX**

### **6. Data Analysis**

The main objective of this chapter is to provide a detailed presentation of data output and interpretation of the data analysis carried out in order to identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry; to identify and explore the factors that influence the intention to undertake disaster planning among SDMAS; to examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour and to develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS. The statistical software applications SPSS and AMOS were used to analyse the data and assessment and validation of the conceptual model. This chapter presents the analysis performed, including a discussion of the findings to facilitate the understanding of the reader.

The process of data analysis was carried out in several stages. They are as follows:

**First Stage:** The first stage involves data entry, the process of data screening and testing (missing values, unengaged responses and outliers) to examine the position and the relevance of data for the purpose of statistical analysis.

**Second Stage:** The second stage involves exploring the data, identifying the sample demographics and testing the normality of the data.

**Third Stage:** Confirmatory Factor Analysis (CFA) to validate the measurement model (goodness of fit (GOF), reliability, convergent validity and discriminant validity).

**Fourth Stage:** Convert the measurement model to the hypothesised structural model to test the hypotheses and GOF of the model.

## **6.1: First Stage: Data Entry and Screening**

The survey was carried out within Colombo City, Greater Colombo and South Coast regions of the country. Only a very few cases of incomplete responses were detected, and this was due to thorough scrutiny at the point of face to face collection of each survey. The delivery and collection method were adopted to administer the survey allowing the survey administrators to check for accuracy of the completion of the questionnaire. Therefore, errors were minimal. From the 308 completed questionnaires which were collected, only four questionnaires were categorised as incomplete and discarded prior to data entry. Therefore, 304 samples were available for data entry. The data entry and screening process will be discussed in the following section.

### **6.1.1 Data Entry Process**

Brace, Kemp and Snelgar (2012) list data entry and screening as the starting point of the data analysis process. Therefore, this section will explain the data entry and screening process which was carried out. Firstly, each questionnaire of the sample data set was given a running number starting from 001 to 304. Then, responses to each question were numerically coded and labelled as necessary. Thereafter, the data was entered into SPSS according to the order of the questions and three negatively worded questions were reverse coded into SPSS. The completed SPSS data file was then prepared for the cleaning and screening process.

### **6.1.2 Data Screening Process**

Brace et al. (2012) advise conducting the data screening after entering all the data into SPSS prior to commencing data analysis. It is common to make mistakes while completing the questionnaire or while entering the data, and if proper data screening is not done, the results of the analysis may be invalid (Brace et al., 2012; Tabachnick & Fidell, 2014). Thus, data screening was carried out in order to identify the missing data, and any unengaged responses and outliers.

### **6.1.3 Missing Data, Unengaged Response and Outliers**

Tabachnick and Fidell (2014) state that missing data is one of the more common problems in data analysis and point out the need to identify and, if possible, eliminate any missing value before proceeding with further analysis. Missing value analysis was carried out using SPSS in order to identify any random missing items, and appropriate measures were taken to impute or eliminate any missing values. After appropriate scrutiny, four such missing values were imputed by known values or mean values following the recommendations of Tabachnick and Fidell (2014). Data was screened for unengaged responses. Three suspected unengaged responses were detected, and data was finally screened for possible outliers. The data which was screened for both univariate (scatterplot) and multivariate outliers was sorted for correction. The data was checked for multivariate outliers by determining the Mahalanobis distance ( $D^2$ ), which is a measure of distance in standard deviation units between each observation compared with the mean of all observations, and only one outlier was detected. After the detected errors were corrected, a clean data file (N=301) was available for subsequent analysis, as described in the following exploratory analysis section.

## **6.2 Second Stage: Exploratory Data Analysis**

A preliminary analysis was carried out by exploring the nature of the different variables. First, the personal and organisational demographics of the sample were analysed to better understand the sample prior to further analysis. Thereafter, data was checked for normality as well as the distribution of means and standard deviations for intention, attitude, subjective norm, and perceived control, disaster cognition, past disaster experience and disaster training.

### **6.2.1 Personal Demographics of the Sample**

Table 6.1 summarises the personal demographics of the sample of SDMAS. From the sample of 301 respondents, there were 86 female and 215 male participants. There is no data on the exact ratio of female and male SDMAS in Sri Lanka. The general population demographics reveal that there is a ratio of 94 males per 100 females (Department of Census and Statistics of Sri Lanka, 2017a). However, it is a known fact that the male population dominates the higher managerial and entrepreneurial level work in Sri Lanka, which makes the sample representative of the population of the SDMAS due to the selection of higher-ranking positions in the sample (business owners, partners company CEO's). Thus, the difference in male and female sample population will not affect the ability of the sample to be generalised.

Table 6.1 further summarises the distribution of the ranking of the sample. The distribution of the ranking of the sample as follows: 42 percent business owners, 36 percent partners, 9 percent chief executive officers or managing directors, and 13 percent general managers. It is apparent that all respondents could be categorised as SDMAS and therefore, the fitness and eligibility of the sample is confirmed. When taking into consideration the education level of the sample, 53.2 percent of the total

SDMAS surveyed have completed professional or graduate level of education and 53.4 percent of the surveyed SDMAS have been in a power-holding strategic decision-making position for more than five years. Finally, 75.5 percent of the surveyed SDMAS have more than five years' experience in the accommodation sector. These characteristics of the sample further strengthen its fitness, eligibility and representativeness.

*Table 6.1: Demographics of the sample*

		<b>Frequency</b>	<b>Percent</b>
<b>Gender Distribution</b>	Female	86	28.6%
	Male	215	71.4%
	<b>Total</b>	<b>301</b>	<b>100.0%</b>
<b>Level of Education</b>	GCSE or below	30	10%
	A Level	111	36.9%
	Professional	83	27.6%
	Graduate	37	12.3%
	Postgraduate	34	11.3%
	PhD	6	2%
	<b>Total</b>	<b>301</b>	<b>100%</b>
<b>Position</b>	Owner	128	42%
	Partner	108	36%
	CEO/MD	26	9%
	GM	39	13%
	<b>Total</b>	<b>301</b>	<b>100%</b>
<b>Work Experience in Current Position</b>	Less than 3Yrs	41	13.6%
	3-5Yrs	99	32.9%
	6-10Yrs	109	36.2%
	11-20Yrs	35	11.6%
	More than 20Yrs	17	5.6%
	<b>Total</b>	<b>301</b>	<b>100.0%</b>
<b>Experience in Accommodation Sector</b>	Less than 3Yrs	12	4%
	3-5Yrs	62	20.6%
	6-10Yrs	92	30.6%



11-20Yrs	95	31.6%
More than 20Yrs	40	13.3%
<b>Total</b>	<b>301</b>	<b>100%</b>

---

The following section will examine the organisational demographics of the sample to verify its representativeness.

### 6.2.2 Organisational Demographics of the Sample

Table 6.2 summarises the sample distribution among clusters 1 (Colombo City), 2 (Greater Colombo), and 3 (South Coast). The sample distribution among the three clusters include 75 respondents from Cluster 1, 87 respondents from Cluster 2 and 139 respondents from Cluster 3. The largest sample of respondents were recorded from Cluster 3 (46 percent of the total respondents), and Cluster 2 and 1 recorded 29 percent and 25 percent of total respondents. Although this is not an exact representation it could be considered a very close representation of the percentage of accommodations between the three clusters (population distribution between the three clusters as a percentage: Cluster 1=25 percent, Cluster 2=29 percent, Cluster 3= 46 percent).

*Table 6.2: Cluster distribution*

		Frequency	Percent
Valid	Colombo City (1)	75	25%
	Greater Colombo (2)	87	29%
	South Coast (3)	139	46%
	Total	301	100%

Table 6.3 summarises the distribution of the categories of the accommodations where the sample was congregated. It is apparent that respondents from all the categories

of accommodations are represented in the sample. Thus, the sample represents SDMAS from all five categories of accommodations.

*Table 6.3: Distribution of accommodation category*

		Frequency	Percent
Valid	4-5 Star	13	4%
	1-3 Star	21	7%
	Small Luxury	39	13%
	Guest house	108	36%
	unclassified hotels	120	40%
	Total	301	100%

Statistics relating to disaster management training is presented in the following section to better understand the sample data. It is worth noting that 123 participants have never undergone disaster management training in recent years.

### **6.2.3 Disaster Management Training and Education**

Table 6.4 summarises the subcategories of the sample who have attended disaster management training and respondents who have not attended disaster management training. From the sample of 301 respondents, 59 percent have attended at least one disaster management training program. From the total sample 26 percent participated in disaster management training program with last 12 months, 17 percent participated in a disaster management training program in the last 12 to 24 months, and finally 16 percent participated in disaster management training program more than 24 months ago. From the total sample of 301, 41 percent of respondents have never participated in a disaster management training program. It is worth noting that only 178 respondents were therefore eligible to answer questions related to the effectiveness, relevance and comprehensiveness of the training program/programs they had attended.

*Table 6.4: Disaster management training*

		Frequency	Percent
Valid	Within last 12 Months	79	26%
	Within last 12-24 Months	52	17%
	Earlier than 24 Months	47	16%
	Total trained	178	59%
	Never trained	123	41%
Total		301	100%

The following section will look at the mean and standard deviation of all the latent constructs of the sample.

#### **6.2.4 Explore the Constructs**

Table 6.5 summarises the distribution of mean and standard deviation for the effectiveness of disaster management training attended (n= 178). The possible score range for each item of the construct was 1-7 with higher numbers indicating higher overall effectiveness of disaster management training undergone, however the actual mean score for all three items of measures were (M = 4.25, SD = 1.62), (M =4.27, SD =1.54) and (M=4.27, SD=1.51) respectively, indicating moderate to slightly positive disaster management training experience level by the participants.

*Table 6.5: Means and standard deviation for disaster management training experience*

	N	Mean	Std. Deviation
DT1.Effectiveness of the disaster management training attended		4.25	1.62
DT2.Relevance of the disaster management training program attended		4.27	1.54
DT3.Comprehensiveness of the disaster management training program attended		4.27	1.51
Valid N	178		

Note: DT=Disaster training

Table 6.6 summarises the distribution of mean and standard deviation for past disaster experience amongst the sample of SDMAS. The possible score range for each item of the construct for the severity of the disaster experience subscale was 1- 7 with higher numbers indicating more severe disaster experience, however, the actual mean score for disaster experience 1 (M = 4.11 SD = 1.91), disaster experience 2 (M =2.71, SD =1.54) and disaster experience 3 (M=1.85, SD=1.20) respectively. This indicates participants have demonstrated moderately stronger severity for disaster 1, and the others participants' scores were in the lower end.

*Table 6.6: Means and standard deviation for past disaster experience*

	N	Mean	Std. Deviation
DExp1: Severity of disaster 1		4.11	1.91
DExp2: Severity of disaster 2		2.71	1.54
DExp3: Severity of disaster 3		1.85	1.20
Valid N	301		

Note: DExp= Disaster experience

Table 6.7 summarises the distribution of mean and standard deviation for attitude towards undertaking disaster crisis planning (n= 301). The possible score range for each item of the construct for the attitude towards undertaking disaster crisis planning was 1- 7 with higher numbers indicating more positive intention to undertake disaster planning, however, the actual mean score for ATT 1 (M = 4.39, SD = 1.14), ATT 2 (M = 4.41, SD = 1.24), ATT 3 (M = 4.21, SD = 1.25), ATT 4 (M = 4.12, SD = 1.35), ATT 5 (M = 4.15, SD = 1.37), ATT 6 (M = 4.19, SD = 1.36), ATT 7 (M = 4.22, SD = 1.37) and ATT 8 (M = 4.18, SD = 1.39) respectively. This indicates participants have slightly high attitude towards undertaking disaster planning within their organisations.

*Table 6.7: Means and standard deviation of attitude towards disaster planning*

	N	Mean	Std. Deviation
ATT 1: For me to undertake disaster planning in my organisation is 1=bad 7=good		4.39	1.14
ATT 2: For me to undertake disaster planning in my organisation is 1=wrong 7=right		4.41	1.24
ATT 3: For me to undertake disaster planning in my organisation is 1=harmful 7=beneficial		4.21	1.25
ATT 4: For me to undertake disaster planning in my organisation is 1=negative 7=positive		4.12	1.35
ATT 5: For me to undertake disaster planning in my organisation is 1=unfavourable 7=favourable		4.15	1.37
ATT 6: For me to undertake disaster planning in my organisation is 1=foolish 7=wise		4.19	1.36
ATT 7: For me to undertake disaster planning in my organisation is 1=useless 7=useful		4.22	1.37
ATT 8: For me to undertake disaster planning in my organisation is 1=undesirable 7= desirable		4.18	1.39
Valid N	301		

Note: ATT = Attitude

Table 6.8 summarises the distribution of the mean and standard deviation of perceived behavioural control towards undertaking disaster planning (n= 301). The possible score range for each item of the construct of perceived behavioural control towards undertaking disaster planning was 1- 7 with higher numbers indicating more positive control towards undertaking disaster planning, however, the actual mean score for PBC 1 (M = 4.23, SD = 1.15), PBC 2 (M = 4.20, SD = 1.14), PBC 3 (M = 4.15, SD = 1.16), PBC 4 (M = 4.06, SD = 1.29), PBC 5 (M = 3.99, SD = 1.23) respectively. This indicates that participants demonstrated moderate level of perceived control over undertaking disaster planning within their organisations.

*Table 6.8: Means and standard deviation for perceived behavioural control towards undertaking disaster planning*

	N	Mean	Std. Deviation
--	---	------	----------------

PBC 1: I am confident that I can implement disaster planning if I wanted to	4.23	1.15
PBC 2: The decision to implement disaster planning is beyond my control (rev coded)	4.20	1.14
PBC 3: For me to implement disaster planning is difficult (rev coded)	4.15	1.16
PBC 4: Whether or not I implement disaster planning is completely up to me	4.06	1.29
PBC 5: For me to implement disaster planning is easy	3.99	1.23
Valid N	301	

Note: PBC = Perceived behavioural control

Table 6.9 summarises the distribution of mean and standard deviation for subjective norms towards undertaking disaster planning (n= 301). The possible score range for each item of subjective norms towards undertaking disaster planning was 1- 7 with higher numbers indicating more positive norms towards undertaking disaster planning, however, the actual mean score for SN 1 (M = 3.87, SD = 1.20), SN 2 (M = 3.89, SD = 1.29), SN 3 (M = 3.64, SD = 1.37) and SN 4 (M = 3.75, SD = 1.44) respectively. This indicates that participants demonstrated a moderate level of social pressure to undertake disaster planning within their organisations.

*Table 6.9: Means and standard deviation for subjective norms towards undertaking disaster planning*

	N	Mean	Std. Deviation
SN 1: Most people who are important to me think that I should implement disaster planning activities		3.87	1.20
SN 2: It is expected of me that I implement disaster planning activities		3.89	1.29
SN 3: I feel under social pressure to implement disaster planning activities		3.64	1.37
SN 4: Most people who are important to me think that I should not implement disaster planning activities		3.75	1.44
Valid N	301		

Note: SN= Subjective norms

Table 6.10 summarises the distribution of the mean and standard deviation of disaster cognition amongst the sample of SDMAS (n= 301). The possible score range for each item of measure was 1- 7 with higher numbers indicating more positive disaster cognition, however, the actual mean score for DC 1 (M = 3.78, SD = 1.69), DC 2 (M = 3.76, SD = 1.68), DC 3 (M = 3.67, SD = 1.63), DC 4 (M = 3.82, SD = 1.54), DC 5 (M = 3.76, SD = 1.52) and DC 6 (M = 3.66, SD = 1.84) respectively. This indicates participants demonstrated a slightly lower level of recognition of the degree of potential emerging disaster risk to their organisation.

*Table 6.10: Means and standard deviation for disaster cognition*

	N	Mean	Std. Deviation
DC 1: There is a probability of disaster affecting my organisation in the next 12 months		3.78	1.69
DC 2: I am concerned about a disaster affecting my organisation over the next 12months		3.76	1.68
DC 3: There is a risk of disaster affecting my organisation over the next 12 months		3.67	1.63
DC 4: I am concerned about possible losses for my organisation if a disaster occurs		3.82	1.54
DC 5: I do expect losses for my organisation if a disaster occurs		3.76	1.52
DC 6: Likelihood of occurrence of a disaster which could affect your organisation		3.66	1.84
Valid N	301		

Note: DC =Disaster cognition

Table 6.11 summarises the distribution of the mean and standard deviation for the intention to undertaking disaster planning (n= 301). The possible score range for each item of intention to undertake disaster planning was 1- 7 with higher numbers indicating more positive intention. But the actual mean score for INT 1 (M = 4.13, SD = 1.67), INT 2 (M = 4.15, SD = 1.66) and INT 3 (M = 3.99, SD = 1.67) respectively. This

indicates that participants demonstrate a slightly lower score for intention to undertake disaster planning within their organisations.

*Table 6.11 Means and standard deviation for Intention to undertake disaster planning descriptive statistics*

	N	Mean	Std. Deviation
INT 1: I expect to undertake disaster planning activities in the next 6 months		4.13	1.67
INT 2: I want to undertake disaster planning in the next 6 months		4.15	1.66
INT 3: I intend to undertake disaster planning in the next 6 months		3.99	1.67
Valid N	301		

Note: INT= Intention

The following section will provide details of the mean and standard deviation for each summated scale and the results of tests carried out to test the normality distribution of the data.

### **6.2.5 Assessing Normality**

Normality was tested by applying the Kolmogorov-Smirnov test in SPSS (Table 6.12). with the result that the data was not normally distributed ( $p < .05$ ). An analysis of skewness and kurtosis (Table 6.13) also indicates that the data is a little skewed and kurtotic. However, the majority of the constructs had skewness and kurtosis within the acceptable range of  $\pm 3.00$ . Therefore, the data does not appear to be significantly deviated from the normal distribution. Furthermore, according to Field (2018), in a relatively larger sample, regardless of what the sample or population data look like, the estimates are considered to have derived from a normal distribution. This will therefore not be an issue for further analysis using AMOS.

*Table 6.12: Kolmogorov-Smirnov and Shapiro-Wilk tests*



Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Attitude	.131	178	.000	.958	178	.000
PBC	.107	178	.000	.979	178	.008
SN	.079	178	.008	.981	178	.015
Intention	.143	178	.000	.950	178	.000
Disaster training	.131	178	.000	.936	178	.000
Disaster exp	.084	178	.004	.963	178	.000
Disaster cog	.176	178	.000	.914	178	.000

a. Lilliefors Significance Correction

The table above shows the Kolmogorov-Smirnov test for normality. The significance value is less than 0.05 ( $p < .05$ ). This indicates that the variables do not follow a normal distribution.

*Table 6.13: Mean Standard Deviation Skewness and Kurtosis for Summated Scales*

	N	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
Disaster Training	178	4.26	1.46	-.195	.182	-1.259	.362
Disaster Exp	301	2.89	1.32	.301	.140	-.798	.280
Attitude	301	4.23	1.15	-.321	.140	-.514	.280
PBC	301	4.13	1.02	-.364	.140	.085	.280
SN	301	3.79	1.17	-.082	.140	-.733	.280
Disaster Cog	301	3.76	1.50	-.090	.140	-1.332	.280
Intention	301	4.09	1.59	-.087	.140	-1.083	.280

Finally, Table 6.13 summarises the distribution of mean and standard deviation for summated scales of effectiveness of disaster training, past disaster experiences, attitude towards undertaking disaster planning, subjective norms towards undertaking disaster planning, perceived behavioural control towards undertaking disaster planning, intention to undertake disaster planning and disaster cognition amongst the sample of SDMAS (n=301). The possible score range for each item of measure was 1-7 with the higher number indicating a more positive response and a lower number indicating a negative response.

As displayed in Table 6.13, from the 178 participants who underwent disaster training and indicate moderate satisfaction about training effectiveness, reliability and comprehensiveness (M = 4.26, SD = 1.46), participants indicated a moderate attitude towards undertaking disaster planning within their organisation (M = 4.23, SD = 1.15), a lower level of social pressure to undertake disaster planning (M = 3.79, SD = 1.17), a moderate level of perceived control over undertaking disaster planning within their organisation (M = 4.13, SD = 1.02), a moderate level of intention to undertake disaster planning (M = 4.09, SD = 1.59), slightly lower level of disaster cognition (M = 3.76, SD = 1.50). Finally, the participants score was in the lower end for past disaster experience (M=2.89, SD=1.32).

After carrying out preliminary exploratory data analysis using SPSS, the final stage of the analysis was carried out using structural equation modelling (SEM) method. The following section provides a detailed report on each test carried out and their outcomes.

### **6.3 Third Stage: Structural Equation Modelling (SEM)**

This study has applied the structural equation modelling (SEM) method. SEM is an established method for social science research and has been increasingly applied in marketing and business management disciplines (Kline, 2016; Pearl, 2012; Byrne, 2010). SEM can be used to depict relationships among observed and latent variables in various types of theoretical models and it also help researchers test hypotheses more accurately (Schumacker & Lomax, 2016; Byrne, 2010). According to Schumacker and Lomax (2016), there are number of advantages in using SEM, namely its ability to model latent variables, correct measurement error and its ability to model and predict complex relationships among constructs in a hypothesised manner. Researchers who use or develop multi-item measures are highly recommended to use SEM techniques because using SEM will increase the credibility of results leading to strong research contribution (Bowen & Guo, 2011). There are two approaches to SEM, namely covariance-based SEM (CB-SEM) which is also known as full SEM, and variance-based SEM (VB- SEM) or also known as partial least square SEM (PLS SEM).

