

**An investigation into the major factors  
impacting the long-term sustainability  
of recreational scuba diving tourism in  
the Cairns section of the Great Barrier  
Reef Marine Park**

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## **ABSTRACT**

This thesis presents the findings from an investigation into the major factors impacting the long-term sustainability (LTS) of recreational scuba diving tourism (RSDT) in the Cairns section of the Great Barrier Reef Marine Park (GBRMP). Cairns, located in Far North Queensland, Australia, is host to one of the world's largest concentrations of RSDT. The agglomeration of associated businesses exhibits strong links and co-dependence on the tourism industry and supports, either directly or indirectly, commercial and employment opportunities locally and external to the region through various international and domestic demand and supply chains. The LTS of Cairns-based RSDT not only has far reaching implications for a wide range of stakeholders, but its presence impacts the GBRMP and its international reputation for fostering sustainable tourism.

A review of the literature indicates there is a lack of industry data and gaps and weaknesses in the literature in relation to investigations into the LTS of iconic, globally renowned and economically important RSDT destinations. The literature also revealed that few studies have attempted to integrate multiple stakeholders' and dive tourists' (DTs) perspectives regarding the major factors impacting the LTS of RSDT in a holistic or systematic way by using clearly defined linkages. Additionally, few studies identify the specific barriers, drivers and opportunities impacting the LTS of RSDT.

Based on these gaps in the academic and contemporary information contained in the grey literature, five research objectives were developed to investigate the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP as a single case study:

1. Develop sociocultural and demographic profiles of dive tourists who visit the Cairns section of the GBRMP.
2. Identify stakeholders' and dive tourists' perceptions of the major factors which impact the LTS of RSDT in the Cairns section of the GBRMP.
3. Identify the barriers facing the LTS of RSDT in the Cairns section of the GBRMP.

4. Identify the drivers and potential opportunities that enhance the LTS of RSDT in the Cairns section of the GBRMP.
5. Develop models that can be used to explain the major factors of LTS impacting RSDT in the Cairns section of the GBRMP.

To address these research questions a pragmatism paradigm, mixed method methodology, location-based and triangulation design approach was utilised. A four-step approach to data collection was employed using content analysis of public documents, semi-structured interviews with RSDT stakeholders, a questionnaire administered to DTs and a RSDT stakeholder focus group. Field observations and the use of autoethnography (the researcher's dive industry history and experience) were also used as additional qualitative research instruments to address the research objectives.

This research can be justified and rationalised since it provides several significant and original contributions to knowledge and theory. Firstly, this is achieved by confirming prior research that there are four major factors that impact on the LTS of a tourism destination (sociocultural and demographic, environmental, economic and governance). Secondly, by proposing two additional major factors that impact the LTS of a tourism and RSDT destination: the impact of innovation and new technology, and the impact of multiple stakeholders with individual needs and influences.

The research revealed few supply-side RSDT stakeholders had formal business and/or marketing plans and displayed high degrees of change hesitancy, locked-in and path dependence concerning their business activities. One of the most significant findings is that RSDT stakeholders, dependent on the quality of coral, have not placed enough emphasis on the future impacts from anthropogenic stresses and climate change on the GBRMP.

This research makes a significant and original contribution to knowledge by uncovering six new RSDT cohorts not previously identified in the literature. These cohorts not only have the potential to impact the LTS of Cairns-based RSDT, but RSDT globally. The adaption, expansion of existing, and the development of new, theoretical, conceptional and

process models presented in this research can also be applied and tested by researchers at other tourism and RSDT destinations.

Several game changers have already been identified as originating from the release of this research's initial findings to some stakeholders. These game changers are considered by the researcher as some of the most significant and original practical contributions of this research in that they have successfully challenged some aspects of governance, and several business and marketing strategies employed by RSDT stakeholders. Other practical contributions of this research indicate that RSDT stakeholders, including the Great Barrier Reef Marine Park Authority (GBRMPA), Cairns Regional Council, Cairns Chamber of Commerce and tourism NGOs could benefit from the establishment of new networks of collaboration, the exchange of knowledge associated with management and business practices and the development of holistic future-proofing strategies.



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## **PREVIOUS SUBMISSION STATEMENT**

This thesis has not been submitted for an award by another research degree candidate (Co-Author), either at CQUniversity or elsewhere.

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# DECLARATION OF CO-AUTHORSHIP AND CO-CONTRIBUTION

## Research Outputs

### Conference papers:

Pabel, A., & Cummins, T. L. (2017). *Profiling recreational scuba divers of the Cairns section of the Great Barrier Reef*. Paper presented at the Travel Tourism Research Association 5th Annual Conference. The School of Hotel and Tourism Management, The Hong Kong Polytechnic University.

Nature of candidate's contribution: In contributing to this paper, I was responsible for collecting, analysing and interpreting the results. Data came from two data sets – one from my research and another from the research of the co-author. [40% contribution]

Nature of co-authors' contributions: My co-author, Anja Pabel, was the primary writer, analysed the data and interpreted the combined results of the two data sets [60% contribution].

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Cummins, T. L., Pabel, A., & Prideaux, B. (2019). Stakeholders' perceptions of factors impacting long-term sustainability of the recreational scuba diving tourism sector in Cairns Australia. In A. Pabel, E. Konovalov, L. Cassidy, & P. Jose, (Eds.), CAUTHE2019: Sustainability of tourism, hospitality and events in a disruptive digital age. *Proceedings of the 29th CAUTHE conference, Council for Australasian Tourism and Hospitality Education (CAUTHE)*, 11–14 February 2019, Cairns: Central Queensland University.

Nature of candidate's contribution: In conducting the study, I was the primary writer, formed the research question, established the methodology, collated the literature, analysed the data and interpreted the results [70% contribution].

Nature of co-authors' contributions: My co-author, Anja Pabel, provided the Leximancer software, assisted with the analysis of the data and interpretation of the results [30% contribution]. My co-author, Bruce Prideaux, assisted with the interpretation of the results [10% contribution].

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Cummins, T. L., Pabel, A., & Prideaux, B. (2019). *The difficulties of unlocking and using recreational scuba diver databases*. 25<sup>th</sup> Asia Pacific Tourism Association Conference. Da Nang, Vietnam.

Nature of candidate's contribution: In conducting the study, I was the primary writer, formed the research question, established the methodology, collated the literature, analysed the data and interpreted the results [80% contribution].

Nature of co-authors' contributions: My co-author, Anja Pabel, assisted with the analysis of the data and interpretation of the results [10% of co-authors' contribution]. My co-author, Bruce Prideaux, assisted with the interpretation of the results [10% of co-authors' contribution].

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Nature of candidate's contribution: In contributing to the publication, I conducted the research, was co-author and collated the literature. [70% contribution]

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Cummins, T. L. (2020). Scuba Diving Terminology. *The Encyclopaedia of Tourism Management and Marketing*. Editor in Chief: Professor Dimitrios Buhalis, Edward Elgar Publishing.

Nature of candidate's contribution: I conducted the research, collated the literature and was the author. [100% contribution].

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Nature of candidate's contribution: I conducted the research, collated the literature and was the author. [100% contribution].

# CHAPTER ONE: INTRODUCTION

## 1.1. Introduction

This research presents an investigation into the major factors impacting the long-term sustainability (LTS) of recreational scuba diving tourism (RSDT) in the Cairns section of the Great Barrier Reef Marine Park (GBRMP). This section of the GBRMP hosts one of the most iconic, globally renowned and largest agglomerations of RSDT in the world providing significant societal, financial and employment contributions across local and international entities through various linkages (Cummins, Pabel, & Prideaux, 2019a). Cairns is often described by travel writers and the Cairns Regional Council as the Gateway to the Great Barrier Reef (see Figure 1.1), and in scuba diving publications as one of the world's most desirable RSDT destinations (Cairns Regional Council, 2017, 2020a; Geiger, 2017a; Nagaraj, 2017).



Figure 1.1 Cairns regional council promotional flags distributed widely throughout the city featuring Cairns as Gateway to the Great Barrier Reef (Photograph: Cathie Cummins)

This research represents a significant and original contribution to knowledge as a review of the literature indicates few studies of iconic, globally renowned and economically important RSDT destinations exist on this scale. This research also reflects the researchers

long-term involvement in the scuba diving industry which enabled additional insights to be provided and also helped in the gathering and interpretation of parts of the data gathered.

This chapter includes the background; research focus; a brief overview of the literature, initial insights into the barriers, drivers and opportunities impacting the LTS of a tourism destination and Cairns-based RSDT. The existence of research gaps will be foreshadowed, and the benefits of modelling will be briefly discussed. The research objectives are stated and the justification and rationale for this research is provided. This is followed by a brief description of the methodology, data collection and analysis employed. Finally, the delimitations, major definitions and the structure of the thesis will be presented.

## **1.2. Background**

From the late 1960s, most major sectors of the dive industry experienced double-digit growth. This early growth was stimulated by the development of accessible and standardised scuba diving courses, the development of easier to use diving equipment and a corresponding change in the public's perception that scuba diving was not as dangerous as previously thought (Dimmock & Cummins, 2013). However, by the late 1980s/early 1990s many dive industry stakeholders reported growth rates had slowed. By the 2000's the author observed some sectors of RSDT and/or members within sectors began experiencing business decline, especially in so-called mature markets of Australia, Europe and the USA. By 2010 the only significant growth areas reported globally were in Asia, China, parts of Central Europe, Russia and India.

The reasons for the current position of the diving industry and the flow-on to RSDT is complex. However, many scuba diving industry stakeholders agree the industry has not anticipated impacts and is in decline or downsizing (Broughton, 2008; Marsh, 2013). For example, there is anecdotal evidence suggesting that much of the dive industry is run by lifestyle entrepreneurs (Dimmock, Cummins, & Musa, 2013). Additionally, many young people today are reluctant to fully commit to any specific leisure activity in a similar way the same demographic did in yesteryear. This is especially evident in high volume tourism

destinations such as that found in the Cairns section of the GBRMP, where RSDT competes with a host of other tourism activities for the vacationer's travel funds.

Anecdotally, it appears the Cairns-based RSDT has been progressively losing status to other destinations, especially to those within The Coral Triangle which includes Indonesia, Malaysia, the Philippines, Papua New Guinea, Solomon Islands and Fiji (Cummins, 2019a,b,c; Veron, Devantier, Turak, Green, & Kininmonth, 2009). Some of these destinations appear to be developing a comparative or competitive advantage (Hunt & Morgan, 1995; Neto, Dimmock, Lohmann, & Scott, 2019; Neto, Lohmann, Scott & Dimmock, 2017) over Cairns-based RSDT by gaining considerable marketing support from their respective tourism associations and governments (Cummins, 2018a; 2019a,b,c). Some of these destinations can also supply RSDT products and services more cost effectively because of a cheaper local labour supply and other factors of production, and the lack of regulations that can restrict business activities and/or add to operational costs at destinations like Cairns.

Similarly, several of the RSDT decision makers who strongly influence the demand- and supply-side (Australian and international RSDT wholesalers) are located outside of the destinations they potentially promote and have multiple interests which could result in a wide-ranging approach to revenue streams as opposed to a focus on a specific destination. Historically, Australian-based scuba diving travel wholesalers have offered a higher percentage of international destinations to their clients than RSDT opportunities in Cairns. The combination of these factors, and other barriers, drivers and opportunities that impact the LTS of Cairns-based RSDT, need to be fully understood in the interest of a wide range of stakeholders.

### **1.3. Research Focus**

The literature review revealed prior research had established several major factors contribute to the LTS of tourism destinations. Exploring these factors and collecting the views of RSDT stakeholders and dive tourists (DTs) regarding their views of the major factors impacting LTS was a major focus of this research. The insider experience of this

researcher and others (Brannick & Coghlan, 2007; Costley, Elliott, & Gibbs, 2010; Greene, 2014; Taylor, 2011; Unluer, 2012) within the recreational scuba diving community also provided additional insights.

#### **1.4. Overview of literature**

The academic literature in this research included journal articles; books by academic publishers and official government reports which have undergone peer review. The grey literature also reviewed included newspaper articles, non-academic journals and unpublished conference papers. Although not peer-reviewed, grey literature can make a variety of positive contributions to subsequent inquiry and practice (Adams, Smart, & Huff, 2017) because it contains considerable amounts of contemporary information that is helpful in identifying potential gaps in the academic literature.

The literature relevant to this research is reviewed in two parts. The literature relevant to tourism development, life-cycle and systems models, sustainability, destination competitiveness, defining the DT and what motivates their travel pattern is presented in Chapter Two. These aspects (or themes) were reviewed to gain insights into major factors which impact a tourism destination's LTS. The literature specifically relevant to RSDT in the Cairns section of the GBRMP is presented in Chapter Three along with critical case information regarding the single case study area.

##### **1.4.1. Major factors impacting LTS of tourism destinations**

The literature revealed four major factors that impact the LTS of tourism destinations (Dwyer, Forsyth, & Dwyer, 2010; Fletcher, 2008a; Hall, 2007; Mowforth & Munt, 2016; Zhenz, Wang, Tsai, Li, & Wang, 2017). These are sociocultural (Jennings, 2007), environmental (Dwyer et al., 2010; Hall, 2007; Hammerton & Bucher, 2015), economic (Dwyer et al., 2010) and governance factors (Dwyer et al., 2010; Hall, 2005). These four major factors display interdependence (Teodorescu, 2015) and, at least in part, can be summarised in Elkington's Triple Bottom Line (1994). Each of these factors also have the potential to create barriers and opportunities for the LTS of tourism destinations.

#### **1.4.2. Regional development research**

Previous studies identified that RSDT can act as a stimulus for regional growth, especially in underdeveloped economies (Cummins, 2008; Porter, Orams, & Lück, 2017). Regional development has been the subject of considerable research and has illustrated the importance of life cycle models (Hovinen, 2002; Tooman 1997), comparative advantage, competitive advantage and destination competitiveness in the development and LTS of a tourism destination (Butler, 2006; Crouch & Ritchie, 1999; Fahy, 2002; Hunt & Morgan, 1995; Neto et al., 2017; Neto et al., 2019; Ritchie & Crouch, 2003). A destination's key industries can change and/or a region can experience distressed assets from a by-gone period in the event there is decline in its utility. Cummins (2008) pointed out that RSDT as a special interest tourism (SIT) activity, cannot only assist regional development but may become a key industry or new staple (Schmallegger & Carson, 2010; Southey, 1978).

Thompson (2015) suggested there has been a tendency to focus on the development of SIT and avoid a systems approach to solve regional economic development issues with not all regional development studies adopting a systems approach. A systems approach in this research is defined as comprising several connected components which interact with each other (Boulding, 1956; Leiper, 1979). Tourism is best defined and researched as an open system (Leiper, 1979; Mill & Morrison, 2002; Von Bertalanffy, 1956) since it allows for an all-inclusive approach and understanding of complex relationships between components that overcome the short-falls of the reductionist perspective (Fodness, 2017; Thompson, 2015).

A scuba diving tourism system is used by some researchers as a holistic framework for a better understanding of RSDT (Musa & Dimmock, 2013). In the context of this research, it is important to adopt a systems approach. Such an approach can clearly demonstrate the multiple and complex relationships between stakeholders, DTs and their various perspectives, priorities, and values and reveal how these can be acknowledged in decision-making processes (Dimmock & Musa, 2015).



## **1.5. Main themes in RSDT research**

Dimmock and Musa (2015) claim that since 2005, there has been over 16,000 academic papers published that have a scuba diving focus. These papers have explored a wide range of topics across several disciplines. These include: identifying sociocultural characteristics of divers (Edney, 2012; Gössling, Lindén, Helmersson, Liljenberg, & Quarm, 2008; Pabel & Cummins, 2017); motivational drivers of RSDT (Giddy, 2018; Wong, Thirumoorthi, & Musa, 2013); the importance of the environment (Dimmock & Musa, 2015; Pabel & Prideaux, 2018); environmental impacts by divers (Cardwell, 2005; Garrod & Gössling, 2008; Johansen, 2013; Lindgren, Palmlund, Wate, & Gössling, 2008; Lucrezi et al., 2018; Zakai & Chadwick-Furman, 2002); dive site carrying capacity (Dixon, Fallon Scura, & van't Hof, 1993; Hawkins & Roberts, 1997); marine wildlife interaction studies (Cater, 2007; Orams, 1999); economic impact on RSDT (Dimmock & Cummins, 2013; Williams & Souter, 2005); destination competitiveness (Neto, Lohmann, Scott, & Dimmock, 2017); marketing (Campbell, 2009), management (Higham & Lück, 2007a,b) and risk and injuries to divers (Cummins, 1988; Fock, 2013; Lippman, Walker, Lawrence, Houston, & Fock, 2011; Walker, 2009, 2018, 2020). Although this literature contributes to knowledge, there are few studies that identify the major factors impacting the LTS of iconic, globally renowned and economically important RSDT destinations. The objective of this research is to reduce that gap.

### **1.5.1. Threats to the GBR and RSDT**

It is beyond the scope of this research to investigate the science and varying opinions regarding climate change (IPCC, 2018), anthropogenic stresses and other factors such as Crown of Thorns Starfish (COTS) infestations and other factors affecting the health of the GBR. However, the potential impact of climate change on the health of the Great Barrier Reef (GBR), is a vital consideration of this research since all Cairns-based RSDT takes place in the GBRMP. Coral cover visited by tourists off Cairns in the GBRMP, like that shown in Figure 1.2, is under threat of bleaching from rising sea temperatures (GBRMPA, 2017a,b; GBRMPA, 2019a; Prideaux & Pabel, 2018a) with widespread devastation as

shown in Figure 1.3. When sea temperatures rise, corals may expel the colour-producing algae (zooxanthellae) from their living tissues. This process causes the coral to turn white (i.e. become bleached). At this first stage, corals are subject to stress and highly vulnerable to mortality if water temperatures do not fall.



Figure 1.2. Healthy coral cover found in Cairns section of the GBRMP (Photograph: Author, 2019)



Figure 1.3. Bleached coral found in the Cairns section of the GBRMP (Photograph: Author, 2020)

Some researchers contend that the risks posed by climate change are major challenges for the social and economic sustainability of all tourism destinations (Shakeela & Becken, 2015). There may be severe consequences for stakeholders who rely on coral reefs for their livelihood (Adler, Barnett, Brown, Marshall, & O'Brien, 2013; Curnock et al., 2019). Goldberg, Birtles, Marshall, Curnock, and Case (2017) contend that the decline of the world's coral reefs has the potential to create repercussions for millions of stakeholders and call for urgent action to sustain coral reefs into the future.

While Hannam (2018) suggests the environment is our economy and observes that GBR tourism operators have woken up to the fact that the GBR is in peril, Cummins et al. (2019a) found that many RSDT stakeholders do not have a plan B in place if the health of the Cairns section of GBRMP declines further.

Differences of opinion and concerns relating to a range of environmental issues and climate change can lead to political issues with potential confrontations between stakeholders (Bateman, 2016a). In some cases, this has led to policy paralysis and government reluctance to enforce environmental legislation. Meanwhile Sterman (2011) suggests that cannot be remedied merely by providing more information about the climate to policy makers, but requires diverse modes of communication, including experiential learning environments such as interactive simulations.

### **1.5.2. Crown of thorns starfish**

It is beyond the scope of this research to investigate the science behind the crown of thorns starfish (COTS) infestation in the GBRMP. However, the potential impact of COTS on the health of the Great Barrier Reef (GBR), is a vital consideration of this research since all Cairns-based RSDT takes place in the GBRMP. Coral cover visited by tourists off Cairns in the GBRMP, like that shown in Figure 1.2, can be significantly impacted by COTS (Prideaux & Pabel, 2018a) with the potential for widespread devastation if not kept under control. Figure 1.4 shows a COTS consuming coral polyps. COTS permanently kill the coral leaving a white coral skeleton.





Figure 1.4. COTs consuming coral in the Cairns section of GBRMP (Photograph: Libby Sterling, 2017)

## **1.6. The character and significance of RSDT**

The global scale of scuba diving is significant with the Professional Association of Diving Instructors (PADI) training agency issuing over 28,000,000 diver certifications since 1967 (PADI, 2018). The dive industry has been described as an activity involving 4 Es (Dimmock, Cummins, & Musa, 2013). These 4 Es describe the complex interaction between education (diver training), equipment (development, sales and servicing), environment (dive sites), and experience (i.e. travel/tourism).

Beaver and Keily (2015) claim the dive industry contributes \$4.2 billion to the Australian economy annually in related spending, with the bulk occurring in Queensland. However, these attributes of RSDT have resulted in increasing competition between destinations with Johansen (2013) observing there are over 90 countries with coral reefs that host RSDT. Meanwhile, Stedman (2017a,b) highlighted the widespread business benefits to dive store retailers of selling dive travel.

### **1.6.1. Barriers, drivers and opportunities in RSDT**

Barriers can act as obstacles, inhibit drivers and reduce opportunities for stakeholders and DTs. Changes in RSDT consumer and demand trends, environmental impacts, negative press, poor planning and marketing by stakeholders, over-governance

from a proliferation of government agencies and influential NGOs can contribute to have major impacts on the LTS of a RSDT destination. Barriers need to be overcome by the drivers for development to occur (Thompson, 2015), to maintain LTS and maintain corporate social performance of stakeholders (Elkington, 1994; Epstein & Roy, 2001).

Barriers and the lack of take-up of opportunities have the potential to inhibit sustainable development and, where required, transformation. Therefore, it is critical to enhance current understanding and knowledge regarding the nature of barriers, identify opportunities, the interrelationships between them and the impact they have on the LTS, especially in the case of iconic, globally renowned and economically important RSDT destinations such as Cairns.

### **1.7. Modelling RSDT**

Models help us better understand real world systems by presenting a simplified set of relationships. Bricker, Donohoe, Becerra, and Nickerson (2015) argue that models are useful to simplify theory and demonstrate its relevance and applicability to real life. Models are also visual tools used to communicate information about the research topic, illustrate new concepts and to explain systems (Bricker et al., 2015; Getz, 1986; Thompson, 2015).

Additionally, models need to be operationalised and illustrate how impacts flow through the system. This generates a need for both conceptional/theoretical and management models to be developed to explain complex problems (Getz, 1986). Dimmock and Musa (2015) developed a conceptual model with a holistic view of RSDT systems to highlight the central elements. However, there is a lack of models that illustrate the complex structures and interrelationships between factors which contribute to the LTS of RSDT destinations. The models utilised in this research are theoretical, conceptional and process models (i.e. those used to describe and explain RSDT systems) and management models (i.e. those used to identify the processes required to deliver a specific RSDT outcome). In Chapter 10, the development and application of models that explain the major factors impacting the LTS of a tourism destination and RSDT in the Cairns section of the GBRMP will be presented.

## 1.8. Research gaps

Since the World Commission on Environmental Development 1987 (WECD, 1987, 1990), there has been significant interest generated in sustainable global tourism amongst academics, the tourism industry and various stakeholders (Wearing, Schweinsberg, & Tower, 2016). However, there has been little research conducted into the major factors impacting the LTS of economically important RSDT destinations (Dimmock et al., 2013).

While researchers have identified several major factors that impact the LTS of a tourism destination (i.e. sociocultural, environmental, economic and governance), research has tended to focus on a single-cause factor of LTS such as destination competitiveness, DTs experiences and attitudes, and management practices (Miller, 2005; Neto et al., 2017; Neto, Dimmock, Lohmann, & Scott, 2019). In the meantime, it is not fully understood how multiple LTS factors interact or whether other major LTS factors to those already identified exist. Detailed analysis and the relationship between LTS factors are largely anecdotal or simply non-existent in RSDT.

The literature established that the economic benefits of RSDT occur on the demand- and supply-sides (e.g. tourism income) and governance bodies (e.g. taxes, infrastructure development and charges, membership fees). While there is some evidence of networks and collaborations amongst some RSDT stakeholders and that RSDT can act as a stimulus for regional growth (Cummins, 2008; Porter et al., 2017), effective planning is often made difficult because of the complex nature of RSDT. Poorly defined linkages and the lack of models demonstrating what factors drive and/or inhibit LTS also need to be clearly defined for both practical and theoretical reasons.

Additionally, the combined effect of RSDT stakeholder and DT perspectives of the major factors that impact LTS of RSDT is not covered well in the literature. Nor has the research of RSDT always been aimed at integrating multiple perspectives in a holistic or systematic way as suggested by Dimmock and Musa (2015).

Investigations into scuba diving themes commonly focus on demographic profiles (e.g. age, gender and income parameters) while other demographics and sociocultural

characteristics of both RSDT stakeholders and DTs are likely to be equally important to tourism researchers; for example, the way gender, age and business experience of stakeholders influences decision making and the way the DT's diving experience impacts satisfaction with a RSDT destination. Additionally, there is a lack of understanding of DT social media preferences (Scholtz & Kruger, 2020) and how this may impact stakeholder communication strategies and DT destination choice. There is also a need to establish whether new DT cohorts exist and to generate additional research to establish what role they may play in the LTS of RSDT.

There are practical benefits in the academic literature being expanded to clearly identify the shortfalls of a focus on short-term outcomes in RSDT as opposed to those that address LTS. Given the growing concerns about the potential impact of climate change on coral reefs (IPCC, 2018), it is reasonable to assume that it is imperative that RSDT stakeholders focus on issues that relate to the LTS of RSDT particularly in coral reef destinations as well as maintaining a current focus on short-term issues related to business profitability. However, there is little evidence within the literature that RSDT stakeholders have a long-term focus. Instead, there is some evidence that stakeholders are locked into their current business strategies and exhibit high degrees of path dependence (Cummins, Pabel, & Prideaux, 2019a; Hassink, 2010; Martin & Sunley, 2006).

The scuba diving industry and RSDT is full of factoids. That is, in the absence of a better definition, a paradigm that is so often discussed by so many people that it is viewed to be true, even though there is very little, or simply no, evidence or data to validate it. This can be frustrating for researchers when investigating a specific RSDT destination (Cummins, Pabel, & Prideaux, 2019b; Cummins, 2021). These factoids need to be explored academically so that RSDT stakeholders and DTs develop strategies and make valid decisions, especially in the context of marine protected areas (MPAs). In some cases, this may lead to a significant change in their current views.

Table 1.1. presents a summary of the research gaps identified in this research.