CB CEM or full SEM has gained popularity among researchers due to its high credibility and accuracy when dealing with parametric data. When dealing with non-parametric data CB CEM could be used together with bootstrapping to get accurate results (Kline, 2016). However, researchers may have to opt for VB SEM or PLS SEM when their data are non-parametric with very small sample size (failing to reach minimum sample size required) (Hair, Hult, Ringle & Sarstedt, 2016). Current research does not have any issue selecting covariance-based SEM technique (AMOS) due to its relatively large sample size (N=301). The current study used the SEM software

package called Analysis of Moment Structures (AMOS), to carry out the assessment of the measurement model (measuring individual latent construct) through confirmatory factor analysis (CFA). Through CFA the validity and reliability of items measuring each construct could be assessed. This was followed by path analysis to validate the structural model and confirm or reject the hypothesis.

### **6.3.1 Confirmatory Factor Analysis (CFA)**

A general approach to confirmatory factor analysis (CFA) was developed by Joreskog in 1969 due to the impact of measurement error in traditional multiple regression and path analysis which does not adjust for measurement error (Schumacker & Lomax, 2016). CFA tests whether the hypothesised theoretical measurement model produces a covariance matrix similar to the sample covariance matrix (Schumacker & Lomax, 2016). In other words, in CFA, theory is considered first, and the model is created according to the theory. Finally, the model is tested for consistency with the observed data. Confirmatory factor analysis (CFA) enables the researcher to test how well the measured variables represent the constructs. According to Hair, Black, Babin and Anderson (2018) the key advantage of CFA is its ability to analytically test a conceptualised theory and researchers can gain better understanding of the quality of the measures when combining CFA results with construct validity tests. Hair et al. (2018) further state that the two approaches used in CFA to evaluate measurement model are: first deciding the goodness of fit (GOF) criteria indices and second the evaluation of validity and reliability of the measurement model. The following section will present in detail the procedure carried out in the validation of the measurement model including tests for internal consistency (Cronbach's alpha coefficient), goodness of fit (GOF), convergent validity and discriminant validity using the sample

data set. The study has used confirmatory factor analysis (FCA) technique in AMOS for this purpose.

### **6.3.2 Measurement Model Validation**

In order to complete the measurement model validation, it is essential to establish reliability validity and GOF of the model. After validating the measurement model, it could be converted to a structural model in order to test the hypothesis. Thus, following section will first present measurement model validation.

### **6.3.3 Reliability**

The reliability of a scale indicates the accuracy and stability of a measuring instrument (Saunders et al., 2016). The most frequently used indicators of scale reliability are test-retest reliability and internal consistency. The current study intends to establish the reliability of the scales through internal consistency. Internal consistency is finding out to what degree scale items measure the same underlying attribute (DeVellis, 2012). One of the most widely used indicators of internal consistency is Cronbach's alpha coefficient. Cronbach's alpha coefficient was used to measure internal consistency between the items of a scale by Cronbach in 1951. Cronbach's alpha coefficient provides an indication of the average correlation among all the items that make up a scale ranging between 0 and 1, with higher value indicating greater reliability (DeVellis, 2012). According to DeVellis (2012), if a Cronbach's alpha coefficient of a scale is above .7 it has good internal consistency. It is vital to determine the internal consistency of each scale before data can be further analysed (Cronbach, 1951). Cronbach's alpha coefficient was therefore carried out to measure the reliability of each scale of the questionnaire (Table 6.14).

Originally there were three items making the scale that measured the level of disaster experience among SDMAS. The Cronbach's alpha was recorded and was significantly lower with all three items ( $\alpha=.79$ ), than with the third item deleted ( $\alpha=0.823$ ). The main reason for this is that many SDMAS have demonstrated a low intensity impact in their third disaster experience and this has deviated their disaster experience as being lower overall. Therefore, the third item was deleted from the scale and Cronbach's alpha was carried out for the first two items of the scale. Although both statistics were greater than .7 which implies internal consistency, it was decided to delete the third item from the scale to improve the quality of the scale. After deleting the third item the improved Cronbach's alpha for disaster experience was recorded as greater than .7 ( $\alpha=.823$ ), and therefore the internal consistency was improved and could be considered good.

There were three items comprising the scale. Disaster training and the Cronbach's alpha for disaster training and education were recorded greater than .7 ( $\alpha=.927$ ), indicating that the scale disaster training and education have good internal consistency and all three observed variables are a reasonably good measurement of the construct disaster training.

There were eight items (observed variables) making the construct attitude towards disaster planning and similarly, Cronbach's alpha for attitude was recorded greater than .7 ( $\alpha=.956$ ). This indicates that the scale attitude has good internal consistency and therefore all eight observed variables could be considered a reasonably good measurement of the construct (latent variable) intention.

There were five items (observed variables) making the construct perceived behavioural control (PBC), and the Cronbach's alpha for PBC was recorded greater

than .7 ( $\alpha=.906$ ), hence this indicates that the scale perceived behavioural control has good internal consistency and all five observed variables are a reasonably good measurement of the construct PBC.

There were four items (observed variables) making the construct subjective norms (SN) and similarly, the Cronbach's alpha for subjective norms was recorded greater than .7 ( $\alpha=.903$ ), hence this indicates that the scale subjective norms have good internal consistency and all four observed variables are reasonably good measurement of the construct SN.

There were six items (observed variables) making the construct disaster cognition (DC) and the Cronbach's alpha for disaster cognition was recorded greater than .7 ( $\alpha=.962$ ), hence this indicates that the scale disaster cognition has good internal consistency and all five observed variables are a reasonably good measurement of the construct DC.

There were three items (observed variables) making the construct intention to undertake disaster planning (Int) and the Cronbach's alpha for Int was recorded greater than .7 ( $\alpha=.947$ ), hence this indicates that the scale intention to undertake disaster planning has good internal consistency and all three observed variables are a reasonably good measurement of the construct Int.

Table 6.14 below shows the reliability analysis for the variables. All the variables have a high value for the Cronbach's alpha and construct reliabilities for all eight constructs were found greater than the minimum acceptable level of construct reliability = .7 for each construct. Therefore, it could be concluded that all seven Likert-scale items used to collect the data are reliable.

Table 6.14: Reliability statistics

Variable	Reliability Statistics	
	Cronbach's Alpha	N of Items
Past disaster experience	0.823	2
Disaster management training and education	0.927	3
Attitude towards disaster planning	0.956	8
Perceived behavioural control	0.906	5
Subjective norms	0.903	4
Disaster cognition of strategic decision-makers	0.962	6
Intention to undertake disaster planning	0.947	3

CFA was carried out to measure the goodness of fit (GOF) convergent validity and discriminant validity.

CFA was carried out on seven factors namely; disaster experience (DE), disaster training (DT), attitude (Att), disaster cognition (DC), subjective norms (SN), perceived behavioural control (PBC), and intention (Int). Originally a total of 32 items (DE, 3 items; DT 3 items; Att, 8 items; DC, 6 items; SN,4 items; PBC, 5 items; Int, 3 items) were used to measure the factors. However, in the revised model fit only 31 items were included due to elimination of one item from the factor disaster experience (DE). Appendix 6 demonstrates the revised CFA model with 31 items.

The following section will discuss in detail the results derived from carrying out CFA. First, the goodness of fit indices and results obtained will be discussed in detail.

#### **6.3.4 Measurement Model Fit / Goodness of Fit (GOF)**

The model fit establishes the degree to which the sample variance-covariance data fits the structural equation model (Schumacker & Lomax, 2016). GOF measures are classed into three main categories: absolute fit indices, incremental fit indices, and



parsimonious fit indices (Hair et al., 2018). According to Hair et al. (2018) absolute fit indices are used as a direct measure of the fitness of the model with the sample data; incremental fit indices assesses through comparing the fitness of the estimated model with an alternative baseline model; and finally, parsimonious fit indices compare among a competing set of models to find out which model is best and is therefore useful when comparing the fitness of two or three models. According to the literature there is no strict standard or agreement between scholars on which indices are considered most appropriate or which indices to present, hence researchers tend to report the number of model-fit criteria depending on the software they use (Schumacker & Lomax, 2016). In order to establish the GOF the current study carried out normed chi-square (CMIN/ DF), comparative fit index (CFI), Tucker-Lewis Index (TLI), and root-mean-square error of approximation (RMSEA). Details of the original model fit and the revised model fit measures, their recommended level and the current study CFA output is presented in Table 6.15. Although the results from the first model with 32 items demonstrated an adequate model fit it was decided to drop the item DE3 from the model for two reasons: First due to relatively high standard residual variance in item DE3 (which were not within the acceptable level of between -2.58 and 2.58). Hair et al. (2018) state that the standard residual value should be between -2.58 and 2.58. and after further scrutiny it was evident that many respondents did not experienced three disasters. Adding DE3 tended to reduce the reliability and validity of the scale. It was therefore decided to drop item DE3 and the CFA model was rerun with this minor change. The results revealed that GOF indices were improved and the revised model demonstrated a better fit to the data. Only the final of the revised model will be discussed in detail.

The absolute fit statistic presented in the table is CMIN/DF, which is also known as chi-square value divided by degree of freedom ( $X^2/df$ ) which is  $901.006/413 = 2.182$ . According to Hair et al. (2018) a number less than 3.0 is acceptable. Thus CMIN/DF suggests an acceptable fit for the CFA model. The second absolute fit index presented in the table is RMSEA and the value is .063. It can be reconsidered as a close fit ( $.05 < .08$ ) and therefore provide support for an acceptable fit for the CFA model. The value for CFI and TLI which are incremental fit indices are recorded as .946 and .935 respectively; and statistics of all three indices are above .90 and therefore suggest acceptable fit for the CFA model. Furthermore, it was established that standardised regression weights of all the measured items was greater than .7. Standard residual were checked for any high value and all were found to be within the required level. Hair et al. (2018) warn researchers against perusing increasingly better model fit by compromising the underlying theory test. Therefore, it was concluded that the CFA model was fit to the data, that further model refinement is unnecessary and goodness of fit of the model is established.

*Table 6.15: Model fit indices*

<b>Fit Indices</b>	<b>Type of Fit Measure</b>	<b>Recommended Cut-off Criteria</b>	<b>Source References</b>	<b>1<sup>st</sup> Model Score</b>	<b>Revised Model Score</b>
CMIN/DF	Absolute Fit & Parsimonious Fit	$1.0 < X^2/df < 3.0$ ( $X^2:df$ ratio 3:1)	(Hair et al., 2018)	2.474	2.185
CFI	Incremental Fit	>.90	(Hair et al., 2018)	.942	.946
TLI	Incremental Fit	>.90 or >.95	(Schumacker & Lomax, 2016)	.935	.935
RMSEA	Absolute Fit	<.05 good fit/ .05-.08 close fit	(Hair et al., 2018)	.070	.063

Note: Normed chi-square = (CMIN/ DF); Comparative fit index = (CFI); Tucker-Lewis index = (TLI); Root-mean-square error of approximation = (RMSEA)

The following section will present the results of convergent validity and discriminant validity of the constructs used in the study.

### **6.3.5 Construct Validity**

Construct validity measures the validity of the construct or in other words whether the construct actually measures what it has been designed to measure (Schumacker & Lomax, 2016). There are two main forms of construct validity, convergent validity and discriminant validity. Convergent validity is carried out to establish how closely related the items of a construct that should be related are; and conversely, discriminant validity is carried out to establish that two measures that are not supposed to be related are in fact, unrelated.

In order to demonstrate construct validity, it is important to show evidence for both convergent validity and discriminant validity (Schumacker & Lomax, 2016). The traditional statistical analysis methods such as multiple regression and path analysis do not calculate measurement error leading to biased parameter estimates (Schumacker & Lomax, 2016). However, confirmatory factor analysis (CFA) provides a more systematic and powerful means of evaluating both convergent validity and discriminant validity (Tabachnick & Fidell, 2014).

### **6.3.6 Convergent Validity**

Convergent validity measures whether measures of constructs that should be related are actually highly correlated, valid measures of the same underlying concept or construct should correlate strongly if they are supposedly assessing the same concept (Schumacker & Lomax, 2016). Hair et al. (2018) recommend that standardised factor

loadings should be .5 or higher (ideally above .7) and average variance extracted (AVE) should be .5 or greater in order to suggest adequate convergent validity. Therefore, the convergent validity of the constructs was assessed with a minimum cut-off criterion for standardised regression loadings  $>.7$  and AVE  $>.5$ . The results are presented in Table 6.16 below.

*Table 6.16: Convergent validity*

<b>Construct</b>	<b>Item</b>	<b>Standardised Factor Loadings (Standardised Regression Weights)</b>	<b>Critical Ratio (t value)</b>	<b>Average Variance Extracted (AVE)</b>
Attitude	Att1	.771		
	Att2	.829		
	Att3	.863		
	Att4	.880		
	Att5	.870		
	Att6	.872		
	Att7	.873		
Disaster Cognition	Att8	.878	0.956	0.731
	DC1	.899		
	DC2	.935		
	DC3	.923		
	DC4	.865		
	DC5	.857		
Subjective Norms	DC6	.917	0.962	0.810
	SN1	.810		
	SN2	.907		
	SN3	.825		
Perceived Behavioural Control	SN4	.818	0.906	0.707
	PBC1	.761		
	PBC2	.810		
	PBC3	.838		
	PBC4	.833		
Intention	PBC5	.818	0.907	0.660
	Int1	.926		
	Int2	.939		
Disaster Experience	Int3	.914	0.948	0.858
	DExp1	.796		
Disaster Training	DExp2	.900	0.838	0.722
	DT1	.895		
	DT2	.909		
	DT3	.912	0.932	0.820

The results (presented in Table 6.16) reveal that all the items loaded on to their latent constructs with a standardised loading of greater than .7 which is a strong indication of convergent validity. In addition, the average variance extracted was greater than .5. Thus, the results above demonstrate a high level of convergent validity of the latent constructs used in the model.

### 6.3.7 Discriminant Validity

Discriminant validity tests that a measure does not correlate too highly with another measure(s) from which it is supposed to differ. Thus, an indication of adequate discriminant validity is that a construct shares more variance with its own measures than it does with other constructs in the model (Tabachnick & Fidell, 2014). Discriminant validity could be measured using two methods: (1) Cross loadings of indicator (2) The Fornell-Larcker criterion. From the two methods the Fornell-Larcker criterion is considered more rigorous and believed to provide strong evidence of discriminant validity (Hair et al., 2018). Therefore, the current study follows the Fornell-Larcker criterion where the square root of the average value was compared with the correlations among the constructs. In order to establish discriminant validity, the square root of each construct's AVE should have a greater value than the correlations with other latent constructs (Fornell & Larcker, 1981).

*Table 6.17: Factor correlation matrix with the square root of the AVE on the diagonal*

	<b>ATT</b>	<b>PBC</b>	<b>Sub N</b>	<b>Int</b>	<b>DT</b>	<b>DE</b>	<b>DC</b>
<b>ATT</b>	<b>0.855</b>						
<b>PBC</b>	0.545	<b>0.812</b>					
<b>SN</b>	0.662	0.591	<b>0.841</b>				
<b>Int</b>	0.798	0.524	0.659	<b>0.926</b>			
<b>DT</b>	0.642	0.521	0.521	0.692	<b>0.905</b>		
<b>DE</b>	0.535	0.367	0.442	0.516	0.304	<b>0.850</b>	
<b>DC</b>	0.749	0.504	0.647	0.820	0.689	0.551	<b>0.900</b>

Note: ATT= Attitude; PBC =Perceived behavioural control; SN= Subjective norms; Int =Intention; DT= Disaster training; DE=Disaster experience; DC= Disaster cognition

In order to establish discriminant validity, the square root of each construct's AVE which are diagonally highlighted in Table 6.17 were compared with the correlations with the other constructs. The results show all the inter construct correlations are lower than the square root of the average variance extracted, indicating adequate discriminant validity. However, the correlation between disaster cognition and intention records a high correlation of 0.820. Even though there is a high correlation between disaster cognition and intention to undertake disaster planning, after inspecting the relevant scales used it is observed that they are completely different constructs. Therefore, despite the high inter construct correlation between disaster cognition and intention it is concluded that adequate discriminant validity is established. Further comparison of the maximum shared variance (MSV) with the average variance extracted (AVE) (Table 6.18) show that all the MSV are lower than AVE, providing further support for adequate discriminant validity.

*Table 6.18: Discriminant validity table*

<b>Construct</b>	<b>AVE</b>	<b>MSV</b>
<b>Int</b>	0.858	0.799
<b>DE</b>	0.722	0.304
<b>DT</b>	0.820	0.479
<b>ATT</b>	0.731	0.637
<b>DC</b>	0.810	0.799
<b>SN</b>	0.707	0.438
<b>PBC</b>	0.660	0.349

Note: ATT= Attitude; PBC =Perceived behavioural control; SN= Subjective norms; Int =Intention; DT= Disaster training; DE=Disaster experience; DC= Disaster cognition

In conclusion, the CFA results presented above show that appropriate model fit (model fit indices CMIN/DF, CFI, TLI, NFI, RMSEA) results indicate appropriate fit to the model. Furthermore, CFA results indicated that the measures used in the

measurement model possess adequate reliability, convergent and discriminant, validity. The measurement model validation is now completed. The study will now move on to the final section, the path analysis and hypothesis testing.

#### 6.4 Fourth Stage: Path Analysis and Hypothesis Testing

The CFA can only examine the nature of the relationships between those constructs within simple correlations. Therefore Hair et al. (2018) recommend that after the validation of the measurement model by CFA the measurement model should be converted into a structural model and the structural model should be tested for adequate model fit and hypothesised paths.

This section presents the outcome of hypothesis testing. Table 6.19 demonstrates ten hypotheses presented by causal paths H1 to H10 that were used to test the relationship between the constructs.

*Table 6.19: Hypotheses tested*

<b>Hypotheses</b>	<b>Hypothesised Relationship</b>
H1	Past disaster experiences are positively related to disaster cognition
H2	Disaster training is positively related to disaster cognition
H3	Educational qualifications are positively related to disaster cognition
H4	Age of the SDMAS is positively related to disaster cognition
H5	Managerial experience is positively related to disaster cognition
H6	Disaster cognition is positively related to intention
H7	Disaster cognition is positively related to attitude
H8	Attitude is positively related to intention
H9	Subjective norms are positively related to intention
H10	Perceived behavioural control is positively related to intention

The path diagram created to test the hypotheses is presented in Appendix 7. Here Demographics (age, educational qualification, managerial experience) Disaster training, disaster experience, subjective norms and perceived behavioural control are

considered as exogenous (independent) variables and covariances were added to capture any covariances between these constructs. Disaster cognition, attitude and intention to undertake disaster planning are endogenous variables and a unique variable was attached to each endogenous construct.

The following section will evaluate the hypothesised structural model through goodness of fit indices and various other parameter estimates. Hair et al. (2018) recommend a minimum of one absolute index, one incremental index and the model  $X^2$  be presented as good practice. The number of fit indices are presented in Table 6.20. The results shown in Table 6.20 indicate the adequate fit of the hypothesised structural model. The absolute fit measure RMSEA was recorded as .074 (<.05 close fit) indicating a close fit of the model; the incremental fit measure CFI and TLI recorded as .912 and .899 which is also above and close to the minimum cut-off level of .90 indicating adequate fit. In addition, the parsimonious fit measure CMIN/DF, recorded as 2.626 is less than 3.0 ( $1.0 < x^2/df < 3.0$ ) all indicating adequate fit.

*Table 6.20: Structural model fit measure assessment*

<b>Fit Indices</b>	<b>Type of Fit Measure</b>	<b>Recommended Cut-off Criteria</b>	<b>Source References</b>	<b>Structural Model Fit Estimate</b>
<b>CMIN</b>	-	-	-	1352.531
<b>DF</b>	-	-	-	515
<b>CMIN/DF</b>	Absolute Fit & Parsimonious Fit	$1.0 < x^2/df < 3.0$ ( $X^2:df$ ratio 3:1)	(Hair et al., 2018)	2.626
<b>CFI</b>	Incremental Fit	>.90	(Hair et al., 2018)	.912
<b>TLI</b>	Incremental Fit	>.90 or >.95	(Schumacker & Lomax, 2016)	.899
<b>RMSEA</b>	Absolute Fit	<.05 good fit/ .05-.08 close fit	(Hair et al., 2018)	.074

Note: Normed chi-square = (CMIN/ DF); Comparative fit index = (CFI); Tucker-Lewis index = (TLI); Root-mean-square error of approximation = (RMSEA)



The parameter estimates of the structural model are presented in Table 6.21 below. According to Hair et al. (2018) a t value or critical ratio (CR) of greater than 1.96 is required for the statistical significance of parameter estimates at  $P < 0.05$  level, and 2.56 for significance at  $P \leq 0.01$  (Tabachnick & Fidell, 2014). The t value or critical ratio (CR) was obtained by dividing the unstandardised path coefficient by the estimates of the standard error (S.E.). Ten causal paths were examined, and six causal path estimate t values were found to be above the 2.56 critical values at the significant level of  $P \leq 0.01$ .

*Table 6.21: Standard parameter estimates for the structural model*

<b>From</b>	<b>To</b>	<b>Path coefficient</b>	<b>Standardised path</b>	<b>S.E.</b>	<b>T Value (CR)</b>	<b>**P≤0.01</b>
Disaster Experience	Disaster Cognition	.462	.407	.065	7.114	**
Disaster Training	Disaster Cognition	.569	.498	.063	9.077	**
Educational Qualification	Disaster Cognition	.322	.247	.058	5.548	**
Age	Disaster Cognition	.114	.074	.085	1.341	.180 (NS)
Managerial Experience	Disaster Cognition	.042	.028	.083	.503	.615 (NS)
Disaster Cognition	Intention	.675	.767	.046	14.674	**
Disaster Cognition	Attitude	.539	.747	.037	14.485	**
Attitude	Intention	.241	.198	.056	4.317	**
Subjective Norms	Intention	.048	.040	.035	1.361	.173 (NS)
Perceived Behavioural Control	Intention	.020	.015	.041	.499	.618 (NS)

Note: S.E.= standard error; CR =critical ratio; NS = non-significant

Together with the statistics presented in Table 6.21 each hypothesis is discussed in detail in the following section.

**Hypothesis 1:** *SDMAS with past disaster experience exhibit better disaster cognition than who have not experienced disaster.*

As presented in Table 6.21 the path coefficient that links past disaster experience with disaster cognition is .462 ( $t=7.114$ ,  $P\leq 0.01$ ). The results indicate strong support for the H1, and we can therefore assume that past disaster experience is positively linked to disaster cognition. Hence, H1 is approved and the results further suggest that past disaster experience is a key determinant of disaster cognition.

**Hypothesis 2:** *SDMAS with disaster management training and education exhibit better disaster cognition than those who have not undertaken disaster management and training.*

The path coefficient that links disaster management training with disaster cognition is .569. ( $t=9.077$ ,  $P\leq 0.01$ ). The results provide strong support for the H2 and therefore, we can assume that disaster management training is positively linked to disaster cognition. Hence, H2 is approved. In addition, the results imply that disaster management training is another key determinant of disaster cognition.

**Hypothesis 3:** *The higher the education levels of SDMAS, the greater their disaster cognition will be.*

The path coefficient that links education level with disaster cognition is .322 ( $t=5.548$ ,  $P\leq 0.01$ ). The results indicate strong support for H2 and therefore, we can assume that educational level is positively linked to disaster cognition. Hence, H3 is approved. The implications of the findings of the above three hypotheses suggest that, past

experience, training and level of education are determinants of disaster cognition, and training is the most influential determining factor from the three.

**Hypothesis 4:** *The higher the age of SDMAS, the greater their disaster cognition will be.*

The path coefficient that links age with disaster cognition is .114 ( $t=1.341$ ,  $P\leq 0.01$ ). The results did not support for the hypothesis 4 and therefore, H4 is rejected. Hence, we can assume that age is not positively linked to disaster cognition. In addition, it confirms that age is not a determining factor of disaster cognition.

**Hypothesis 5:** *SDMAS with higher managerial experience levels will have better disaster cognition than those with lower experience levels.*

The path coefficient that links managerial work experience with disaster cognition is .042 ( $t=.503$ ,  $P\leq 0.01$ ). The results did not support the hypothesis 5, and therefore H5 is rejected. Hence, we can assume that managerial experience is not positively linked to disaster cognition. In addition, it implies that managerial experience is not a determining factor of disaster cognition.

**Hypothesis 6:** *SDMAS disaster cognition levels will have a significant positive influence on their intention to undertake disaster planning within their organisations.*

The path coefficient that links disaster cognition with intention to undertake disaster planning is .675 ( $t=14.674$ ,  $P\leq 0.01$ ). The results indicate strong support for the H6 and therefore, H6 is approved. Hence, we can assume that disaster cognition is positively linked to intention to undertake disaster planning. In addition, the results imply that disaster cognition is a strong determining factor of disaster planning intentions.

**Hypothesis 7:** *SDMAS disaster cognition levels will have a significant positive influence on their attitudes towards disaster planning.*

The path coefficient that links disaster cognition with attitude towards disaster planning is .539 ( $t=14.485$ ,  $P\leq 0.01$ ). The results provide strong support for H7 and therefore, H7 is approved. Hence, we can assume that disaster cognition is positively linked to attitudes towards disaster planning. Furthermore, the results indicate that disaster cognition as a key influencing factor in attitude towards disaster planning.

**Hypothesis 8:** *The positive attitude of SDMAS towards disaster planning will have a significant positive influence on their intention to undertake disaster planning.*

The path coefficient that links attitude towards disaster planning with intention to undertake disaster planning is .241 ( $t=4.317$ ,  $P\leq 0.01$ ). The results indicate support for the H8 and therefore, H8 is approved. Hence, we can assume that attitude towards disaster planning is positively linked to the intention to undertake disaster planning. In addition, the results imply that attitude is a strong determining factor of disaster planning intentions.

**Hypothesis 9:** *The subjective norms of SDMAS will have a significant positive influence on their intention to undertake disaster planning.*

The path coefficient that links subjective norms with intention to undertake disaster planning is .048 ( $t=1.361$ ,  $P\leq 0.01$ ). The results did not indicate adequate support for the H9. Hence, we can assume that subjective norms are not positively linked to the intention to undertake disaster planning and therefore, H9 is rejected.

**Hypothesis 10:** *The perceived behavioural control of SDMAS relating to disaster planning will have a significant positive influence on their intention to undertake disaster planning.*

The path coefficient that links perceived behavioural control relating to disaster planning with intention to undertake disaster planning is .020 ( $t=0.499$ ,  $P \leq 0.01$ ). The results did not indicate adequate support for the H10. Hence, we can assume that perceived behavioural control relating to disaster planning is not positively linked to intention to undertake disaster planning. Hence, H10 is rejected.

The assessment of parameter estimate results presented in detail above suggest that, from the ten hypothesised paths, six paths were significant. A summary of the outcome of the Hypotheses is presented in Table 6.22.

*Table 6.22: Outcome of the hypotheses tested*

<b>Hypothesis</b>	<b>Hypothesised relationship (Positive)</b>	<b>Approved/Rejected</b>
<b>H1</b>	Disaster experience → Disaster cognition	Approved
<b>H2</b>	Disaster training → Disaster cognition	Approved
<b>H3</b>	Qualification → Disaster cognition	Approved
<b>H4</b>	Age → Disaster cognition	Rejected
<b>H5</b>	Managerial experience → Disaster cognition	Rejected
<b>H6</b>	Disaster cognition → Intention	Approved
<b>H7</b>	Disaster cognition → Attitude	Approved
<b>H8</b>	Attitude → Intention	Approved
<b>H9</b>	SN → Intention	Rejected
<b>H10</b>	PBC → Intention	Rejected

## 6.5 Summary of the Analysis

Data analysis was completed in four stages – data screening; demographic characteristics of the sample and test for normality; CFA analysis for model validation; and finally, hypotheses testing using a structural model.

At the initial stage of the analysis, data screening was carried out to identify missing data, unengaged responses and any outliers. From the original sample of 308 only seven samples were removed due to rigorous scrutiny at the point of collection of each survey. After the data screening 301 samples were available for further analysis. Thereafter, an exploratory data analysis was carried out to explore the nature of the sample. The demographics of the sample were checked to see the representativeness of the sample to the population. Due to the high-ranking position of the selected sample (the strategic decision-makers of the accommodation sector) it was concluded that the sample ratio of 71 percent male and 29 percent female is in alignment with the population of the SDMAS. The cluster distribution also revealed a very close representation of the population of the SDMAS as well as recording an adequate representation from all categories of the accommodation sector, providing further assurance that the sample represents the population of the SDMAS. Data was tested for normality by analysis of skewness and kurtosis, and data was found to be within the acceptable range of  $\pm 3.00$ . A SEM analysis was carried out in two stages. First a confirmatory factor analysis was carried out to validate the measurement model and then a validated measurement model was converted to structural model to test the hypothesis.

Cronbach's alpha coefficient was used to measure internal consistency between the items of a scale. All the variables recorded a high Cronbach's alpha coefficient greater than .7 and therefore it was concluded that all seven Likert-scale items used to collect the data are reliable. A confirmatory factor analysis (CFA) was carried out to establish the goodness of fit (GOF), convergent validity and discriminant validity. The GOF indices CMIN/DF, CFI, TLI, RMSEA were all within the recommended cut-off criteria and suggested adequate model fit. Furthermore, it was established that the

standardised regression weights of all the measured items were greater than .7. The standard residuals were checked for any high value and all were found to be within the required level.

The convergent validity of the constructs was assessed with a minimum cut-off criterion for standardised regression loadings  $>0.7$  and AVE  $>0.5$  and the results revealed that all the items were loaded onto their latent constructs with a standardised loading of greater than .7, which is a strong indication of convergent validity. In addition, the average variance extracted was greater than .5. Thus, the convergent validity of the constructs of the model was established.

In order to establish discriminant validity, the square root of each construct's AVE was compared with the correlations with the other constructs. The results show that all the inter construct correlations are lower than the square root of the average variance extracted, indicating adequate discriminant validity. However, it was noted that the correlations between disaster cognition and intention reports a high correlation of 0.820. After inspecting the relevant scales used it was observed that they are completely different constructs. Therefore, despite the high inter construct correlation between disaster cognition and intention it is concluded that an adequate discriminant validity was established. Furthermore, through a comparison of the maximum shared variance (MSV) with average variance extracted (AVE) it was also demonstrated that all the MSV are lower than AVE, providing additional support for adequate discriminant validity.

In the final section of the analysis the measurement model was converted to a structural model and the structural model was tested for goodness of fit of the model and hypothesised paths. The GOF indices CMIN/DF, CFI and RMSEA were all within

the recommended cut-off criteria suggested adequate model fit for the structural model as well. Finally, the assessment of parameter estimates results suggested that from the ten hypothesised paths six paths were significant. H1, H2, H3, H6, H7, H8 were approved and H4, H5, H9 and H10 were rejected. The next chapter provides a detailed discussion of the research findings.



## **CHAPTER SEVEN**

### **7. Discussion and Implications**

The main objective of this chapter is to provide a detailed discussion about the findings of the previous chapter in order to identify factors that could influence disaster cognition, the attitudes and disaster planning intentions of the SDMAS; and whether SDMAS disaster cognition level could influence their intention to undertake disaster planning within their organisations.

In order to achieve the above the chapter will first provide an overview of the main objectives of the research. It then summarises the findings presented in detail in the previous data analysis chapter. The chapter will then provide a detailed discussion of the hypothesis of the study together with relevant literature. Subsequently, the theoretical and managerial implications of the study will be discussed before moving on to the conclusion chapter.

The objectives of this doctoral research are to identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry; to identify and explore the factors that influence the intention to undertake disaster planning among SDMAS; to examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour and to develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS. In order to accomplish the above objective this study developed and empirically tested a hypothesised model and the results were presented in detail in the previous chapter. The two-step approach was adopted in SEM. In the first step CFA was carried out to validate the measurement

model by examining the GOF of the model, testing reliability, convergent validity, and discriminant validity of the constructs used in the model. In the second step the CFA model was converted to a hypothesised structural model and assessed using a path analysis technique in order to test the hypothesised relationships among the constructs proposed in the research model.

The summarised results for the path analysis carried out in the sample are presented in Figure 7.1. The items in the squares represent the constructs of the research model, whereas the arrow lines indicate each hypothesised path between the constructs. The significant paths are represented by the straight arrow lines, whereas the dotted arrow lines indicate non-significant paths or inconclusive relationships between constructs. The assessment of parameter estimate results suggest that from the ten hypothesised paths, six paths were significant (demonstrated in Figure 7.1).

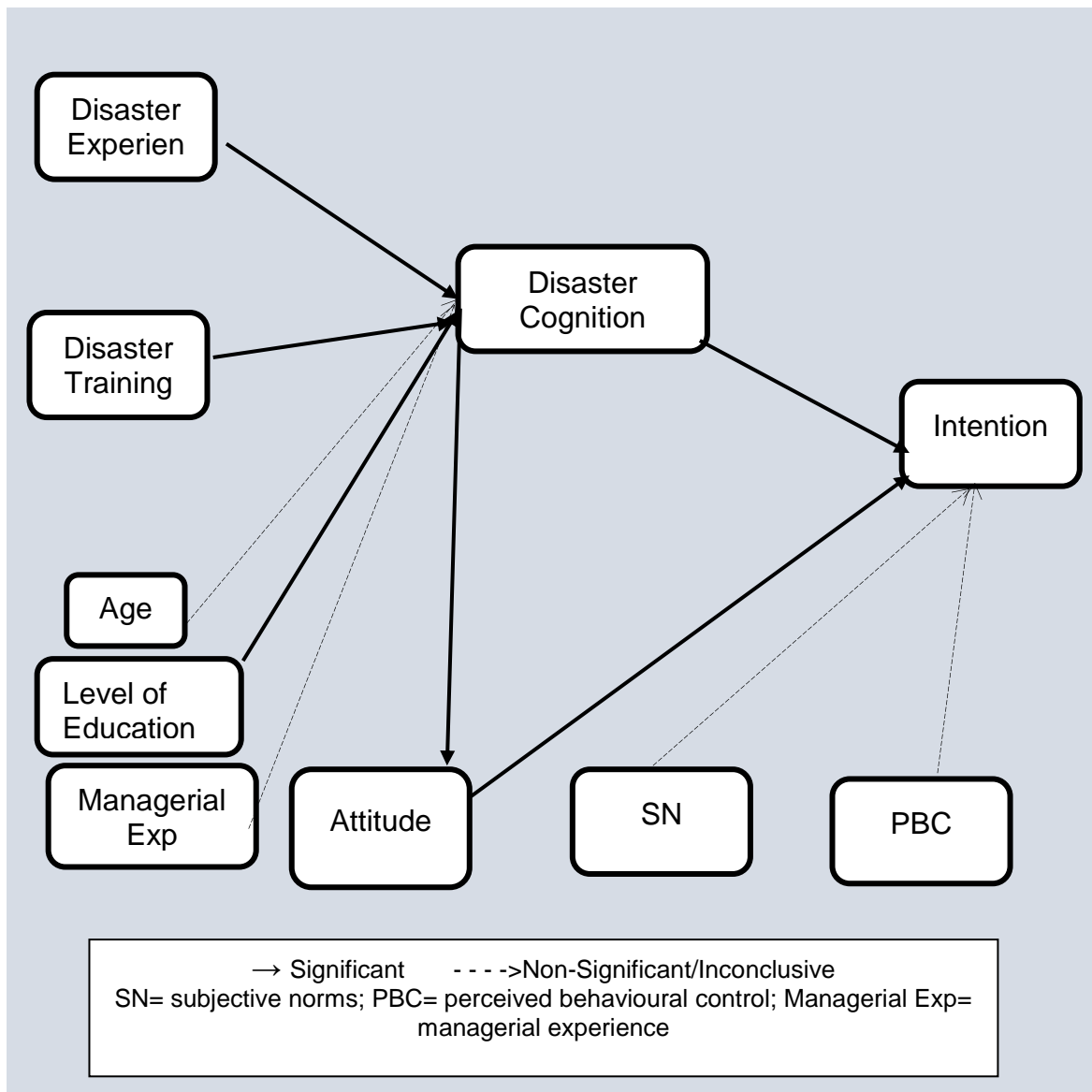


Figure 7.1: Disaster planning intentions model for SDMAS.

In general, the results of the study mostly support the hypothesised relationships proposed in the model. In particular the results suggest that attitude towards disaster planning and disaster cognition jointly influence the intention to undertake disaster planning. Past disaster experiences, disaster training and level of education seem to influence disaster cognition among SDMAS. However, another two major constructs of TPB, subjective norms and perceived behavioural control, do not show any significant influence on the intention to undertake disaster planning. The outcome of

the tested hypotheses will be discussed in detail together with the existing literature in the following section.

## **7.1 The Relationship between Past Disaster Experience and Disaster Cognition**

The current study found a significant association between past disaster experience and disaster cognition (this prediction was hypothesised as H1 in Chapter 4). Accordingly, this study identifies past disaster experience as one of the main factors that influence disaster cognition among SDMAS. The finding of the study implies that the SDMAS who have experienced disasters in the past show stronger disaster cognition level. In other words, SDMAS who have strong past disaster experience exhibit more positive disaster cognition than SDMAS who do not have previous disaster experience. This outcome compliments with the findings of number of researches discussed in detail in the chapter 4.1 (Mishra & Suar, 2007; Sun et al., 2017; Paton et al., 2001; Becker et al., 2001). Furthermore, this outcome compliments with the findings of Comfort (2007) who found that prior experience or training influence the disaster related cognition of decision-makers when formulating strategies of action in case of an emergency. Similarly, it confirms Sparrow's (1998) claim that a higher amount of individual involvement in an event could produce enhanced meaning and awareness for that person. Mishra and Suar (2007) found a positive correlation between respondents past disaster experience and their risk perception, leading to preparedness for future disaster.

## **7.2 The Relationship between Disaster Management Training and Disaster Cognition**

The study found a significant association between SDMAS disaster management training and their disaster cognition (this prediction was hypothesised as H2 in Chapter 4). Accordingly, this study also identifies disaster management training as one of the main factors that influence disaster cognition among SDMAS. The researcher argued that repeated disaster related training and education will allow the SDMAS to heighten their disaster related skills leading to better disaster cognition. The results seem to support this argument. This outcome compliments the extended literature discussed in predicting and building hypothesis 2 in Chapter 4. A person could learn new skills through explicit or declarative system or in other words conscious learning (Sparrow, 1998). The findings of this study support number of previous studies discussed in chapter 4.2 (Karanci et al., 2005; Perry, & Lindell, 2008; Mishra & Suar, 2007). The current empirical findings are in alignment with the findings of Mishra and Suar's (2007) study where findings revealed a positive correlation between respondent's disaster education and their future risk perception. This is consistent with the findings of Karanci et al. (2005) from research carried out in Turkey, which revealed that participants who attend disaster training programs exhibit higher level of disaster related cognitive traits than participants who failed to take part in any disaster management training programs.

## **7.3 The Relationship between Level of Education and Disaster Cognition**

The outcome of the study revealed a positive association between the level of education of the SDMAS and disaster cognition. The findings of the study support the researcher's argument that the higher the education levels of SDMAS, the greater their

disaster cognition will be (this prediction was hypothesised as H3 in Chapter 4). Many managerial cognition scholars agree that higher education and practical managerial experience could improve manager's cognitive abilities (Boyatzis & Saatscioglu, 2008; Porter & McKibbin, 1988). This is consistent with Boyatzis and Saatscioglu's (2008) findings that emotional intelligence and cognitive competencies could be developed in managers through higher education. The findings of the study confirm that there is a positive relationship between level of education among SDMAS and disaster cognition.

#### **7.4 The Relationship between Age and Disaster Cognition**

The current study did not find any positive association between the age of the SDMAS and their disaster cognition. Here, the researcher predicted that SDMAS capability to identify the potential risk of disaster should increase through life experience (this prediction was hypothesised as H4 in Chapter Four). However, the study concludes to the contrary, that there is no association between age and disaster cognition. Therefore, the implication of the finding is that age of SDMAS does not have any influence on their disaster cognition. Possible explanation for this finding could be with behavioural researchers' suggestion that there could be age related decline in cognitive functions in some adults such as attention, perception, memory, capacity to recall and semantic memory (Craik & Salthouse, 2008; Allen, Sliwinski & Bowie, 2002). Furthermore, the study carried out by Allen et al. (2002) suggest that some adults may suffer semantic and episodic memory intercept decrements as they age. Thus, it could be concluded that the reason behind the lack of association between age and disaster cognition could be due to the fact that age itself could not be a deciding factor of a

person's disaster cognitive level. Therefore, age will be disregarded as an influencing factor of disaster cognition among SDMAS.

## **7.5 The Relationship between Managerial Experience and Disaster Cognition**

The current study did not find any positive link between managerial experience and disaster cognition. Here, the researcher predicted that SDMAS capability to identify the potential risk of disaster should increase with managerial experience (this prediction was hypothesised as H5 in Chapter Four). However, in contrast, the study concludes that there is no association between managerial experience and disaster cognition. This could be the reason why in some cases the most experienced strategic decision-makers have failed to identify impending disasters on time in order to plan, act and mitigate the impact of the disaster. This was apparent in the case of Easter Sunday Muslim extremist suicide bombings in three of the prestigious five-star hotels in Sri Lanka. Here one could argue that the most experienced SDMAS in these tourist establishments failed to identify looming worldwide threat of terrorism on the tourism industry and hence failed to plan and implement any robust disaster management plan within their organisations. Therefore, it is fair to say that managerial experience alone is not affective in enhancing disaster cognition within SDMAS. Thus, managerial experience will be disregarded as an influencing factor of disaster cognition among SDMAS.