Table 1.1. A summary of the research gaps identified in this research

<b>Gaps within the tourism and RSDT literature</b>
Little research conducted into the major factors impacting the LTS of iconic, globally renowned and economically important RSDT destinations.
Detailed analysis of LTS factors, and the relationship between them, is largely anecdotal or simply non-existent in RSDT.
The lack of models and clearly defined linkages that can be used to explain the major factors impacting the LTS of a RSDT destination.
There is a general lack of data relating to specific tourism sectors such as RSDT.
Few studies that describe the combined impact or compares the views on LTS factors of multiple RSDT stakeholder groups and DTs.
Lack of studies that compare RSDT stakeholder value statements and DT experiences.
Lack of understanding of how DT diving experience levels impact RSDT satisfaction.
Few studies are aimed at integrating multiple stakeholder perspectives in a holistic or systematic way.
There are few studies that identify the barriers, drivers and opportunities impacting the LTS of a RSDT destination.
A need for a deeper understanding of sociocultural and demographic parameters of stakeholders and DTs impacting the LTS of a RSDT destination.
More emphasis needs to be placed on Push-Pull Theory in RSDT research.
Lack of studies that identify new DT cohorts that may impact the LTS of RSDT.
Lack of understanding of DT social media preferences.
Lack of studies that identify the impact of lock-in and path dependence by RSDT stakeholders on the LTS of a RSDT destination.
A need for the literature to illustrate the shortfalls of RSDT stakeholders not placing enough emphasis on significant LTS impacts such as climate change.
Lack of dive industry and RSDT data that may help to eliminate factoids regarding the LTS of RSDT destinations.
<b>Gaps within the literature specific to Cairns-based RSDT</b>
There has been no research conducted into the major factors impacting the LTS of Cairns-based RSDT as an iconic, globally renowned and economically important RSDT destinations.
There is a lack of understanding of the contribution made by Cairns-based RSDT to the development of tourism in the Cairns region and in the GBRMP.
There has been no research conducted into the impact of the leakage of benefits gained from RSDT on the Cairns local community and locally owned RSDT assets.
There has been no research conducted into what the local residents thinks about Cairns-based RSDT.

It is acknowledged that not all these gaps were able to be addressed in this research to their fullest extent. For example, more research is needed to fully understand what residents think, the impact of leakage on local communities, to develop a deeper knowledge of important stakeholder sociocultural and demographic characteristics and how that may influence their decision processes. Moreover, it is the responsibility of researchers to



continuously erode or confirm factoids and broaden RSDT literacy as it applies to specific destinations.

### **1.9. Research objectives**

The aim of this research is to identify the major factors which impact the LTS of RSDT in the Cairns section of the GBRMP. Five research objectives were established based on the research gaps identified in the literature review.

#### Research Objective # 1

Develop sociocultural and demographic profiles of dive tourists who visit the Cairns section of the GBRMP.

#### Research Objective # 2

Identify stakeholders' and dive tourists' perceptions of the major factors which impact the LTS of RSDT in the Cairns section of the GBRMP.

#### Research Objective # 3

Identify the barriers facing the LTS of RSDT in the Cairns section of the GBRMP.

#### Research Objective # 4

Identify the drivers and potential opportunities that enhance the LTS of RSDT in the Cairns section of GBRMP.

#### Research Objective # 5

Develop models that can be used to explain the major factors of LTS impacting RSDT in the Cairns section of GBRMP.

### **1.10. Justification and rationale for the research**

This research is justified and can be rationalised since:

- it provides a synthesis and demonstrates the gaps in the LTS of RSDT literature.
- it identifies the major factors impacting the LTS of RSDT of a major RSDT destination with implications to those found elsewhere.
- it provides practical insights for Cairns-based and RSDT stakeholders and those elsewhere.
- it proposes models to illustrate LTS impacts.

- it contributes to theory creation and development.

Firstly, this research investigates the major factors that impact the LTS of an iconic, globally renowned and economically important RSDT destination. There is a dearth of knowledge regarding Cairns-based RSDT in the GBRMP. However, the absence of any research into the major LTS factors means that the future of Cairns as an important RSDT destination will be uncertain. The need for this research also arises from the problems high-cost destinations such as Cairns-based RSDT face in competing with low-cost international RSDT destinations and the dangers posed by significant LTS factors such as climate change.

Secondly, this research has significant practical implications for Cairns-based RSDT stakeholders and those elsewhere. RSDT stakeholders clearly need to understand, and balance, DTs' satisfaction levels, destination loyalty (Kim & Thapa, 2018) and other elements of LTS along with economic viability. There is also a need for proper planning, quality maintenance and ongoing monitoring metrics to be put in place and effectively used. It is vital that front-line managers and staff interacting with DTs, realise RSDT destinations will not maintain LTS unless the major factors which impact them are identified and addressed within their day-to-day activities as well as within long-term planning processes.

It is also an expected outcome that networks and collaborations among RSDT stakeholders within the sector could benefit considerably from the exchange of knowledge, management and business practices that the research reveals. This is critical if business dependents are to be protected. Additionally, it is also expected RSDT stakeholders will be able to utilise the research findings to identify key barriers and drivers of LTS. This in turn may increase their ability to develop future proofing strategies, while also taking advantage of the opportunities unveiled during the research.

Thirdly, the research can be justified and rationalised since it makes a significant and original contribution to RSDT knowledge. That is, the findings of this case study of Cairns-based RSDT have broader and important implications for theory creation and development. The identification of gaps in the literature and how they were addressed can be used to

investigate and identify factors of LTS that may exist at other RSDT destinations. Given the relatively small amount of research conducted into the LTS of iconic, globally renowned and economically important RSDT destinations, this research also gives some guidance and assistance to other researchers and may stimulate further investigation into the factors impacting LTS outside the scope of this research.

### **1.11. Overview of the methodology**

This research utilised a pragmatism paradigm and a mixed method methodology approach as they are often regarded as philosophical partners in research (Pansiri, 2005). A mixed method methodology also provided the basis for a triangulation research design. A summary of the methodological approach used in this research is summarised in Table 4.1.

Consistent with a mixed method methodology, the research utilised qualitative and quantitative research instruments in the four-step approach to data collection detailed in Chapter Four. The qualitative research instruments utilised were content analysis, semi-structured interviews, a focus group and researcher observations made throughout the research. The quantitative research instrument was a self-completed questionnaire. The need to collect original data was justified due to difficulties in obtaining data specific to this research from existing datasets (Cummins, Pabel, & Prideaux, 2019b; Cummins, 2021).

The first step in the four-step data collection process involved content analysis of public and RSDT documents including tourism plans, newspaper articles, television reports, documentaries, websites, blogs, flyers, brochures and scuba diving magazines with international distribution. Secondly, the findings of the content analysis were used to help develop coded prompt questions for semi-structured interviews with a representative sample of key supply-side and governance RSDT stakeholders. The findings from these first two qualitative phases of the research were then used to assist in the development of a questionnaire administered to DTs returning from a dive excursion in the Cairns section of the GBRMP. The quantitative data obtained provided sociocultural profiles of this user group, their perspectives of LTS factors and uncovered any additional factors not found during the literature review or the qualitative phases of the research.

A focus group was conducted with supply-side and governance RSDT stakeholders who had not previously participated in the semi-structured interviews. This added a third qualitative element to the research and provided an opportunity for clarification, additional insights, as well as the confirmation or refutation of major findings of the first three steps of the data gathering process. Throughout the data collection process autoethnography and insider experiences were also utilised as additional qualitative research instruments to address the research objectives.

### **1.12. Delimitations**

Delimitations are those characteristics that were controlled by the researcher, define the boundaries and may limit the scope of this research (Simon, 2011). The major delimitation arises out of the single case study research strategy and the choice of research objectives and variables of interest. That is, a single case study research design may have introduced some bias due to context-related issues that specifically related to Cairns.

This research does not include an investigation into snorkelling, recreational helmet diving, scientific or commercial divers although they are sometimes collectively included in some diving databases (Cummins et al., 2019b). This research does not include an investigation into the impact of local scuba divers on RSDT although it is acknowledged they may share some RSDT infrastructure and services with DTs (Cummins et al., 2019b). No attempt has been made to provide a history of RSDT as this has been addressed by other researchers (Dimmock & Cummins, 2013). Similarly, there was no attempt to interview or create research tools for administration to Cairns residents since there was no evidence reflected in the literature indicating any major conflicts existed, or that they had specific concerns or opinions regarding the LTS of RSDT.

In respect to the RSDT stakeholder interviews, the focus group meeting and DT questionnaire administration, it is acknowledged that social science researchers have identified the potential for social desirability bias and the Hawthorne effect (McCambridge, Witton, & Elbourne, 2014; Randall & Fernandes, 1991; Van de Mortel, 2008). However, due to the data techniques used by the researcher described in Chapter Four, it is unlikely there

was any significant impact on the validity of the data caused by social desirability bias or the Hawthorne effect.

The quantitative data (i.e. results from the DT questionnaire) were collected from 10 of the 21 major Cairns-based RSDT vessels over a three-month period with the latter possibly introducing some influence on the sociocultural characteristics of DTs visiting the GBRMP during that time via an unidentifiable seasonal bias. No attempt was needed to reduce the impact of poor weather conditions on DTs' impression of diving conditions since data were collected on days when the sea conditions were favourable for diving (a condition of the Queensland Code of Practice).

The impact of COVID-19 on tourism globally is acknowledged and is yet to be fully understood (Gössling, Scott, & Hall, 2020; Prideaux, Thompson, & Pabel, 2020). All the qualitative and quantitative data for this research were collected and analysed by mid-December 2019. Therefore, it was not possible in this research to address the long-term impacts. Meanwhile, it was observed and reported by mid-March 2020 that the Cairns-based RSDT had completely closed (Calcino, 2020a; Nally, 2020). Additionally, some impacts of COVID-19 on Cairns-based RSDT are briefly referenced in Chapter Eight (observations).

The summer of 2019/2020 saw the emergence of a third coral bleaching event in the GBRMP in five years. However, the impact on Cairns-based RSDT of this third bleaching was not able to be explored in this research despite various reports that the Cairns section of the GBRMP had been spared serious impact.

### **1.13. Terms and definitions**

This section provides a list of terms, definitions and acronyms used throughout the research.

#### *Scuba or SCUBA*

Scuba or SCUBA is an acronym for self-contained underwater breathing apparatus. In the tourism context, scuba can refer to the use of conventional scuba equipment (i.e. scuba tank and regulator), SNUBA (i.e. air supplied via a hose from a scuba tank on a surface float) and recreational helmet diving (Cummins et al., 2019b).

### *Diver training agency*

The diver training is governed by an alphabet soup (i.e. multiple acronyms) of international NGOs, commonly called a diver training agency (Cummins, 2019b; Dimmock & Cummins, 2013). They set standards used by their members (i.e. dive instructors, dive centres and dive resorts) and provide the key administrative function of issuing a C-card (i.e. diver's certification card). A list of the major training agencies operating across the world was constructed by the researcher and is presented in Appendix A. The three most common operating in the Cairns section of the GBRMP are: PADI (<https://www.padi.com/>), SSI (<https://www.divessi.com/en-IC/home/>), SDI (<https://www.tdisdi.com/>) and RAID (<https://www.diveraid.com/>). PADI is an acronym for the Professional Association of Diving Instructors and is often referred to by the diving community and researchers as the largest diver training agency in the world. SSI is an acronym for Scuba Schools International and is often referred to as the world's second largest diver training agency. SDI is an acronym for Scuba Diving International, RAID is an acronym for Rebreather Association of International Divers.

### *Long-term, medium-term and short-term*

There is no obvious agreement in the literature as to how long-term, mid-term and short term are defined. Prideaux (2013a) claims a definition is dependent on who are the respondents to a study. In this research, long-term is defined as more than three years, medium-term between one and three years and short-term less than one year.

### *Barriers, drivers and opportunities*

Barriers are defined in this study as obstacles to RSDT development and sustainability which may exist as internal constraints or external barriers which must be overcome by drivers and the utilisation of opportunities. Drivers are defined as those factors that underpin change and cause it to occur resulting in RSDT development and sustainability (Prideaux, 2009; Thompson, 2015). Opportunities are defined as a combination of different circumstances at a given time which, if utilised, offer a positive outcome (Bush, 2016).

### *Political and geographic regions*

In this research the UK refers to England, Wales, Scotland and Northern Ireland (i.e. Western Europe). Scandinavia refers to Denmark, Norway, and Sweden (i.e. Northern Europe). Europe refers to non-UK and Scandinavian countries including, but not limited to. Austria, Belgium, Germany, Greece, Spain, France, Italy, Poland, Portugal and Switzerland.

#### **1.14. Structure of thesis**

This research is presented in 11 chapters. Figure 1.5. illustrates the architecture of this research. This chapter represented an introduction and overview of the research. Chapter Two presents a review of the key academic and grey literature relevant to tourism, sustainability and RSDT studies. Chapter Three provides a description of the single case study area and the academic and grey literature specific to Cairns-based RSDT. Chapter Four presents the methodology and research instruments employed. The findings chapters are presented in the order which the data were collected and analysed. Chapters Five and Six report the findings of the first two qualitative findings, Chapter Seven the quantitative findings, and Chapter Eight and Nine the third and fourth qualitative findings. Chapter Ten presents a discussion and implications of the research and proposes directions for further research. Chapter 11 identifies the research gaps and provides a summary of the research findings and their relationship to the research objectives along with an explanation of the significant and original contributions to knowledge this research makes. The chapter also identifies the need for further research.

**Chapter 1: Introduction**

**Chapter 2: Literature review** – A review of the LTS of tourism and RSDT literature

**Chapter 3: Cairns and recreational scuba diving tourism** – Description of the case study area and a review of the literature specific to Cairns-based RSDT

**Chapter 4: Methodology**

**Chapter 5: Analysis and findings of the qualitative research** – content analysis of public documents, RSDT marketing collateral and dive magazines

**Chapter 6: Analysis and findings of the qualitative research** – semi-structured RSDT stakeholder interviews

**Chapter 7: Analysis and findings of the quantitative research** – dive tourist questionnaire

**Chapter 8: Analysis and findings of the qualitative research** – observations and insider contributions

**Chapter 9: Analysis and findings of the qualitative research** – focus group meeting with RSDT stakeholder

**Chapter 10: Discussion and implications**

**Chapter 11: Conclusion**

**References**

**Appendix**

Figure 1.5. Research architecture

### 1.15. Summary

This chapter introduced the key components of this research. The chapter included the background; research focus; a brief overview of the literature, initial insights into the barriers, drivers and opportunities impacting the LTS of tourism destinations and Cairns-based RSDT. The existence of research gaps was foreshadowed. The benefits of modelling were also discussed. The research objectives were stated and justification and the rationale for this research was provided. This was followed by a brief description of the methodology, data collection and analysis employed. Finally, the delimitations, major definitions and the structure of the thesis was presented.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

This chapter reviews the key academic and grey literature relevant to this research. Academic literature includes journal articles and books by academic publishers and government reports which have undergone peer review. Grey literature includes newspaper articles, non-academic journals and unpublished conference papers. Although not peer reviewed, grey literature can contain considerable amounts of contemporary information with high levels of relevance (Mahood et al., 2014). Grey literature is often current, can encourage academic investigation and be used to identify potential gaps in academic literature. The respective features of both these forms of literature validate their joint use in studies of a highly practical nature such as this.

The chapter includes an investigation into the concepts of tourism development and sustainability to gain insights into major factors researchers have identified which impact a tourism destination's LTS. The chapter also briefly explores the relevance to the research of destination competitiveness, life-cycle and systems models. Throughout, the chapter reference is made to recreational scuba diving tourism (RSDT), identifying the dive tourist (DT) and what motivates their travel patterns.

Figure 2.1 provides a flowchart to illustrate the literature investigated within this chapter to identify the major factors impacting the LTS of a tourism destination and RSDT. The flowchart concludes by foreshadowing literature to be discussed in Chapter Three which is specific to the LTS of RSDT in the Cairns section of the GBRMP. The chapter concludes with a summary of the gaps that exist within the literature regarding the LTS of a tourism and RSDT destination that were introduced in Chapter One.

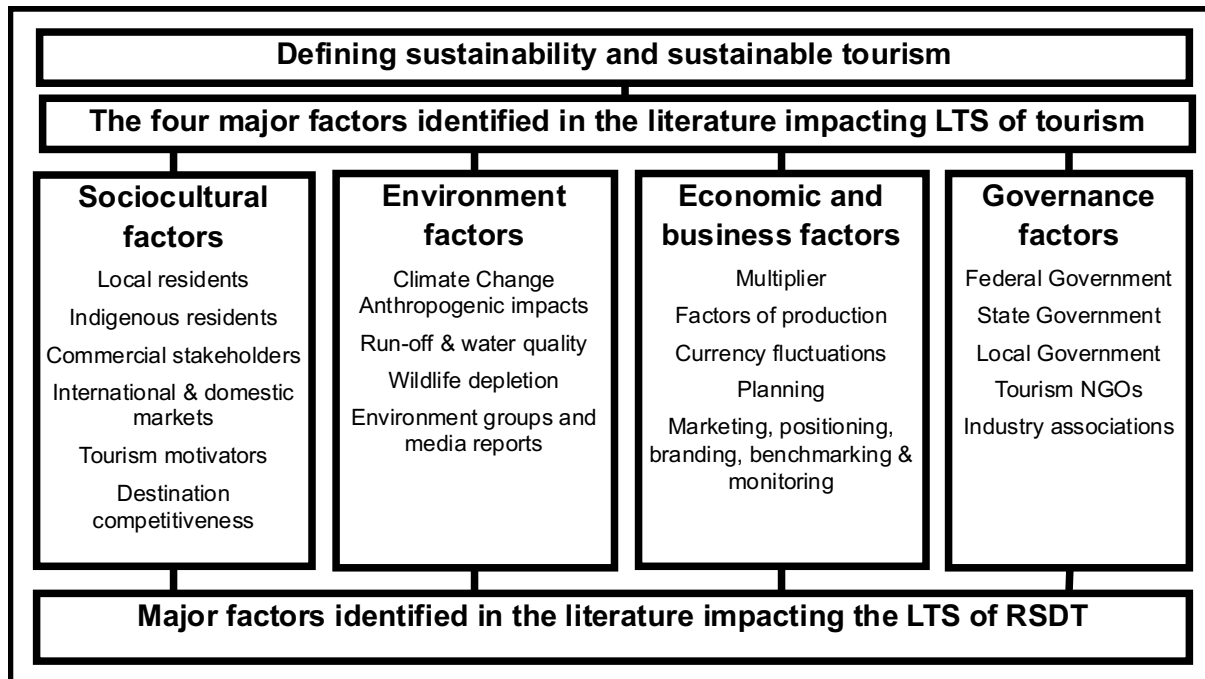


Figure 2.1. A flowchart to illustrate the literature investigated to establish the major factors impacting the LTS of a tourism destination and RSDT

## 2.2. Defining sustainability and sustainable tourism

The literature review revealed there is a link between sustainable development concepts and sustainable tourism. The World Commission on Environmental Development 1987 (WECD, 1987) used in the Brundtland Report on the global environment and development, and adopted by Butler (1993), cites five principals of sustainability:

1. The idea of holistic planning and strategy making.
2. The importance of preserving essential ecological processes.
3. The need to protect human heritage and biodiversity.
4. The need to develop in such a way that productivity can be sustained over the long-term for future generations.
5. The need to achieve a better balance of fairness and opportunity between nations.

Valentin and Spangenberg (2000) contend sustainability, as defined by the Brundtland Commission Report, is an ambitious policy target by treating environmental, economic and social criteria with equal importance. Redclift (2005) contends the term

“sustainable development” came into use in policy circles after the publication of the report and led directly to the term “sustainable development” passing into policy discourse and everyday language. Redclift (2005, pp. 212–213) also argues the report was the first overview of the globe, which considered environmental aspects of development in a social, economic and political perspective.

Daly (1986), in what some researchers view to be a significant contribution to the literature, proposed that sustainable development is an oxymoron since when development takes place, everything changes. This provoked discussion as to what weight should be attached to both development and sustainability when considering a material change (Redclift, 2005). On the other hand, Liu (2003) concluded a variation in environmental resources at a destination does not mean sustainability is a failure as some impacts are unavoidable.

Another significant contribution to the literature was made by Elkington (1994) when he introduced the combined effects of a Triple Bottom Line (TBL) on sustainable development where economic value is added to by environmental and social values while also acknowledging the role of governance. Elkington (2004, p. 3) contended “sustainable development would be impacted by a cultural revolution and a new paradigm for corporations”. Elkington describes the seventh sustainability revolution and includes the development of more competitive markets, softer values, open transparency, functional life-cycles, symbiotic partnerships, longer timelines and that it be inclusive of corporate governance. Elkington’s (1994, 2004) contributions to literature have considerable implications for the sustainable development of tourism and corporate social responsibility (CSR) of stakeholders, while also identifying that a comprehensive approach to sustainable development and environmental protection would be a challenge for governments (Elkington 2004).

Meanwhile, a survey conducted by the World Economic Forum 2019 found that environmental threats are now the biggest danger to the global economy (Wearden, 2019).

However, that is yet to be confirmed in the light of establishing whether COVID-19 will have a medium to a long-term major impact on the LTS of tourism.

Clearly, the primary objective of LTS development also involves the provision of lasting and secure livelihoods which minimise resource depletion, environment degradation, cultural disruption and social instability (Hall, 2007). In contrast, economic growth, which is commonly linked to sustainability as identified by Elkington (2004), is more often related to modernisation, distribution justice, socioeconomic transformation and spatial reorganisation, and is not commonly measured against the sustainability factors listed above (Mabogunje, 1980; Pearce, 1989). Additionally, Hawkins and Roberts (1994) and Hawkins, Roberts, Kooistra, Buchan, and White (2005) in their study of the sustainability of RSDT on the coral reefs of Saba Marine Park of the Netherlands Antilles, identified that developers are more interested in rapid returns on investments than conserving the environment. Moreover, there has been little research undertaken into issues related to empowerment and disempowerment of various stakeholders within the host community (the periphery) and to the authority given to communities by external authorities (the core) to make decisions and control tourism activities (Ramos & Prideaux, 2014).

Since the Brundtland Report and subsequent expansion of the literature, definitions of sustainable development, and especially tourism sustainability, are often presented in an environmental context (Newsome, Moore, & Dowling, 2013; Weaver, 2008). For example, Weaver (2008) considered sustainable development, in the tourism context, as a minimal disruption to natural and cultural settings.

The discussion continues amongst researchers with some claiming no universally acceptable definition of sustainable tourism exists (Doiron & Weissenberger, 2014). Nevertheless, it appears from the literature there is a need for a working definition of sustainable tourism and for stakeholders to recognise high degrees of communication between all parts of the tourism sector are necessary, along with a cooperative approach towards defining sustainability at all levels.

There also needs to be a cooperative approach towards sustainability, especially since tourism is viewed in parts of the literature as being multidimensional, possessing physical, social, cultural, political and economic characteristics (Fletcher, 2008a; Hall, 2007; Newsome et al., 2013). Although researchers have attempted to define tourism sustainability, these efforts have commonly explained what it should be, rather than what it really is or whether it exists at all. For example, tourism must be sustainable regarding both production and consumption (Hall, 2007). Fletcher (2008a) asserts that sustainability is now one of the most common concepts used in tourism development discussions. Fletcher also concluded that sustainability is one of the least understood concepts and that both academics and practitioners are still a very long way from reaching a consensus regarding its definition.

### **2.2.1. Major factors impacting the LTS**

Elkington's (2004) sixth resolution illustrates the importance of time on the concept of sustainability in the third millennium. While advances in communication technology (e.g. internet-based news feeds and social media) drives a need for corporations to understand and manage time in the short-term, sustainability is more often considered in the long-term and may require thinking across several decades. A further implication is the factors impacting sustainability may take long periods to become apparent.

There is value for tourism providers to use Tourism Optimisation Models (TOMMs) such as those used by Miller and Twining-Ward (2005) in monitoring sustainable tourism's transition. These models commonly seek to achieve optimum performance through analysis, monitoring and management response, while empowering stakeholders rather than restraining their activities. TOMMs also have strong linkages to concepts of sustainability and long-term economic viability and therefore a point of interest within this research.

However, there seems to be general agreement within the literature that four major factors impact the LTS of tourism. These four major factors have been investigated by numerous researchers (Dwyer et al., 2010; Fletcher, 2008a; Hall, 2007; Mowforth & Munt, 2016; Zhenz et al., 2017) and are sociocultural, environmental, economic and governance.

Sociocultural and demographic characteristics have been described by Jennings (2007); environmental influences by Hall (2007), Dwyer et al. (2010) and Hammerton and Bucher (2015); economics forces by Dwyer et al. (2010); and governance by Hall, (2005) and Dwyer et al. (2010). Additionally, these four major factors seem to display interdependence (Teodorescu, 2015) and, at least in part, can be summarised in Elkington's TBL (1994).

### **2.2.2. The LTS of RSDT**

Given research in the areas of sustainable development and sustainable tourism, it follows major factors exist which can also impact the LTS of the RSDT sector. For example, Musa and Dimmock (2013) summarised some of the specific factors and implications of the sustainability of RSDT. Nevertheless, a gap exists in the literature regarding research conducted into the major factors impacting the LTS of iconic, globally renowned and economically important RSDT destinations. Meanwhile, Neto, Lohmann, Scott, and Dimmock (2017) identified the importance of the DTs' perspectives as the co-creator, along with suppliers of destination attributes and competitiveness. Neto, Dimmock, Lohmann, and Scott (2019) contended studies of destination competitiveness have been static by nature and focused on a supplier's perspective while they considered destination competitiveness from the demand-side. Additionally, there is a gap in the literature and the absence of detailed analysis of the relationship between the major factors contributing to the LTS of RSDT. That is, the interrelationships between the major factors contributing to the LTS is largely anecdotal or simply non-existent in RSDT.

Models help us better understand real world systems by presenting a simplified set of relationships. Bricker et al. (2015) argue that models are useful to simplify theory and demonstrate its relevance and applicability to real life. Meanwhile, Stewart, Harte, and Sambrook (2011) argue that theory is an explanation that offers accounts of how and why things are as they are.

To examine the key components within the RSDT system, along with issues which challenge its sustainability, Dimmock and Musa (2015) proposed a conceptual model to highlight fundamental elements within the RSDT system. They concluded that divers, the

marine environment, the host community and the RSDT sector, including all associated industries, are fundamental elements of sustainability. It can be concluded that an understanding must be reached in respect to the way RSDT addresses sociocultural impacts, appeals to different demographics, interacts with the environment, operates within viable economic parameters and reacts to various forms of governance (Doiron & Weissenberger, 2014). Nevertheless, there is a lack of models and clearly defined linkages that can be used to explain the major factors impacting the LTS of RSDT.