In conclusion, the first section of the discussion has identified three factors, namely past disaster experience, disaster management training and level of education of the SDMAS as the key factors that influence disaster cognition amongst SDMAS in Sri Lanka. After establishing the factors that could influence disaster cognition, the

following section intends to discuss the findings regarding the relationship between disaster cognition and intention.

## **7.6 The Relationship between Disaster Cognition and Intention**

The path coefficient between disaster cognition and intention was found to be highly significant in this study. The researcher predicted that higher disaster cognition level would have a significant positive influence on the intention to undertake disaster planning among SDMAS (this prediction was hypothesised as H6 in Chapter 4). The study provides very strong positive relationship between disaster cognition and intention. This is a clear implication that disaster cognition is a strong predictor of disaster planning intentions of SDMAS. Thus, SDMAS who have better disaster cognition are more likely to demonstrate positive disaster planning behavioural intentions than SDMAS demonstrated low level of disaster cognition. This is consistent with Kaplan's (2008) study on how CEO cognition, organisational capabilities and organisational incentives interact to shape firm strategy, which indicated that context-specific managerial cognition has an influence on the strategic direction of that organisation within that context. Kaplan (2008) further suggests that there is an association between changes in CEO cognition in a specific direction which subsequently lead to changes in their investment patterns in the same direction. The current findings also strongly support Comfort's (2007) suggestion that disaster cognition works as an initial activating link to the subsequent process of intention and action, and hence proposed to include cognition as an important aspect of disaster management.



## **7.7 The Relationship between Disaster Cognition and Attitude**

Attitude is one of the key constructs in the TPB that influence individuals' behavioural intention. Therefore, it is vital to understand how disaster cognition could impact a person's attitude towards disaster planning. Here, the researcher predicted that higher disaster cognition level would have a significant positive influence on the attitude to undertake disaster planning among SDMAS (this prediction was hypothesised as H7 in Chapter 4). Confirming this theory, the study found a positive association between cognition and attitude. Therefore, the study implies that the escalated disaster cognition of strategic decision-makers would lead to more positive attitude towards disaster planning. Similarly, weaker disaster cognition would lead to a more negative attitude towards disaster planning among SDMAS. The findings of this study compliment Priluck and Till's (2004) study, which investigated the role of cognition in contingency awareness attitude formation and found that cognition as a vital component in attitude formation. There is therefore a possibility that a positive attitude towards disaster planning could be enforced amongst SDMAS through disaster cognition stimulating activities such as training and education.

## **7.8 The Relationship between Attitude and Intention**

The path coefficient between attitude and intention was found to be significant in this study. Hence, this study implies strong support that attitude is a key factor in influencing intention in SDMAS in Sri Lanka. SDMAS who have a positive attitude towards disaster planning will have a significant positive influence on their intention to undertake disaster planning. Conversely, SDMAS who have a negative attitude towards disaster planning will lack the intention to undertake disaster planning within their organisations. The findings of this study support number of previous studies

carried out in various fields (Kautonen et al., 2013; Carr & Sequeira, 2007; Wolff et al., 2011; Wang & Ritchie, 2012). Wang and Ritchie (2012) demonstrate a strong relationship between attitude and intention within tourism business managers in their study. Furthermore, research carried out by Ritchie, Dorrell, Miller and Miller. (2003) post the 2001 Foot-and-Mouth disease outbreak in the United Kingdom reveals that many tourism organisations hold a negative attitude towards the usefulness of disaster planning and are not interested in implementing disaster planning within their organisations.

### **7.9 The Relationship between Subjective Norms and Intention**

The path coefficient between subjective norms and intention was not significant in this study. Hence the current study has failed to confirm that the subjective norms of SDMAS have a significant influence on their intention to undertake disaster planning within their organisations. However, many other studies have considered subjective norms to be a strong predictor of intention (Quintal et al., 2010; Bonne et al., 2007; Kautonen et al., 2013; Carr & Sequeira, 2007; Wang & Ritchie, 2012). According to Wang and Ritchie (2012), norms are considered subjective to different cultures, and therefore while some cultures tend to comply with their social norms, other cultures may tend to follow more individualistic paths. In other words, people from different countries or societies may demonstrate different level of subjective norms and intention relationship according to their cultural values and nature. Henceforth, the lack of significant influence of disaster related subjective norms on the intention to undertake disaster planning among SDMAS in Sri Lanka could be due to their more individualistic nature. However, it is worth noting that the current study was carried out only among SDMAS and therefore this may not be a cultural tendency of the Sri

Lankan society as a whole. However, Wolf et al. (2011) argue that lack of social pressure in a particular domain could also be the reason behind subjective norms not influencing intention. Therefore, it is worthwhile to examine social norms relating to disaster planning in tourism industry more deeply, and how they could impact different cultures or industries in different ways.

### **7.10 The Relationship between Perceived Behavioural Control and Intention**

The study did not find any positive association between perceived behavioural control and intention. Therefore, the current study has failed to confirm that perceived behavioural control relating to disaster planning of SDMAS will have a significant positive influence on their intention to undertake disaster planning. However, perceived behavioural control is considered to be a key variable in predicting behavioural intentions in the TPB (Lam & Hsu, 2004; Kautonen et al., 2013; Quintal et al., 2010). Similarly, there are studies that have failed to establish a positive association between perceived behavioural control and intention (Wang & Richie, 2012; Wolff et al., 2011). According to Ajzen (1991) the extent of the perceived behavioural control and intention relationship is dependent upon the type of behaviour and the nature of the situation. Ajzen (1991), further states that perceived behavioural control is most suitable for predicting intentions especially in situations where the respondents feel that the behaviour is difficult to control. It is somewhat surprising that perceived behavioural control does not have a strong influence on the interest considering the usual difficulty in planning for a possible future, mostly unpredictable, disaster. However, it could also be due the fact that all the participants were ultimate power-holders of the organisations and therefore their disaster planning behavioural

intentions were not driven by the ease or difficulty of the task but by their attitude and identification of emerging disaster risk that the organisation is exposed (disaster cognition).

This study concludes that attitude towards disaster planning and disaster cognition are the key factors that influence the disaster planning intentions of SDMAS in Sri Lanka. Furthermore, the study has identified disaster training, past disaster experience and educational qualification as influencing disaster cognition among SDMAS. Finally, the study also found that disaster cognition is a main influencer in attitude towards disaster planning among SDMAS. The findings of this research provide both theoretical and managerial implications which will be discussed in the following section.

## **7.11 Theoretical and Managerial Implications and Contributions**

The implications of the findings of this research study are presented under theoretical implications and managerial implications, which are described as follows.

### **7.11.1 Theoretical Contributions**

The results of this study have a number of significant theoretical contributions and implications, which are discussed in this section.

First, this study is among limited amount of studies that attempt to understand disaster planning intentions within the tourism sector. Previous studies on disaster management within the tourism industry were mostly focused on the introduction of various disaster management strategies and frameworks for the industry, and only a very limited amount of studies have been directed into looking into the managerial or strategic decision-makers level. Furthermore, to the best of the author's knowledge,

this study is the first to consider disaster cognition of SDMAS and investigated the association between disaster cognition attitude and behavioural intention of SDMAS.

Second, the current study was able to extend the TPB model through the inclusion of disaster cognition as one of the crucial constructs in determining the intention to undertake disaster planning, and this inclusion appears to have contributed to a more comprehensive disaster planning behaviour model. The current study was able to successfully validate and establish goodness of fit (GOF) of the measurement model using confirmatory factor analysis. The model developed and validated in this study makes an important contribution to the theoretical development in field tourism and disaster planning.

Third, this study has also developed a measurement scale for the construct disaster cognition. The need for the construct emerged within the first phase of the research, and was developed as a construct in the second phase through validation by a panel of experts and in the final phase the construct was successfully tested against the gathered data. The construct developed for the measurement of disaster cognition will be useful for future researchers who intend to carry out similar studies in other countries. Moreover, it will allow the construct to be further tested for applicability, reliability and validity.

Fourth, this study used TPB as its base theory. The inclusion of TPB, which is a widely recognised theory as a strong base theory in predicting behavioural intentions, as a theoretical framework, have improved the applicability of the findings of the study within the interdisciplinary research context. Additionally, the current study revealed an existence of the relationship between disaster cognition, attitude and intention in disaster planning behavioural studies. introduction of the new construct disaster

cognition to TPB as a strong predictor of attitude and intention when predicting disaster planning behavioural intentions of the SDMAS, has contributed to new evidence in disaster planning behavioural literature. This new added construct to the TPB perhaps be useful for future researchers who intent to study disaster planning behaviour in various fields.

### **7.11.2 Managerial Implications**

The findings of this study have a number of managerial and policy implications which are discussed in this section. Due to increased amount of disasters faced by the tourism industry in recent years how to encourage disaster planning and mitigation within the sector has been one of the main concerned areas for many tourism stakeholders. Thus, when considering the wider applicability of the proposed research, it should also be noted that the findings of this study would be of interest to government policymakers, tourism authorities, tourism organisations and strategic decision-makers of the tourism industry who are interested in encouraging better disaster management and planning within the industry.

According to the research findings, the implications are that disaster cognition is the most significant factor that could influence both attitude towards disaster planning and behavioural intentions among SDMAS. This finding implies that when strategic decision-makers recognise an emerging risk of probable future disaster to which their organisation is exposed, their attitude and behavioural intentions towards disaster planning is positively influenced, leading to better focused disaster planning activities. Government policymakers could utilise these insights to make policy changes towards creating a robust disaster risk assessment framework where information regarding potential future threats are actively shared not only with relevant disaster management

authorities but also with SDMAS. Disaster management authorities could take steps to keep regular contact with SDMAS to inform about potential disaster threats and insights on a regular basis. For example, in recent Easter bombings if the relevant government authorities shared the information regarding possible emerging risk of a terrorist attack on tourism establishments with SDMAS in the city there is a high possibility that SDMAS would have planned appropriately to mitigate or even avert the tragic disaster from happening.

Both disaster cognition and attitude are found to be the most significant factors that influence the disaster planning behavioural intentions of SDMAS, and disaster cognition is enhanced through education, training and past experiences. Government policymakers could make policy changes making disaster management training compulsory for employees and direct more funding towards awareness and educational programmes. Currently, many training programs carried out by disaster management authorities are non-compulsory, hence only very limited tourism members undergo training. Disaster management authorities could use these insights to intervene and carry out training programs, and experience stimulating programs which are constantly changed and designed according to emerging future disaster risks in order to stimulate disaster cognition among SDMAS. Furthermore, Tourism development authorities could carry out regular risk assessments specifically for the tourism industry and educate SDMAS about potential emerging disaster risks in the near future in order to stimulate disaster cognition among SDMAS, which then lead to change in attitude and disaster planning intentions of the SDMAS.

On the other hand, as the results indicate that past disaster experiences could influence disaster cognition, tourism businesses and their strategic decision-makers

could take steps to share their past disaster experiences with each other in order to encourage better attitude and disaster planning intentions. They could also carry out disaster stimulation drills to enhance disaster cognition among the employees.

Furthermore, strategic decision-makers could ensure that they undertake appropriate education, training, build on prior knowledge from the industry and work hard to identify emerging potential disaster risks their businesses are facing in order to be more affective and robust in their disaster planning strategy. Finally, strategic decision makers of tourism organisations could collaborate with tourism and disaster management organisations towards improving their disaster cognition which has been identified as prominent in influencing their attitude and disaster planning intentions.

Following conclusions chapter will provide a summary of the study followed by contributions to the knowledge, limitations, future directions and concluding remarks of the researcher.



## **CHAPTER EIGHT**

### **8. Conclusion**

As demonstrated in previous chapters, the current study has successfully identified and explored the factors that influence disaster cognition among SDMAS in the tourism industry; identified and explored the factors that influence the intention to undertake disaster planning among SDMAS; examined the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, by extending the Theory of Planned Behaviour and finally developed a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS.

This is the concluding chapter of this thesis and this final chapter of this thesis intends to summarise the importance of the current study, gaps in the literature that led to the current study, the methodology adopted, data analysis and address the research questions through research findings, contributions to the knowledge, the theoretical and managerial contribution of the research, and strengths and limitations of the study. Finally, possible future directions of study and the concluding remark of the researcher will be presented at the end of the chapter.

#### **8.1 Summated Rationale of the Research**

The tourism industry is highly vulnerable to unforeseen changes that may occur due to various disasters. Preparedness through sound disaster management planning could minimise and limit the extent of such adverse impacts. Despite increased global interest in the impact of disasters on the tourism industry, many tourism organisations and their strategic decision-makers seem to be reluctant to prepare for future disasters

through disaster planning (Anderson, 2006). Furthermore, there has been limited research into how effectively these are planned and addressed at the organisational and decision-makers' level (Wang & Ritchie, 2012). Lack of systematic research on disaster management and planning within the tourism industry has resulted in many tourist destinations failing to establish a well-developed disaster management strategy to assist them in such an event (Faulkner, 2001).

Thus, several researchers have pointed out the importance of carrying out research on various dimensions of disaster management within the tourism industry (Faulkner, 2001; Santana, 2003; Richie, 2004, Becken & Hughey, 2013). However, Richie (2004) points out that the existing literature has mainly focused on various disaster management strategies and frameworks with simplistic prescriptive models that only offer checklists or information for tourism managers to follow pre, during and post crisis scenarios, rather than looking into issues relating to the managerial and organisational level. Therefore, there is a growing need for tourism and disaster management literature to adopt a more holistic approach, which factors in the organisational and decision-making level, in order to better understand issues in disaster management and planning within the context of tourism. Since disaster planning is a difficult investment decision, for many tourism organisations the choice of whether to undertake disaster planning largely depends on the decision of the most powerful individuals, or in other words the strategic decision-makers within each organisation. However, researchers seem thus far to have failed to identify the importance of the role played by the strategic organisational decision-makers in the context of disaster management in the tourism industry. This study therefore addresses this omission. Taking into consideration the above gap, the current study looked in the factors that influence disaster planning intentions of the SDMAS.

## 8.2 Summary of the Literature Review

Disaster management literature reveals a number of gaps, including the failure of the prior scholars to take into account the importance of the role played by strategic organisational decision-makers in the context of disaster management in the tourism industry. Furthermore, according to McConnell and Drennan (2006), preparing for disasters can be challenging for destinations, organisations and their strategic decision-makers due to the inconsistency and unpredictability of disasters, and high demand for resources required in planning. This literature presents an opportunity to explore this matter more deeply, providing a rationale for this study's focus on the role of strategic decision-makers in the context of disaster management in the tourism industry.

According to Child (1997), the main limitation of the traditional theories and models of organisational structure are that they overlook the fact that top decision-makers of organisations have the power to influence and direct their organisations to suit their own intentions and preferences. Furthermore, Child (1997) highlights the element of agency and choice in decision-making. Therefore, strategic choice theory highlights the importance of power-holding strategic decision-makers in organisations. Strategic choice perspective further strengthens the rationale for this study to focus on the intentions and behaviour of strategic decision-makers in the context of disaster management in the tourism industry.

From the various behavioural theories in the existing literature, such as Social Cognitive Theory, Self-Efficacy Theory, Attribution Theory, and the Theory of Reasoned Action, the current study identifies the Theory of Planned Behaviour as a good basis for a theoretical model for the study. A number of factors in the theory

make it the most suitable theory to accomplish the research aims. These aspects include the well-established nature of the TPB in the field of social sciences as a framework for assessment of attitudes and intention, as well as understanding and predicting behaviour. In addition, the TPB fits the aim of this study, which intends to investigate intentions as a means of predicting behaviour. Furthermore, the TPB is widely recognised as having good predictive power in explaining human intentions and behaviour (Ajzen, 1991). Therefore, the study selected the TPB as the most sustainable theoretical model in identifying the factors that influence disaster planning intentions among SDMAS. However, previous studies have identified number of limitations in the theory and incorporated additional constructs according to different contexts to improve the predictive validity of the theory. Therefore, in order to improve the theory's predictive validity, the study proposed to include disaster cognition of the SDMAS as an additional predictor of attitude and intention of the SDMAS.

Disaster cognition of the SDMAS is defined as the strategic decision-maker's capacity to recognise degree of potential emerging disaster risks to which their organisations may be exposed. Disaster cognition comprises risk perception and situational awareness appraisal influenced by beliefs. Perception of risk is the first cognitive step that triggers disaster planning and mitigation behaviour (Sun et al., 2017). According to Sun et al. (2017) perception of risk is the decision-maker's estimation of the probability of disaster. The individual's perception of disaster is then cognitively evaluated through situational awareness appraisal, and finally recognition of degree of potential emerging disaster risk completes the individual's disaster cognition. Existing literature has highlighted the importance of disaster related cognition and awareness in emerging disaster situations (Comfort, 2007; Pearson & Clair, 1998; Manen, 2014; Sun et al., 2017). However, according to the best knowledge of the

researcher, none of the scholars have looked into the possibility of disaster cognition as a predictor of attitude and disaster planning behavioural intentions of the SDMAS. Therefore, the current study was carried out to address this gap in the literature.

### **8.3 Methodological Process**

As presented in detail in the methodology chapter, the current research was carried out following a positivist philosophical approach. Accordingly, the study has applied deductive logic, drawing conclusions from rationale and existing theory to develop hypotheses, which are then tested against gathered data that provide the basis for revised or new theories. In alignment with the positivist and deductive theoretical approach, a quantitative research design is considered most appropriate for the current research. Self-completed questionnaire survey was used for data collection.

The research design involves several stages: designing of the questionnaire, data collection and data analysis. When designing the questionnaire, the current study closely followed the guidelines given by Ajzen (2002, 2012). Furthermore, the current study adopted and adapted questions from the questionnaire used by Wang and Ritchie (2012) in a similar study on major constructs from the TPB. The questions for the new construct disaster cognition were developed through the development of an item pool and assessing the reliability and validity by presenting to ten experts (five academics and five SDMAS). The designed questionnaire was then piloted with 20 SDMAS to reduce the risk of flaws in the final study.

The target population of this study consists of power-holding strategic decision-makers of the accommodation sector of the tourism industry, registered under SLTDA, and the sampling method used in the study was the probability cluster sampling method. A

total sample of 301 fully completed questionnaires were used for the final data analysis.

#### **8.4 Data Analysis and Key Findings of the Research**

Data analysis of the current study was carried out in four stages: data screening, data exploratory analysis, CFA, and finally use of the structural model to test the hypothesis. Data screening was carried out in order to identify missing data, unengaged responses and any outliers. Then the clean data set was explored to identify the nature of the sample. The demographics of the sample were checked to assess the representativeness of the sample to the population. It was found to provide satisfactory representation in this respect. Thereafter, data was tested for normality through analysis of skewness and kurtosis, and data was found to be within the acceptable range of  $\pm 3.00$ . Finally, SEM analysis was carried out in two stages. First, confirmatory factor analysis was carried out to validate the measurement model, and then the validated measurement model was converted to a structural model to test the hypothesis. The reliability of the scale items was tested using Cronbach's alpha, and all the variables recorded high Cronbach's alpha of greater than .7. It was therefore concluded that all seven Likert-scale items used to collect the data are reliable. Furthermore, CFA was used to establish adequate model fit (GOF), convergent validity and discriminant validity of the scales. In the final section of the analysis the measurement model was converted into a structural model and the structural model was tested for goodness of fit. GOF indices CMIN/DF, CFI and RMSEA were all within the recommended cut-off criteria, which suggested adequate model fit for the structural model as well. The assessment of parameter estimates results suggested that from the ten hypothesised paths, six paths were significant.

## 8.5 Research Findings

The objectives of the study are to identify and explore the factors that influence disaster cognition among SDMAS in the tourism industry; to identify and explore the factors that influence the intention to undertake disaster planning among SDMAS, to examine the role of disaster cognition as a potential predictor of disaster planning behavioural intentions among SDMAS, with a view to extending the Theory of Planned Behaviour and to develop a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors associated and their strength in impacting disaster planning intentions of SDMAS. In order to achieve the above, number of research questions have been introduced in the chapter 1.7. Following section will address the research questions (RQ) through the findings of the study.

RQ 1: To what extent do the age, level of education, managerial experience, past disaster experience, and disaster training of SDMAS influence their disaster cognition level?

As discussed in detailed in chapter 7.4 the current study did not find any positive association between the age of the SDMAS and their disaster cognition. Therefore, the study has concluded that age does not have any influence on disaster cognition of the SDMAS. Similarly, the current study did not find any positive association between managerial experience and disaster cognition (discussed in detailed in chapter 7.5) Therefore, the study concluded that managerial experience alone is not effective in enhancing disaster cognition within SDMAS. However, the current study found positive association between past disaster experience and disaster cognition (discussed in detail in chapter 7.1), disaster management training and cognition (discussed in detail in chapter 7.2), level of education and disaster cognition (discussed in detail in chapter

7.3). Therefore, in conclusion the study identifies, the SDMAS past disaster experience, disaster management training and level of education as significant influences of disaster cognition amongst SDMAS in the tourism industry.