There is a proliferation of articles in diving publications on protection of the marine environment, especially in Marine Protected Areas (MPAs). An understanding of RSDT impact factors is important in MPAs (Lucrezi et al., 2018) where the relationship dynamics between stakeholders is intricate. For example, Thompson (2017) points out the importance to divers of creating healthy MPAs under a marine animal protection pillar. However, few studies describe the confined impact or compares the views on major LTS factors by multiple RSDT stakeholder groups and DTs in a holistic way. Therefore, the interaction between DTs, RSDT and MPAs will be discussed later in the chapter.

The literature indicates a broad approach may be required where the LTS of a destination and its competitiveness should include not only a consideration of the supply and demand-side influences, but also the impact of governance including those factors identified by Cummins (1988) and Cardwell (2005, 2013). Therefore, this research takes the view they are all important to any investigation of LTS and its relationship to destination competitiveness.

### **2.3. Major factors impacting the LTS of tourism**

Following on from Elkington's (2004) Triple Bottom Line, there now appears to be general agreement within the tourism and RSDT literature that there are four common major factors impacting the LTS. These are represented in Figure 2.2. Business to business (B2B) consultants have also used PESTLE Analysis as a marketing principle and to conduct environmental scanning for clients (De Bruin, 2016; Policy, 2018). PESTLE considers political influences and drivers; national and global economic impacts; societal and cultural

attitudes; technological advances, innovations and imperatives; national and world legislation impacts; and the environment, as shown in Figure 2.3.

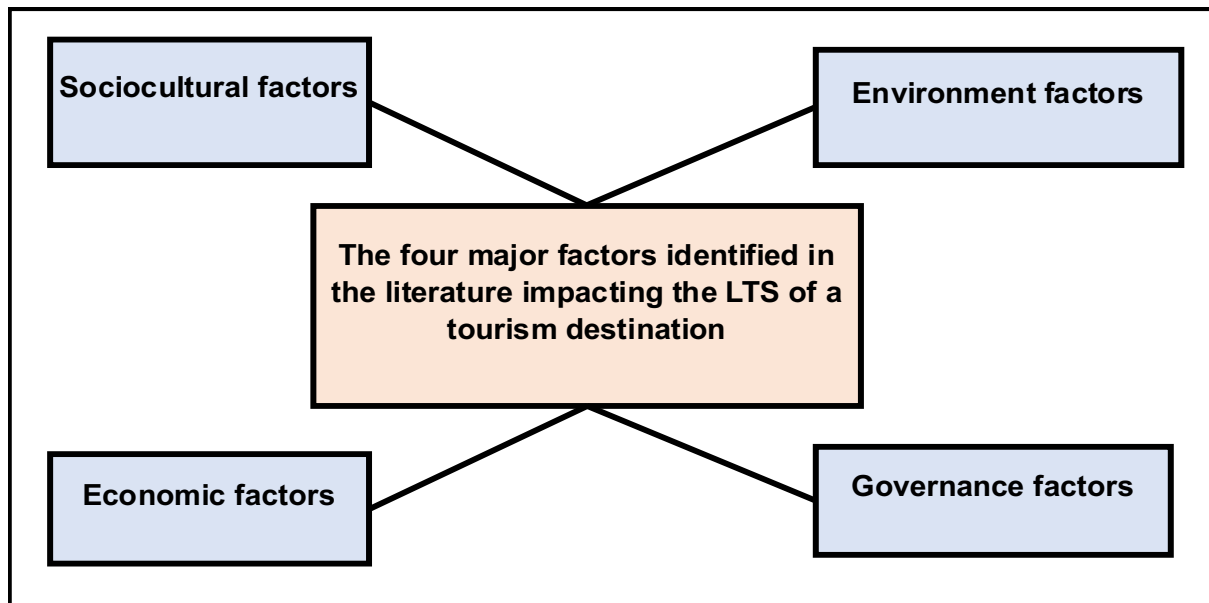


Figure 2.2. The four major factors identified in the literature impacting the LTS of a tourism destination (Source: Author)

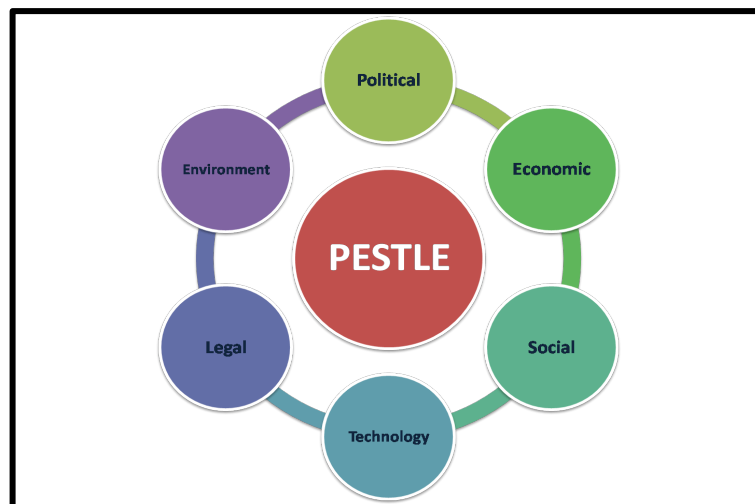


Figure 2.3. PESTLE Analysis model (Source: Advertise.com)

There is great similarity between Figure 2.2 and the model represented in Figure 2.3 although it is proposed that Figure 2.2 incorporates the PESTLE elements of political and legal under governance factors. One powerful aspect of the PESTLE Analysis model is it introduces technology as an individual and major factor impacting a business and has implications for use in tourism research. In the context of this research, Stedman (2018)



claims technology has driven travel trends in RSDT. Meanwhile, Rogers (1995) presented a theoretical model which illustrated the diffusion of an innovation or new technology at varying times, and the respective impact on market share, and will be discussed in more detail in Chapter 10.

## **2.4. Sociocultural factors impacting the LTS of tourism**

The following section is an introduction to the major sociocultural factors impacting the LTS of tourism which are apparent in RSDT and may be recognised in the Cairns section of the GBRMP. Elkington (1994, 2004), in describing the TBL, acknowledges the role of sociocultural factors and demographic characteristics as influencing development and sustainability. Additionally, and according to Hall (2007), sociocultural factors impacting tourism can be addressed from four directions:

1. What are the locals like and what are their opinions on long-term sustainable development?
2. What is the general tourist like?
3. What motivates them to travel?
4. What is the workforce like?

These same directions in research have also been identified as impacting LTS of tourism and tourism destinations (Cooper et al., 2008; Hall, 2007; Newsome et al., 2013; Ritchie & Crouch, 2003; Weaver, 2008). However, the literature indicates several gaps exist in fully answering Hall's questions in RSDT; there is a need for a deeper understanding of sociocultural and demographic parameters impacting the LTS of RSDT. Additionally, there is also a need to explore how the DT's diving experience levels impact RSDT satisfaction levels, develop an understanding of DT social media preferences that may impact stakeholder marketing strategies and whether there are any unidentified cohorts that should be identified.

### **2.4.1. The importance of residents in tourism**

Residents attitudes towards tourism development has been researched for some time (Ap, 1992; Harrill, 2004; Nguyen & Wassler, 2019; Sharpley, 2014, 2018; Wassler,

Nguyen, Mai, & Schuckert, 2019; Williams & Lawson, 2001). Several of these studies have utilised Social Representation Theory and Social Exchange Theory (SET), or combinations of both. Although SET has been criticised for the lack of sophistication (Ward & Berno, 2011), it predicts residents will look more favourably on tourism development if the negative impacts are likely to be outweighed by the benefits (Sharply, 2014; Ward & Berno, 2011).

It is evident the ratio of residents to tourists is a factor in addressing changes within tourism. Residents may feel they have lost control of their local area in the wake of an influx of tourists and the construction of tourism infrastructure, as opposed to broader community needs. Hall (2007) suggests in many cases there is little direct community involvement in tourism development. Some researchers have underlined the importance of the residents in contributing to the workforce and funding of sustainable initiatives (Lansing & De Vries, 2007). Meanwhile, it has also been suggested the tourism workforce is composed of a disproportionate number of unskilled, seasonal and underpaid employees (Hall, 2007; Riley, Ladkin, & Szivas, 2002).

Local concern can also develop regarding foreign ownership and a disproportionate say in what development takes place (Dwyer et al., 2010; Elkington, 2004; Hall, 2007; Lansing & De Vries, 2007). Researchers have identified leakage of revenues and other benefits which could be afforded to residents may occur due to ownership of local tourism resources which is foreign or from outside the host area (Dimmock & Musa, 2015; Dwyer et al., 2010; Fletcher, 2008b; Hall, 2007; Townsend, 2008; Wivell, 2017; Wongthong & Harvey, 2014). Scholtz and Saayman (2018) found in their study of Italy's Portofino MPA that a potential exists for conflict, while Dimmock and Musa (2015) concluded the host community is often overlooked as a key stakeholder in the management and sustainability of RSDT.

#### **2.4.2. Indigenous communities, tourism and RSDT**

The role of indigenous communities in tourism and how they interact within the tourism sector has appeared in several studies (Butler & Hinch, 2007; Dredge & Jenkins, 2007; Espinosa Abascal, 2014; Hinch & Butler, 1996; Liljeblad, 2015). Liljeblad (2015) claims tourism exploring indigenous cultures is supported by proponents as a way for

historically marginalised indigenous people to use their culture as a revenue source, with the benefits of nurturing their culture while simultaneously generating income. Liljeblad (2015) also cites indigenous tourism critics who warn exposing indigenous culture to tourism may place non-indigenous demands on them and drive an exploitative process which could erode indigenous culture. While acknowledging there is limited knowledge of how indigenous values can contribute to tourism development in marine environments, Prasetyo, Filep & Carr (2021) in their study of RSDT in Raji Ampat Indonesia, propose theoretical pathways by which indigenous knowledge and practices can be incorporated into the RSDT sector.

In Australia, several indigenous cultures have a strong connection with their surrounding marine environment referred to as 'Sea Country' (Davies et al., 2013; Smyth, 2015). Marrie (2018) observed participation by First Nations people in tourism associated with the GBR is almost non-existent despite abundant opportunities. A plausible explanation for these observations is scuba diving only emerged as a recreational and tourism activity since the commercial development of the aqualung in the 1950s (Musa & Dimmock, 2012). Meanwhile, several RSDT operators throughout the world have attempted to link indigenous cultures to their product offerings (e.g. Dreamtime Dive and Snorkel, 2020, see Figure 3.15).

#### **2.4.3. Influence of stakeholders on the LTS of tourism**

The literature reveals stakeholders often have different perspectives, priorities and values which adds to the complexities of arriving at sustainable solutions to challenges faced. This is particularly true when smaller stakeholders have no direct interest or influence over factors impacting the LTS of local tourism (e.g. hostels, cafes and restaurants). Stakeholders exist on the demand-, supply- and governance-sides therefore interactions between so many stakeholders can be challenging (Dimmock & Musa, 2015).

When multiple stakeholders exist with different levels of influence, a systems approach helps to understand the factors, relationships and issues within a tourism entity and how it can be effectively managed to improve sustainable outcomes at the various levels (Kast & Rosenzweig, 1972; Plummer & Fennell, 2009). A systems approach can demonstrate the relationships between stakeholders and their various perspectives, priorities

and values and reveal how their needs and issues can be acknowledged in decision-making processes (Dimmock & Musa, 2015).

The literature reveals several researchers have examined host community perceptions of RSDT and those of local stakeholders (Haddock-Fraser & Hampton, 2012; Hillmer-Pegram, 2013; Liu, 2003; Wongthong & Harvey, 2014). There is a lack of emphasis in the literature on the sociocultural and demographic characteristics of RSDT stakeholders and the way traits such as age, gender and business experience may impact LTS. This research takes a holistic/systems approach and acknowledges the impact of stakeholders on the LTS of RSDT with implications to the Cairns section of the GBRMP.

#### **2.4.4. Tourism markets**

The importance of international and domestic markets to tourism destinations has been extensively considered by academics, governments, NGOs and stakeholder groups across various sectors of tourism (e.g. Fletcher, Fyall, Gilbert, & Wanhill, 2017; Mowforth & Munt, 2016; Reisinger & Dimanche, 2010). In the context of this research, the importance of international and domestic markets is continuously reported by NGOs and government (e.g. Tourism Australia and Tourism and Events Queensland – TEQ). The importance of these markets and sociocultural factors to RSDT in the Cairns section of the GBRMP will be addressed in Chapter Three; meanwhile, it is important to acknowledge that detailed data on RSDT market segmentation and potentials is difficult to obtain and represents a gap for researchers. For example, Tourism Satellite Accounts (TSAs) have been subject to criticism since they do not give enough insight into different elements of tourism development (Butler, 1980; Hall, 2007; Mowforth & Munt, 1998) or insights to specific sectors such as RSDT. Similarly, there are issues for RSDT researchers attempting to unlock meaningful dive industry data (Cummins et al., 2019b).

#### **2.4.5. Tourism motivation, destination competitiveness and RSDT**

The LTS of a tourist destination is closely related to destination competitiveness. Pansiri (2014) suggests competitiveness can be strengthened if a destination meets the tourist's needs more effectively than its competitors. What motivates tourists to travel to a

destination is represented within the literature. Goeldner and Ritchie (2003) claim a fundamental understanding of travel behaviour involves a consideration of what motivates travel. Van der Merwe and Slabbert (2011) found marine tourists are seeking a variety of activities and things to do, much more than other types of tourism. Additionally, they found different destinations and products have different travel motives (Van der Merwe et al., 2011).

Palau-Saumell, Forgas-Coll, Sánchez-García, and Prats-Planagumà (2014) see customers' behavioural intentions as a necessary source of information for the management of dive centres. Van Wijk (2017) in their five-factor modelling of personality conclude responsible behaviour of divers in the tourism context relates to those with high scores in agreeableness, extroversion, and openness to new experiences, while those with high scores in neuroticism were more likely to damage coral.

Neto et al. (2019) argue that destination competitiveness is related to the dive traveller's experience level and a destination should strengthen its competitive position by surpassing competitors in meeting tourists' needs (Neto et al., 2019). Edney's (2017) study of what motivates wreck divers and the concerns of Cummins et al. (2019b) regarding the use of dive industry data, concur that not all divers are motivated and attracted to the same destination for the same reasons. Furthermore, the extensive range of programs offered by the world's diver training agencies is evidence of the broad range of diver interests as well as evidence of the dive industry's reaction to the various factors that motivate and attract divers (Cummins et al., 2019b). It is reasonable to assume there is also a need to gain a deeper understanding and fill gaps in the literature that would provide greater insights into the sociocultural and demographic parameters impacting the LTS of RSDT.

These contentions are consistent with, and have implications for, other studies including those examining diver specialisation. For example, DTs visiting MPAs with higher levels of specialisation are less supportive of management restrictions and in-water supervision by dive professionals (Todd, Cooper, & Graefe, 2001; Sorice et al., 2009). Successful management strategies are also reliant on consultation with divers (Spoelder,

Lockwood, Cowell, Gregerson, & Henchman, 2015; Worboys, Lockwood, & De Lacy, 2001). Consultation can help managers understand how intended control measures and other management actions may impact DTs and provides an opportunity for divers to have input into site management.

Consultation with divers is also an important factor in achieving high levels of voluntary compliance rather than those imposed (Dovers et al., 2015; Edney, 2016; Read et al., 2011; Smith & Anderson, 2004; Sorice et al., 2007; Spoelder et al., 2015; Stern, 2008). Lucrezi et al. (2018) contend that more complex strategies are required to address those matters causing conflict between scuba diving activities and the mandates for MPAs. Intervention issues can be addressed by the MPA developing positive messaging and providing information and education regarding their function (Lucrezi et al., 2018).

#### **2.4.6. RSDT market opportunities**

The literature reveals there are several opportunities available to RSDT operators to expand the reach of their business enterprise through markets while others involve accessing new and developing markets. For example, scuba divers face some unique physiological problems (Dickey, 1984). One of these is they cannot fly immediately after diving, or at least for the next 12 hours, with some authorities recommending 24 hours (Divers Alert Network, 2019; Freiburger et al., 2002; Sheffield, 1990; Vann & Thalmann, 1993).

This can be both a challenge and an opportunity. For example, Cummins (2008) identified that while divers must extend a stay at their destination before flying, along with meeting associated costs, they are also available for other travel activities if the tourism entities at large capitalise on these flying-after-diving restrictions. Cummins further contended that, although RSDT operators constantly mention flying-after-diving restrictions, tourism could benefit from more marketing collaboration between different entities in respect to offering additional non-diving activities with associated income streams and commissions on referrals during these necessary extra day stays.

In the past, medical exclusions forced the disabled from scuba diving based on medical protocols and ethics (Lin, 1987). Today, while it is acknowledged not all individuals can scuba dive, some disabled people can gain benefits from scuba diving. For example, Pearson's (2016) review of the literature identified what scuba diving can do for the disabled. She concluded scuba diving can have pain relieving qualities, develop wellbeing, introduce calming effects and be a relaxing activity for those with a disability.

According to the 2018 Disability Statistics & Demographics Annual Report (2019) on people with disabilities in the United States, people with disabilities comprised 13.2% of the total population. Similarly, Tourism Research Australia (2018) provided estimates of the size of the market for those with disabilities regarding overnight and/or day trip travel of around 1.3 million individuals, or 7% of the total Australian adult population. Additionally, Tourism Research Australia (2018) estimated the spend for the travel party (including the person with a disability) was \$1.9 billion (i.e. approximately 10% of total domestic spend in Queensland). Furthermore, DisabledHolidays.com (2019) cited Cairns as a fantastic destination for enjoying the best of tropical Australia and Queensland's natural wonders such as the Great Barrier Reef.

There are several associations of divers with disabilities across the world (e.g. Disabled Divers International - [www.ddivers.org](http://www.ddivers.org)) and within Australia (e.g. Disabled Divers Association - [www.facebook.com/disableddiversassociation](https://www.facebook.com/disableddiversassociation)). Therefore, the market for DTs with disabilities may have potentials for tourism stakeholders to gain additional revenue streams given improvements in diving technology and training techniques (Dimmock & Cummins, 2013; Khoo & Walsh, 2013; Marshall, 2016; Walsh et al., 2012).

However, from a review of the literature, RSDT in Cairns has not attempted to explore this market which has been operating successfully in other areas by establishing user-friendly facilities for the disabled diver (Khoo & Walsh, 2013). The existence (or otherwise) of this opportunity was further identified and explored during this research with the objective of providing tourism stakeholders with concepts for gaining further revenue potentials from DTs.

#### **2.4.7. The significance of the backpacker to tourism**

While Hall (2007), supported by Tourism Australia (2016a) data, contends domestic tourism is the mainstay of Australian tourism, the importance of the international tourist and the backpacker to tourism has existed for some time (Pearce, 1990a). The analyses of Pearce and Moscardo (2001) and Moscardo, Saltzer, Galletly, Burke, and Hildebrandt (2003) of GBR previous visitors and/or who intended to revisit, revealed they were most likely to be backpackers. Moscardo et al. (2003) also identified that repeat visitors to the GBR are more likely to want to undertake, and do undertake, diving.

The literature reveals that the presence of the backpacker provides opportunities in generating regional income, placing a value on natural and cultural resources, and providing economic benefits (Scheyvens, 2002). For example, Sakata and Prideaux (2013) found involvement in backpacker tourism can also enhance environmental conservation as local communities begin to realise the need to protect the wildlife, forest, rivers and other attractions if they are to attract tourists.

However, most of the studies on backpacker tourism in Australia have been limited to developing profiles as a basis for monitoring the backpacker market over time (Rodrigues, 2013). Other researchers have viewed the significance of the backpacker as a long-term budget traveller, often from middle-class backgrounds (Rilley, 1988). Some researchers still see backpackers as in their late twenties and early thirties, operating in a budget traveller mode, having flexible timetables and itineraries, maintaining a preference for budget food, accommodation and transportation. However, other researchers have identified there has been an evolution of this tourist subculture from the drifters of the 1970s. Today they are more likely to have a college education (Pearce, 1990a; Pearce, Murphy, & Brymer, 2009; Richard & Wilson, 2004; Rodrigues, 2013), possess a Gold Card (Hudson, 2008) and are influenced by social media (Scholtz & Kruger, 2020).

This evolution, and the impact on the demand for tourism products and services, does not seem to be fully understood. For example, there is a lack of literature and data on backpackers and other sociocultural cohorts undertaking dive tourism activities, or what



associated revenue flows may exist; the backpacker clearly contributes to sustainable tourism as a long-term traveller who may also try to find a job (Pearce, 2008). More research needs to be undertaken on how this sector interacts with specific forms of tourism such as RSDT. Meanwhile, the literature suggests the backpacker plays a vital role in the LTS in terms of their contribution to the customer base, part-time workforce and associated taxation revenues (Nally, 2016; Smith, 2016a; Vlastic, 2016).

#### **2.4.8. The importance of service levels in RSDT**

The literature reveals the importance researchers have attached to customer service and its relationship with satisfaction levels. For example, Musa (2002) in his study of RSDT on Sipadan Island found diver satisfaction was linked to concerns regarding increasing development, overcrowding, environmental impacts and customer service. Palau-Saumell et al. (2014) found service levels have managerial implications including a need to provide high levels of services before, during and after the dives. Additionally, they found a need to maintain low carrying capacity to avoid the perception of overcrowding and to increase the emotional offer of diving services.

Similarly, MacCarthy, O'Neill, and Williams (2006) found satisfaction is gained from a complex array of consumers' perceptions of the actual dive in addition to a range of associated peripheral experiences such as the service provided by the operator. Ince and Bowen (2011) identified key elements divers use to determine satisfaction and concluded the role of emotion is highlighted above other satisfaction antecedents. Figure 2.4. illustrates sociocultural factors identified in the literature which impact the LTS of a tourism destination.

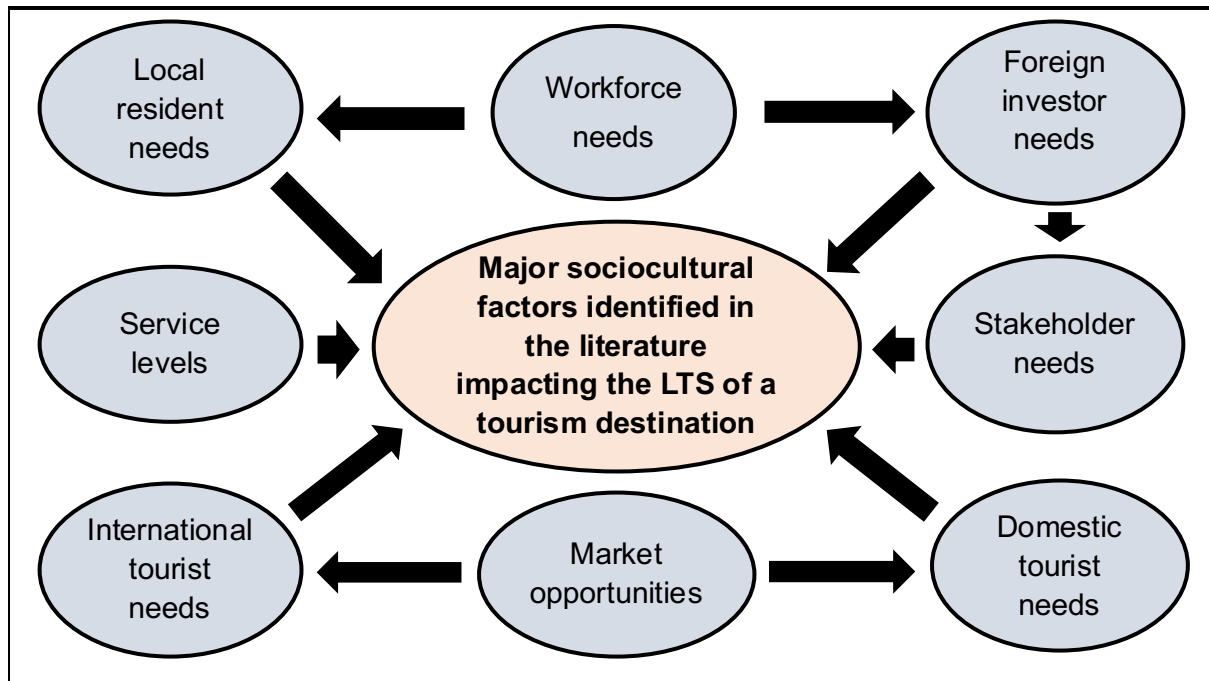


Figure 2.4. Major sociocultural factors identified in the literature impacting the LTS of a tourism destination (Source: Author)

#### 2.4.9. The link between environment and sociocultural factors in tourism sustainability

Environmental and sociocultural factors influencing the LTS of tourism seem to be closely linked. The literature reveals there is a need to understand the intersection point between sociocultural and environmental systems to obtain sustainable outcomes for tourism and for the adoption of effective tourism management (Dimmock & Musa, 2015; Farrell & Twining-Ward, 2004). Dwyer and Kim (2003) contend it is more about the perceived environmental quality which influences tourism potentials than it is about the real environmental quality of the destination. Environmental perceptions are also dependent on demographic factors such as nationality, gender and experience (Baysan, 2001; Uyarra, Watkinson, & Cote, 2009), however there is a gap in literature as to how other sociocultural and demographic factors may impact environmental perceptions.

#### 2.5. Environmental factors impacting the LTS of tourism

Many forms of tourism, especially marine and adventure tourism, are dependent on the natural environment where facilities and infrastructure are not enough to attract tourists

(Hall, 2007; Mathieson & Wall, 1982). Fletcher (2008a) contends that environment is the most fundamental ingredient of the tourism product. Similarly, Hall (2007) argues that tourism is an environmentally dependent industry, and that there would be very little tourism without an attractive environment. He further states that without conservation there would be nothing for the tourist to see (Hall, 2007).

Many definitions of tourism sustainability are expressed in environmental terms (Newsome et al., 2013) and most research on the impacts of human mobility have been based on the impact on wildlife, vegetation, and the impacts on soil, air and water quality (Edington & Edington, 1986; Gössling & Hall, 2006; Newsome, Moore, & Dowling, 2001). Consequently, some researchers believe ecotourism is a contradiction in terms, full of paradoxes, even an oxymoron, because as visitors arrive everything changes (Daly, 1996; Higham & Lück, 2007c; Hall, 2007; Redclift, 2005). Meanwhile, the concept of greenwashing described by Weaver (2008), where tourism operators promote destinations in an ecotourism context while paying little attention to the environment, contributes little to LTS. Despite these difficulties, identification of gaps in the literature and subsequent further research can reduce the damage to the environment and give some indication of factors impacting LTS leading to the promotion of better planning, monitoring and the establishment of suitable controls.

### **2.5.1. Environmental impacts and marine tourism**

Environmental impacts from marine tourism have been investigated over some time (Hall, 2001; Hall, 2013; Hall & Lew, 2009; Musa, Seng, Thirumoorthi, & Abessi, 2011; Ong & Musa, 2013; Poonian, Davis, & McNaughton, 2010). The literature shows how coral reefs globally have been facing a wide range of anthropogenic stresses and climate change for some time (Adler, Barnett, Brown, Marshall, & O'Brien, 2013; Anthony et al., 2011; Bellwood, Hughes, Folke, & Nyström, 2004; Bryant et al., 1999; Douglas, 2003; Gayle & Warner, 2018; Goldberg et al., 2017; Halpern et al., 2008; Handy, 2020; H. Hoegh-Guldberg, 2008; Jackson, 1997; Miller, 2005; Molinos et al., 2015; Mora et al., 2006; Pabel & Prideaux, 2018; Pandolfi et al., 2005).

Human impacts include coastal development, debris, contamination, runoff, anchor damage, destructive fishing, overfishing, coral mining, and sedimentation (Bell, 1992; Kroon et al., 2015; Lamb et al., 2018; Miller, 2005; Negri, 2002; Nemeth & Nowlis, 2001; Redfern, 2015; Saphier & Hoffmann, 2005; Waterhouse et al., 2017). This degradation of coral reefs can negatively impact visitor numbers and the associated business sectors which rely on the presence of healthy reefs for revenue generation (Kragt et al., 2009; Pabel, 2009). Miller (2005) asserted these impacts have the potential to damage and/or remove the biophysical attributes of the coral reef sites most significant to divers' experience and are therefore likely to have a negative impact on the demand and visitation of dive sites.

Fishing (both recreational and commercial) is a totally subtractable activity since when a fish is caught it becomes private property. It follows that potential conflicts between tourism operators who rely on the abundance of marine life and the fishing industries can develop in and around MPAs. For example, over the six-year period from 2013 to 2019 the estimated number of recreational fishers in the Cairns section of the GBRMP grew from 23,300 to 49,200 (Queensland Government, 2019).

The literature supports the contention DTs want to see marine life, including fish, and there is potential for conflicts to result between divers and fishers (Fabinyi, 2008; Lucrezi et al., 2018; Lynch et al., 2004; Rudd & Tupper, 2002). The non-extractive (i.e. no-fishing) value of fish abundance and the size of species for divers to see may influence the economic viability of MPAs. That is, the sighting of a fish by a single diver or person does not subtract from the ability of others to consume the public good at another time (Rudd & Tupper, 2002). Rudd and Tupper (2002) demonstrated charter operators who show divers larger and/or more abundant species could acquire a larger market share. They also concluded that the local dive operators fully realise that maintaining reef quality, especially coral diversity and fish abundance, is critical to their business success. On the other hand, divers lose from a reduction in species and size because they would derive less satisfaction and wellbeing from their dive experience (Rudd & Tupper, 2002).

It is clear from the volume of literature regarding the significance of anthropogenic threats and the associated declining quality of reef ecosystems has been identified by researchers for some time. However, Prideaux, Thompson, Pabel, and Anderson (2017) argue that destinations and the public sector responses to these threats have been much slower.

### **2.5.2. The link between anthropogenic impacts and climate change**

The literature indicates it is extremely important that destinations ensure strategies are developed to reduce anthropogenic impacts if an ongoing decline of coral reefs is due to climate variability (Mayewski et al., 2004; New, Hulme & Jones, 1999, 2000) and climate change (Hoegh-Guldberg et al., 2007; Prideaux et al., 2018). While some anthropogenic impacts may be able to be directly influenced, of all the anthropogenic impacts, global warming is the largest and hardest to control or do anything about (Prideaux et al., 2017). However, Gayle and Warner (2018) point out that strategy implementation has often remained ineffective, with implications for the LTS of coral reef tourism.

### **2.5.3. Climate change and RSDT**

Researchers have observed that the risks posed by climate change are major challenges for the sustainability for tourism destinations (Hambira, Manwa, Atlhopheng, & Saarinen, 2015; Prideaux et al., 2018; Shakeela & Becken, 2015) and the issues become complex (Doiron & Weissenberger, 2014; Foster, 2008; Hall, 2013; Prideaux, Pabel, Thompson, & Cassidy, 2018; Reddy & Wilkes, 2012). Differences of opinion, concerns and narrative relating to environmental and climate change can lead to political issues with confrontations between stakeholders sometimes developing (Bateman, 2016a,b; Burke, Reyntar, Spalding, & Perry, 2011; Leviston, Walker, & Morwinski, 2012; Whitmarsh, 2011). Some researchers have gone so far as to suggest pristine reefs have essentially disappeared (Knowlton & Jackson, 2008) and destination stakeholders may need to consider alternative forms of tourism experiences at destinations reliant on coral reefs if decline was to continue (Prideaux, Thompson, Pabel, & Anderson, 2017; Weaver, 2011).

Kaur (2018) argues the importance of the Blue Economy where a sustainable ocean economy emerges when economic activity is in balance with the long-term capacity of ocean ecosystems. This supports the activity and helps it to remain resilient and healthy. The literature also supports the contention that the health of MPAs, like the GBRMP, is one of the major factors impacting LTS of associated tourism operations.

Daly (1999) suggested the economy is a wholly owned subsidiary of the environment, not the reverse. Similarly, Hannam (2018) believes the environment is our economy, and further observes the GBR tourism operators have woken up to the fact that the Reef is in peril. Goldberg et al. (2017) contend the decline of the world's coral reefs has the potential to create repercussions for millions of stakeholders and claim urgent action to sustain coral reefs into the future. Similarly, Adler, Barnett, Brown, Marshall, and O'Brien (2013) predict severe consequences for those stakeholders who rely on coral reefs for their livelihood.

Dale, Vella, and Cottrell (2014) contend communities facing climate change need to develop adaption strategies in response to the resulting various social and economic impacts. Dale et al. (2014) concluded more cross-disciplinary integration is needed if social resilience concepts are to have a genuine impact in helping vulnerable regions tackle climate change. Hall (2007), argues that there is clearly a balancing act between the desire to conserve the environment while simultaneously encouraging visitations and that this remains the greatest challenge confronting tourism, with much of the research being reactive.

The loss of corals in the GBRMP and other reefs worldwide has occurred for decades and is well documented in the scientific literature (GBRMPA, 2019a). Long-term monitoring has demonstrated coral cover on the GBR has been systematically declining with only minor recovery in some areas since the 2016 and 2017 bleaching events. The ARC Centre of Excellence for Coral Reef Studies (2017) – and cited by Van Oppen et al. (2017) – stated 93% of the GBR had suffered bleaching at that time. Prideaux, Thompson, Pabel, and Anderson (2017) contended the decline of coral reefs is likely to continue, especially if there was a reoccurrence of the negative impacts.

The concept of resilience described by Becken (2013) is also important when considering the sustainability of tourism destinations. Prideaux, Carmody, and Pabel (2018) contend that a resilient tourism destination requires functioning linkages between the ecosystem and social system (individuals, communities and industries) and the capacity to return to economic health after a disturbance or impact. In the context of this research, this is a key observation in terms of the consequences from shocks such as bleaching to RSDT destinations like Cairns which is largely dependent on reef tourism. Nevertheless, the natural environment, and in the context of RSDT, coral reefs, are and remain, the big tourism drawcard (Fletcher, 2008d; Mathieson & Wall, 1982; Pabel & Prideaux, 2018). For example, Dimmock and Musa (2015) propose the environment is located at the core of RSDT.

The Great Barrier Reef Outlook Report 2019 (GBRMPA, 2019a) identified four major factors impacting the future of the GBR. These were: climate change; runoff from land; coastal development and some forms of fishing. Of these, climate change was identified as the greatest threat, causing rising sea temperatures and extreme weather conditions. The report also recognised there is often a considerable time lag between Reef improvements and mitigation efforts. The report acknowledged that, although the Reef is resilient, there is a need to be future focused (i.e. address long-term impacts).

#### **2.5.4. The environmental impact of RSDT on LTS**

RSDT can impact the environment in positive and negative ways (Dimmock & Musa, 2015; Garrod & Gössling, 2008) with the LTS of RSDT closely linked to the continued health of sensitive coral reef resources. Researchers have argued divers are not a homogenous group (Edney, 2012; Gössling et al., 2008; Pabel & Cummins, 2017). They have different knowledge, experience and expectations and therefore their perceptions of the marine environments they encounter (or research as possible destinations), can vary (Pabel, 2009; Pabel & Cummins, 2017). For example, Anderson and Loomis (2011) found experienced divers are more concerned about their impact on the dive site, including maintaining buoyancy control, and not taking pieces of dead corals, or touching marine mammals. Their

findings point to a connection between specialisation levels, social norms, and a relationship to ensuring continued reef health.

Edney (2017) claims little attention was given to the ecological impacts and human dimensions of RSD prior to the 1990s, when researchers turned their attention to diver impacts on the marine environment. Since that time, the literature reflects there has been an abundance of studies of RSD impacts. Meanwhile, several researchers claim diving is undergoing significant growth (Musa & Dimmock, 2012) while Cummins et al. (2019b) caution the use of dive industry data which could lead to miscalculation of growth gradients and phantom demand (McKercher, 2007) for RSDT. Nevertheless, Van Wijk (2017) concluded that diving has become a multi-million-dollar business and is associated with the pressure of human activity on popular reefs.

Some researchers have linked reef damage to the diver's level of experience. For example, Zakai and Chadwick-Furman (2002) assert many certified divers appear to have poor buoyancy skills, which is directly reflected in their contact with the reef. Consequently, Zakai and Chadwick-Furman (2002) in their study of Eilat in the Northern Red Sea proposed an exclusion for untrained (those in courses and introductory dives) from vulnerable reef areas. This outcome also seems to be considered as an option by Tratalos and Austin (2001) in their study of RSDT on coral communities of the Caribbean island of Grand Cayman.

Poor buoyancy control by divers has raised concerns amongst researchers that the current approach by the diver training agencies may not be effective in minimising impacts (Cardwell, 2005; Hammerton, 2016, 2017; Johansen, 2013; Lindgren et al., 2008; Lucrezi et al., 2018). Additionally, a particular dive site's LTS may also be more a function of carrying capacity, diver experience and other associated impacts (Davis & Tisdell, 1995; Edney, 2016; Hammerton, 2016; Hammerton & Bucher, 2015; Harriott, Davis, & Banks, 1997; Hawkins & Roberts, 1997; Hein, Lamb, Scott, & Willis, 2015; Musa, Seng, Thirumoorthi, & Abessi, 2010; Zakai & Chadwick-Furman, 2002).



For some time, researchers have reported the impact on reefs from over-visitation to sites such as Hanauma Bay in Hawaii (Wells & Hanna, 1992). Overcoming the difficulties associated with accurately formulating carrying capacities, may lead to a clearer understanding of how the concept may be used as a tool to establish sustainable levels of long-term management of MPAs (Davis & Tisdell, 1995; Zakai & Chadwick-Furman, 2002). However, few studies have been conducted into the relationship between diver carrying capacity and LTS (Hawkins, Roberts, Kooistra, Buchan, & White, 2005).

Delivery of destination-specific environmental information and dive briefings can also contribute to a site's LTS (Barker & Roberts, 2004; Davis & Tisdell, 1995; Dearden, Bennett, & Rollins, 2007; Hammerton & Bucher, 2015; Hawkins & Roberts, 1997; Medio, Ormond, & Pearson, 1997; Renfro & Chadwick, 2017), especially if delivered using humour (Pabel & Pearce, 2015). Additionally, Hawkins and Roberts (1992) in their study of Egypt's reefs and Rouphael and Inglis's (2002) Australian study, identified that, while some new dive sites can experience rapid damage, others can sustain high levels of diver visitations.

Hawkins et al. (2005) found there was virtually no relationship across sites between diving pressures and the amount of damage in either High Use or Low Use areas. They concluded environmental factors might have an overriding impact by DTs (e.g. Hurricane Lenny). Additionally, Hawkins et al. (2005) found that reef damage did not increase as the dive sites' use increased from as little as 254 to a maximum of 2,663 dives per year and that diving pressure did not appear to influence levels of bleached or diseased corals.

There have been calls for Maya Bay in Thailand and Boracay Island in the Philippines to be shut down for a period to give the environment a chance to recover (Ellis-Petersen, 2018; Thiessen, 2019; Yeoh, 2018) following being loved to death. Boracay Island was shut-down for six months in 2018 (McKirdy, 2018). Destination vulnerability and reconstruction has been the subject of several studies (Beirman, Ritchie, & Campiranon, 2014; Blaikie, Cannon, Davis, & Wisner, 2005; Taylor, 2019). Additionally, last chance tourism (LCT) or doom tourism (Lemelin, Dawson, Stewart, Maher, & Lueck, 2010), where tourist visitations to a destination is recommended by travel operators on the basis it will

soon disappear, has been researched (Eijgelaar, Thaper, & Peeters, 2010; Lemelin, Dawson, & Stewart, 2013; Lemelin et al., 2010). Lemelin et al. (2013) cite the GBR as one such vanishing destination.

Researchers have also suggested carrying capacity should be defined in terms of the number of divers permitted to dive a specific site annually (Dixon et al., 1993; Hawkins & Roberts, 1997). However, McKercher and Prideaux (2020) state that the biggest criticism of Butler's (1996) life cycle model is the idea that carrying capacity is a fixed concept and that it is more valuable to acknowledge that increased numbers can cause greater levels of impact when the environment is changing.

Hall (2007) contended tourists often get the blame for negative impacts when they may not be guilty. In the case of the GBRMP, the highly publicised decline of the GBR could be more about runoff from farms (Brodie et al., 2012; Furnas, 2003; Queensland Government, 2014) and climate change (Graham, Jennings, Mac Neil, Mouillot, & Wilson, 2015; Molinos et al., 2015; Prideaux et al., 2018; Ramis & Prideaux, 2013) than impacts from divers and other visitors. The complexities of objectively isolating the blame for any negative impacts on the GBRMP is evident from a review of the Reef Water Quality Protection Plan 2013 where a multitude of factors are identified (Australian Government, 2013).

Hall (2007) also predicted ecotourism would become the target of the parks movement and the rise of the environment movement(s), and such movements are now quite evident in the dive industry. The establishment of organisations such as Project AWARE (<https://www.projectaware.org/>) and Force Blue (<https://forceblueteam.org/>) have come from initiatives within the dive community. McVeigh (2018) cites how specialist diving groups have teamed up with a British conservation charity to lower impact of scuba tourism on threatened reefs.

Planning by the Great Barrier Reef Marine Park Authority (GBRMPA) has been largely linked and limited to land use zoning with input through their Tourism Committee Reef Advisory (TRAC) and from various RSDT NGOs such as the Association of Marine

Park Tourism Operators (AMPTO), Cod Hole and Ribbon Reef Operators Association (CHARROA). The involvement of these NGOs in decision processes supports Cater and Cater's (2007) contention that product and service providers are major stakeholders and highly influential in marine ecosystems.

The overall quality of the dive site is critical (Miller, 2005). Poor dive experiences generated from low underwater visibility and lack of marine life may lead to fewer divers being attracted to the GBRMP. Pabel and Prideaux (2010) found the diversity of marine life, underwater scenery and quality of the coral are rated as very important by divers on the Far North Region of the GBRMP. Orams (1999) contended that a diver's satisfaction level increases when encounters with memorable marine animals occurs. Farr, Stoeckl, and Beg (2014) identified domestic and international visitors' willingness to pay for a guaranteed sighting of several different marine species when taking reef trips to the northern section of the GBR.

Gössling et al. (2008) in their study of Mauritius, found tourist return visits were not directly related to the actual condition of the reef if a certain threshold was not reached. This threshold is a function of visibility, abundance and variety of marine life, the occurrence of algae and damaged coral. In a study of Bonaire, Uyarra (2005) identified 99% of all tourists do at least one dive and 76% of these indicated they would not return if there were significant coral bleaching or decline. Christ (2018) suggests bleaching has destroyed both the coral reefs and economies of Belize while Orlowski and Vevers (2017) point out the obvious: corals do not have many options when it comes to migrating.

Ramis and Prideaux (2013) identified reefs are push factors for tourists and pull factors for destinations and any damaging impacts will impede this push-pull relationship. Furthermore, these will have flow-on effects for the tourism destination. Prideaux, Lee and Thompson (2014) contend destinations reliant on healthy coral reefs will face marketing difficulties and declining demand if repeated negative episodes were to recur. Orlowski and Vevers (2017) suggest if the Paris Climate Agreement is not met, there is no real chance for coral reefs. Giddy's (2018) study of adventure tourism motivation in South Africa, including

that of scuba diving, found the environment was the only pull factor that was statistically and practically significant. Meanwhile, Albayrak, Caber, and Cater (2019) argue while Push-Pull Theory (Dann, 1977) can be used to examine scuba diving motivations, the importance of the practice to the host destination and broader ocean literacy is an under-researched topic.

#### **2.5.5. The impact of negative publicity on the LTS of RSDT**

Media headlines such as “Great Barrier Reef: 30% of coral died in the ‘Catastrophic’ 2016 heatwave” (Smee, 2018) and “Great Barrier Reef hard coral cover close to record lows” (Morton, 2019) have continued to appear in various publications since the 2016 and 2017 bleaching events. Andrewatha (2019) claimed environmental/green groups that stated the Great Barrier Reef is dying has pushed the North Queensland Tourism Industry to the point of near recession with visitor numbers slumping. Prideaux, Carmody, and Pabel (2017) while surveying local community, tourism industry and tourist concerns regarding coral bleaching episodes in the Cairns region during 2016 and 2017 found respondents supported current management funding levels and acknowledged that coral bleaching on the GBR would impact them on a personal level.

Prideaux, Pabel, Thompson, and Cassidy (2018) in researching longitudinal visitation and motivational patterns levels of visitors departing the Cairns International Airport domestic terminal found respondents were generally aware that coral bleaching had occurred and that there was a high level of concern about the bleaching events and that the absence of the GBR would mean that a visit to Cairns would not have been considered (Prideaux et al., 2018). Prideaux et al. (2018) also speculated that the news of the bleaching would eventually flow onto impact pull factors for Cairns as a destination.

Marshall et al. (2019) identified from a sample of 4,681 visitors to the GBR a shift in public attitude towards climate change over a relatively short period of time (i.e. from 2010 to 2014). The respondents to Marshall et al. (2019) interviews used terms such as sadness, disgust, anger and fear when responding to what the Great Barrier Reef meant to them. The authors claimed these emotional appeals are widely used in media stories, as appealing to fear can heighten a story’s impact and spread online (Marshall et al., 2019).

Overall, GBR tourism has undoubtedly suffered from several forms of negative press. Reports on coral bleaching and dive accidents were found in academic publications, dive and tourism print and online magazines, blogs (Fong & Lee, 2017), newspapers, travel companies' promotions (e.g. Tripadvisor), dive expo reports (Cummins, 2018a, 2019) and on social media channels during this research. In relation to bleaching, the ARC (2017) report, an article by Smail (2016) and others, resulted in some believing the GBR was 93% dead. Meanwhile, after a year of relative stability, Cox (2019) suggested 89% of new coral after bleaching events had collapsed. Pabel and Croy (2018) suggested images are a conduit between reefs and potential tourists, and that these form the basis of the tourists' motivations and expectations.

The Great Barrier Reef Legacy Organisation (2019) argued that it is frustrating to see misinformation and propaganda polluting the public arena and suggested that too often a debate about climate change turns into political point scoring and personal attacks and called for an open, meaningful discussion. It is not the scope of this research to investigate the science behind major environmental impacts such as climate change. However, by recognising the potential impact of climate change on the LTS of RSĐT, it may be possible to offer some guidance as to how stakeholders may be able to future proof against potential environmental challenges and to take advantage of any opportunities for improvement identified. Figure 2.5. illustrates the major environmental factors identified in the literature impacting the LTS of a tourism destination.

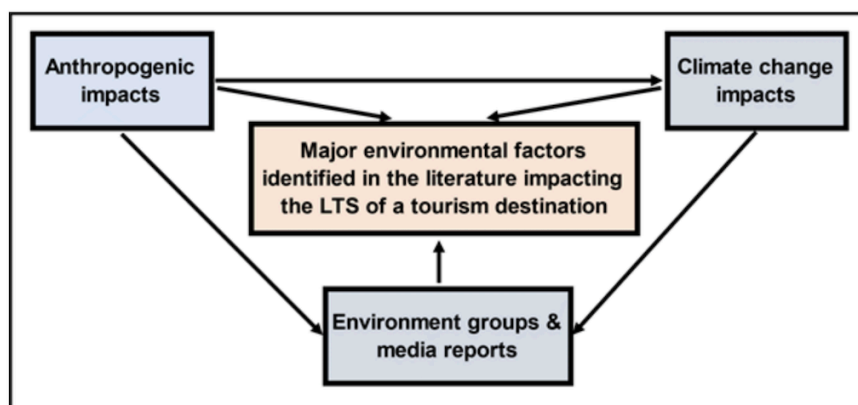


Figure 2.5. The major environmental factors identified in the literature impacting the LTS of a tourism destination (Source: Author)

## **2.6. The role of economics and business in long-term tourism sustainability**

Hall (2007), Fletcher (2008c) and Dwyer et al., (2010) have identified the economic benefits of tourism. The economic benefits occur on the demand- and supply-sides of tourism and within the policy and regulative settings of governments to be discussed later in this chapter. An understanding of basic economic concepts needs to be explored in the context of the LTS of tourism by researchers and stakeholders alike. In particular, the law of demand and supply, economies of scale, comparative advantage, the use of business and monitoring metrics, strategic planning, marketing and business planning are valuable economic concepts which need to be applied to tourism studies (Dwyer et al., 2010; Pike, 2018).

### **2.6.1. The Multiplier**

A multiplier may be regarded as a coefficient which expresses the amount of income generated in an area by the additional unit of tourism spending (Archer, 1982; Frechtling & Horvath, 1999; Hall, 2008). Fletcher (2008c) asserts that the concept of the multiplier is also based upon the recognition that sales for one firm require purchases from other firms within the local economy. That is, there is interdependence between firms and a change in one sector will impact others.

Such input-output models have weaknesses and limitations (Fletcher, 2008c). However, they can provide insights into the way tourism expenditure filters through the entire economy or provide a coefficient of income generated in a region by the addition of a sector's spending. This, in turn, may help to address one of the barriers tourism faces in getting support from other entities within the broader economy. The net benefit is the larger the multiplier, the greater the economic self-sufficiency of the local economy (Fletcher, 2008c).

### **2.6.2. The factors of production and RSDT**

Some consideration of the factors of production is necessary, especially those with broad implications to tourism and RSDT. Hall (2007) includes the resources of climate,

culture, traditions and way of life as being provided free while important to tourism activities and proposes there are four main items needed:

1. Attractions to induce visitations.
2. Facilities and services to make people feel comfortable and welcome.
3. Infrastructure to make the destination accessible.
4. Information (e.g. marketing).

The literature reflects the two greatest tendencies in tourism are internationalisation (or economic globalisation) and concentration. They are brought about by economies of scale available to tourism companies and the need for individual companies to reduce costs in a highly competitive international market. There is also a need to attract investment in physical and tourism infrastructure to succeed (Prideaux, 2003). Without supporting infrastructure, destinations face a difficult task in attracting visitors. Investment in infrastructure can be aimed at both revenue and non-revenue returning facilities. The latter is typically provided by government, while the biggest source of public equity capital in Australia is found within insurance companies and superannuation funds. However, Mistilis (1999) illustrated why banks may feel there is a poor level of investment opportunity in tourism from these two sources.

Governments often look to stakeholder investment regarding the supply of infrastructure, an establishment of facilities, purchase or leasing of property, the development of service and supply factors and even protection of the environment (Hall, 2007). Such investment may come from inside the country or through foreign investors. In some cases, this raises the issue surrounding foreign investment discussed earlier. Governments may see the injection of foreign capital as a means to balance international payments and has resulted in the issues surrounding the positives and negatives of foreign investment reflected in economic literature and specifically in the context of tourism by several authors (e.g. Dwyer & Forsyth, 1998; Dwyer et al., 2010; Hall, 2007). Foreign investment in tourism with Australia, Queensland and RSDT is evident with several of the largest tourism entities being either partially or fully foreign-owned. Consideration needs to

be made whether these companies will act as corporate locusts, caterpillars, butterflies or honeybees in addressing Elkington's Triple Bottom Line (Elkington 2004).

### **2.6.3. The impact of currency fluctuations on tourism**

Fluctuations in currency values and exchange rates play a part in the demand for tourism products and services offered by different destinations (Dwyer et al., 2010).

Economic observers and columnists such as Donaldson (2017) and Scutt (2018) monitor fluctuations since they impact a wide range of economic activity within Australia. Economic theory states that demand and supply are directly related to price. Therefore, depending on the elasticity of a company's product or service, any movement in the price generated by costs of production and the attractiveness (or otherwise) of currency exchange rates, will have an impact on international and domestic travel purchases (Dwyer et al., 2010).

In 2011 the Australian dollar (AUD) traded at \$1.10 against the USD. By August 2017 it was trading at 0.79 and at 0.7076 in October 2018 (Rogers, 2018). In early 2020 it reached its lowest level in 11 years (i.e. 0.66) in reaction to COVID-19 and Australia's dependence on commodity exports (Cottle, 2020). Researchers have monitored these fluctuations and noticed that when the AUD is strong against other currencies there is a parallel fall in both domestic and international visitors to Australia (Prideaux et al., 2017). In contrast, a lower valued AUD against other currencies makes inbound tourism attractive, but also increases the cost for Australians travelling abroad (Munckton, as quoted in Calcino, 2017; Prideaux et al., 2017). This partly explains why from 2016 and into 2019, a weaker AUD contributed to a rise in tourism to Queensland from both the international and domestic markets (TEQ, 2016, 2019a).