These findings could be considered significant to the extant literature as to the best of the author's knowledge, this study is one of the first such studies that identify and explores disaster cognition of SDMAS in the context of an emerging economy.

RQ 2: To what extent does SDMAS disaster cognition influence their attitude towards disaster planning?

Attitude is one of the key constructs in TPB; thus, it is important to explore to what extent disaster cognition of the SDMAS could influence their attitude towards disaster planning (discussed in detail in chapter 7.7). The current study found that SDMAS disaster cognition have a significant positive influence on their attitude towards disaster planning. Therefore, it could be argued that disaster cognition as a vital factor of positive attitude towards disaster planning amongst SDMAS. Therefore, in conclusion the study identifies, disaster cognition as a significant influencer of positive attitude towards disaster planning amongst SDMAS in the tourism industry. These findings could be significant to government policy makers, disaster management authorities, tourism development bodies as well as tourism businesses and SDMAS.

RQ 3: To what extent does SDMAS disaster cognition influence their intention to undertake disaster planning?

The findings of the study revealed a strong positive influence from disaster cognition of the SDMAS on their intention to undertake disaster planning. Thus, it is a clear implication that the disaster cognition is a strong predictor of disaster planning



intentions of SDMAS (discussed in detail in chapter 7.6). Therefore, TPB could be extended to include disaster cognition as one of the key influences of disaster planning intentions among SDMAS. Through identifying disaster cognition as a strong influencer in impacting disaster planning intentions of SDMAS, the study contributes to the extant theory related to managerial cognition.

RQ 4: To what extent does SDMAS attitude influence their intention to undertake disaster planning?

The findings of the study revealed that the positive attitude towards disaster planning has strong positive influence on their intention to undertake disaster planning within their organisations. Therefore, it could be concluded that attitude as one of the key factors that influence disaster planning behavioural intention among SDMAS (discussed in detail in chapter 7.8). This finding has significantly contributed to the extant theory related to managerial cognition through identifying attitude as a strong influencer impacting disaster planning intentions of SDMAS.

RQ 5: To what extent does the perceived behaviour control of SDMAS influence their intention to undertake disaster planning?

The current study did not find any significant positive association between perceived behavioural control of the SDMAS and their intention to undertake disaster planning. Accordingly, the implication of the finding is that perceived behavioural control of SDMAS does not influence their intention to undertake disaster planning (discussed in detail in chapter 7.10). The study observed that disaster planning intentions SDMAS were not driven by perceived behavioural control but by their attitude towards disaster planning and disaster cognition. Thus, this finding seems to have contributed in

developing a comprehensive model of disaster planning intentions among SDMAS by identifying the key factors in influencing disaster planning intentions of SDMAS.

RQ 6: To what extent do the subjective norms of SDMAS influence their intention to undertake disaster planning?

The current study did not find any significant positive association between subjective norms of the SDMAS and their intention to undertake disaster planning. Accordingly, the implication of the finding is that subjective norms of SDMAS do not influence their intention to undertake disaster planning (discussed in detail in chapter 7.9). In conclusion, the current study does not identify subjective norms as one of the factors that influence the intention to undertake disaster planning among SDMAS.

RQ 7: To what extent can the TPB be used to predict the intention to undertake disaster planning amongst SDMAS?

In general, the TPB was supported and extended by this study. The results suggest that past disaster experiences, disaster training and level of education influence disaster cognition among SDMAS. In addition, the study found a positive association between cognition and attitude. However, the other two major constructs of TPB, subjective norms and perceived behavioural control, do not show any significant influence on intention to undertake disaster planning. The study finds disaster cognition as a strong predictor of both intention and attitude. Finally, the current study identified attitude and disaster cognition as the key factors that influence the intention to undertake disaster planning among SDMAS.

## **8.6 Research Originality**

Declaration of originality is attached (Appendix 8).

## **8.7 Contributions to the Knowledge**

This research study has made a number of significant contributions to the theory and knowledge. The contributions of this study are outlined in the following sections.

First, literature on the tourism industry shows the scarcity of empirical research on disaster cognition and planning behaviours of power-holding strategic decision-makers specifically. The current research was carried out to establish the factors that influence disaster planning intentions among SDMAS in the tourism industry of Sri Lanka. Therefore, the findings of the current research contribute to the body of knowledge by addressing this gap on disaster planning intention and behaviour of power-holding strategic decision-makers of the tourism industry.

In addition, existing literature on disaster cognition is extremely limited. The current study has contributed significantly to the existing knowledge on disaster cognition by establishing the factors that influence disaster cognition amongst SDMAS. In addition, to the best of the author's knowledge, this study is one of the first such studies that explores disaster cognition of SDMAS in the context of an emerging economy, and investigated the association between disaster cognition, attitude and behavioural intention of SDMAS. Moreover, this study has contributed to the extant literature on disaster cognition in the tourism industry by developing a comprehensive model of disaster planning intentions among SDMAS by extending TPB model.

Finally, the current study revealed an existence of the relationship between disaster cognition, attitude and intention in disaster planning behavioural studies. Introduction of the new construct disaster cognition to TPB as a strong predictor of attitude and intention when predicting disaster planning behavioural intentions of the SDMAS contributed a better understanding of the phenomenon to the disaster planning behavioural literature. Therefore, it is apparent that the current study has contributed to the body of knowledge in number of ways. Following section will summarise the theoretical and managerial implications of the study.

### **8.8 Summary of Theoretical and Managerial Implications of the Research**

The implications of the findings of this research study were presented in detail under theoretical implications and managerial implications in the previous chapter (chapter 7.11) This section will summarise the implications from both aspects.

The results of this study have several significant theoretical implications. First, this study is among a handful of studies that attempt to understand disaster planning intentions within the tourism sector Furthermore, to the best of the author's knowledge, this study is the first to consider disaster cognition of SDMAS in the accommodation sector, and to investigate the association between disaster cognition attitude and behavioural intention of SDMAS.

Second, the current study was able to extend the TPB model through the inclusion of disaster cognition as one of the crucial constructs in determining the intention to undertake disaster planning, and this inclusion appears to have contributed to a more comprehensive disaster planning behaviour model. Therefore, the model developed and validated in this study makes an important contribution to theoretical development in the research on tourism and disaster planning.

Third, through identifying the key factors and establishing their relative strengths in impacting disaster planning intentions of SDMAS, the study contributes to the extant theory related to managerial cognition. The study also made a significant contribution to the existing literature in disaster planning by developing a measurement scale for the construct disaster cognition which could be useful for future researchers who intend to carry out research on disaster cognition.

Fourth, this study has used TPB as its base theory. By including TPB, a widely recognised theory for use in predicting behavioural intentions, as a theoretical framework of this study, the applicability of the findings of the study within the interdisciplinary research context have been improved.

The findings of this study have a number of managerial and policy implications as well. When considering the wider applicability of the proposed research, it should also be noted that the findings of this study would be of interest to government policymakers, disaster management authorities, tourism authorities, tourism organisations and strategic decision-makers of the tourism industry who are interested in encouraging better disaster management and planning within the industry.

Government policymakers: Government policymakers could utilise these insights to make policy changes towards creating a robust disaster risk assessment framework where information regarding potential future threats is actively shared not only with relevant disaster management authorities but SDMAS as well. Furthermore, government policymakers could make policy changes to make disaster management training compulsory for employees, and direct more funding towards awareness and educational programmes. Currently, many training programs carried out by disaster

management authorities are non-compulsory, and hence only very limited numbers of members of the tourism industry undergo training.

Disaster management authorities: Disaster management authorities could take steps to keep regular contact with SDMAS to inform them about potential disaster threats and insights on regular basis. Disaster management authorities could use these insights to intervene and carry out stimulating training programs which are constantly changed and designed according to emerging future disaster risks in order to stimulate disaster cognition among SDMAS.

Tourism related authorities: Tourism development authorities could carry out regular risk assessments specifically for the tourism industry and educate SDMAS about potential emerging disaster risks in the near future in order to stimulate disaster cognition among SDMAS, which in turn would lead to a change in attitude and disaster planning intentions of the SDMAS.

Tourism organisations and strategic decision-makers: As the results indicate that past disaster experiences could influence disaster cognition, tourism businesses and their strategic decision-makers could take steps to share their past disaster experiences with each other in order to encourage better attitude and disaster planning intentions. They could also carry out disaster stimulation drills to enhance disaster cognition among the employees. Furthermore, strategic decision-makers could ensure that they undertake appropriate education and training, build on prior knowledge from the industry, and work hard to identify emerging potential disaster risks their businesses are facing in order to be more effective and robust in their disaster planning strategy.

Finally, the following section will look into the limitations of the current study, and possible future directions of study.

## 8.9 Limitations and Future Directions

The current study has used self-reported data in determining respondent's behavioural intentions. According to Armitage and Conner (2001), self-report biases could result in respondents' exaggeration of socially desirable intentions and behaviour and their downplaying of socially undesirable behaviour. Having appropriate disaster planning strategies within tourism organisations is considered desirable by many tourists and travellers. Therefore, SDMAS may mostly exaggerate their disaster planning intentions if their personal or organisational identity is not concealed. Accordingly, in order to eliminate any anxiety regarding self-disclosure, and minimise the risk of exaggeration of behavioural intentions, the anonymity and confidentiality of the participants was guaranteed at all times. Furthermore, according to the findings of Armitage and Conner (2001), even if such exaggeration has occurred, exaggerating the level of intention or behaviour, the validity of the framework should not be undermined due to its capability to explain the variance of the measure in a significant manner. Therefore, the risk of considerable impact from self-report bias is minimal in this study.

This study has developed a comprehensive model by extending TPB to capture disaster cognition as one of the key influences of intention to undertake disaster planning among SDMAS. However, it was noted that there is a high correlation between the constructs' disaster cognition and intention. Therefore, further testing of the construct in future research could be useful in order to further confirm the validity and reliability of the construct as well as to test the overall model.

The current study was limited to establishing only the factors that influence disaster planning intentions of the SDMAS. However, this study did not investigate whether

SDMAS' intention to undertake disaster planning led to actual disaster planning behaviour in future date. According TPB, intention could be elaborated as willingness to carry out a specific behaviour and therefore assumed to be the immediate originator of behaviour. In many TPB studies, behavioural intentions are considered to lead to actual behaviour in the future (Sparks & Pan, 2009; Kautonen et al., 2013). Ajzen (2011) has acknowledged that although TPB could be used accurately to predict behavioural intention, it does not always result in accurately predicting actual changes of behaviour as a result of such intentions. Therefore, the findings of the research may not reflect actual disaster planning behaviours of SDMAS.

Finally, the current study only examined personal factors that could influence disaster planning intentions among SDMAS, and therefore future research could explore the external environmental forces that could influence disaster planning behaviour among SDMAS.

### **8.10 Concluding Remarks**

Since disaster planning is a difficult investment decision, for many tourism organisations the question of whether to undertake disaster planning will depend significantly on the choices made by the most powerful individuals, in other words, the power-holding strategic decision-makers within each organisation. However, researchers have thus far failed to identify the importance of the role played by the strategic decision-makers of organisations in the context of disaster management in the tourism industry. Therefore, the current study uncovered better understanding about disaster cognition and disaster planning behavioural intentions of SDMAS. Understanding disaster cognition and disaster management behavioural intentions of



SDMAS could be considered vital not only from the academic point of view, but also from the organisational as well as well as the governmental level.

In line with the previous discussion, it is apparent that the study has contributed significantly to the knowledge and understanding of the topic in question, including theoretical implications, in addition to the managerial contributions. However, as with any other research, a number of limitations of the study have opened opportunities to expand into future research. There are several ways that the study could be expanded in the future. There could be a methodological expansion through longitudinal design to extend the research to consideration of the relationship between behavioural intentions and actual behaviour of the SDMAS. Such study will not only benefit behavioural studies of the SDMAS but also be of benefit in confirming the predictive validity of the TPB. Furthermore, the expanded theoretical model in the current study could be tested in other environments to further confirm the reliability of the model and its predictive validity. Finally, since the current study only researched personal factors, there is an opportunity to conduct research into the impact of external environment forces on disaster planning behaviour in the tourism industry in the future.

## 9. References

Abeygunawardena, B. (2005). Post Tsunami Recovery and Reconstruction, Report prepared by the Ministry of Finance and Planning and the Reconstruction and Development Agency. Available from: <http://siteresources.worldbank.org/INTTSUNAMI/Resources/srilankareport-dec05.pdf> [Accessed 2 December 2013].

Ajagunna, I. (2006). Crime and harassment in Jamaica: Consequences for sustainability of the tourism industry. *International Journal of Contemporary Hospitality Management*, (18), 253–259.

Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood-Cliffs, NJ: Prentice-Hall.

Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In J. Kuhl and J. Beckman (eds.), *Action-control: From cognition to behaviour* (pp. 11–39). Heidelberg: Springer.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, (50), 179–211.

Ajzen, I. (2002). Constructing a TPB questionnaire: Conceptual and methodological considerations. Available from: <http://www-unix.oit.umass.edu/aizen/pdf/tpb.measurement.pdf> [Accessed 12 January 2016].

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health*, 26(9), 1113–1127.

Ajzen, I. (2012). The theory of planned behaviour. In P. M. Van Lange, A. W. Kruglanski, E. T. Higgins, P. M. Van Lange, A. W. Kruglanski and E. T. Higgins

(Eds), *Handbook of theories of social psychology* (pp. 438–459). Thousand Oaks, CA: Sage Publications Ltd.

Allen, P. A., Sliwinski, M. & Bowie, T. (2002). Differential age effects in semantic and episodic memory, part II: Slope and intercept analyses. *Experimental Aging Research*, 28(2), 111–142.

Anderson, B. A. (2006). Crisis management in the Australian tourism industry: Preparedness, personnel and postscript. *Tourism Management*, 27(6), 1290–1297.

Araña, J. E. & León, C. J. (2008). The impact of terrorism on tourism demand. *Annals of Tourism Research*, 35(2), 299–315.

Armitage, C. & Christian, J. (2003). From attitudes to behaviour: Basic and applied research on the theory of planned behaviour. *Current Psychology Developmental, Learning, Personality, Social*, 22(3), 187–195.

Armitage, C. & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471–499.

Baars, B. J. & Gage, N. M. (2007). *Cognition, brain, and consciousness: Introduction to cognitive neuroscience*. London: Elsevier Ltd.

Baker, M. J. & Foy, A. (2008). *Business and management research: How to complete your research project successfully* (2nd ed.). Helensburgh: Westburn Publishers.

Ballantyne, M., Paton, D., Johnston, D., Kozuch, M. & Daly, M. (2000). Information on Volcanic and Earthquake Hazards: The Impact on Awareness and Preparation. Institute of Geological and Nuclear Sciences Limited Science Report No. 2000/2, Wellington.

- Bamberg, S. & Schmidt, P. (2001). Theory-driven subgroup-specific evaluation of an intervention to reduce private car use. *Journal of Applied Social Psychology*, (31), 1300–1329.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(19), 12–15.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175–1184.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50, 248–287.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, 13, 623–649.
- Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology*, 2(1), 21–41.
- Banki, M. B. & Ismail H. N. (2015). Understanding the characteristics of family owned tourism micro businesses in mountain destinations in developing countries: Evidence from Nigeria. *Tourism Management Perspectives*, (13), 18–32.

- Bauhoff, S. (2011). Systematic self-report bias in health data: Impact on estimating cross-sectional and treatment effects. *Health Services and Outcomes Research Methodology*, 11(1–2), 44–53.
- Beach, L. R. & Connolly, T. (2005). *The psychology of decision making: People in organizations* (2nd ed.). Thousand Oaks, CA: Sage.
- Becken, S. & Hughey, K. F. D. (2013). Linking tourism into emergency management structures to enhance disaster risk reduction. *Tourism Management*, 36(1), 77–85.
- Becken, S. (2013). Developing a framework for assessing resilience of tourism sub-systems to climatic factors. *Annals of Tourism Research*, (43), 506–528.
- Becker, J., Smith, R., Johnston, D. & Munro, A., (2001). Effects of the 1995–1996 Ruapehu eruptions and people's perceptions of volcanic hazards after the event. *The Australasian Journal of Disaster and Trauma Studies*, 5(1), 1–24.
- Belhassen, Y. & Caton, K. (2009). Advancing understandings: A linguistic approach to tourism epistemology. *Annals of Tourism Research*, 36(2), 335-352.
- Bem, D. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review*, 74,183-200.
- Benckendorff, P. & Zehrer, A. (2013). A network analysis of tourism research. *Annals of Tourism Research*, (43), 121–149.
- Biggs, D., Hall, C. & Stoeckl, N. (2012). The resilience of formal and informal tourism enterprises to disasters: Reef tourism in Phuket, Thailand. *Journal of Sustainable Tourism*, 20(5), 645–665.

- Biran, A., Liu, W., Li, G. & Eichhorn, V. (2014). Consuming post-disaster destinations: The case of Sichuan, China. *Annals of Tourism Research*, (47), 1–17.
- Birkmann, J. (2006). *Measuring vulnerability to natural hazards: Towards disaster resilient societies*. Tokyo: United Nations University Press.
- Blake, A. & Sinclair, M. T. (2003). Tourism crisis management: US response to September 11. *Annals of Tourism Research*, 30(4), 813–832.
- Bonne, K., Vermeir, I., Bergeaud-Blackler, F. & Verbeke, W. (2007). Determinants of halal meat consumption. *France, British Food Journal*, 109(5), 367–386.
- Bosher, L., Dainty, A., Carrillo, P. & Glass, J. (2007). Built-in resilience to disasters: A pre-emptive approach. *Engineering, Construction and Architectural Management*, 14(5), 434–446.
- Bosher, L., Dainty, A., Carrillo, P., Glass, J. & Price, A. (2009). Attaining improved resilience to floods: A proactive multi-stakeholder approach. *Disaster Prevention and Management*, 18(1), 9–22.
- Bowen, N. & Guo, S. (2011). *Structural Equation Modeling*. Oxford: Oxford University Press.
- Boyatzis, R. E. & Saatioglu, A. (2008). A 20-year view of trying to develop emotional, social and cognitive intelligence competencies in graduate management education. *Journal of Management Development*, 27(1), 92–108.
- Brace, N., Kemp, R. & Snelgar, R. (2012). *SPSS for psychologists* (5th ed). Hampshire: Palgrave Macmillan.

Bramwell, B. & Bernard Lane (2008). Priorities in sustainable tourism research. *Journal of Sustainable Tourism*, 16(1), 1–4.

Bramwell, B. (2015). Theoretical activity in sustainable tourism research. *Annals of Tourism Research*, (54), 204–218.

Brannick M. T., Chan D., Conway J. M., Lance C. E. and Spector P. E. (2010). What is method variance and how can we cope with it? A panel discussion. *Organ. Res. Methods*, (13), 407–20.

Bruijn, G. De & Kremers, S. (2007). Does habit strength moderate the intention–behaviour relationship in the theory of planned behaviour? The case of fruit consumption. *Psychology and Health*, 22(8), 899–916.

Bruntland Report (1987). UN Documents: Gathering a Body of Global Agreements, 2017 Available from: <http://www.un-documents.net/our-common-future.pdf> [Accessed 13 February 2017].

Bryman, A. & Bell, E. (2015). *Business research methods* (4th ed.). Oxford: Oxford University Press.

Bryman, A. (2001). *Social research methods*. Oxford: Oxford University Press.

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York: Routledge.

Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. (3rd ed.). New York: Routledge.

Carlsen, J. C. & Hughes, M. (2008). Tourism market recovery in the Maldives after the 2004 Indian Ocean tsunami. *Journal of Travel & Tourism Marketing*, 23(2–4), 139–149.

Carpenter, M. A., Geletkanycz, M. A. & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, 30, 749–778.

Carr, J. C. & Sequeira, J. M. (2007). Prior family business exposure as intergenerational influence and entrepreneurial intent: A theory of planned behavior approach. *Journal of Business Research*, 60(10), 1090–1098.

Cassedy, K. (1991). *Crisis management planning in the travel and tourism industry: A study of three destinations and a crisis management planning manual*. San Francisco, CA: Pacific Asia Travel Association.

Castelltort, M. & Mäder, G. (2010). Press media coverage effects on destinations: A Monetary Public Value (MPV) analysis. *Tourism Management*, 31(6), 724–738.

Chan, L. & Bishop, B. (2013). A moral basis for recycling: Extending the theory of planned behaviour. *Journal of Environmental Psychology*, (36), 96–102.

Chandler, A. D. (1962). *Strategy and structure: Chapters in the history of the American enterprise*. Cambridge, MA: MIT Press.

Chandler, J. A. (2004). An analysis of the economic impact of Hurricanes Dennis, Floyd, and Irene on North Carolina's lodging industry. *Journal of Hospitality & Tourism Research*, (28), 313–326.