However, complete dependence on the value of the dollar is not an appropriate development strategy, and a short-term strategy for stakeholders, especially since Munckton (quoted in Calcino, 2017) also contends the AUD is closely linked to commodity prices. Consequently, a single uncontrollable, unrelated externality can impact a destination's sustainability even in the short term, as seems to be the case with the significant decline of RSMT in the Red Sea region following human conflict (Cairo Post, 2016).



There is a gap in the literature as to whether DTs are primarily motivated to visit RSDT destinations by the value of the AUD at any given time and whether it has an impact on DT spending habits. It would appear there is a need for the impact of currency fluctuations on RSDT to be more clearly identified. Meanwhile, Fletcher (2008c) states that tourism expenditure can only be estimated with some degree of accuracy by undertaking specific visitor expenditure surveys, normally at exit points.

#### **2.6.4. Economics influences on RSDT**

Many of these factors discussed above apply to RSDT, with dependency on both macro- and microeconomic forces being apparent. While some researchers have attempted to illustrate and predict the economic benefit of scuba diving to local communities (Cummins, 2008; Tapsuwan & Asafu-Adjaye, 2008), there is little doubt RSDT is exposed to changes in all the major economic variables, international and domestically, as well as changes in the associated business environment (Dimmock & Cummins, 2013; Williams & Souter, 2005).

RSDT has grown substantially over recent decades (Albayrak et al., 2010; Anderson & Loomis, 2011; Dimmock & Cummins, 2013). However, in the economic sense, the development of statistical concepts and frameworks for RSDT analysis have not kept pace with the changes in the nature and significance of RSDT worldwide. Nor its potential for long-term sustainable growth. Accurate measurement of tourism and the RSDT sector differ from other forms of economic activity as they all use a wide range of facilities across many different industry sectors (Dwyer et al., 2010). For example, RSDT has touch points with the road, air and marine transport industries, all types of accommodation, food and beverage suppliers, equipment manufacturers and training agency services.

These entities are located on both the demand- and supply-side. RSDT is a complimentary source of diversification as Hall (2007) describes tourism in general. Consequently, it would appear these various industries influence RSDT and need to be more clearly identified regarding their impact on LTS in the Cairns section of the GBRMP.

### **2.6.5. Tourism marketing**

Researchers have found similar factors that impact the LTS of a tourism destination also impact marketing decisions. For example, Elliott et al., (2018) claim the major macro-economic factors marketing decisions are based on include sociocultural, environmental, economic, political, technology and legal. Along with such influences as price, service standards and quality, several authors have identified a successful marketing strategy is a key ingredient in the business of tourism (Dwyer et al., 2010; Gilbert, 2008a,b; Hudson, 2008; Pike, 2018; Saayman & Saayman, 2009; Saayman, Slabbert, & Van der Merwe, 2009; Van der Merwe et al., 2011).

The results of marketing research give marketers and product/service developers clear indications of issues that should be considered when developing marketing strategies. (Van der Merwe 2011). However, Hall (2007) observed that although many segments of the economy benefit from tourism, only those organisations which perceive a direct relationship between tourism and tourism production become actively involved in fostering development or marketing tourism. Some researchers have concluded an attempt should also be made to reduce the potential for failure of generic advertising which, according to Hall (2007), is common in the promotion of tourism, while at the same time acknowledging raising consumer and producer awareness is not always easy.

### **2.6.6. Positioning, branding and marketing tourism in RSDT**

Positioning and branding are important for tourism products. Positioning involves the ability to position one's product and service differently to competitors (i.e. the process of product differentiation) by developing and communicating differences in the product offered in an otherwise similar product category (Kotler et al., 2001). The importance of branding has been identified in the tourism literature (Hudson, 2008; Kotler, Haider, & Rein, 1993; Kotler et al., 2001; Morgan, Pritchard, & Pride, 2002; Smith, 2002) and specifically in RSDT by Campbell (2009).

Branding tourism products and services should involve a differentiation component mainly through loyalty and emotional appeal founded on the reality of the destination's

product. This is difficult in some cases for tourism entities, because not only are they competing within their sector but are often positioned in a congested market of numerous tourism products, all aimed at maximising their share of the tourist's purse. Furthermore, individual tourism destinations often display a multitude of offerings.

Some researchers advocate not all tourist destinations can be all things to all people. This practice may lead to only partially effective strategies since marketing often acknowledges market segmentation is one of the most used and useful tools (Dolnicar, 2008; Hudson, 2008; Kotler, Brown, Adam, & Armstrong, 2001; Rix, 2003; Smith, 2002); that is, the process of partitioning a market into specific segments of potential customers with similar characteristics who are likely to display similar purchase behaviour (Dolnicar, 2004a, b). It follows RSDT stakeholders may benefit from developing products and strategies to fit specific categories (Grunig, 1989; Hall, 2007; Hudson, 2008). Meanwhile, Wearing et al., (2016) have investigated the marketing of sustainable tourism in national parks and concluded the process of market segmentation and target marketing is fundamental to ensuring that a focus on market segments is contained within the broader operational goals and objectives of the park.

The dive industry has commonly used mass marketing to promote everything from dive masks to tourism and only recently segmentation pricing and differentiation marketing has emerged. These are alternative approaches to a complete focus on a product or service. Brey and Lehto (2007) identified individuals who are involved in an activity in a daily setting, are more likely to participate in the same activity while on vacation. That is, there is an implication in the context of this research that marketing to existing divers through media platforms is an essential strategy. Additionally, tourism stakeholders may see benefit from different types of target marketing, since mass segmentation and differentiation marketing are only a few of several approaches reported in the marketing literature (Hudson, 2008; Kotler et al., 2001; Rix, 2003; Smith, 2002).

The importance of effective marketing is illustrated in the diving industry by its acknowledgement that PADI's prominent position is primarily the result of its marketing

abilities and approach to business. Although an industry factoid, this contention can be partially validated by a review of the quantity of how-to conduct business and the marketing content in PADI's *The Undersea Journal*, and marketing suggestions found in individual PADI training program documents (e.g. Cummins, 2001b, 2007, 2009; Cummins & Espinosa, 2010; Cummins & Gordon, 2011; Kinsella, 2019).

Ingram (2015), the CEO of the USA-based Dive Equipment and Marketing Association (DEMA), argued that within the future marketing efforts of the dive industry, the focus and emphasis should be on how to target a younger, more social-media-attuned audience. Ironically, PADI global data collected over the last 50 years indicates the 18 to 30-year-olds already make up most new divers (PADI, 2017a, 2018). Similarly, Pabel and Coghlan (2011) and Pabel and Cummins' (2018) investigations of dive market segments of the GBR found a significant proportion of participants in the 18 to 30-year-old demographic. Therefore, while opportunities may exist to expand business in this demographic, LTS growth of RSDT may only be possible through a combined focus including other demographical categories as suggested by Cummins (2001).

#### **2.6.7. Tourism planning, benchmarking and monitoring**

Research in the marine wildlife tourism sector has implications for the LTS. However, it appears formal planning is rarely devoted to tourism, but rather tourism sustainability tends to be a combination of economic, social and environmental considerations which influence tourism development (Hall, 2007). Studies often report unregulated and unplanned growth can lead to undesirable impacts, declining revenues and visitations (Dearden, Bennett, & Rollins, 2006; Konteorgopoulos, 2004; Peake, 2001). This has significant implications for destination competitiveness and LTS, since the quality of planning, benchmarking and monitoring ultimately leads to the quality of implementation of the tourism product.

It appears in tourism planning there needs to be a real and continuous information base to suit all the stakeholders for use in mediation and zoning. The role stakeholders could, and sometimes do, play in planning, benchmarking and monitoring processes is made difficult because of the complex nature of tourism and often poorly defined linkages.

### **2.6.8. Benchmarking and monitoring tourism products and services in RSDT**

The importance of benchmarking in ecotourism and natural area tourism has been recognised by Newsome et al., (2012). While the literature identifies product and service providers are major stakeholders in marine ecosystems (Cater & Cater, 2007), only 7% of Australia's total tourism development areas appear to be open to formal monitoring (Warnken & Buckley, 2000).

There has been some private sector monitoring conducted by companies in the diving industry (Cline, 2020) and by diver training agencies (e.g. PADI & SSI) under the umbrella of quality assurance and risk management. The latter is motivated largely by an interest in maintaining agency safety protocols and avoiding litigation than the broader issues associated with LTS. While Cardwell's (2005, 2013) research focused on the quality of dive instruction, the dive industry has been self-critical for the lack of business and sales training in dive instructor course curriculums. Some claim this can lead to failure of such courses to produce a holistic, highly employable individual that can lead to a successful career path (Brylske, 2020).

There is little evidence monitoring has been done on the effectiveness of professional performance or the establishment of business baselines within RSDT entities outside of those introduced under government occupational, health and safety departments best working practices (e.g. Queensland Government, 2011). There is also little evidence of benchmarking or monitoring in RSDT which could lead to identifying impacts on LTS. While the principles of effective monitoring and suggestions for improvement has direct implications for the tourism sustainability, they are absent from the dive industry and RSDT literature.

There is some interest in who monitors what, what is their authority and who watches the watchdogs (Tomlinson, 2016). On a macro scale, there could be some value in Getz's (1986) model of tourism planning which adopts an integration of theory with a practical approach. Hall (2007) stressed a wise tourist policy requires a balance to be struck between the present and the future. Figure 2.6 shows the major economic and business factors identified in the literature impacting the LTS of a tourism destination.

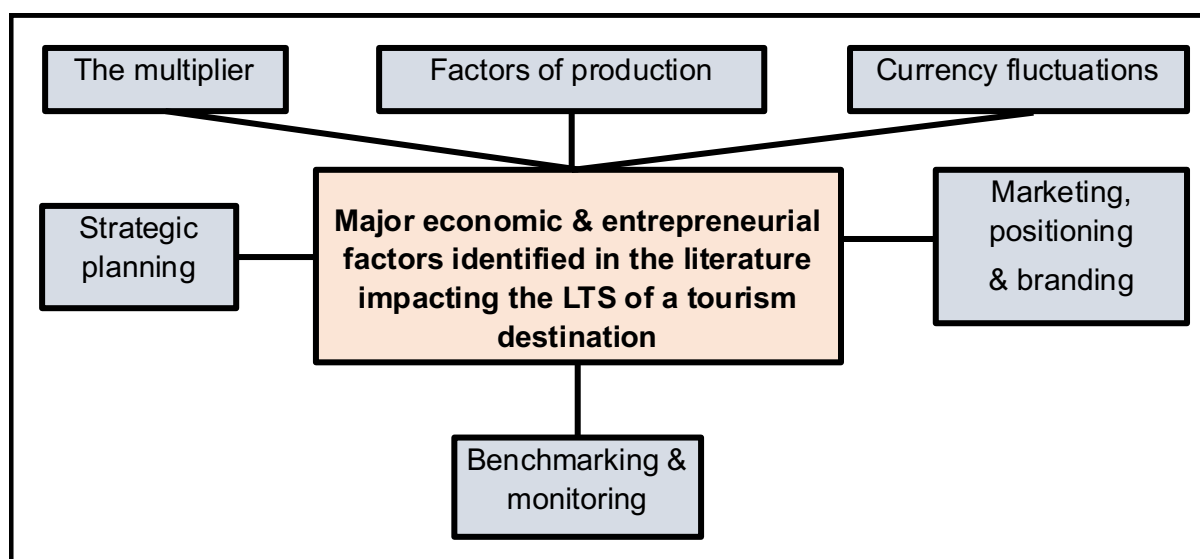


Figure 2.6. The major economic and entrepreneurial factors identified in the literature impacting the LTS of a tourism destination (Source: Author)

## 2.7. Governance factors in tourism sustainability

Governance is a term used to represent all forms of organisational relationships (Edwards, 2002) and a major policy concern for governments (Hall, 2007). In Australia there are three levels of government: federal, state and regional. There was an observed disconnect between these three tiers regarding tourism leading to the formation of the intergovernmental agreement on tourism in 2003 (Australian Government, 2003). The 2003 agreement was created out of a need to encourage collaboration, coordination and partnerships, and reduce unnecessary duplication (Hall, 2007). Hall summarises the intent of the Australia's Intergovernmental Agreement on tourism as consisting of five key components:

1. Provide economic, environmental and social benefits through the development and promotion of tourism.
2. Co-operate with other governments in undertaking their respective functions for the development of tourism.
3. Market Australia, or regions or locations within Australia, as tourist destinations in the international marketplace.
4. Build an environment in which the tourism industry can sustainably develop and grow.
5. Increase awareness of, knowledge of, and desire to, travel to and throughout Australia, its regions and localities.

Tourism is political by nature with Hall (2007) and Coles (2008) describing it as an alphabet soup (i.e. made up of multiple organisation that are commonly referred to by their acronyms). Divisions of responsibilities and multiple tiers of governance are evident, including strong influences exerted by NGOs, especially in respect to RSDT not found elsewhere in the world.

There have been two agreements between federal and state governments in relation to the GBR. The Emerald Agreement (Australian Government, 2015a, b) was established in 1979. That agreement recognised key pressures on the GBR such as climate change impacts, catchment water quality and coastal development which cannot be effectively addressed by either Federal or Queensland State Governments on their own. Although the tourism sector recognises the need for governance at some level, there is also a case put forward for deregulation or at least more flexibility when it comes to addressing destination competitiveness (Ritchie & Crouch, 2003). Hall (2007) observed there was a poor record of synchronisation of policy between the tiers of government while they placed greater demands for the tourism entities to be self-sufficient.

The GBR Intergovernmental Agreement of 2009, again between the Federal and Queensland State Governments, provides a framework for both governments to work together to protect the GBR (Australian Government, 2015a). However, there are still many

active participants at various levels impacting tourism to GBRMP, each with its goals concerning planning, economic growth, employment and infrastructure expansion which could arise from an increase in visitations.

Planning and funding of tourism promotions at the government level often involves arbitration between competing interests. This can be seen by the change in emphasis from the GBR featured as an iconic component of Australia's tourism offerings of past years (GBR, Opera House/Bridge, Uluru), to food and wine tourism showcased more recently by Tourism Australia's Working with Tourism Australia brochure (Tourism Australia, 2016b).

### **2.7.1. Major Federal Government factors impacting tourism**

The literature provides an insight into four major influences the Australian Federal Government has on tourism. This can be summarised as:

1. International trade agreements and migration controls.
2. Infrastructure development and planning.
3. The appointment of national tourism associations (e.g. Tourism Australia).
4. The establishment of protected areas and organisations to monitor activities.

It is not the scope of this research to review the literature relating to all four of these major factors. More appropriately, the following section looks at those factors found within the literature which have implications for RSDT.

#### **2.7.1.2. Marine protected areas and RSDT**

The protection of the marine environment, especially in Marine Protected Areas (MPAs) is well covered in the literature. MPAs often come under the control of national governments. An understanding of RSDT impact factors on MPAs is important, especially where the relationship dynamics between stakeholders is intricate (Lucrezi et al., 2018). Thompson (2017) points out the importance to scuba divers of creating healthy MPAs under a protection pillar, if tourism within MPAs is to be managed within sustainable principles, stakeholders must understand how to balance tourist satisfaction with the other elements of sustainability (Garrod & Wilson, 2004; Hammerton & Bucher, 2015; McCool & Moisey, 2001; Pickering & Weaver, 2003). This may include reducing problematic behaviours through



persuasive communication in MPAs and thereby contribute to conservation efforts (Martin, Weiler, Reis, Dimmock, & Scherrer, 2017). All these processes are critical if businesses are to be protected (Cater & Cater, 2007; Orams, 1996). However, Garcia and Cater (2020) suggest that significant challenges are faced when having the lay person understand the influence oceans have on life and the impacts of our behaviour on it.

### **2.7.1.3. Marine protected area visitation fees and implications to RSDT**

There have been several studies of RSDT destinations within MPAs with researchers and stakeholders describing the impacts of visitation fees and quotas over some time (Bonaire Pro, 2018; Lucrezi et al., 2017; Weaver, 2008). Dixon and van't Hof (1997) and Hawkins et al., (2005) identified the Saba Marine Park in the Caribbean Islands of Netherlands Antilles as one of the first MPA in the world to be self-financing through fees imposed on divers and yachts. A study by Gelcich et al., (2013) of MPAs in Chile also considers the financing of MPAs through visitor fees. Biggs, Amar, Valdebenito, and Gelcich (2016) in their study of territorial user rights for fisheries (TURFs) in Chile found diver respondents who understand the bureaucratic functioning of a TURF, are less willing to pay, and there is diversity in how divers feel payments should be made and utilised.

Gelcich et al., (2013) identified divers are willing to pay to gain access to MPAs, while Depondt and Green (2006) found divers are willing to pay relatively large sums of money to help protect the MPAs they visit. Barker (2003) identified that in St Lucia (West Indies) almost half of scuba diving and snorkeling visitors chose to visit the area because it was an MPA. Rudd and Tupper (2002) suggest closing MPAs to fishing as the likely increase in large fish populations may result in divers willing to dive in smaller groups and pay more.

Studies by Dixon et al., (1993) and Shackley (1998) indicate user-fees to regulate tourism demand, minimise impact and generate revenue were not often used globally in the management of marine resources and were not commonly found to exist outside of MPAs. However, since the Dixon et al. (1993) and Shackley (1998) studies, several MPAs throughout the world have established user-fees to introduce user-pays criteria to MPA management (Barker & Roberts, 2004; Colby et al., 2003; Uyarra, Gill, & Côté, 2010).

Rudd and Tupper (2002) found in their study of Turk and Caicos Islands' MPAs that dive charter operators felt government managers did not have the capacity to ensure environmental quality would be maintained even with more funding. Similarly, the Australian Academy of Science (2018) warned taxpayer funding does little to address reef risks such as global warming, land clearing, coastal development, dredging and fishing.

Rudd and Tupper (2002), in their assessment of price sensitivity on changing levels of key environmental attributes that add value to the experience, found DTs would be very wary regarding any changes to the price of diving that may be caused by an increase in MPA user fees. In turn this was the result of an awareness of the government's ability to transform MPA revenue into actions to protect the reefs (Rudd et al., 2002). Hawkins et al., (2005) suggest that unless impacts of tourists visiting protected areas are properly monitored, with limits on visitation levels when appropriate, then diving tourism will not ensure resource protection, no matter how much revenue is provided for management.

In 1983 the GBRMPA introduced an Environmental Management Charge (EMC) on visitors to the GBRMP via tourism operators. The EMC and implications for RSDT in the Cairns section of the GBRMP will be discussed in Chapters Three and Ten.

### **2.7.2. Major Queensland State Government factors influencing tourism and RSDT sustainability**

It was established earlier in the chapter that foreign investment and planning are key factors in tourism development and sustainability. However, it appears both domestic and overseas tourism investors can become confused by uncertainty and even scared off by various state government policies (Spilsbury, 2016a). A review of the literature reveals while attempts have been made to embrace the intergovernmental agreement on tourism of 2003 (Australian Government, 2003), no formal state government planning processes are in place to accommodate RSDT and or its LTS. What is apparent is the impact of Occupational Health and Safety regulations on RSDT which is discussed in Chapter Three.

### **2.7.3. Major Regional Governance factors influencing tourism sustainability**

Murphy's (1985) work on a community approach to tourism highlighted the need for local control over development and contended if local needs were to be met, then it was possible to meet the needs of tourists. However, community-orientated tourism planning has not often worked in Australia because the opinion of the public has been more a token relationship rather than a concern for resident's opinions and ideas as discussed earlier in the chapter.

There seems to be a general absence of knowledge about the advantages and disadvantages of different local governance approaches to tourism (Beaumont & Dredge, 2010). These gaps in the literature have been identified by several researchers (Beaumont & Dredge, 2010; Murphy & Murphy, 2004). Beaumont and Dredge (2010), in attempting to reduce this gap, identified three different regional tourism governance networks that operate and impact local tourism policy: local council-led network governance structure; a participant-led community network governance structure; and a local tourism organisation-led industry network governance structure. Their study found these levels of local governance were underpinned by trade-offs and these tended to shape the effectiveness of local tourism governance. They also found that each network interpreted the parameters of local tourism governance differently and that trade-offs were made between various parameters which highlighted complex relationships and value systems (Beaumont & Dredge, 2010).

It has also become increasingly common for local governments to support economic development in various forms when it is associated with the local tourism policy of Councils and other local stakeholder groups. That is, apart from focusing on the marketing and promotion of tourism, local governance is often aimed at supporting the creation of tourism-related infrastructure to aid community development and management (Beeton, 2006; Gayle & Warner, 2018). Additionally, when addressing coral reef tourism management, a good understanding of the SWOT analysis (strengths, weaknesses, opportunities and threats) and

a balanced scorecard (Gayle & Warner, 2018) of effectiveness of local governance are central to the identification and implementation of sustainable tourism initiatives.

#### **2.7.3.1. Regional government funding and RSDT**

There is evidence some regional councils in Queensland and elsewhere in Australia have supported projects aimed at increasing RSDT. These include assisting in financing the sinking of shipwrecks (e.g. Ex-HMAS Brisbane and Ex-HMAS Tobruk), building underwater sculptures (Larkins, 2015), and through small grants.

#### **2.7.4. Major non-government organisations influence on tourism sustainability**

Non-government organisation (NGOs) control factors also have the potential to shape the economic climate for tourism, help provide infrastructure, take an active role in promotions and marketing, assist with education requirements and act as a regulatory authority. NGOs like the Pacific Asia Travel Association (PATA), World Travel and Tourism Council (WTTC) and World Tourism Organisation (WTO) all exert an influence on tourism operations and protocols and therefore on RSDT both directly and indirectly. This is the case, especially on the demand-side.

Although there are many tourism-type associations, few address complex issues like sustainability. There also seems to be an apparent disconnect between many elements of the tourism sector with some organisations operating without a marketing plan or strategy because many have been product orientated rather than customer or stakeholder orientated (Hall, 2007).

#### **2.7.5. NGOs and RSDT**

RSDT is significantly impacted globally by NGOs such as diver training agencies, industry and tourism associations. This researcher has observed in the RSD industry and RSDT that there is a proliferation of NGO control agencies displaying an apparent uncertainty about balancing public and private sector goals. While several NGOs have touch points with RSDT, it has only been in the last decade when some growth curves have waned or become erratic that some NGOs have begun to realise the need to address factors of LTS.

This is, in part, a result of a complex relationship between these diver training agencies and standards organisations and government bodies who commonly call upon them to assist in the formation of government-enforced codes of practice, as discussed earlier. Diver training agency governance is also seated in the need of a diver to possess a recognised certification card (or C-card) when seeking diving products and services in many countries.

Although certification and codes of practice have been identified as restrictions to access by some researchers (Newsome, Moore, & Dowling, 2012), the scuba diving industry seems to see the procession of a C-card contributing to increased safety. Similarly, the need to assess the medical and fitness conditions of potential divers was initially introduced in Australia through the influence of the South Pacific Underwater Medical Society (SPUMS) via Australian Standards (<https://www.australianindustrystandards.org.au/>). More recently the need for self-assessed medical declarations and adherence to minimum training standards introduced by the World Recreational Scuba Training Council (WRSTC), and adopted by the International Standards Organisation (ISO - <https://www.iso.org/home.html>), can also be a barrier to participation. This has implications for the number and types of individuals who can enter diving and undertake RSDT, while competitor activities such as snow skiing have no certification or medical fitness requirements to participate (Miller, 2005; Siu, Chandran, Newcombe, Fuller, & Pik, 2004).

This governance also restricts the ability of stakeholders to readily depart from standards and protocols to address local contingencies and competitiveness issues (Cardwell, 2005, 2013; Cummins, 1988b, 1994; Wilks & Davis, 2000). However, little research has been conducted as to how levels of governance impact the LTS of RSDT. This is especially the case when considering how regulations contribute to overheads and implications to destination competitiveness leading to many RSDT stakeholders believing they are the most regulated in the world.

There is also a noticeable lack of literature referring to a coordinated response from all levels of governance to impacts on tourism from the decline of the GBRMP. Although all

levels of government in Australia have allocated funding over time to increase visitations to the GBRMP and to its resilience, few resources have been allocated to addressing how tourists will respond to future declines in the giant fish tank. This lack of resources, funding and the securing of associated data, illustrates a major gap in the literature (Prideaux, Thompson, Pabel, & Anderson, 2017). Such research is essential in developing future policies and in providing the logistics behind the assistance offered to the tourism sector whilst it adjusts to such a decline in the GBRMP. Therefore, this research aims to provide an insight into the major governance factors impacting the LTS of RSDT in the Cairns section of the GBRMP. Figure 2.7 summarises the major governance stakeholders identified in the literature that impact the LTS of a tourism destination.

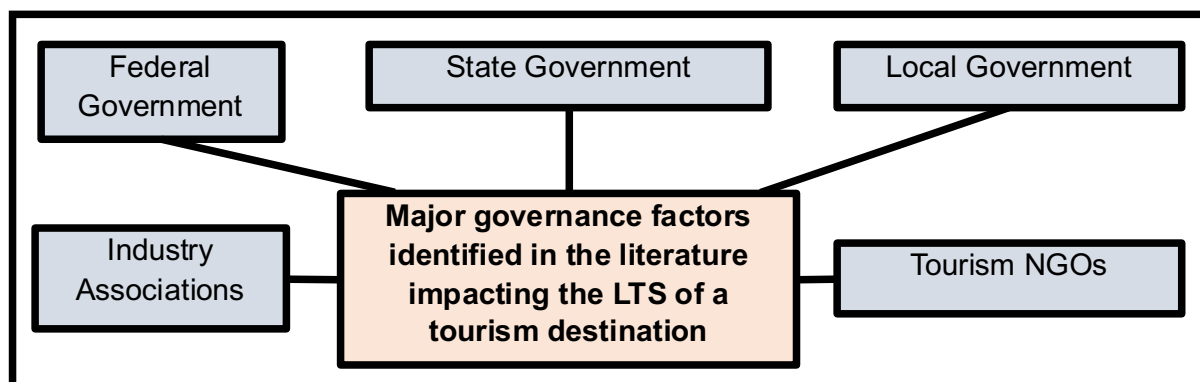


Figure 2.7. The major governance stakeholders identified in the literature impacting the LTS of a tourism destination (Source: Author)

## 2.8. Summary of the literature review and gaps

This chapter reviewed the key academic and grey tourism literature relevant to this research. It included an investigation into the concepts of tourism development and sustainability to gain insights into major factors researchers have identified which impact long-term tourism sustainability including sociocultural; environmental; economic and governance influences. The chapter also briefly explored the relevance of destination competitiveness, life-cycle and systems models. Furthermore, it examined the issues of defining RSDT, identifying the DT and what motivates their travel patterns. Reference was

also made to literature relevant to RSDT. This was to enrich the literature review in the context of this research. However, additional literature regarding RSDT in the Cairns section of the GBRMP is also referenced in Chapter Three where Cairns as the single case study area is addressed in detail.