- Chien, G. C. L. & Law, R. (2003). The impact of the severe acute respiratory syndrome on hotels: A case study of Hong Kong. *International Journal of Hospitality Management*, 22(3), 327-332.
- Child, J. (1972). Organizational structure, environment and performance: The role of strategic choice. *Sociology*, 6(1), 1–22.
- Child, J. (1974). Managerial and organisational factors associated with company performance – Part I. *Journal of Management Studies*, (11), 175–189.
- Child, J. (1975). Managerial and organisational factors associated with company performance—Part II: A contingency analysis. *Journal of Management Studies*, (12), 12–27.
- Child, J. (1997). Strategic choice in the analysis of action, structure, organizations and environment: Retrospect and prospect. *Organization Studies*, 18(1), 43–76.
- Cioccio, L. & Michael, E. J. (2007). Hazard or disaster: Tourism management for the inevitable in Northeast Victoria. *Tourism Management*, (28), 1–11.
- Clarkson, M. B. (1995). A stakeholder framework for analysing and evaluating corporate social performance. *Academy of Management Review*, 20(1), 92–117.
- Coles, T., Hall, C. M. & Duval, D. T. (2006). Tourism and post-disciplinary enquiry. *Current Issues in Tourism*, 9(5), 293–319.
- Colman, A. M. (2006). *A dictionary of psychology* (2nd ed). Oxford: Oxford University Press.

Comfort, L. K. (2007). Crisis management in hindsight: Cognition, communication, coordination, and control. *Public Administration Review*, (67), 189–197.

Coppola, D. (2011). *Introduction to international disaster management* (2rd ed.). Oxford: Elsevier.

Coppola, D. (2015). *Introduction to international disaster management* (3rd ed.). Oxford: Elsevier.

Coppola, D. P. (2007). *Introduction to international disaster management*. London: Butterworth-Heinemann Ltd.

Craik, F. I. & Salthouse, T. A. (2008). *The handbook of aging and cognition* (3rd ed.). New York, N.Y.: Psychology Press.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative & mixed methods approaches* (5th ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: SAGE Publications Inc.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.

Cyert, R. M. & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.

Dahles, H. & Susilowati, T. P. (2015). Business resilience in times of growth and crisis. *Annals of Tourism Research*, (52), 34–50.

Daniel Scott, D. (2011). Why sustainable tourism must address climate change. *Journal of Sustainable Tourism*, 19(1), 17–34.

Dann, G. & Cohen, E. (1991). Sociology and tourism. *Annals of Tourism Research*, (18), 155–169.

Darbellay, F. & Stock, M. (2012). Tourism as complex interdisciplinary research object. *Annals of Tourism Research*, 39(1), 441–458.

Darvell, M. J., Walsh, S. P. & White, K. M. (2011). Facebook tells me so: Applying the Theory of Planned Behaviour to understand partner-monitoring behaviour on Facebook. *Cyber Psychology, Behaviour, and Social Networking*, 14(12), 718–722.

Davis, L. E., Ajzen, I., Saunders, J. & Williams, T. (2002). The decision of African American students to complete high school: An application of the theory of planned behavior. *Journal of Educational Psychology*, 94, 810–819.

De Mel, S., McKenzie, D. & Woodruff, C. (2012). Enterprise recovery following natural disasters. *Economic Journal*, 122(559), 64–91.

Decosta, J. N. L. P. & Grunewald, A. (2011). Logies of tourismology: The need to include meta-theories in tourism curricula. *Journal of Teaching in Travel & Tourism*, 11(3), 289–303.

Denzin, N. K., & Lincoln, Y. S.,. (2018). *The SAGE handbook of qualitative research* (5th ed.). Thousand Oaks, Ca; London: SAGE.

Department of Census and Statistics Sri Lanka (2017a). Statistical Report. Available from: <http://www.sltda.lk/sites/default/files/annual-statical-report-2016.pdf> [Accessed 10 July 2017].

Department of Census and Statistics Sri Lanka (2017b). Statistical Report. Available from: <http://www.statistics.gov.lk/tsunami/> [Accessed 11 July 2017].

DeVellis, R. E. (2012). *Scale development: Theory and applications* (3rd ed). Thousand Oaks, CA: Sage.

Dewhurst, H. & Thomas, R. (2003). Encouraging sustainable business practices in a non-regulatory environment: A case study of small tourism firms in a UK national park. *Journal of Sustainable Tourism*, 11(5), 383–403.

Disaster Management Centre of Sri Lanka (2017). Ministry of Disaster Management for Safer Communities and Sustainable Development in Sri Lanka. Available from: [http://www.dmc.gov.lk/index\\_english.htm](http://www.dmc.gov.lk/index_english.htm) [Accessed 08 May 17].

Doob, L. W. (1947). The behavior of attitudes. *Psychological Review*, 54(3), 135–156.

Drabek, T. (2004). *Theories relevant to emergency management versus a theory of emergency management*. Paper presented at Emergency Management Higher Education Conference, National Emergency Training Centre, Emmitsburg, Maryland.

Drabek, T. (2005). Sociology, disasters and emergency management: History, contributions, and future agenda disciplines, disasters and emergency management. In D. A. McEntire (ed.), *The convergence and divergence of concepts, issues and 193 trends from the research literature*. Federal Emergency Management Agency, Emergency Management Institute.

Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. *The Management of Organization*, (1), 167–188.

Dwyer, L. (2005). Relevance of triple bottom line reporting to achievement of sustainable tourism: A scoping study. *Tourism Review International*, 9, 79–93.

Eagly, A. H. & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, FL: Harcourt Brace Jovanovich College Publishers.

Echtner, C. M. & Jamal, T. B. (1997). The disciplinary dilemma of tourism studies. *Annals of Tourism Research*, 24(4), 868–883.

Eden, C. & Spender, J.C. (1998). *Managerial and organizational cognition: Theory, methods and research*. London: Sage.

Edwards, F. & Goodrich, D. (2007). Organizing for emergency management. In William L. Waugh, Jr and Kathleen Tierney (eds), *Emergency management principles and practice for local government* (2nd ed.). Washington, DC: ICMA Press.

Elkington, J. (2004). Enter the triple bottom line. In the triple bottom line, does it all add up? In A. Henriques and J. Richardson (eds), *Assessing the sustainability of business and CSR* (pp. 1–16). London: Earthscan.

Endsley, M. R. & Garland, O. J. (2000). *Situation awareness analysis and measurement*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Ethirajan A. (2019). Sri Lanka attacks: The family networks behind the bombings, BBC. Available from: [www.bbc.co.uk/news/topics/cdmmjkw6krwt/sri-lanka-easter-bombings](http://www.bbc.co.uk/news/topics/cdmmjkw6krwt/sri-lanka-easter-bombings) [ Accessed 31 July 2019].

Evans, N. & Elphick, S. (2005). Models of crisis management: An evaluation of their value for strategic planning in the international travel industry. *International Journal of Tourism Research*, (7), 135–150.

Faulkner, B. & Vikulov, S. (2001). Katherine, washed out one day, back on track the next: A post-mortem of a tourism disaster. *Tourism Management*, (22), 331–344.

Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135–147.

Fernando, S. (2016). Managing the post-war tourism development in Sri Lanka. *International Journal of Business and Social Science*, 7(11), 1–11.

Festinger, L. A. (1957). *Theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Field, A. P. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Thousand Oaks, CA: SAGE publications LTD.

Fink, S. (1986). *Crisis management*. New York, NY: American Association of Management.

Fiol, C. M. & Huff, A. S. (1992. P 267) Maps for managers: Where are we? *Journal of Management Studies*, 29(3), 267–285.

Fishbein M. & Ajzen I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fishbein, M. (1967). *Readings in attitude theory and measurement*. New York: John Wiley & Sons.

Fishbein, M. & Ajzen, I. (2009). *Predicting and changing behavior*. New York: Taylor & Francis Group.

Fletcher, J., Fyall, A. & Gilbert, D. (2013). *Tourism: Principles and practice* (5th ed.). Harlow: Pearson.

Flick, U. (2018). *Designing qualitative research* (2nd ed.). London; Thousand Oaks, CA: SAGE.

Fornell, C. & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research (JMR)*, 18(1), 39–50.

Framework for Research Ethics (2010). Available at: <http://www.esrc.ac.uk/about-esrc/information/research-ethics.aspx> [Accessed 11 January 14].

Francis, J., Eccles, M. P., Johnston, M., Walker, A. E., Grimshaw, J. M., Foy, R. & Bonetti, D. (2004). *Constructing questionnaires based on the theory of planned behaviour: A manual for health services researchers*. University of Newcastle, Newcastle upon Tyne, UK.

Freeman, R. (1984). *Strategic management: A stakeholder approach*. Boston, MA: Pitman.

Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge: Cambridge University Press.

Freeman, R. E. Harrison, J. S. & Wicks, A. C. (2007). *Managing for stakeholders: Survival, reputation and success*. New Haven, CT: Yale University Press.

Ganguly, A., Talukdar, A. & Chatterjee, D. (2019). Evaluating the role of social capital, tacit knowledge sharing, knowledge quality and reciprocity in determining innovation capability of an organization. *Journal of Knowledge Management*, 23(6), 1105–1135.

Ganor, B. (2002). Defining terrorism: Is one man's terrorist another man's freedom fighter? *Police Practice and Research*, 3(4), 287–304.

Gary, M and Wood, R. (2011). Mental models, decision rules, and performance heterogeneity. *Strategic Management Journal*, 32(6), 569–594.

Gaunette Sinclair-Maragh, G. & Gursoy, D. (2014). Imperialism and tourism: The case of developing island countries. *Annals of Tourism Research*, (50), 143–158.

Geoffrey, W., Goodhew, P. A., Hamilton, C. R. T. (2005). Managers' cognitive maps and intraorganisational performance differences. *Journal of Managerial Psychology*, 20(2), 124–136.

Getz, D. & Carlsen, J. (2005). Family business in tourism: State of the art. *Annals of Tourism Research*, 32(1), 237–258.



Ghauri, P. & Gronhaug, K. (2010). *Research methods in business management* (4th ed.). Essex: Pearson Education Limited.

Glaesser, D. (2006). *Crisis management in the tourism industry*. Burlington, VA: Heinemann.

Goeldner, C. R. & Ritchie, J. B. (2012). *Tourism: Principles, practices, philosophies* (12<sup>th</sup> ed.). New Jersey: John Wiley & Sons.

Goh, C. (2012). Exploring the impact of climate on tourism demand. *Annals of Tourism Research*, 39(4), 1859–1883.

Gossling, S., Hall, C. & Weaver, D. B. (2009). *Sustainable tourism futures: Perspectives on systems, restructuring and innovations*. New York, NY; London: Routledge.

Gotham, K. F. & Greenberg, M. (2008). From 9/11 to 8/29: Post-disaster recovery and rebuilding in New York and New Orleans. *Social Forces*, 87(2), 1039–1062.

Gotham, K. F. (2012). Disaster, Inc.: Privatization and post-Katrina rebuilding in New Orleans. *Perspectives on Politics*, 10(3), 633–646.

Govers, R., Hecke, E. V. & Cabus, P. (2008). Delineating tourism: Defining the usual environment. *Annals of Tourism Research*, 35(4), 1053–1073.

Guttentag, D. (2015). Airbnb: Disruptive innovation and the rise of an informal tourism accommodation sector. *Current Issues in Tourism*, 18(12), 1192–1217.

Hair J. F., Black William C., Babin B. J. & Anderson R. E. (2018) *Multivariate data analysis* (8th ed.). Upper Saddle River, NJ: Pearson Education.

Hair, J. F., Hult, G. T., Ringle, C. M. & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Hall, D., Roberts, L. & Mitchell, M. (eds) (2003). *New directions in rural tourism*. Aldershot, UK; Burlington, VT: Ashgate.

Hambrick, D. C. & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *The Academy of Management Review*, 9(2), 193–206.

Hardy, A., Beeton, R. & Pearson, L. (2002). Sustainable tourism: An overview of the concept and its position in relation to conceptualizations of tourism. *Journal of Sustainable Tourism*, 10(6), 475–496.

Heider, F. (1958). *The psychology of interpersonal relations*. Hoboken, NJ: John Wiley & Sons Inc.

Helfat, C. E. & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850.

Hellgren, B. & Melin, L. (1993). The role of strategists' ways-of-thinking in strategic change processes. In J. Hendry, G. Johnson & J. Newtown (eds), *Strategic thinking: Leadership and the management of change*. New York, NY: John Wiley.

Henderson, J. C. (2002). Terrorism and tourism: Managing the consequences of the Bali bombings. *Journal of Travel and Tourism Marketing*, 15(1), 41–58.

Henderson, J. C. (2005). Responding to natural disasters: Managing a hotel in the aftermath of the Indian Ocean tsunami. *Tourism & Hospitality Research*, 6(1), 89–96.

Hennink, M. M., Hutter, I., & Bailey, A. (2011). *Qualitative research methods*. London; Thousand Oaks, CA; London: SAGE.

Higgins, B. A. (2005). The storms of summer: Lessons learned in the aftermath of the hurricanes of '04. *Cornell Hotel and Restaurant Administration Quarterly*, (46), 40–46.

Hills, A. (1998). Seduced by recovery: The consequences of misunderstanding disaster. *Journal of Contingencies and Crisis Management*, (6), 162–170.

Holloway, J. C. & Humphreys, G. (2016). *The business of tourism* (10th ed.). Essex: Pearson Education Limited.

Hörisch, J., Freeman, R. E. & Schaltegger, S. (2014). Applying stakeholder theory in sustainability management. *Organization & Environment*, 27(4), 328–346.

Hovland, C. I., Janis, I. L. & Kelley, H. H. (1953). *Communication and persuasion*. New Haven, CT: Yale University Press.

Huan, T., Beaman, J. & Shelby, L. (2004). No-escape natural disaster: Mitigating impacts on tourism. *Annals of Tourism Research*, 31(2), 255–273.

Huang, J. H. & Min, J. C. H. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, (23), 145–154.

Huang, S. (2011). Tourism as the subject of China's doctoral dissertations. *Annals of Tourism Research*, 38(1), 316–319.

Hystad, P. w. & Keller, P. C. (2005). Disaster management: Kelowna tourism industry's preparedness, impact and response to a 2003 major forest fire. *Journal of Hospitality and Tourism Management*, 13 (1), 44-58.

Hystad, P. W. & Keller, P. C. (2008). Towards a destination tourism disaster management framework: Long-term lessons from a forest fire disaster. *Tourism Management*, 29(1), 151–162.

Isenberg, D. J. (1986). The structure and process of understanding: Implications for managerial action. In H. P. Sims Jr, D. A. Gioia et al. (eds), *The thinking organization: Dynamics of organizational social cognition* (pp. 238–262). San Francisco, CA: Jossey Bass.

Jak, S. (2015). *Meta-analytic structural equation modelling*. Cham, Switzerland: Springer.

Jamal, T. & Hollinshead, K. (2001). Tourism and the forbidden zone: The underserved power of qualitative inquiry. *Tourism Management*, (22), 63–82.

Jiang, Y., & Ritchie, B. (2017). Disaster collaboration in tourism: Motives, impediments and success factors. *Journal of Hospitality and Tourism Management*, 31, 70-82.

Johnson, G. & Scholes, K. (1993). *Exploring corporate strategy*. Oxford: Butterworth-Heinemann.

Johnson, R. E., Rosen, C. C. & Djurdevic E. (2011). Assessing the impact of common method variance on higher-order multidimensional constructs. *J. Appl. Psychol.*, (96), 744–761.

Jonker, J. & Pennink, B. (2010). *The essence of research methodology: A concise guide for Master and PhD students in management science*. Heidelberg; Dordrecht; London; New York, NY: Springer.

Kaplan, S. (2008). Cognition, capabilities, and incentives: Assessing firm response to the fiber-optic revolution. *Academy of Management Journal*, 51(4), 672–695.

Kaplan, S. (2011). Research in cognition and strategy: Reflections on two decades of progress and a look to the future. *Journal of Management Studies*, 48(3), 665–695.

Karanci, A., Aksit, B. & Dirik, G. (2005). Impact of a community disaster awareness training program in Turkey: Does it influence hazard-related cognitions and preparedness behaviours. *Social Behaviour and Personality*, 33, 243–258.

Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, 24, 163–204.

Kautonen, T., van Gelderen, M. & Tornikoski, E. T. (2013). Predicting entrepreneurial behaviour: A test of the TPB. *Applied Economics*, 45(6), 697–707.

Kettl, D. F. (2006). *System under stress: Homeland security and American politics* (2nd ed.). Washington, DC: CQ Press.

Khalid, H. M. & Ramli, S. N. (2012). *Measuring affect, behavior and cognition for modeling disaster risk attitudes*. Paper presented at 2012 Southeast Asian Network of Ergonomics Societies Conference (SEANES), Langkawi, Kedah, Malaysia.

Kim, K. H., Tyge Payne, G. & Tan, J. A. (2006). An examination of cognition and affect in strategic decision-making. *International Journal of Organizational Analysis*, 14(4), 277–294.

- Kim, P. S. & Lee, J. E. (1998). Emergency management in Korea and its future directions. *Journal of Contingencies and Crisis Management*, (6), 189–201.
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed). New York; London: The Guilford Press.
- Lam, T. & Hsu, C. (2004). Theory of planned behavior: Potential travelers from China. *Journal of Hospitality & Tourism Research*, 28(4), 463–482.
- Langdrige, D. (2007). Analysing additional variables in the theory of reasoned action. *Journal of Applied Social Psychology*, 37(8), 1884–1913.
- Lee, N. & Lings, I. (2008). *Doing business research: A guide to theory and practice*. London: Sage
- Lindell, M. K. & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional designs. *Journal of Applied Psychology*, 86, 114–121.
- Lindell, P., Melin, L., Gahmberg, H. J., Hellqvist, A. & Melander, A. (1998). Stability and change in strategist's thinking. In C. Eden and I. C. Spender (eds), *Managerial and organizational cognition: Theory, methods and research* (pp. 76–92). London: Sage.
- Lipshitz, R., Klein, G., Orasanu, J. & Salas, E. (2001). Taking stock of naturalistic decision making. *Journal of Behavioral Decision Making*, 14(5), 331–352.
- Liu, C. H., Tzeng, G. H., Lee, M. H. & Lee, P. Y. (2013). Improving metro–airport connection service for tourism development: Using hybrid MCDM models. *Tourism Management Perspectives*, 6, 95–107.

Liu, Z. (2003). Sustainable tourism development: A critique. *Journal of Sustainable Tourism*, 11(6), 459–475.

Loh, B. (2005). Disaster risk management in Southeast Asia. *ASEAN Economic Bulletin*, 22(2), 229–239.

Lonely Planet (2017). Introducing Sri Lanka: Available from: <http://www.lonelyplanet.com/sri-lanka/introduction> [Accessed 11 May 2017].

Lonely Planet (2019). Introducing Sri Lanka: Available from: <https://www.lonelyplanet.com/best-in-travel/countries> [Accessed 31 July 2019].

Lowe, J. S. (2012). Policy versus politics: Post-Hurricane Katrina lower-income housing restoration in Mississippi. *Housing Policy Debate*, 22(1), 57–73.

Lynch, R. (2009). *Strategic management* (5th ed.). Essex: Prentice Hall.

Lynch, R. (2015). *Strategic management* (7th ed.). Harlow: Pearson Education Limited.

Malhotra, R. & Venkatesh, U. (2009). Pre-crisis period planning: Lessons for hospitality and tourism. *Worldwide Hospitality and Tourism Themes*, 1(1), 66–74.

Manen, S. M. (2014). Hazard and risk perception at Turrialba volcano (Costa Rica): Implications for disaster risk management. *Applied Geography*, 50, 63–73.

Manral, L. (2011). Managerial cognition as bases of innovation in organization. *Management Research Review*, 34(5), 576–594.

Maps of World (2017). Available from: <http://www.mapsofworld.com/sri-lanka/sri-lanka-location-map.html> [Accessed 11 May 2017].

Mason, P. (2016). *Tourism: Impacts, planning and management* (3rd ed.). London: Routledge.

McConnell, A. & Drennan, L. (2006). Mission impossible? Planning and preparing for crisis. *Journal of Contingencies & Crisis Management*, 14(2), 59–70.

McGilvray, D. B. & Gamburd, M. R. (eds) (2010). *Tsunami recovery in Sri Lanka: Ethnic and regional dimensions*. Oxfordshire: Routledge.

Méheux, K. & Parker, E. (2006). Tourist sector perceptions of natural hazards in Vanuatu and the implications for a small island developing state. *Tourism Management*, (27), 69–85.

Mendonça, D., Webb, G., Butts, C. & Brooks, J. (2014). Cognitive correlates of improvised behaviour in disaster response: The cases of the Murrah Building and the World Trade Center. *Journal of Contingencies and Crisis Management*, 22(4), 185–195.

Miles, J. & Shevlin, M. (2001). *Applying regression & correlation: A guide for students and researchers*. London; Thousand Oaks, CA: Sage Publications.

Miles, R. E. & Snow, C. C. (1978). *Organizational strategy. Structure and process*. New York, NY: McGraw-Hill.

Miller, G. A. & Ritchie, B. W. (2003). A farming crisis or a tourism disaster? An analysis of the foot and mouth disease in the UK. *Current Issues in Tourism*, 6(2), 150–171.

Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63(2), 81–97.



Ministry of Disaster Management (2018). Lessons learnt form tsunami 2004. Available from: <http://www.disastermin.gov.lk/web/index.php?option=com> [Accessed 25 August 2018].

Ministry of Finance and Planning Sri Lanka (2013). Government policy and strategy for SME development. Available from: <https://www.imf.org/external/np/seminars/eng/2013/asiatax/pdfs/srilanka.pdf> [Accessed 26 August 2014].

Mishra, S. & Suar, D. (2007). Do lessons people learn determine disaster cognition and preparedness? *Psychology and Development Societies*, 19(2), 143–159.

Mojtahedi, S. M. H. & Bee, L. O. (2014). Stakeholders' approaches to disaster risk reduction in built environment. *Disaster Prev and Management*, 23(4), 356–369.

Morrison, A. (2003a). Conference review: International conference – small firms in the tourism and hospitality sectors. *Tourism Management*, 24(4), 495–498.

Morrison, A. (2003b). SME management and leadership development: Market reorientation. *Journal of Management Development*, 22(9), 796–808.

Morrissey, S. & Reser, J. (2003). Evaluating the effectiveness of psychological preparedness advice in community cyclone preparedness materials. *Australian Journal of Emergency Management*, 18(2), 46–61.

Mowforth, M. & Munt, I. (2009). *Tourism and sustainability: Development, globalisation and new tourism in the Third World*. London: Routledge.

Murphy, P. E. & Bayley, R. (1989). Tourism and disaster planning. *Geographical Review*, 79(1), 36–46.

- Nadkarni, S. & Barr, P. S. (2008). Environmental context, managerial cognition, and strategic action: An integrated view. *Strategic Management Journal*, 29(13), 1395–1427.
- Niu, L., Lu, J. & Zhang, G. (2009). *Cognition-driven decision support for business intelligence: Models, techniques, systems and applications*. Berlin, Heidelberg: Springer.
- Nolan, C. T. & Garavan, T. N. (2016). Human resource development in SMEs: A systematic review of the literature. *International Journal of Management Reviews*, 18(1), 85–107.
- Novelli, M., Morgan, N. & Nibigira, C. (2012). Tourism in a post-conflict situation of fragility. *Annals of Tourism Research*, 39(3), 1446–1469.
- Ogden, J. (2003). Some problems with social cognition models: A pragmatic and conceptual analysis. *Health Psychology*, (22), 424–428.
- Orchiston, C. (2012). Seismic risk scenario planning and sustainable tourism management: Christchurch and the Alpine Fault zone, South Island, New Zealand. *Journal of Sustainable Tourism*, 20(1), 59–79.
- Ostroff, C., Kinicki A. J. & Clark, M. A. (2002). Substantive and operational issues of response bias across levels of analysis: An example of climate-satisfaction relationships. *J. Appl. Psychol.*, (87), 355–68
- Page, S., Song, H. & Wu, D. C. (2012). Assessing the impacts of the global economic crisis and swine flu on inbound tourism demand in the United Kingdom. *Journal of Travel Research*, 51(2), 142–153.

- Papagiannakis, G. & Lioukas, S., (2012). Values, attitudes and perceptions of managers as predictors of corporate environmental responsiveness. *Journal of Environmental Management*, (100), 41–51.
- Paraskevas, A., Altinay, L., McLean, J. & Cooper, C. (2013). Crisis knowledge in tourism: Types, flows and governance. *Annals of Tourism Research*, 41, 130–152.
- Patanakul, P. & Shenhar, A. J. (2012). What project strategy really is? The fundamental building block in strategic project management. *Project Management Journal*, 43(1), 4–20.
- Paton, D. (2003) Disaster preparedness: A social-cognitive perspective. *Disaster Prevention and Management*, 12(3), 210–216.
- Paton, D., Johnston, D., Bebbington, M. S., Lai, C.-D. & Houghton, B. F. (2001). Direct and vicarious experience of volcanic hazards: implications for risk perception and adjustment adoption. *Australian Journal of Emergency Management*, 15(4), 58–63.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA; London: SAGE.
- Pearl, J. (2012). The causal foundations of structural equation modeling. In R. H. Hoyle (ed.), *Handbook of structural equation modeling* (pp. 68–91). New York, NY: The Guilford Press.
- Pearson, C. M. & Clair, J. A. (1998). Reframing crisis management. *The Academy of Management Review*, 23(1), 59–76.
- Peel, V. & Steen, A. (2007). Victims, hooligans and cashcows: Backpackers and media representation in Australia. *Tourism Management*, 28(4), 1057–1067.

Pelfrey, W. V. (2005). The cycle of preparedness: Establishing a framework to prepare for terrorist threats. *Journal of Homeland Security and Emergency Management*, 2(1), 1–20.

Pelling, M. (2003). *Natural disasters and development in a globalizing world*. London: Routledge.

Peng, M. W. & Heath, P. S. (1996). The growth of the firm in planned economies in transition: Institutions, organizations, and strategic choice. *Academy of Management Review*, 21(2), 492–528.

Perrow, C. (2011). *The next catastrophe: Reducing our vulnerabilities to natural, industrial, and terrorist disasters*. Princeton, NJ: Princeton University Press.

Perry, R. W. & Lindell, M. K. (2008). Volcanic risk perception and adjustment in a multi-hazard environment. *Journal of Volcanology and Geothermal Research*, 172(3), 170–178.

Peters, M. & Pikkemaat, B. (2005). Crisis management in alpine winter sports resorts: The 1999 avalanche disaster in Tyrol. *Journal of Travel and Tourism Marketing*, 19(2/3), 9–20.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

Polanyi, M. (1962). Tacit knowing: Its bearing on some problems of philosophy. *Reviews of Modern Physics*, 34(4), 600–601.

Polanyi, M. (2009). *The tacit dimension*. Chicago, IL: University of Chicago Press.

Porter, L. & McKibbin, L. (1988). *Management education and development: Drift or thrust into the 21st century?* New York, NY: McGraw-Hill.

Pratt, S. (2015). The economic impact of tourism in SIDS. *Annals of Tourism Research*, 52, 148–160.

Presenza, A. & Cipollina, M. (2010). Analysing tourism stakeholders networks. *Tourism Review*, 65(4), 17–30.

Priluck, R. & Till, B. D. (2004). The role of contingency awareness, involvement, and need for cognition in attitude formation. *Journal of the Academy of Marketing Science*, 32(3), 329–344.

Quigley, T. J. & Graffin, S. D. (2017). Reaffirming the CEO effect is significant and much larger than chance: A comment on Fitza (2014). *Strategic Management Journal*, 38(3), 793–801.

Quigley, T. J. & Hambrick, D. C. (2015). Has the ‘CEO effect’ increased in recent decades? A new explanation for the great rise in America's attention to corporate leaders. *Strategic Management Journal*, 36(6), 821–830.

Quintal, V. A., Lee, J. A. & Soutar, G. N. (2010). Risk, uncertainty and the TPB: A tourism example. *Tourism Management*, 31, 797–805.

Ratnasooriya, H., Amarawickrama, S. & Mamura, F. (2007). Post tsunami recovery process in Sri Lanka. *Journal of Natural Disaster Science*, 29(1), 21–28.

Reisinger, Y. & Mavondo, F. (2005). Travel anxiety and intentions to travel internationally: Implications of travel risk perception. *Journal of Travel Research*, 43, 212–225.

Ritchie, B. W. (2004). Chaos, crises and disasters: A strategic approach to crisis management in the tourism industry. *Tourism Management*, 25(6), 669–683.

Ritchie, B. W. (2008). Tourism disaster planning and management: From response and recovery to reduction and readiness. *Current Issues in Tourism*, 11(4), 315–348.

Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Bristol: Channel View Publications.

Ritchie, B. W., Dorrell, H., Miller, D. & Miller, G. A. (2003). Crisis communication and recovery for the tourism industry: Lessons from the 2001 foot and mouth disease outbreak in the United Kingdom. *Journal of Travel & Tourism Marketing*, 15, 199–216.

Roberts, V. (1994). Flood management: Bradford paper. *Disaster Prevention and Management*, 3(2), 44–60.

Rodríguez, I., Williams, A. M. & Hall, C. M. (2014). Tourism innovation policy: Implementation and outcomes. *Annals of Tourism Research*, 49, 76–93.

Roh, J., Turkulainen, V., Whipple, J. M. & Swink, M. (2017). Organizational design change in multinational supply chain organizations. *International Journal of Logistics Management*, 28(4), 1078–1098.

Rosenberg, M. J., Hovland, C. I., McGuire, W. J., Abelson, R. P., & Brehm, J. W. (1960). *Attitude organization and change: An analysis of consistency among attitude components*. Oxford: Yale University Press.

Ross, M., McFarland, C., Conway, M. & Zanna, M. (1983). The reciprocal relation between attitudes and behaviour recall: Committing people to newly formed attitudes. *Journal of Personality and Social Psychology*, (45), 257–267.

- Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3), 308–330.
- Ryu, K., Bordelon, B. M. & Pearlman, D. M. (2013). Destination image recovery process and visit intentions: Lessons learned from Hurricane Katrina. *Journal of Hospitality Marketing & Management*, 22(2), 183–203.
- Santana, G. (2004). Crisis management and tourism: Beyond the rhetoric. *Journal of Travel & Tourism Marketing*, 15(4), 299–321.
- Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow: Pearson Education.
- Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Harlow: Pearson Education.
- Schifter, D. & Ajzen, I. (1985). Intention, perceived control, and weight loss: An application of the theory of planned behaviour. *Journal of Personality & Social Psychology*, 49(3), 843–851.
- Schumacker, R. E. & Lomax, R. G. (2016). *A beginner's guide to structural equation modeling* (4th ed.). New York, NY; Abingdon, Oxon: Routledge.
- Scott, N., Laws, E. & Prideaux, B. (2007). Tourism crises and marketing recovery strategies. *Journal of Travel and Tourism Marketing*, 23(4), 1–13.
- Seetanah, B. (2011). Assessing the dynamic economic impact of tourism for island economies. *Annals of Tourism Research*, 38(1), 291–308.

Sekaran, U. & Bougie, R. (2013). *Research methods for business: A skill building approach* (6th ed.). West Sussex: John Wiley & Sons Ltd.

Seneviratne, M. (1991). *Tales of courage and chivalry re-told from the Mahavamsa and Chulavamsa*. Colombo: M. D. Gunasena & Co.

Shang, H., Huang P. & Guo, Y. (2010). Managerial cognition: The sources of sustainable competitive advantage in hypercompetition. *Nankai Business Review International*, 1(4), 444–459.

Sharpley, R. (2003). Rural tourism and sustainability: A critique. In D. Hall, L. Roberts & M. Mitchell (eds), *New directions in rural tourism* (pp.38–53). Aldershot, UK; Burlington, VT: Ashgate.

Sharpley, R. (2005). The tsunami and tourism: A comment. *Current Issues in Tourism*, 8(4), 344–350.

Sharpley, R. (2009). *Tourism development and the environment: Beyond sustainability?* London: Earthscan.

Sherif, M. & Hovland, C. (1961). *Social judgment, assimilation and contrast effects in communication and attitude change*. New Haven, CT: Yale University Press.

Simon, H. A. (1957). *Models of man social and rational: Mathematical essays on rational human behaviour in a social setting*. New York, NY: John Wiley & Sons.

Simon, H. A. (1982). *Models of bounded rationality*. Cambridge, MA: MIT Press.

Slaper, T. F. & Hall, T. J. (2011). The Triple Bottom Line: What is it and how does it work? *Indiana Business Review*, 86(1), 4–8.



Sniehotta, F. F., Presseau, J. & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychology Review*, 8(1), 1–7.

Sparks, B. & Pan, G. W. (2009). Chinese outbound tourists: Understanding their attitudes, constraints and use of information sources. *Tourism Management*, 30(4), 483–494.

Sparrow, J. (1998). *Knowledge in organizations*. Thousand Oaks, CA: Sage.

Sri Lanka Tourism Development Authority (2014). Statistical Report. Available from: [http://www.sltda.lk/sites/default/files/Annual\\_Statistical\\_Report-2014\\_new.pdf](http://www.sltda.lk/sites/default/files/Annual_Statistical_Report-2014_new.pdf)

[Accessed 10 February 2016].

Sri Lanka Tourism Development Authority (2015). Statistical Report. Available from: [http://www.sltda.lk/sites/default/files/Annual\\_Statistical\\_Report-2015\\_new.pdf](http://www.sltda.lk/sites/default/files/Annual_Statistical_Report-2015_new.pdf)

[Accessed 10 May 2017].

Sri Lanka Tourism Development Authority (2017a). Overview of Tourism Industry in Sri Lanka. Available from: [http://www.sltda.lk/overview\\_of\\_tourism\\_in\\_sri\\_lanka](http://www.sltda.lk/overview_of_tourism_in_sri_lanka)

[Accessed 12 May 2017].

Sri Lanka Tourism Development Authority (2017b). Statistical Report. Available from: <http://www.sltda.lk/sites/default/files/annual-statical-report-2017.pdf> [Accessed 10

February 2018].

Stacey, R. D. & Mowles, C. (2016). *Strategic management and organisational dynamics: The challenge of complexity to ways of thinking about organisations*.

Harlow: Pearson.

Stubbart, C. I. (1989). Managerial cognition: A missing link in strategic management research. *Journal of Management Studies*, 26(4), 325–347.

Sun, Y., Zhou, H., Wall, G. & Wei, Y. (2017). Cognition of disaster risk in a tourism community: An agricultural heritage system perspective. *Journal of Sustainable Tourism*, 25(4), 536–553.

Tabachnick, B. G. & Fidell, L. S. (2014). *Using multivariate statistics* (6th ed.). Harlow, Essex: Pearson.

The world Bank (2014). 10 Years After the Tsunami: Is Sri Lanka Better Prepared for the Next Disaster? Available from: <https://www.worldbank.org/en/10-years-after-tsunami-sri-lanka-better-prepared-disaster> [Accessed 11 July 2017].

Thomas, W. I. & Znaniecki, F. (1918). *The polish peasant in Europe and America*. Boston, MA: Badger.

Tolman, E. C. (1948). Cognitive maps in rats and men. *Psychological Review*, (55), 189 - 208.

Torres-Delgado, A. & Palomeque, F. L. (2014). Measuring sustainable tourism at the municipal level. *Annals of Tourism Research*, (49), 222–137.

Trafimow, D. & Finlay, K. (1996). The importance of subjective norms for a minority of people: Between subjects and within-subjects' analysis. *Personality and Social Psychology Bulletin*, 22(8), 820–828.

Trafimow, D. & Finlay, K. (2001). The relationship between normatively versus attitudinally controlled people and normatively versus attitudinally controlled behaviours. *The Social Science Journal*, 38(2), 203–216.

Tribe, J. (2006). The truth about tourism. *Annals of Tourism Research*, 33(2), 360–381.

Tribe, J. (2010). Tribes, territories and networks in the tourism academy. *Annals of Tourism Research*, 37(1), 7–33.

Tsai, C. & Chen, C. (2011). The establishment of a rapid natural disaster risk assessment model for the tourism industry. *Tourism Management*, 32(1), 158–171.

Tulving, E. (2002). Episodic memory: From mind to brain. *Annual Review of Psychology*, 53(1), 1–25.

UNESCO Institute for Statistics (2019). Country profile and culture of Sri Lanka; Available from: <http://uis.unesco.org/en/country/lk?theme=culture> [Accessed 31 July 2019].

United Nations International Strategy for Disaster Reduction (2017). International Strategy for Disaster Reduction. Available from: <https://www.unisdr.org/who-we-are/international-strategy-for-disaster-reduction> [Accessed 07 June 2017].

United Nations International Strategy for Risk Reduction (2009). 2009 UNISDR terminology on disaster risk reduction. Geneva, Switzerland: UNISDR. Available from: [http://www.unisdr.org/files/7817\\_UNISDRTerminologyEnglish.pdf](http://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf) [Accessed 29 July 2014].

United Nations World Tourism Organisation (2010). UNWTO Definition of Tourist; Available from: <http://www.tugberkugurlu.com/archive/definintion-of-tourism-unwto-definition-of-tourism-what-is-tourism> [Accessed 14 March 2017].

United Nations World Tourism Organization (2008). Tourism 2020 vision. Available from: [http://dtxtq4w60xqpw.cloudfront.net/sites/all/files/pdf/unwto\\_highlights14\\_en.pdf](http://dtxtq4w60xqpw.cloudfront.net/sites/all/files/pdf/unwto_highlights14_en.pdf) [Accessed 20 July 2014].

United Nations World Tourism Organization (2015). UNWTO tourism highlights. Available from: <http://www.enwto.org/doi/pdf/10.18111/9789284416899> [Accessed 20 April 2015].

United Nations World Tourism Organization (2017). UNWTO tourism highlights. Available from: <http://www.e-unwto.org/doi/pdf/10.18111/9789284419029> [Accessed 01 November 2017].

United Nations World Tourism Organization (2018). Tourism – an economic and social phenomenon. Available from: <http://www2.unwto.org/content/why-tourism> [Accessed 06 February 2019].

Unlu, A., Kapucu, N. & Sahin, B., (2010). Disaster and crisis management in Turkey: A need for a unified crisis management system. *Disaster Prevention and Management*, 19(2), 155–174.

Walsh, J. P. (1995). Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science*, 6(3), 280–321.

Wang, J. & Ritchie, B. (2012). Understanding accommodation managers' crisis planning intention: An application of the TPB. *Tourism Management*, 33(5), 1057–1067.

Wang, Y. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75–82.

Wangrow, D. B., Schepker, D. J. & Barker, V. L. III (2015). Managerial discretion: An empirical review and focus on future research directions. *Journal of Management*, 41(1), 99–135.

Weaver, D. (2006). *Sustainable tourism*. Oxford: Elsevier.

Wegner, D. M. (2002). *The illusion of conscious will*. Cambridge, MA: MIT Press.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York, NY: Springer-Verlag.

Wolff, K., Nordin, K., Brun, W., Berglund, G. & Kvale, G. (2011). Affective and cognitive attitudes, uncertainty avoidance and intention to obtain genetic testing: An extension of the TPB. *Psychology and Health*, (26), 1143–1155.

Wood, R. & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of management Review*, 14(3), 361–384.

World Tourism Organization and United Nations Environment Programme (2008). *Climate Change and Tourism: Responding to Global Challenges*. Available from: <http://sdt.unwto.org/sites/all/files/docpdf/climate2008.pdf> [Accessed 24 July 2014].

Wyer, R. S Jr & Srull, T. K. (2014). *Handbook of social cognition: Volume 2: Applications*. New York, NY: Psychology Press.

Zikmund, W. G., Babin, B. J., Carr, J. C. & Griffin, M. (2013). *Business Research Methods* (9th ed.). U.K., South-Western: Cengage Learning Custom Publishing.

# 10. Appendices

## Appendix 1: Ethics approval letter



Research, Innovation and Academic  
Engagement Ethical Approval Panel

Research Centres Support Team  
G0.3 Joule House  
University of Salford  
M5 4WT

T +44(0)161 295 7012

[www.salford.ac.uk/](http://www.salford.ac.uk/)

19 April 2017

Dear Lakmini Kannangara

**RE: ETHICS APPLICATION SBS1617-17**

Disaster Cognition and Planning Behaviour of Accommodation Managers in the Sri Lankan Tourism Industry

Based on the information that you provided, I am pleased to inform you that your application SBS1617-17 has been approved.

If there are any changes to the project or its methodology, please inform the Panel as soon as possible by contacting [SBS-ResearchEthics@salford.ac.uk](mailto:SBS-ResearchEthics@salford.ac.uk).

Yours sincerely,

A handwritten signature in black ink that reads 'David Percy'.

Professor David F. Percy  
Chair of the Staff and Postgraduate Research Ethics Panel  
Salford Business School

## **Appendix 2 : Semi-structured interview questions**

### **Preliminary Interview Questions Directed to Industry Experts and SDMAS**

The intention of the interview is to gain insights from the experts from the two main authorities involved in tourism sector and disaster planning (Sri Lanka Tourism Development Authority and Disaster management Centre) and SDMAS in Sri Lanka. The questions will be open ended. However, questions will be asked within following areas.

1. Disaster planning within tourism industry (e.g. What do you think about disaster planning within tourism industry?).
2. Disaster planning within accommodation sector?
3. What kind of regulations in place?
4. Disaster management training within tourism sector?
5. Any lessons learned from previous disasters and any changers made afterwards?
6. Potential future disasters?
7. Level of disaster management and planning in tourism sector?
8. Any other information that the interviewee would like to share?
9. How important do you think that tourism business owners and managers be aware about any emerging disaster risks in the future?
10. Any other thoughts about future disaster risk awareness?
11. Which kind of survey is best suitable and effective for SDMAS?
12. Any other thoughts?