From the literature review it can be concluded the LTS of RSDT and of specific destinations, involves three major considerations. Firstly, maintaining the utility of sites. Secondly, addressing destination competitiveness and product life-cycles phenomena (Butler, 1980; Kotler, 1993; McKercher & Prideaux, 2020; Plog, 2001; Ritchie & Crouch 2003). Thirdly, developing appropriate modelling, planning and monitoring strategies to ensure the first two. Most importantly, the literature review revealed tourism destinations cannot expect to maintain LTS unless the four major factors influencing it can be identified and accommodated within marketing processes, while at the same time helping to maintain the health of the associated assets.

Finally, the literature review revealed there has been considerable research undertaken in the fields of tourism development and sustainability. However, several research gaps were identified in the literature. These are presented in Table 1.1. It is also acknowledged in Chapter One that not all these gaps were able to be addressed in this research to their fullest extent and a call for further research is made in Chapter 11. Based on the academic and contemporary information contained in the grey literature, five research objectives were developed and are listed in Chapter One.

## CHAPTER THREE: CAIRNS AND RECREATIONAL SCUBA DIVING TOURISM

### 3.1. Introduction

This chapter provides key information including the geographical location and description of key infrastructure of Cairns, the single case study of this research. The chapter also provides a brief history of the parallel development of tourism and the evolution of Cairns-based RSDT. This includes tourism and Cairns-based RSDT milestones illustrated with photographs of key assets (e.g. dive vessels).

Additionally, this Chapter presents a review of the literature and identification of gaps specific to Cairns-based RSDT. Figure 3.1. provides a flowchart to illustrate the four major factors previous research has identified as impacting the LTS of a tourism destination and how these factors guide the review of the literature specific to Cairns-based RSDT.

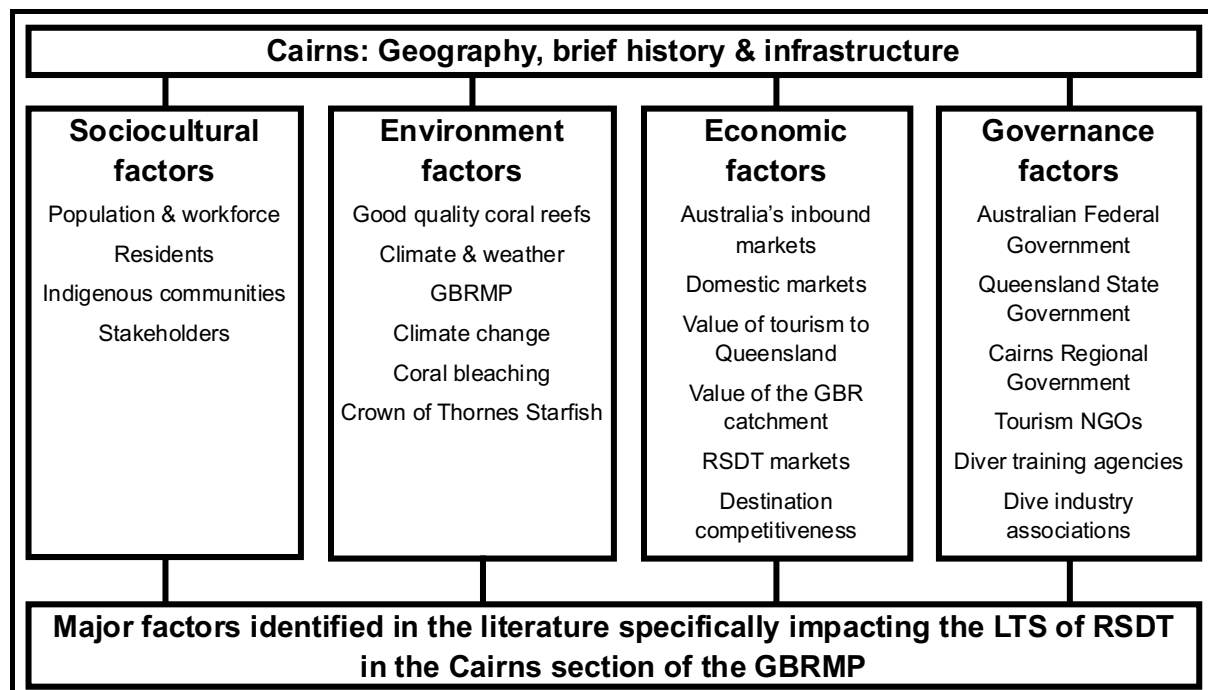


Figure 3.1. A flowchart to illustrate the literature investigated to establish the major factors impacting the LTS of recreational scuba diving tourism in the Cairns section of the GBRMP



### **3.2. Geography**

Cairns is the fifth most populous provincial city in the State of Queensland and is located on the east coast of the Cape York Peninsula on a narrow coastal strip of land between the Great Dividing Range and the Coral Sea, as shown in Figure 3.2. This region is also known as Far North Queensland, Tropical North Queensland and the Wet Tropics.

Cairns is characterised by a linear urban sprawl running from the south at Edmonton, to the north at Ellis Beach, a distance of approximately 52 km. The city is located on a former mud flat of Trinity Bay with the CBD located on the Trinity Inlet, as shown in Figure 3.3. The Mulgrave River and Barron River flow within the Cairns area with several of the city's suburbs located on their flood plains. The World Heritage-listed Wet Tropics rainforest is to the west and north and the GBRMP with Double, Green and Fitzroy Islands are to the east.

#### **3.2.1. The Great Barrier Reef Marine Park**

The GBRMP was established in 1975, covers 98.5% of the GBR, comes under the jurisdiction and management of the GBRMPA and up to early 2020 (i.e. pre-COVID) attracted over two million visitors per year (GBRMPA, 2019a). The nearest section of the GBRMP accessed by Cairns-based tourism operators is located 28 nautical miles to the east of Cairns (see Figures 3.2. and 3.13.) and is one of the two most active reef tourism destinations on the entire GBR, the other being the Whitsunday Islands, 600 km to the south (GBRMPA, 2019a).

The GBR was World Heritage-listed in 1981 and is considered one of the Seven Natural Wonders of the World (Great Barrier Reef Report, 2019a). It covers 344,400 km<sup>2</sup>, is 2,300 km long or approximately half the length of the Australian Eastern coastline. The GBR is composed of 3,000 individual reefs, 300 coral cays, 600 continental islands and 150 inshore mangrove islands, which makes it the largest barrier reef in the world. Apart from its size, the GBR has high levels of biodiversity and is considered one of the most complex natural systems on earth (GBRMPA, 2019a; Silver, 2016). With around 600 types of soft and

hard corals, more than 100 species of jellyfish, 3,000 varieties of molluscs, 500 species of worms, 1,625 types of fish, 133 different species of sharks and rays, six out of the seven sea turtles found in the world and more than 30 species of marine mammals, it is an enormous ecosystem (Great Barrier Reef Report, 2019a). The symbiosis between species is also unparalleled with a multiplex of sophisticated relationships established over the thousands of years the Reef has evolved (Silver, 2016).

Parts of the Coral Sea Marine Park (CSMP) to the east of the GBRMP is also accessed by long-ranging Cairns-based live-aboard vessels. It covers over 989,836 km<sup>2</sup> and has 34 reefs, 56 cays and inlets and has an abundance of marine life. It is assigned International Union for Conservation of Nature (IUCN) Category IV. Most reefs in the Coral Sea occur in Australia's Exclusive Economic Zone and are administered under the Australian Coral Sea Islands Territory (Bridge et al., 2019). However, Cairns-based tourism operators typically visit the most accessible reefs. These include Holmes, Bougainville and Osprey Reefs (see Figures 3.2. and 3.13).

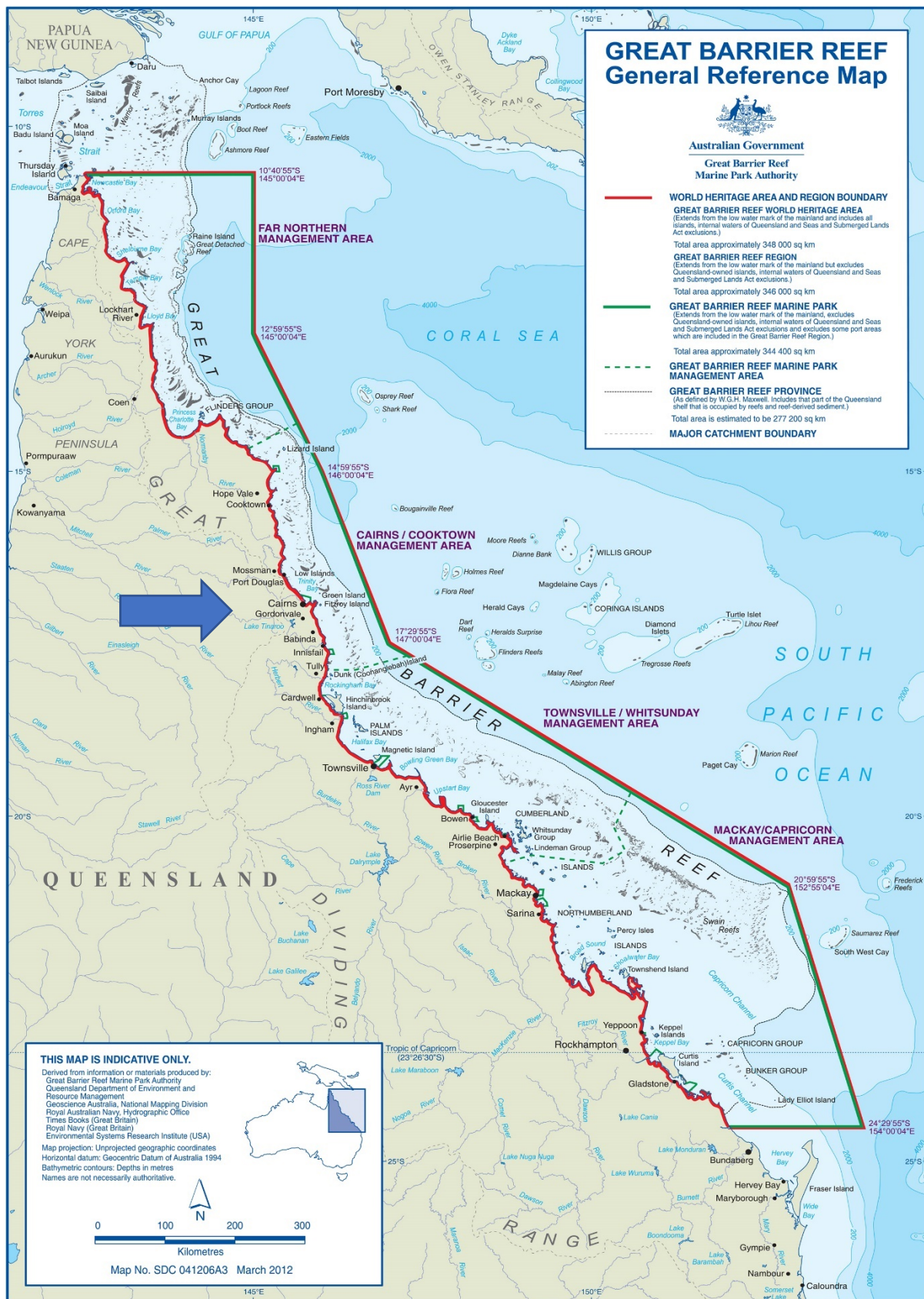


Figure 3.2. GBR general reference map showing the location of Cairns (Source: Provided with the permission of the GBRMPA)



Figure 3.3. The Cairns CBD, port facilities and marina on Trinity Inlet (Photo: Stuart Ireland)

### **3.3. Brief history**

Cairns was founded in 1876 and named after Sir William Wellington Cairns, Governor of Queensland (1875 to 1877). Bottoms (2015) contends that sugar cane farming provided the initial economic stimulus for infrastructure development from the 1860s. These advances in infrastructure supported the growth of tourism to the Cairns region in keeping with the staples thesis (Schmallegger, 2010; Schmallegger & Carson, 2010; Southey, 1978).

### **3.4. The evolution of Cairns tourism and RSDT**

The literature revealed that the Tourism Area Life-Cycle Models (TALC) can be used to describe the historical stages in the evolution of tourism and remains one of the most widely used models of tourism development. However, TALCs have been subject to criticism since they do not give enough insight into different elements of development (Butler, 1980; Hall, 2007; Mowforth & Munt, 1998) or insights to specific sectors such as RSDT. Therefore, a more traditional approach was utilised in this research by exploring the literature of the



case study region to gain insights into the evolution of tourism and RSDT in the Cairns section of the GBRMP.

From the mid to late 1890s shipping companies began to promote Cairns and the GBR as a holiday destination (Bottoms, 2015). While Bottoms' (2015) study represents an extensive history of Cairns, he neglects to state the contribution of adventure tourism to the development of the local economy and overall tourism sector. The following sections are an attempt to fill that gap and to identify those factors that have been key to the development of Cairns as an iconic, globally-renowned and economically important RSDT destination.

#### **3.4.1. The evolution of Cairns tourism and RSDT 1953 to 1990**

The evolution of Cairns tourism and RSDT have been closely paralleled since 1953. Table 3.1. provides a summary of the impacts on Cairns tourism and RSDT development from 1955 to 1990. However, it was not until the late 1970s and into the 1980s that a significant RSDT sector began to emerge. For example, in 1986 *TUSA 6*, a high quality, dedicated dive vessel, began operations and has a PAX of 60 (see Figure 3.4).

Table 3.1. Significant events impacting Cairns tourism and RSDT from 1955 to 1990

Year	Event
1953	Release of the film <i>There's A Future For You in Far North Queensland</i> . The weekly arrival of <i>The Sunlander</i> train, from Queensland's capital, Brisbane, encouraging vacationers from the south.
1954	Visit to Cairns by HRH Queen Elizabeth II.
1956	The release of the first North Queensland tourist information guide, the opening of the underwater observatory on Green Island and the passage of the Olympic torch through Cairns.
1957	The filming of <i>Cinerama South Seas</i> in Cairns.
1960	The coastal areas of Trinity Bay, Ellis Beach and Green Island classified as tourism areas.
1961	The first detected crown-of-thorns starfish (COTS) outbreak.
1962	The first annual Cairns Tourist Festival.
1964	The promotional film <i>Life in Australia: Cairns</i> was produced and the first commercial jet flights arrived in Cairns.
1966	The publishing of a glossy, large format, colour tourism magazine ( <i>The North Queensland Annual</i> ).
1974	Deep Sea Divers Den opened and certified 200,000 plus divers by 2020.
1975	The GBRMP was established.
1981	The GBR was World Heritage-listed. The first big catamaran service to Green Island was established. HMAS Cairns Naval base became fully operational.
1983	Federal Government introduced an Environmental Management Charge for GBRMP visitors. ProDive Cairns opened and certified 160,000 divers by 2020.
1984	International Airport Terminal opened. Cairns Barrier Reef Divers operated till 1986.
1986	Fitzroy Island Dive Centre opened and operated until 1989. Dive vessel <i>TUSA 6</i> began operations and continues to 2020.
1987	Cairns Hilton opened.
1988	The Wet Tropics Rainforest was World Heritage-listed. The Park Royal Hotel opened.
1989	The Pier Marketplace and Radisson Hotel opened. Airline pilot strike impacted Cairns tourism. <i>Passions of Paradise I</i> commenced dive and snorkel day trips to the GBRMP from Cairns which results in the company taking 750,000 people to the Reef by 2020. Cairns Dive Centre opened in the CBD. <i>Rum Runner</i> began live-aboard dive trips to the Coral Sea which continues to 2020. <i>Atlantic Clipper</i> commenced live-aboard dive trips to Cape York from Cairns.
1990	A new International Airport Terminal was completed. 1990 Cairns Dive Centre was established and continued and certified 45,000 divers and 35,000 DSDs until they closed in early 2020. Mike Ball Dive Expeditions commenced Cairns-based live-aboard dive trips to the Coral Sea on <i>Spoilsport</i> with a PAX of 28.



Figure 3.4. *TUSA 6* (Photograph: Courtesy of Entrada Travel Group)

Cairns has historically witnessed a constant see-saw of passenger numbers and varying interests by international carriers (Dalton, 2016a,b,c,d,e; Dalton, 2017a,b) and other externalities. In 1989 an airline pilot strike and reduction of inbound tourists illustrated the importance of air travel to Cairns tourism with several local business experiencing bankruptcy. Mike Ball Dive Expeditions commenced their Cairns-based, live-aboard dive trips to the Coral Sea on *Spoilsport* in 1990 with a PAX of 28 (see Figure 3.5.).



Figure 3.5. *SPOILSPORT* (Photograph: Courtesy of Mike Ball Dive Expeditions)

### 3.4.2. The evolution of Cairns tourism and RSDT 1991 to 2000

Table 3.2. shows significant events impacting Cairns tourism and RSDT from 1991 to 2000. By the early 1990s Cairns had become unrecognisable to that of the earlier 1900s. Hall (2007) quotes D. Horne (1991) as saying: "They have ripped out segments of the old Cairns and put up (usually) standard style hotels owned by foreigners". In 1991 Japanese building company Daikyo North Queensland acquired a tour company, Great Adventures, which marked the beginning of significant Japanese interest in Cairns. Daikyo built hotels, residential estates, a golf course and funded a \$30 million upgrade to Green Island. In 1996 the Reef Casino and Convention centres opened. Cairns also witnessed the impact of the Asian economy meltdown in 1997 with flights from Japan and Korea cancelled and tourism numbers down by 33%. By the mid-1990s, large-scale RSDT operations were established. In 1996 an annual Reef Festival was established, combining the resources and publicity of the city's major festival, Fun in the Sun, with the increasing number of other minor festivals, resulting in stronger co-operation and integration of the community and its resources with benefits to tourism (Bottoms, 2015).

In 1998 ProDive launched the dive vessel *Scubapro*. In 1999 the Cairns Convention Centre became the home to the Cairns Taipans of the National Basketball League which stimulated conference and sports tourism to the region. The President of China visited Cairns in 1999, which marked the beginning of Chinese tourism interests. In 2000 Australia hosted the 27th Olympic Games and extensive worldwide television and print media attention was given to the Olympic torch being carried underwater in the GBRMP. The Cairns Post carried the headline: "Reef torch images flashed around world yesterday". The underwater torch also appeared on the cover of PADI's *The Undersea Journal* with an accompanying brief article by Cummins (2001a). It is reasonable to assume that PADI's *The Undersea Journal* with 140,000 copies circulated to RSDT supply-side entities such as dive industry professionals, dive stores and equipment manufacturers helped maintain the iconic nature, attractiveness and importance of the GBRMP.



Table 3.2. Significant events impacting Cairns tourism and RSDT from 1991 to 2000

Year	Event
1991	The beginning of significant Japanese interest in Cairns and Cairns-based RSDT.
1992	The Code of Practice For Recreational Diving at a Workplace was introduced by the Queensland Government.
1993	Cathay Pacific commenced services to Cairns from Hong Kong. ProDive established a specialised training centre with in-ground pool and classrooms.
1994	Down Under Dive commenced live-aboard night diver courses on <i>Atlantic Clipper</i> .
1995	A revised Code of Practice for Recreational Diving and Recreational Snorkelling at a Workplace was introduced by the Queensland Government. Down Under Dive purchased <i>Scubaroo</i> .
1996	The annual Reef Festival was established, combining the city's major festival, Fun in the Sun, with the increasing number of other minor festivals.
1997	Cairn tourism impacted by the Asian economy meltdown.
1998	Down Under Dive replaced <i>Scubaroo</i> with <i>Supercat</i> dive vessel. ProDive launched <i>Scubapro I</i> as a Cairns-based live-aboard vessel.
1999	Cairns Convention Centre became the home to the Cairns Taipans of the National Basketball League.
2000	Olympic torch is carried underwater in the GBRMP and promoted globally. Code of Practice Compressed Air Recreational Diving and Recreational Snorkelling was introduced by the Queensland Government.

### 3.4.3. The evolution of Cairns tourism and RSDT 2001 to 2010

Table 3.3 shows significant events impacting Cairns tourism and RSDT from 2001 to 2010. Major impacts on Cairns tourism occurred after the terrorist attacks of September 11, 2001, with a reduction in visitors. From 2002 to 2020 *Spirit of Freedom* offered luxury live-aboard trips from Cairns to the Coral Sea with a passenger capacity of 26 (see Figure 3.6).



Figure 3.6. *SPIRIT OF FREEDOM* (Photograph: Courtesy of Entrada Travel Group)

In 2002, ProDive launched *Scubapro II* to their fleet and became the first operator to have two live-aboard vessels operating concurrently in the Cairns section of the GBRMP. In 2008, ProDive also opened a new dive retail store in the Cairns CBD which is one of the largest in Australia (see Figure 3.7). In 2003, redevelopment was completed on a new waterfront, including a Reef Fleet Terminal servicing passengers departing for daytrips to the GBRMP (see Figure 3.8). In 2004, the Cairns Convention Centre was named the world's best congress centre by the annual general assembly of the International Association of Congress Centers. This further stimulated conference tourism to the region.

Anecdotally, Cairns had the highest level of diver certifications per capita in the world and some dive industry observers called it the dive capital of the world until it was passed by Koh Toa (Thailand) towards the end of 2010. By 2017, dive publication writers such as Marsh (2017) argued Koh Tao, Thailand was the dive capital of the world. Meanwhile, RSDT continued to experience the introduction, and changes to existing Codes of Practice (diving), introduced by the Queensland Government.

Table 3.3. Significant events impacting Cairns tourism and RSDT from 2001 to 2010

Year	Event
2001	Cairns experienced a reduction of visitor numbers due to the impact of the 9/11 attacks.
2002	<i>Spirit of Freedom</i> commenced live-aboard trips from Cairns to the Coral Sea. Industry Code of Practice for Recreational Technical Diving was introduced by the Queensland Government. SARS impacted Cairns tourism. ProDive launched <i>Scubapro II</i> to take their Cairns-based live-aboard fleet to two vessels. <i>Kangaroo Explorer</i> operated as a live-aboard till 2019 when it was converted to a Boatel on the Cairns marina.
2003	New Cairns waterfront and Reef Terminal development was completed. The GBRMP Zoning Plan was introduced. <i>Passions of Paradise II</i> was launched.
2004	Cairns Convention Centre named world's best. Mike Ball (owner of a Cairns-based live-aboard) was inducted into the International Scuba Hall of Fame as a pioneer of live-aboard RSDT. ProDive launched <i>Scubapro III</i> to bring their live-aboard fleet to three vessels.
2005	Officially opening of stage one of the Cairns International Airport Terminal Redevelopment. Code of Practice Compressed Air Recreational Diving and Recreational Snorkelling was introduced by the Queensland Government. Down Under Dive purchased <i>Osprey V</i> as a dedicated day dive vessel.
2006	Dive vessels <i>SunKist</i> and <i>ReefKist</i> began operation and continued till 2020.
2008	ProDive opens state-of-the art dive retail outlet in Cairns CBD
2010	Cairns Airport Domestic Terminal Redevelopment completed. A revised Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice was introduced by the Queensland Government. Fitzroy Island Dive Centre opened.



Figure 3.7. ProDive retail store in the Cairns CBD (Photograph: Courtesy Andrew Wood)





Figure 3.8. Cairns Reef Terminal (Photographs: Author)

In 2004, ProDive launched *Scubapro III* to their fleet and became the first operator to have three live-aboard vessels operating concurrently in the Cairns section of the GBRMP (see Figure 3.9) with a total PAX of 96. From 2007 through to 2018, new overseas investors were attracted while established ones extended their interest in Cairns-based RSDT. This process included the horizontal integration of smaller companies into larger ones employing over 150 local staff. One of these companies also had non-RSDT interests and commenced displaying vertical integration characteristics by cross promotions into other locally and

internationally owned tourism operations. By mid-2005 Cairns was commonly claimed by stakeholders as having evolved into an economically important, globally renowned and iconic RSDT destination.



Figure 3.9. The ProDive Cairns-based live-aboard fleet (Photograph: Courtesy of the Quicksilver Group)

#### **3.4.4. The evolution of Cairns tourism and RSDT 2011 to 2021**

Table 3.4. shows significant events impacting Cairns as a tourism destination and significant developments in RSDT from 2011 to 2021. The year 2011 onwards was marked by rapid developments in flights from China, Southeast Asia and the expansion of RSDT operational and promotional efforts. By 2016, Cairns was considered, and promoted, as the gateway to the GBR (Cairns Regional Council, 2017, 2020a; Nagaraj, 2017), a renowned domestic and international tourism destination playing a major part in the local, state and Australian economies.

According to Deloitte Access Economics (2019), regional hot spots for international overnight visitors are located either near capital cities or along the GBR. Amongst the top five regional hot spots for international overnight visitors is Tropical North Queensland, which can be partly attributed to the number of direct international flights connecting several major international source markets to Cairns. Similarly, according to Tourism Australia, the Cairns region is the fourth-most popular destination for international tourists in Australia after

Sydney, Melbourne and Brisbane. Cairns also attracts a significant number of Australian tourists (Tourism Australia, 2019). NGO and media sources claimed domestic tourism to the Tropical North of Queensland increased by double digits in 2016, taking the number of tourists to over two million (Dalton, 2016f; TEQ, 2016). Growth continued through early 2017 (Pham, 2017) and into 2019 (TEQ, 2019a,b).

In June 2016, Cairns Airport welcomed its first five millionth passenger in a one-year period (Dalton, 2016g,h). Since 2016, Cairns Airports has documented record numbers of passengers (Dalton, 2016g,j; Smith, 2016b). In 2019 the Cairns international terminal had a total of 683,477 passenger arrivals and departures, while the domestic terminal had 4,101,219 arrivals and departures. This resulted in a total of 4,784,696 passenger arrivals and departures (Cairns Airport Pty. Ltd, 2019). This made Cairns Airport Australia's seventh busiest airport.

Cairns Port Development Inc. announced in 2016 that the economic future of Cairns relies on port expansion and that the city needs a world-class port (Cairns Port Development Inc., 2016). In June 2016, the largest cruise ship to enter the port, The Dawn Princess, carrying 3,000 passengers and crew, heralded up to 50% increases in cruise ship visits in the following years (Smith, 2016c,d). However, larger cruise, agricultural and military ships struggled to navigate the inlet (Cairns Port Development Inc., 2016).

To accommodate larger ships, dredging and reconstruction of the port commenced in 2019. This development became a matter of controversy. Studies in the Caribbean (De Albuquerque & McElroy, 1992; Roberts, 2019; Shackley, 1998) and on the GBR (Cox, 2018) revealed the environmental impact of cruise ships on reef sustainability, which is not always positive. Dwyer and Forsyth (1998) identified the potential for leakage of revenues to foreign companies and questioned whether local services and infrastructure providers benefit from visitations of cruise ships as much of the tourism experience is consumed onboard. Port Authority Reports do not reveal whether expansion of port facilities has the potential to produce favourable outcomes for RSDT stakeholders from the short-term tourists they accommodate.

From 2016 to 2020, RSDT evolved significantly with the arrival of new and larger dive vessels. In 2016, Down Under Cruise and Dive launched *Evolution* which became the largest and most costly to construct day dive and snorkel Cairns-based vessel with a PAX of 160 (see Figure 3.10) and a VIP lounge. The power/sailor *Passions of Paradise III* was launched in 2017 with a PAX of 120 (see Figure 3.11). Deep Sea Divers Den expanded their Cairns-based fleet with *AquaQuest* with an individual PAX of 80 (see Figure 3.12) and the groups PAX to 294.

Table 3.4. Significant events impacting Cairns tourism and RSDT from 2011 to 2020

Year	Event
2011	The Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2011 was introduced by the Queensland Government. ProDive expanded their training centre with a second in-ground pool and additional classrooms.
2012	Direct services to Cairns Airport from mainland China commenced.
2015	Direct services to Cairns Airport from Singapore.
2016	Tourism to Tropical North Queensland reached over 2 million visitors and Cairns Airport welcomed its 5 million passengers for the first time in a 12-month period. Inaugural Hong Kong Airlines arrival. Jin Air announced seasonal services between Cairns and Seoul. First coral bleaching of a five-year cycle. Down Under Dive launched <i>Evolution</i> , Cairns' largest day dive and snorkel vessel (160 PAX).
2017	Dive Queensland Inc. formed a marketing partnership with the GBRMPA and began a three-year campaign to promote diving on the GBR. Second coral bleaching of a five-year cycle. <i>Passions of Paradise III</i> was launched (120 PAX).
2018	Additional foreign investment in Cairns-based RSDT occurred with New Zealand company Entrada Travel Group purchasing <i>TUSA 6</i> , <i>Spirit of Freedom</i> and Deep Sea Divers Den with a total PAX of 294. The Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2018 was introduced by the Queensland Government. The Federal Government provided a \$444 million grant to the Great Barrier Reef Foundation to help restore and protect the reef.
2019	Cairns Port expansion project commenced including dredging of the Trinity Channel. Conflict developed between GBRMP tourism operators and the Cairns Port Authority over berthing and other charges. Bushfires across Australia impacted tourism. TEQ allocated funding for the promotion of scuba diving tourism throughout the State. Cairns Regional Council provided Dive Queensland Inc. with a \$10,000 grant to promote dive tourism. A revised Code of Practice was formulated by the Queensland Government with introduction date set for 2020.
2020	COVID-19 significantly impacted Cairns tourism. The 2019 revised Code of Practice was redesignated as 2020 by the Queensland Government and introduction was postponed to after the impact of COVID-19. Third coral bleaching episode in a five-year period. Federal Government increased the Environmental Management fee for GBRMP visitors. Deep Sea Divers Den



	redeployed <i>AquaQuest</i> from Port Douglas to Cairns and completed major renovations to their offices and retail facility. Cairns Dive Centre closed. A \$55m improvement project of Cairns domestic airport terminal is completed.
2021	Cairns-based RSDT significantly impacted by the ongoing impact of COVID-19.



Figure 3.10. *EVOLUTION* (Photograph: Courtesy of Down Under Cruise and Dive)



Figure 3.11. *PASSIONS OF PARADISE III* (Photograph: Courtesy of Passions of Paradise)





Figure 3.12. AQUAQUEST (Photograph: Courtesy of the Entrada Travel Group)

### 3.5. Cairns-based RSDT in early 2020

The 2020 Cairns-based RSDT fleet had vessels ranging in length from 24 metres to 40 metres and could carry between 12 to 140 DTs and snorkellers to dive sites and five tourist pontoons in the GBRMPA. There are also seven dedicated live-aboard RSDT vessels. Two of these typically carry 28 DTs and up to 12 crew and operate within the Ribbon Reefs and out into the Coral Sea Marine Park. In 2020 and 2021 live-aboards have scheduled excursions to the wreck of the SS *Yongala* (Viduka, 2006) located 347 kilometres south of Cairns, the *Emily* in the Ribbon Reefs north of Cairns, the wrecks of the SS *Atlas* and MV *Antonio Tarabocchia* in the Coral Sea and the RMS *Quetta* in the far north of Cape York.

Pre- and post-COVID-19 accurate data do not exist and there are inconsistencies amongst those estimating dive activity in the Cairns section of the GBRMP. For example, McKenzie (personal communication, February 19, 2021; C. McKenzie, past CEO and current director of AMPTO), based his pre-COVID-19 estimate of 100,000 annual visitations by certified and introductory divers on EMC data and Cairns day boats consistently reporting

that 10% of their customers undertake a scuba dive. However, dive industry participants commonly state that, pre-COVID-19, there were approximately 120,000 introductory dives alone conducted per annum in Cairns and nearby Port Douglas (D. Dwyer, Vice President PADI Asia Pacific, personal communication, February 26, 2021). Over 3,000 certified divers visit the northern part of the GBRMP and CSMP per annum via two Cairns-based live-aboard vessels (C. Stephen, President of the Cod Hole and Ribbon Reef Operators Association and charter operator, personal communication, February 25, 2021).

Figure 3.13 shows the areas recreational scuba diving is accessed from Cairns in the GBRMP and Coral Sea Marine Park. Note the dive flag icons denote the general location of diving, not individual dive sites as there are multiple dive sites on each of the reefs shown.



Figure 3.13. Dive sites in the GBRMP and Coral Sea Marine Park accessible from Cairns (Maps by Craig Evans and author)

Two of the seven live-aboards run excursions to the inner GBRMP for DTs and to complete training dives. The other of the seven is a large-scale live-aboard accommodating up to 80 DTs and snorkelers. It stays at sea within the Ribbon Reefs and other sections of the GBRMP for long periods of time, with passengers being transferred to and from by the company's day vessels.

RSDT vessels require an initial capital investment by their owners ranging from \$2,500,000 to \$6,500,000 depending on size and fit-out. They consume between 450 and 1,000 litres of fuel daily. All vessels need to conform to the regulations set by the Australian Maritime Safety Authority (Australian Government, 2020) which includes a cost of compliance. Such compliance laws make it challenging to operate a vessel to carry RSDTs valued under \$1,000,000 (A. Wallish, Vice President of Dive Queensland 7 charter operator, personal communication, March 24, 2020). There are five tourist pontoons permanently moored at various locations in the Cairns section of the GBR which are serviced by day-vessels. These platforms initially cost \$8,000,000 to build and require ongoing maintenance (T. North, building contractor, personal communication, March 25, 2020).

Most RSDT companies conduct diver training at some level. Three of these train all the way up to instructor and have deep in-ground swimming pools at their land-based training centres. There is also some intercompany sharing between stakeholders regarding the completion of diver training aboard vessels operating within the GBRMP.

While accurate figures on the number of diver certifications issued remains a trade secret, as explained by Cummins, Pabel, and Prideaux (2019b), it is globally accepted that Cairns is one the largest diver training areas in the world (D. Dwyer, Vice President PADI Asia Pacific, personal communication, February 12, 2020). The Cairns section of the GBRMP produced more than 500,000 diver certifications in the 25-year period from the mid-1980s to 2012 with most of these being DTs (Dimmock & Cummins, 2013). Today, Cairns remains one of the largest producers of diver certification in the world (D. Dwyer, Vice President PADI Asia Pacific, personal communication, February 12, 2020). Two of the larger Cairns-based RSDT operators have collectively certified over 400,000 divers since their

establishment, with most of these divers being trained in the last 15 years. Cairns-based RSDT operators also issue approximately 120,000 introductory dive souvenir certificates annually. Additionally, PADI conducts at least two instructor examinations per year in Cairns while SSI and RAID have run a variety of courses including training associated with the crown-of-thorns starfish (COTs) program.

Cairns supports five dedicated dive retail outlets. These retailers provide a range of services including dive equipment sales and maintenance and promote dive excursions to the GBRMP. Cairns also supports three retailers who specialise in spearfishing equipment, two underwater camera specialty stores and approximately 20 mixed merchandisers selling some form of diving equipment and underwater compatible cameras.

### **3.6. Cairns tourism infrastructure today**

No other enterprise is more dependent on transport infrastructure than tourism (Hall 2007). Hall (2007) asserts that the evolution of tourism in Australia is directly linked to transport technology and, by definition, if you cannot get there, it is not a tourism destination. There is a need to attract investment in physical and tourism infrastructure to succeed (Prideaux, 2003). Without supporting infrastructure, peripheral destinations face a difficult task in attracting visitors. Therefore, to fully understand the factors that impact the LTS of RSDT in the Cairns section of the GBRMP it is important to identify key infrastructure that supports tourism. Cairns is the main hub for transport infrastructure in the Far North Queensland region with links between the Peninsula and Gulf of Carpentaria regions to the north and areas to the south.

#### **3.6.1. Road network**

Road infrastructure plays an important role by providing access to Cairns for freight companies, long-distance coaches and private vehicles. The Captain Cook Highway originates in Cairns and runs northwest, while the Bruce Highway runs south to the Queensland capital, Brisbane, a distance of 1,700 kilometers. Some sectors of the RSDT market arrive by car and bus.

### **3.6.2. Rail**

Rail has also played an important role by promoting tourism as a means of gaining visitors (Hall, 2007). The Cairns railway station is the terminus for Queensland's North Coast railway line, which follows the Australian eastern seaboard and provides regular passenger and freight services between Cairns and Brisbane. Some sectors of the RSDT market arrive by rail.

### **3.6.3. Cairns Airport**

Cairns International Airport with separate domestic and international passenger terminals is located seven kilometers north of the CBD. Cairns air links are seen as essential to the sustainability of the tourism sector. This is partly due to the long distances needed to be covered by visitors from domestic and international destinations with consideration to the challenges of distance in mind and space, distance decay and the law of least effort impacting tourism (Casasanto & Boroditsky, 2008; McKercher & Prideaux, 2020; Pearce, 1988; Zipf, 2016). The airport also provides general aviation services including freight and helicopter transfers to islands and tourist pontoons in the GBRMP.

There are issues related to the empowerment and disempowerment of various stakeholders within the periphery (host community) and to the authority given to communities by the core (external authorities such as government) to make decisions and control tourism activities. Decision making and leakage of benefits shifting from the periphery to the core can cause significant problems for local communities' LTS planning. McKercher and Prideaux (2020) claim that the 2008 sale of the Cairns International Airport by Cairns Port Authority (a Queensland State Government entity with local board members) to a private company with no local board members, represented a loss of provincial control of Cairns' most important tourism infrastructure asset.

### **3.6.4. Port facilities**

Cairns Port is located on Trinity Inlet (see Figure 3.13). Ports North, a division of the Queensland State Government, manages the Port and Cairns Marlin Marina, providing facilities for commercial shipping, a fishing fleet, sugar export and cruise ship terminals. The

Marlin Marina has over 260 berths for private and commercial vessels up to 140 metres. These include super yachts and a variety of cruising vessels. The port also facilitates berthing for tourist vessels which provide daily transfers to the GBRMP and nearby islands and is the main departure point for the daytrip and live-aboard RSDT vessels.

Similar issues relating to the Cairns International Airport ownership have occurred in relation to the control of the Cairns Port and Marlin Marina. Conflict developed between the periphery (port users) and the core (Port Authority, a division of the Queensland Government) regarding decisions on the marina's maintenance, fee structure and leakage of charges (Bateman & Mason, 2019; Mason, 2019a).

### **3.7. Community tourism facilities**

Cairns offers a variety of hospitality and leisure services to both locals and visitors including Indigenous cultural centres, water-skiing park, military museum, aquarium, caravan parks, coffee shops and cafes, restaurants, hotels and pubs, and caters for several adventure activities apart from RSDT (see Appendix B). Cairns Regional Council (CRC) provides a range of facilities for residents and tourists such as a public library, museum and art galleries. Most activities are free or incur a small charge (Cairns Regional Council, 2020b). The CRC website lists over 24 major tourism attractions and things to do, however these do not include all activities undertaken within the district, such as RSDT.

### **3.8. Sociocultural and demographic factors**

Sociocultural is one of the major factors previous research has identified that impact the LTS of a tourism destination. The following sections review the sociocultural and demographic literature specific to Cairns and Cairns tourism.

#### **3.8.1. Population**

The 2016 Census indicated 240,190 people lived in the greater Cairns region. Of these 49.7% were male and 50.3% were female. The region has had an average annual growth rate of 1.9% over the last 10 years. The residential population of the City of Cairns was 165,525 on 30 June 2018 with an average age of 37 (Cairns Regional Council, 2020a). Additionally, Cairns hosts a large, but fluctuating, tourist population.



### 3.8.2. Cairns tourism, employment and hospitality value

The Cairns economy was worth \$9.60 billion in the 2018/2019 financial year and represented 2.73% of the total Queensland economy (Cairns Regional Council, 2020c; White, 2020). In the period 2018/2019 Cairns directly employed 8,268 people in the tourism sector and another 4,014 indirectly (a total of 12,286). This represents 7.4% of the Cairns population, 8.4% of the total number of tourism employees within the State of Queensland and 5.8% of the total Queensland workforce (Cairns Regional Council, 2020c) and supported by Tourism Satellite Accounts (TSAs) and National Institute of Economic and Industry Research (NIEIR), as shown in Figure 3.14. While TSAs can provide insights to where tourism fits within the big picture of an economy, they offer little in the way of insights as the importance of individual sectors within a region such as Cairns-based RSdT.

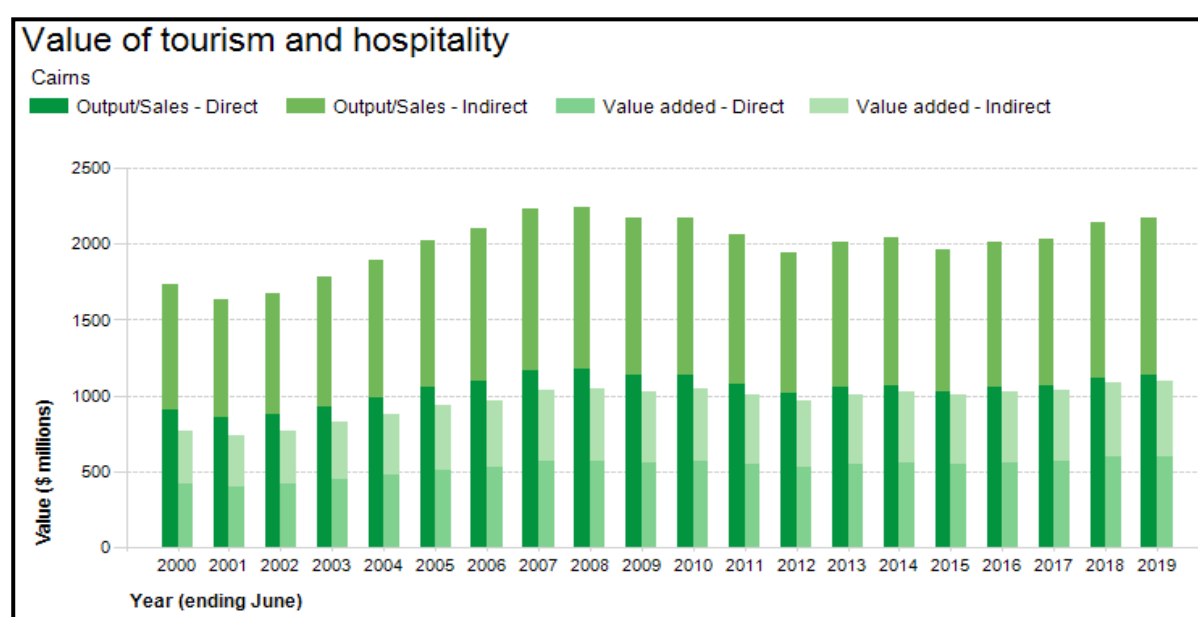


Figure 3.14. Value of Cairns tourism and hospitality (Source: National Institute of Economic and Industry Research, 2020)

### 3.8.3. Residents and stakeholders

The percentage of residents to tourists is a big factor in change. Hall (2007) claims community-orientated tourism planning has not worked in Australia because the opinion of residents has been more a token relationship than a concern for their concerns and ideas. Residents of tourism destinations may feel they have lost control, and in some cases, there



is very little direct community involvement in tourism development, raising the question of who wins (Hall, 2007).

Cairns has seen the cultural and economic effects of both local community planning, and the impact of tourism growth and development (Dalton & Nally, 2016; Falvo, 2017a). A Cairns Regional Council (CRC) survey held in August 2016 indicated 50% of the 6,446 respondents stated that it was important to future-proof our economy and protect it from shocks to tourism (Cairns Regional Council, 2016a). Thirty three percent of respondents indicated that it was important to compete on the global market while keeping our local lifestyle. In the context of this study, 37% of respondents considered sustainability as the second most important aspect to ensure our region meets the needs of the community now and into the future. Recognition of the cultural and economic impacts of community planning and tourism growth in Cairns was a stressing concern and was again highlighted in the 2016 Federal Election Campaign regarding the Tropical North (Dalton & Nally, 2016). The CRC report summary made no specific reference to the importance of either the RSDT or GBRMP to the region.

The literature reflects the need for collaboration and attention at the local level regarding each of the stakeholder's needs in the development of a collective understanding of managing RSDT (Ku & Chen, 2013). Issues may develop when there is a loss of local identity, when supply-side stakeholders have a disproportionate say in what development takes place or when leakage of revenues and associated benefits occurs due to external-to-the-region ownership (Dwyer et al., 2010; Elkington, 2004; Hall, 2007).

Prideaux, Carmody and Pabel (2018) found the Cairns local community is highly engaged and places a high level of importance on the protection of the GBR. They identified that there needs to be increased cooperation between the scientific community and coral reef-dependent tourism stakeholders. However, there is no evidence reflected in the literature of any conflicts, or concerns existing between Cairns residents and the potential for growth or decline of RSDT. Consequently, a gap exists, and further research is required to establish whether this may remain the case in the long-term, especially since Scholtz &

Saayman (2018) concluded all key stakeholders need to be included in planning and implementation if sustainable RSDT destinations are to be built.

#### **3.8.4. Indigenous residence**

Aboriginal and Torres Strait Islander peoples make up 10% of the Cairns population. There are two native title groups: Mandingalbay Yidinji and Gunggandji, within the Cairns region of the GBRMP (Gunggandji, 2013; Mandingalbay Yidinji, 2009). While Liljeblad (2015) suggests more research needs to be undertaken to establish how Indigenous cultures can be integrated into tourism, Marrie (2018) observed participation by Aboriginal peoples in tourism associated with the GBR is almost non-existent despite abundant opportunities.

The Queensland Government has an active Indigenous Land and Sea Ranger program which partners with Indigenous communities to care for land and sea country, provides jobs and training, and engages future generations (Queensland Government, 2018b). The program operates within the Cairns section of the GBRMP and Indigenous Rangers have representation on the GBRMPA's Local Marine Advisory Committee – Cairns. Ketchell (2018) called for the program to be expanded. Dreamtime Dive and Snorkel is a Cairns-based RSDT operator who employs Indigenous staff, tells the Dreamtime, Sea Country stories to passengers and has branded their vessel with an Indigenous theme (see Figure 3.15). Additionally, Indigenous involvement in the COTS program is evident within the Cairns section of the GBRMP (Gempearl, 2019a,b).



Figure 3.15. Dreamtime Dive and Snorkel indigenous themed dive vessel (Photograph: Author)

### 3.8.5. Sociocultural factor summary

In Chapter Two, the major sociocultural factors impacting the LTS of a tourism destination were identified. Figure 3.16 illustrates the sociocultural factors identified in the literature specifically impacting the LTS of Cairns-based RSDT.

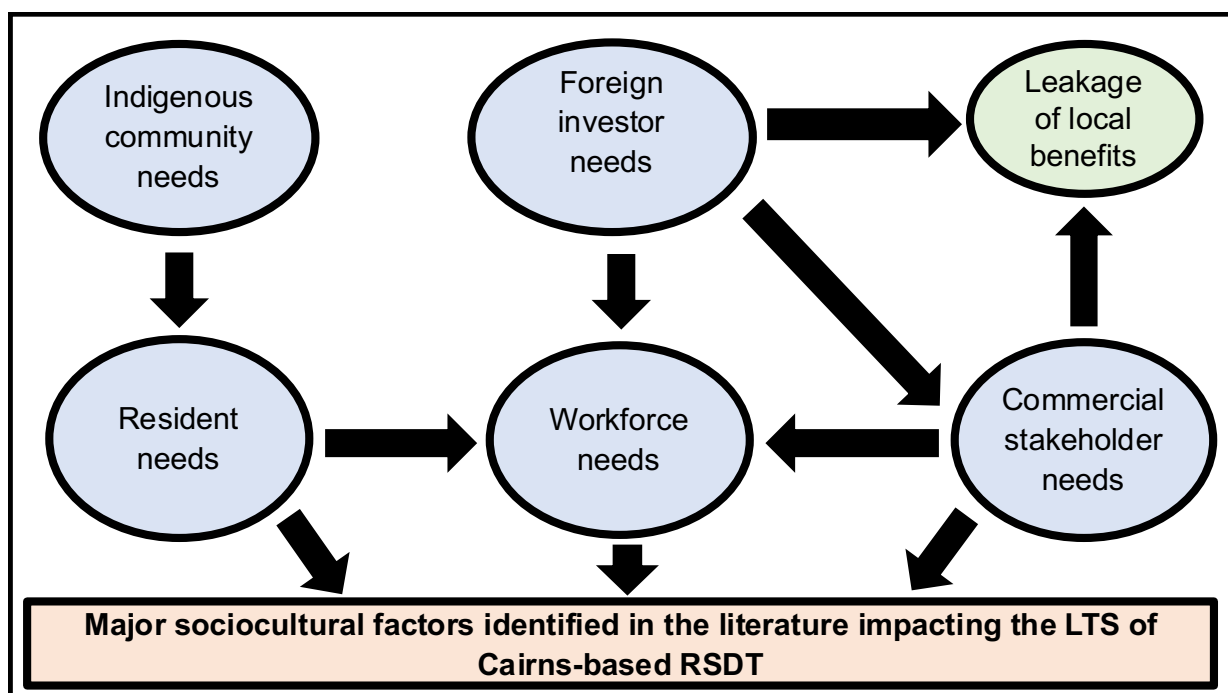


Figure 3.16. The major sociocultural factors identified in the literature impacting the LTS of Cairns-based RSDT (Source: Author)

### **3.9. Environmental factors**

Environmental factors are amongst the most important impacting the attractiveness of RSDT. Researchers have identified direct links between specific elements of environmental and bio-tourism tourism (Newsome & Rodger 2012; Newsome et al., 2013). The desire by DTs to interact with nature and large marine creatures is well documented in the literature (Birtles et al., 2002; Newsome et al., 2013; Shaughnessy, Nicholls, & Briggs, 2008; Smith et al., 2010; Stoeckl et al., 2010; Valentine, Birtles, Curnock, Arnold, & Dunstan, 2004). However, there seems to be a lack of understanding as to the importance of DTs potential to interact with marine creatures in the Cairns section of the GBRMP has on the LTS of RSDT. The increasing popularity of RSDT may also pose threats to coral reefs (Barker & Roberts, 2004).

#### **3.9.1. Climate and weather**

Cairns experiences a tropical monsoon climate with hot, humid summers and milder temperatures in winter (Bureau of Meteorology, 2017; Sturman & Tapper, 2006) with a wet season from November to May and a dry season from June to October. Most rainfall occurs between January and March. The mean annual rainfall is just under 2,000 millimetres (Bureau of Meteorology, 2017) and annual daytime temperatures range from 14°C to 33°C.

Records from 1878 show the arrival of the monsoon places Cairns under the threat of cyclones, severe storms and flooding (Bottoms, 2015; Cairns Regional Council, 2020d). The last cyclone to directly impact Cairns was in 2011 (cyclone Yasi). Three-day weather forecasts are available from Cairns Regional Council. While rapid survey protocols can provide information on reef conditions and possible impact on GBRMP activities (Beeden et al., 2014), there is little RSDT can do to off-set the impact of cyclones.

The importance of weather on reef tourism has been the subject of several studies (Coghlan & Prideaux, 2009; Weaver, 2008). Cyclones disrupt Cairns-based RSDT in multiple ways including the need to cancel diving, move dive vessels off the marina to the more sheltered waters of Trinity Inlet, and the associated prospect of lost revenues from declining volumes of visitors after the cyclone has passed. Cyclones Larry (2006) and Yasi

(2011) and extreme rainfalls contributed to a fall in the condition of the GBRMP and the quality of RSDT sites accessible from Cairns (Chin, Davidson, & Diaz, 2006; GBRMP, 2011, 2014, 2019a). This included the direct destruction of exposed reefs and an increase in nutrient rich runoff from the Barron and Mulgrave Rivers.

### **3.9.2. Climate change impacts on Cairns-based RSDT**

The threat to coral reefs around the world resulting from climate change is well documented within the literature (IPCC, 2014; Pabel & Prideaux, 2018; Prideaux & Pabel, 2018a). The Great Barrier Reef Outlook Report (GBRMPA, 2019a) outlines the threat climate change poses to the GBR; however, Goldberg et al., (2017) identified that little is known about how GBR tourism operators perceive the threat of climate change, and how they present information about climate change to their guests. Goldberg et al. (2017) also predicted government support for climate change action is likely as tourism operators are interested in doing more to help protect the GBR.