## Appendix 3: Sample of the questionnaire



**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

### 1. Personal and Organisational Demographics

**Kindly let us know a few details about your position in your organisation and responsibilities by responding to the following questions.**

1. Are you directly responsible for taking the most important decisions for your organisation?

- YES (If "YES" go to question number 2)  
 NO (If "NO" you may exit the questionnaire survey)

2. What is your gender?

- Female  
 Male

3. What is your age?

- 25 or younger  
 26-35  
 36-49  
 50-59  
 60 or older

4. How many years of work experience do you have in the accommodation industry?

- Less than 3 years  
 3-5 years  
 6-10 years  
 11-20 years  
 more than 20 years



5. What is your current position in the organisation?

- Owner
- Partner
- CEO/ Managing director
- General manager/regional manager/Area manager
- Manager
- Other (please specify)

6. How long have you been in your current position?

- Less than 3 years
- 3-5 years
- 6-10years
- 11-20 years
- More than 20 years

7. What is the highest level of qualification you have completed?

- GCE O' Levels or less
- GCE A' Levels or equivalent
- Professional qualification or equivalent
- Graduate
- post graduate
- Doctorate
- Other (please specify)

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
***All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.***

## 2. Details about your organisation

**Kindly let us know a few details about your organisation by answering the following questions.**

8. In which territory is your accommodation (current work place) located?

- South coast
- East coast
- Colombo city
- Greater Colombo
- Northern region
- Other (please specify)

9. How long has your organisation (in the case of group or chain) or establishment (in the case of independent) been operating in the accommodation sector?

- Less than 3 years
- 3-5 years
- 6-10 years
- 11-20 years
- more than 20 years
- Don't know

10. Which of the following categories best describes your accommodation?

- 4-5 Star graded tourist hotel
- 1-3 Star graded tourist hotel
- Small luxury hotel (boutique hotel)
- Guest house
- rented apartment or house
- Other (please specify)

11. Has your accommodation been registered under Sri Lanka Tourism Development Authority?

- YES
- NO

12. Approximately, how many rooms do(es) your establishment(s) operate? (e.g.) Please write only numbers.

13. Please tick all relevant boxes that describe your accommodation type ( Please select all the categories applicable to your organisation).

- Hotel chain
- Sole ownership
- Partnership
- Franchised
- Management contract
- foreign owned
- Domestically owned
- Other (please specify)

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
***All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.***

### 3. Disaster Management Training

**Kindly let us know about disaster management training you have undergone by responding to the following questions.**

14. Have you attended any disaster management training programs?

- YES (If you have answered "YES" please go to question number 15)
- NO (If you have answered "NO" please go to question number 20)

15. How many disaster management training programs have you attended so far?

- 1-2
- 3-4
- 5-6
- More than 6

16. When was the last time you attend disaster management training program?

- Within last 12 months
- Within last 12- 24 months
- Prior to 24 months

17. on a scale from 1(extremely ineffective) to 7 (extremely effective), please rate the overall effectiveness of the disaster management training you have taken.

1	2	3	4	5	6	7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. On a scale from 1(not relevant at all) to 7 (extremely relevant), please indicate the relevance of the disaster management program/s you have attended?

1	2	3	4	5	6	7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. On a scale from 1( not comprehensive at all) to 7 (extremely comprehensive), please indicate the comprehensiveness of the disaster management training you have undergone?

1	2	3	4	5	6	7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

#### 4. Past Disaster Experience:

Kindly let us know about your past disaster experiences by answering the following questions. In the context of this study "a disaster" is defined as " any sudden unexpected situation arising from outside of the organisation that could disturb the organisation, its staff, and customers. These negative events could endanger an organisation's financial status and future ability to operate depending on how sever they are and how frequently they happen".

Examples: Natural disasters (e.g.Tsunami, earth quakes, bush fires, land slides, floods and cyclones)

Terrorist attacks (e.g. mass shootings, bomb attacks, hostage crisis).

20. List down up to three disasters you have experienced in your life ( if you have never experienced a disaster please leave this space blank)

Disaster 1

Disaster 2

Disaster 3

21. On a scale from 1 (no experience at all) to 7 ( I have first hand experience) how do you rate the severity of the disaster you have experienced?

	1	2	3	4	5	6	7
Disaster 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disaster 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disaster 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. In how many occasions have you actively managed disasters while working in the accommodation sector? Please use numbers only.

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

## 5. Attitude Towards Disaster Planning

Kindly let us know your perceptions about disaster planning by indicating your responses to the following statements.

Examples for disaster planning activities include : developing disaster management plans, scenario planning, drills or simulation exercises, using crisis management toolboxes, updating insurance coverage to cover emerging disasters and risks and having emergency evacuation procedures.

23. For me to undertake disaster planning in my organisation is:

	Extremely (1)	Quite (2)	Slightly (3)	Neither (4)	Slightly (5)	Quite (6)	Extremely (7)
From 1(extremely bad) to 7 (extremely good)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely wrong) to 7 (extremely right)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely harmful) to 7 (extremely beneficial)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely negative) to 7 (extremely positive)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely unfavorable) to 7 (extremely favorable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely foolish) to 7 (extremely wise)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely useless) to 7 (extremely useful)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From 1(extremely undesirable) to 7 (extremely desirable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

## 6. Beliefs towards disaster planning.

**Kindly let us know about your beliefs about disaster planning by responding to the following questions.**

24. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree
I am confident that I could implement disaster planning if I wanted to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The decision to implement disaster planning is beyond my control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For me to implement disaster planning is difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whether or not I implement disaster planning is completely up to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For me to implement disaster planning is easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

### 7. Social pressure to do disaster planning

**Kindly let us know your thoughts about social pressure to do disaster planning by responding to the following questions.**

25. Please indicate to what extent you think that the following statements are true or false:

	Definitely false	Quite false	Slightly false	Neither false nor true	Slightly true	Quite true	definitely true
Most people who are important to me think that I should implement disaster planning activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is expected of me that I implement disaster planning activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel under social pressure to implement disaster planning activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people who are important to me think that I should not implement disaster planning activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

## 8. Likelihood of a disaster

**Kindly let us know your thoughts regarding the likelihood of the occurrence of a disaster which could affect your organisation.**

26. How likely do you think that a disaster would affect your organisation within the next 12 months?

Extremely unlikely	Quite unlikely	Slightly unlikely	Neither unlikely nor likely	slightly likely	Quite likely	extremle likely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. In your opinion what kind of disaster is most likely to affect your organisation in the next 12 months?

- Natural disaster
- Terrorist activity
- None what so ever
- Not sure
- Other (please specify)

28. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree
There is a probability of disaster affecting my organisation in the next 12 months.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about a disaster affecting my organisation over the next 12 months.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a risk of disaster affecting my organisation over the next 12 months.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about possible losses for my organisation if a disaster occurs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do expect losses for my organisation if a disaster occurs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

## 9. Your views about foreign products

**Kindly let us know your views about foreign products by responding to the following statements.**

29. Please indicate to what extent do you agree or disagree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree
Sri Lankan products first, last, and foremost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A real Sri Lankan should buy Sri Lankan-Made products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sri Lankans should not buy foreign products, because this hurts Sri Lankan business and causes unemployment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sri Lankan consumers who purchase products made in other countries are responsible for putting their fellow Sri Lankans out of work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Questionnaire survey of disaster planning in the Sri Lankan accommodation industry.**  
*All responses to this survey are strictly confidential. You are able to withdraw from the survey at any time.*

### 10. Intention to Undertake Disaster Planning

Kindly let us know your intention to do disaster planning by responding to the following questions.

30. Please indicate the extent to which you disagree or agree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree
I expect to undertake disaster planning activities in the next six months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to undertake disaster planning activities in the next six months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to undertake disaster planning activities in the next six months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Has your organisation undertaken any disaster planning activities in the past six months?

- Yes
- No
- Don't Know

32. On a scale of 1(Not prepared at all) to 7(Fully prepared) please indicate how well prepared do you believe your organisation is to cope with a disaster?

1	2	3	4	5	6	7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

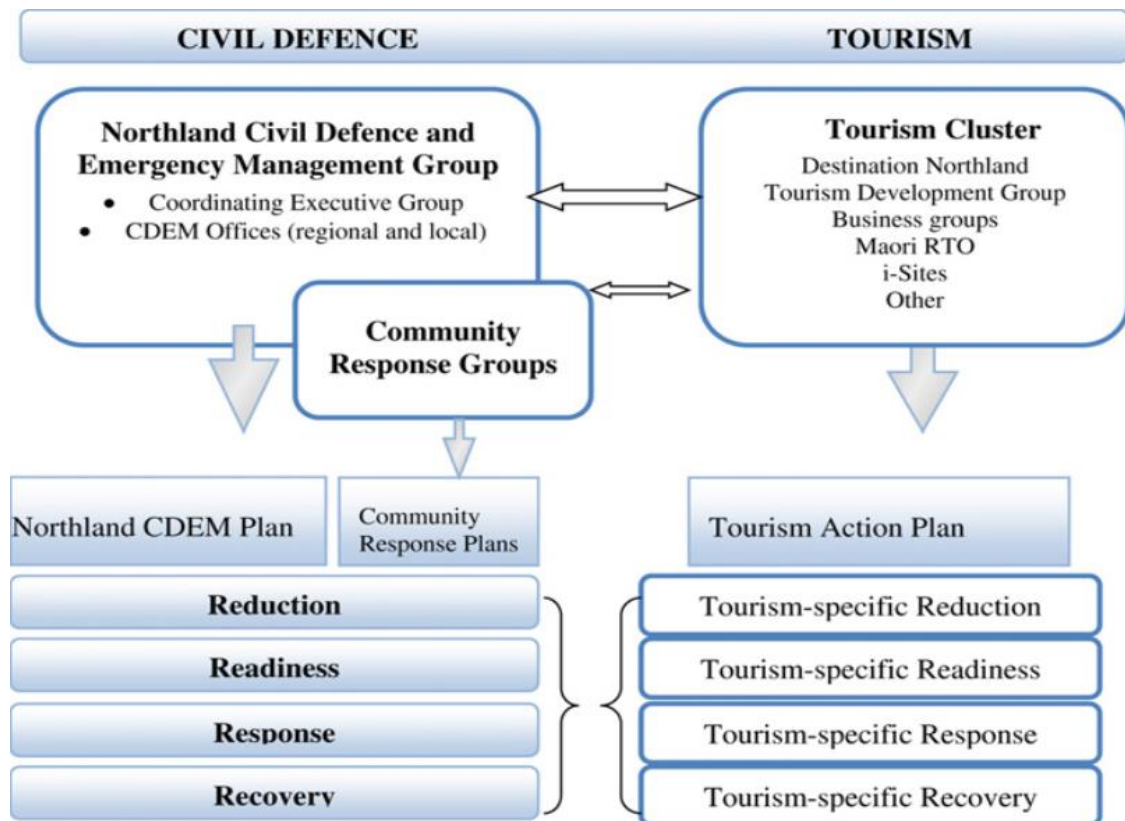
**Appendix 4: Emergency management phases in various frameworks (Source: Becken and Hughey (2013)).**

**Table 1**

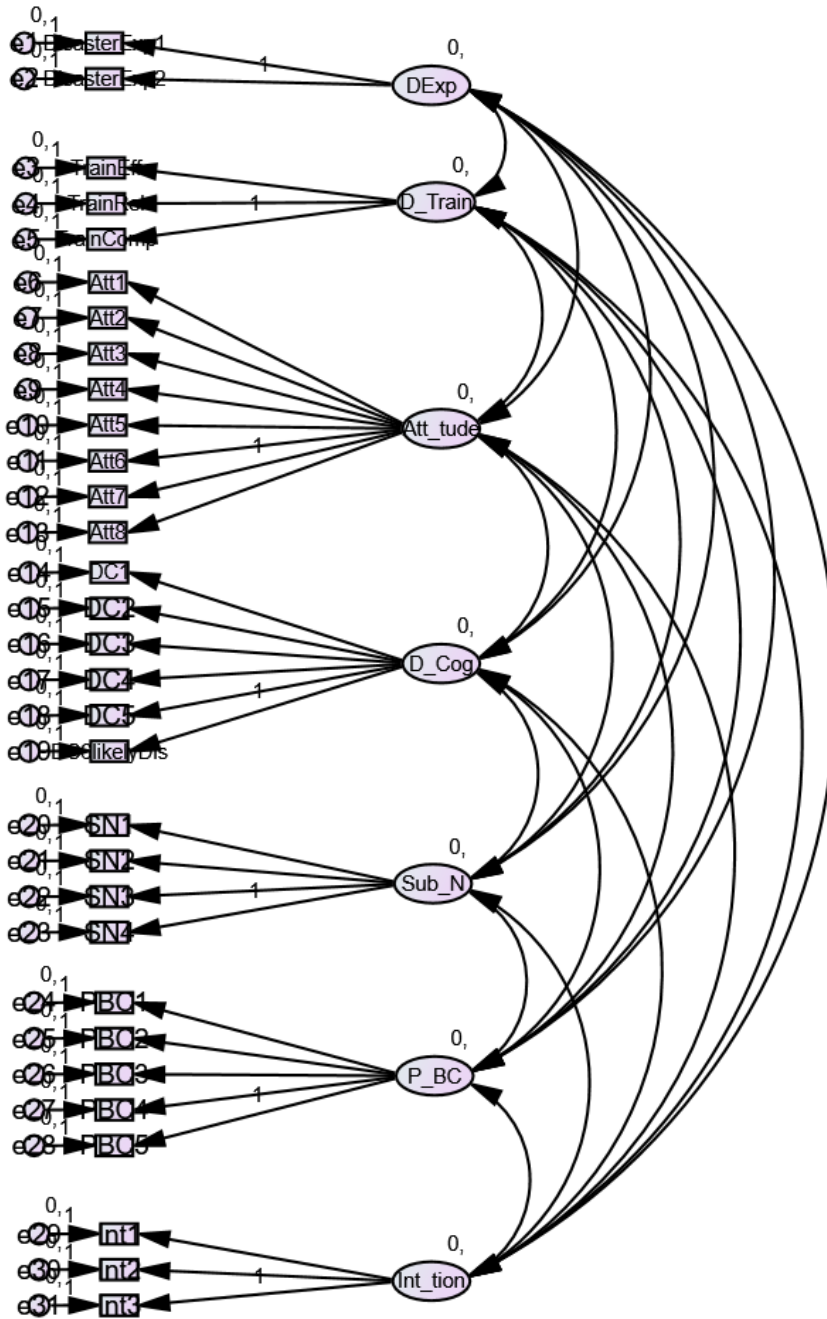
Alignment of emergency management phases in different frameworks.

Faulkner's Framework (2001)	International frameworks: PPRR (e.g. Hills, 1998 in Ritchie, 2008)	New Zealand: the <i>Four Rs</i> used in the CDEM framework
1. Pre-event phase: contingency plans, scenario analyses, hazard assessments.	Prevention/Mitigation	Reduction: Identifying and analysing long-term risks to human life and property from natural or man-made hazards; taking steps to eliminate these risks where practicable and, where not, reducing the likelihood and the magnitude of their impact.
2. Prodromal phase: due to an imminent disaster, early warning systems are activated and command centres are established.	Preparedness	Readiness: Developing operational systems and capabilities before an emergency happens. These include self-help and response programmes for the general public, as well as specific programmes for emergency services, utilities, and other agencies.
3. Emergency phase: Actions are necessary to protect people and property.	Response	Response: Actions taken immediately before, during or directly after an emergency, to save lives and property, as well as help communities to recover.
4. Intermediate phase: short term needs of people/tourists have to be addressed and media communication is critical.		
5. Recovery phase: Rebuilding of infrastructure, marketing of destination.	Recovery	Recovery: Activities beginning after initial impact has been stabilised and extending until the community's capacity for self-help has been restored.
6. Resolution phase: evaluation and feedback.		

**Appendix 5:** Template for linking tourism to the existing Civil Defence Structure based on the Northland case study. (Source: Becken and Hughey (2013)).

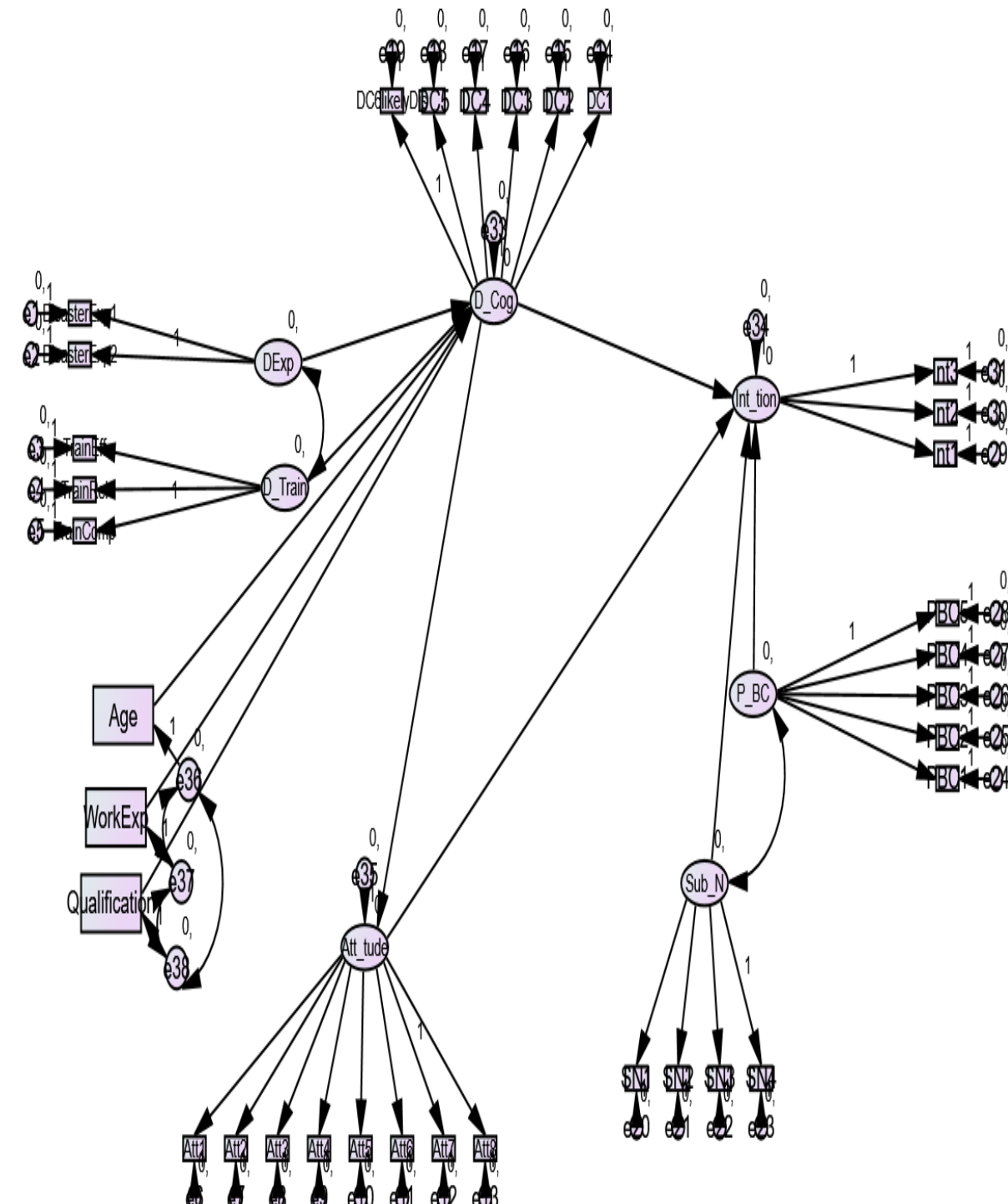


## Appendix 6: Revised CFA model





**Appendix 7: Structural model.**



## Appendix 8: Declaration of originality



DOCTORAL  
SCHOOL

### DECLARATION 1 FORM

#### Declaration of Originality by Postgraduate Candidate (for softbound thesis)

1

Candidates for postgraduate degrees must present this completed form to askUS, Student Administration, ground floor, University House, when submitting their **two** soft-bound theses. In addition, an electronic version of the thesis (pdf format) should be sent to the candidate's PGR Support Officer.

Name of candidate (in BLOCK CAPITAL LETTERS as it appears on the thesis)

..... LAKMINI N KANNANGARA .....

Roll number/Student number: @00417724.....

School: University of Salford Business School.....

Degree (PhD, DMA, Professional Doctorate, MSc, MPhil, MRes – Please specify): PhD.....

This is to certify that the copy of my thesis, which I have presented for consideration for my postgraduate degree: -

1. embodies the results of my own course of study and research
2. has been composed by myself
3. has been seen by my supervisor before presentation
4. has been granted the appropriate level of ethics approval

Signature of candidate: 

Date: 25.09.2019

Address (to which information concerning examiners' decision and final binding can be sent):

..... NO 5, BROWNLOW STREET .....

..... YORK .....

..... YO31 8LW .....

The candidate's supervisor is asked to declare here that s/he has approved the submission of the thesis. If the supervisor decides to withhold approval, the candidate shall have the right of appeal to the Associate Head/Dean of Research. A candidate may be permitted to submit a thesis despite the Supervisor withholding approval, providing the Associate Dean of Research approves submission.

Signature of Supervisor: 

Date: 26.09.2019

**Please note that the completed declaration form must accompany the softbound thesis when presented to Student Administration**

Oct 2018 v1