Some RSDT stakeholders in the Cairns section of the GBRMP have called on the Australian Federal Government to consider the impact of climate change on both the GBR and their businesses (Wallish, 2018). However, despite growing international alarm over the potential for climate change to severely degrade coral reefs, there is little evidence within the literature that RSDT operators are thinking about how to respond to future climate change with new products or to increase service levels to compensate for less pristine reef sites (Cummins, Pabel, & Prideaux, 2019a; Pabel & Coghlan, 2011).

Cummins et al. (2019a) found that most RSDT stakeholders in the Cairns section of the GBRMP did not seem to be concerned about the lack of a destination crisis response strategy, had no plan B if the reef were to significantly decline, and were locked into the day-to-day concerns of their businesses. Goldberg et al. (2017) argue that while tourism operators are described as stewards of the GBR and are engaging guests with targeted messages on the reef's condition, they are hesitant to engage with their guests about climate change or to adopt climate change mitigation behaviours.

Cummins et al. (2019a) found that Cairns-based RSDT stakeholders are locked into a short-term perspective of sustainability with their current focus on the present quality of the reef and its ability to compete with other international RSDT destinations. Cummins et al. (2019a) concluded that the failure to adopt a proactive vision that considers the long-term may lead to reactive strategies and suboptimal outcomes. Other researchers have emphasised it is not too late to save the GBR, but this must include addressing climate change-related problems (Fong & Lee, 2017).

### **3.9.3. Coral bleaching impacts on Cairns-based RSDT**

Coral bleaching has been directly linked to climate change (Ainsworth et al., 2016; Hoegh-Guldberg et al., 2007). Bleaching episodes in the GBRMP have been reported in 1998, 2002, 2008 and 2012 while the events in 2016, 2017 and 2020 were the worst in recorded history (GBRMPA, 2017; Prideaux, Carmody, & Pabel, 2018; Regan, 2020). Figure 1.3 shows a bleached coral which is subject to stress and highly vulnerable to mortality if water temperatures do not drop.

Some observers contend the bleaching episodes of 2016 and 2017 had not impacted tourism (Bateman, 2017a,b,c,f,g; Geiger, 2017b,c; Marszalek, 2017; Snowdon, 2017) and the 2020 event was minimal (Bateman, 2020; Regan, 2020). However, it is generally agreed bleaching events are becoming more frequent. Prideaux et al. (2018) observed that while the Cairns community understood the danger coral bleaching could pose to the GBR, it had not displayed a high level of concern about impacts on their livelihoods if a further decline in the quality of the GBR as a tourism experience was to occur.

Nevertheless, bleaching events, subsequent coral mortality and associated media reports may have an impact on the GBRMP's ability to attract DTs, if a significant recovery does not occur (Fong & Lee, 2017). Prideaux et al. (2017) initially found respondents who visited the GBR indicated what they saw "somewhat" or "very much" met their pre-trip expectations. However, further analysis over the next six months revealed a significant downward trend in satisfaction and this, from a destination perspective, will need to be

closely monitored to establish if this is a long-term trend or a short-term response to the 2016 bleaching episode (Prideaux et al., 2017).

#### **3.9.4. Crown-of-thorns starfish impacts on Cairns-based RSDT**

COTS outbreaks are a major cause of coral mortality in the Indo-Pacific region with impacts flowing on to reef fish and benthic communities (Fabricius, Okaji, & De'Ath, 2010; Great Barrier Reef Marine Park, 2019; Hughes, Hughes, & Smith, 2014; Kayal et al., 2012). Although a link between outbreaks and terrestrial runoff has been postulated, the cause is not fully understood (Hughes et al., 2014). In the Cairns section of the GBRMP, COTS outbreaks have been detected since 1961 (Great Barrier Reef Marine Park, 2019). The severity of these outbreaks and potential impact on tourism led to Federal Government-funded eradication programs (Gempearl COTS, 2019a, b). However, who benefits from this funding has generated public discussion (Bateman, 2018a,b,c; Calcino, 2018; Lewis, 2018; Michael, 2018; Slezak, 2018).

Figure 1.4 shows a COTS consuming coral polyps, permanently killing the coral and leaving a white coral skeleton. This results in DTs finding the reef a lot less attractive than that found in Figure 1.2.

#### **3.9.5. Environmental practices in GBRMP**

The GBRMPA enforces minimum standards of environmental behaviour through regulations, and a certification scheme operated by Ecotourism Australia (Day & Dobbs, 2013; Hofman, Hughes, & Walters, 2020). The GBRMPA also provides environmental information to operators such as those represented by the Association of Marine Park Tourism Operators (AMPTO) to be presented to all tourists within the Cairns section of the GBRMP during passenger safety briefings. Although these briefings are presented in English, non-English speaking divers are required under government-enforced codes of operation (Queensland Government, 2018a) to be provided with translators or other forms of translation.

### 3.9.6. Environmental factor summary

In Chapter Two, the major environmental factors impacting the LTS of a RSDT destination were identified. Figure 3.17 illustrates the major environmental factors identified in the literature specifically impacting the LTS of Cairns-based RSDT.

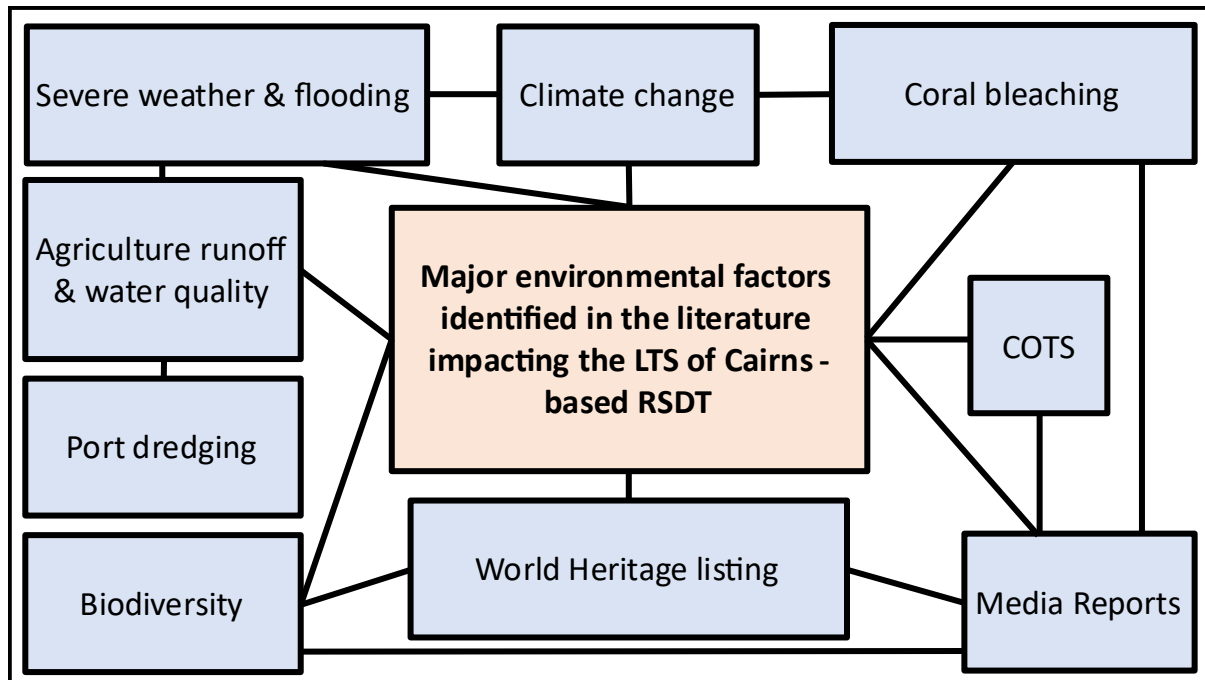


Figure 3.17. The major environmental factors identified in the literature impacting the LTS of Cairns-based RSDT (Source: Author)

### 3.10. Economic factors

In Chapter Two it was established that tourism has significant economic benefits (Dwyer et al., 2010; Fletcher, 2008c; Hall, 2007; Pike, 2018). The following sections outline the economic value and market characteristics of the single case study area identified by previous research and contained within public documents.

#### 3.10.1. Value of the GBR catchment

Deloitte Access Economics (2013) found that the tourism industry of the GBR catchment generated \$6.4 billion annually and \$5.2 billion of gross value added. Moreover, the GBRMPA acknowledged tourism was the most prominent direct use from 2015 to 2016 and the GBRMP generated \$2.4 billion (value added) for the catchment communities (GBRMPA, 2019a).



The Jacobs Report (2016) estimated that the GBR is a \$21 billion asset of the Federal Government and recommended that a \$547 million dollar per annum budget be allocated for operations and management. With a \$200 million budget in 2016, the Jacobs Report concluded the current allocation is economically irrational and called for a business case analysis to allow for a fuller understanding of the economic benefits of different investment scenarios. The Jacobs Report (2016) also confirmed the Deloitte Access Economics (2013) findings that the highest tourism expenditure in Queensland occurs in the Tropical North (i.e. the Cairns region).

Confusion exists in relation to what employment data is relevant. Deloitte Access Economics (2013) claimed there were over 18,600 people employed in Wet Tropics tourism in 2012, Consultancy.com.au (2017) claimed the GBR from 2015 to 2016 supported a full-time equivalent (FTE) of 19,855 in tourism, while the Great Barrier Reef Report (2019) claimed the GBR supported a total workforce between of 64,000 and 69,000.

### **3.10.2. Tourism markets**

The importance of domestic and international markets to tourism destinations has been the subject of research across various sectors of tourism. The importance of these markets is continuously reported by NGOs and government (e.g. Tourism Australia and TEQ). There is no existing data which can be used to evaluate the relative importance of specific markets which has caused RSDT stakeholders to rely on tourism bodies, their customer analysis and the dive industry as the main indicators of market potential.

The literature indicates researchers must be cautious when attempting to draw conclusions from various databases regarding the size of specific markets, especially those in RSDT (Cummins et al., 2019b). For example, while the Tourism and Events Queensland (2019a,b) data indicated record tourist visitations to Queensland in 2019, RSDT stakeholders in the Cairns section of the GBRMP were reporting significant hardships in 2019 (Nally, 2019a).

### **3.10.2.1. The impact of COVID-19 on tourism markets**

It is reasonable to assume the impact of COVID-19 from early 2020 significantly impacted domestic visitor numbers due to Queensland's border being closed to international visitors and at various times to those from other Australian states. The collapse of global travel in 2020 due to COVID-19 and the uncertainty of the level and timing of the recovery will have a significant bearing on the scope of post-2020 international travel to Cairns and flow-on impacts on RSDT. Market trends beyond 2019 are unknown and are not included in this discussion. Therefore, the following discussion outlines market profiles up to the end of 2019, in line with the period during which data for this research were collected (see the delimitations of this research in Chapter One).

### **3.10.2.2. Domestic market**

Hall (2007) contended domestic tourism is the mainstay of Australian tourism. This contention is supported by data from 2016 to 2019 (Tourism Australia, 2016a; TEQ, 2018, 2019a,b). Australians choosing to holiday in Queensland had visitor numbers and spending reaching record highs (TEQ, 2019b). Jones (2019b), who is Queensland's Tourism Industry Development Minister, indicated the first quarter National Visitor Survey (NVS) data for the year ending March revealed Australian travellers spent more than in previous years in Queensland with a record \$18.5 billion injection into the state economy. Queensland recorded 24.6 million overnight visitors, up by 12.2%, with the state's overall growth rate in visitors above all other Australian states. Jones (2019b) also indicated that Queensland continued to hold a strong market share of the domestic overnight spend in Australia at 24.8% and a strong tourism industry is vital to jobs growth in Queensland.

### **3.10.2.3. Inbound markets**

It is clear from the literature and tourism data that the main area of growth for inbound tourism to Australia continues to be from Asia, partly due to an increase in economic growth and a desire by their people to travel due to their new-found wealth (Tourism Research Australia, 2015). The 2016 Queensland Asia Tourism Strategy is designed to inspire more visitors, with the State Premier, Annastacia Palaszczuk, predicting

they will spend \$6.8 billion per year (Dalton, 2016i). However, as early as 2007, Hall (2007) had predicted the Asians were coming.

In 2018 Tourism Australia (2018) ranked China – with 1,432,100 visitors, a \$11.7 billion spend and an annual growth of 6% – as the largest international market for Australia. China was followed by New Zealand (1,384,900 visitors, up 2%), USA (789,100 visitors, up 1%), UK (733,400 visitors with zero growth) and Japan (469,200, up 8%).

First quarter 2019 data (TEQ, 2019a) indicated the USA was behind China, New Zealand, UK and Japan in expenditure by tourists in Queensland. However, Tourism Tropical North Queensland (2019) claimed North America is both Cairns and GBR region's third largest international market with a record of 142,000 visitors increasing by 9.7% in the year ending March 2019.

The Chinese and Japanese inbound tourism markets have continued to grow in their significance and remain important (Austrade, 2015; Tourism Australia, 2018). Additionally, based on the Tourism Australia data (2018), there are emerging markets for Australia including India (up 18%), Hong Kong (up 10%), Indonesia (up 8%), Singapore (up 3%). Additionally, there is some evidence that Far North Queensland and Cairns could also see growth from the Middle East and Thailand (Dalton, 2016d; Dalton, 2017a; Kinsella, 2017; Marsh, 2017; Pham, 2017; Vlasik, 2016d).

There is a growing interest in Cairns especially from the Chinese leisure market with direct flights from China. Chinese travellers arriving at the international terminal at Cairns Airport had soared by 470% in 2016 (Dalton, 2016j). This remains a major market for Cairns, although the establishment, and then the cancellation, of air routes from China to Cairns continues to confuse the tourism supply-side (Dalton 2017a, b; Smith, 2017).

While much of the media and tourism associations often refer to the Chinese, Asian and European inbound markets (Dalton, 2016a,b,c,e,i,j,k, 2017a, 2017b), it is clear tourism stakeholders need to acknowledge New Zealand as the second largest inbound market for Australia with 1,384,900 visitors, a growth of 2%, and a \$2.6 billion spend in Australia and \$563 million spend in Queensland (Tourism Australia, 2018; TEQ, 2019a,b). The importance

of New Zealand to tourism in Cairns is illustrated by the existence of direct flights from Auckland.

Additionally, by combining the Tourism Australia (2018) visitor data for Singapore and Malaysia, these two near neighbours of Australia have a combined total of 848,900 visitors and collectively this places them above the long-haul visitors from both the USA (789,100 visitors) and the UK (733,400). This stimulated Dive Queensland Inc. to exhibit in dive expos in both countries from 2017 to 2019 (Cummins, 2018a, 2019).

#### **3.10.2.4. The backpacker and Working Holiday Maker visa holders markets**

The literature reveals the importance of the backpacker and/or Working Holiday Maker visa holders to tourism with identifiable opportunities in providing regional income, placing a value on natural and cultural resources, and providing economic benefits (Pearce, 1990a; Scheyvens, 2002). Sakata and Prideaux (2013) found involvement in backpacker tourism can also enhance environmental conservation as local communities begin to realise the need to protect the wildlife, forest, rivers and other attractions if they are to attract tourists. In Cairns, it has been observed by the researcher that many of the staff on RSDT vessels and in sales kiosks are backpackers and/or Working Holiday Maker visa holders.

However, most of the studies on backpacker tourism in Australia have been limited to developing profiles as a basis for monitoring the backpacker market over time (Rodrigues, 2013). Other researchers have viewed the significance of the backpacker as a long-term budget traveller, often from middle-class backgrounds (Rilley, 1988). While some researchers see backpackers as being in their late twenties and early thirties, operating in this budget traveller mode, having flexible timetables and itineraries, maintaining a preference for budget food, accommodation and transportation, other researchers have identified there has been an evolution of this tourist subculture from the drifters of the 1970s. Today, backpackers are more likely to have college educations (Pearce, 1990a; Pearce, Murphy, & Brymer, 2009; Richard & Wilson, 2004; Rodrigues, 2013) and possess a Gold Card (Hudson, 2008) while contributing to sustainable tourism as a long-term traveller who may also try to find a job (Pearce, 2008).

This evolution, and the impact on the demand for tourism products and services, either does not seem to be fully understood or the research is somewhat dated. For example, the analyses by Pearce and Moscardo (2001) and Moscardo, Saltzer, Galletly, Burke, and Hildebrandt (2003) of GBR previous visitors and/or who intended to revisit, revealed they were most likely to be backpackers. Moscardo et al., (2003) also identified repeat visitors to the GBR are likely to want to go diving. While several Cairns Post editorials have featured the importance of the backpacker market to Cairns (Nally, 2016, 2019b, 2019c; Smith, 2016a; Vlastic, 2016), there is a lack of academic literature and current data on backpackers undertaking RSDT activities, or what associated revenue flows may exist to local communities.

Five Star accommodation in Australia accounts for only 5% of total bed nights, but 20% of guest rooms and 40% of takings. The importance of this 40% contribution could be questioned because less formal accommodation is often hard to quantify, and Five Star accommodation is not commonly sought by the 18- to 25-year bracket composing many backpackers. Furthermore, the possible lack of bed and breakfast, Airbnb and backpacker-style accommodation data may contribute to a false conclusion to the significance of backpackers to tourism.

Although data does not exist as to the exact number undertaking diving, or the associated revenues, the backpacker is clearly present in the Cairns region with their contribution to the LTS of marine tourism (Dimmock & Cummins, 2013; Moscardo, Saltzer, Galletly, Burke, & Hildebrandt, 2003; Pearce, 2008) as a long-term budget traveller and part-time employee. Some observers have stated that backpackers make up as much as 25% of the Far North Queensland workforce (Vlastic, 2016a), while others claim this workforce is possibly being exploited (Smith, 2016a). While the literature suggests backpackers play a vital role in the LTS of tourism via their contribution to the customer base, part-time workforce and associated taxation revenues for governments and some RSDT stakeholders claim there is anecdotal evidence that backpackers with professional scuba diving

credentials make up a large portion of employees, the academic literature does not reveal how backpackers interact with specific forms of tourism.

### **3.10.3. RSDT inbound markets**

Jennings (2012) claimed 85% of all dive travellers live in the USA, and the USA still appears to be an important inbound market for Australia (Tourism Australia, 2018). However, there is some anecdotal evidence RSDT stakeholders feel traditional inbound dive markets (e.g. USA, UK and Europe) may have declined or peaked while the Asian market is growing.

The observed waves of Asian DTs raise several issues for the LTS of RSDT including the need to address the question raised by Hall (2007) as to whether Australia (and RSDT) was ready and able to address their needs and, furthermore, does the average Australian welcome the Asian tourist? Cairns-based RSDT has catered for the Japanese DT since the late 1980s. With the Japanese DT attracted to Cairns the dive industry needed to adapt to new cultural and language needs. This also saw Japanese companies invest in the local industry. More recently, there has been an increase in visitation by Korean and Chinese DTs although accurate data is not available to indicate the exact importance of these markets to Cairns-based RSDT and it has created calls for further research and the release of data from those that may have it (Cummins et al., 2019b).

PADI certification trends released in Member Seminars and Updates indicate growth areas for scuba divers can also be found in Russia, South America and South Africa. It could be concluded that Cairns-based RSDT could see growth and additional waves of divers coming from these countries while the mature dive markets – mostly English speaking (or have a command of same), including Australia, New Zealand, UK, USA and much of Europe – may have peaked. Already Cairns is seeing an increase in tourists from India (Tourism Research Australia, 2015), possibly the result of TEQ's Queensland on Stage – India initiative in 2014, and interest from the Middle East market with Emirates Airlines showing interest in Cairns (Dalton, 2016b,d; Smith, 2016e).

### **3.10.4. Destination competitiveness**

The LTS of a tourist destination is closely related to destination competitiveness and societal prosperity issues identified by Crouch and Ritchie (1999, 2003). Pansiri (2014) suggests competitiveness can be strengthened if a destination meets the tourist's needs more effectively than its competitors. Neto et al., (2019) contend destination competitiveness is related to the DT's travel experience level and a destination should strengthen its position by surpassing competitors in meeting tourists' needs.

The researcher identified at dive exhibitions (Cummins, 2018a, 2019a,b) – and it is commonly acknowledged within the dive industry – that the Cairns-based RSDT is progressively losing status to other dive destinations, especially those located in the nearby Coral Triangle and in other tropical reef RSDT destinations referenced by Wood (2015). Some of these destinations, even with similar time/distance sensitivities to Cairns-based RSDT, have the potential to develop a comparative advantage because of their lack of regulations/compliance legislation and the associated lower operational costs in securing the factors of production. In some cases, this has resulted in cheaper prices for RSDT products and services at these destinations. For example, it is commonly acknowledged within the dive industry that Koh Tao, Thailand, has over-taken Cairns as the preferred destination of the backpacker diver with one PADI dive resort having certified 200,000 divers between 1993 to 2016, and one dive centre certifying over 100,000 (Marsh, 2017; PADI, 2017b). Meanwhile, PADI's largest dive centre in Australia, based in Cairns, operating since the 1980s has certified 150,000 divers (Dalton, 2016f).

Several of these destinations gain considerable marketing support from their respective tourism associations and governments while the Cairns industry gains very little, if any, specific help from the three tiers of government they operate under or from NGO stakeholders. For example, Dive Queensland Inc. was able to exhibit at an Asia-based dive show for the first time in seven years (Dalton, 2016k).

### **3.10.5. Coral bleaching events and negative media**

Media reports have the potential to impact the image of coral reef tourism destinations (Pabel & Croy, 2018). During May and June 2019, following a fall in local tourism numbers in the first half of that year, Cairns-based tourism stakeholders acknowledged negative publicity generated by the mainstream/global media in reporting on bleaching episodes on the GBR was hurting their businesses. They issued a call for clearer messaging regarding the condition of the reef (Nally, 2019a). Other stakeholders called for better marketing (Calcino, 2019a), an image makeover (Mason, 2019b), criticised government policy (Mason, 2019c,d) and blamed Green activists (Allen, 2019). Others suggested it was necessary to visit the Reef to get a clearer impression of its condition (Spilsbury, 2019b).

In August 2019, the Federal Minister for the Environment (Honourable Sussan Ley), who oversees the GBRMPA, visited Cairns and conducted round-table meetings with tourism representatives, including this researcher. At these meetings she received calls for GBRMPA to develop resources and messaging that could be utilised by tourism operators to counter the public perception that “the Reef is dead” (Bateman, 2019b). The Minister visited the Reef and declared the “Reef teeming with life” while acknowledging some damage and “the effect climate change could have on the natural attraction” (Bateman, 2019a, p. 7).

### **3.10.6. Economic factors summary**

In Chapter Two, the major economic factors researchers had identified impacting the LTS of a RSDT destination were presented. Figure 3.18 illustrates the major economic factors identified in the literature specifically impacting the LTS of Cairns-based RSDT.



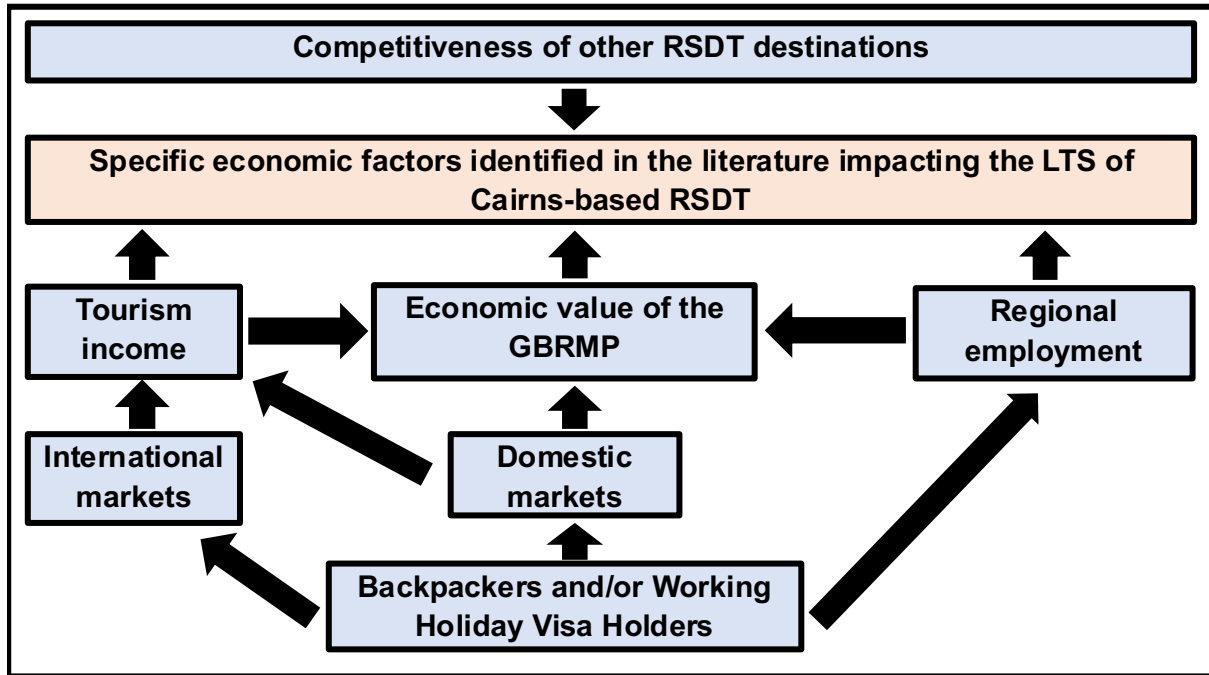


Figure 3.18. The major economic factors identified in the literature impacting the LTS of Cairns-based RSDT (Source: Author)

### 3.11. Governance factors

Tourism is highly political in nature with governance bodies having the potential to shape the economic climate for industry, help provide infrastructure, take an active role in marketing, ensure equitable distribution of resources amongst stakeholders and act as a regulatory authority (Fletcher, Fyall, Gibert, & Wanhill, 2013; Hall, 2007; Mowforth & Hunt, 2016; Tribe, 2016). Tourism is also a large employer of labour, especially in the Cairns region, leading to the development of tourism policy impacting the sector from all three government tiers (federal, state and regional). All have independent goals and planning processes to address growth and increase both employment and infrastructure expansion in the tourism sector. Although it is widely acknowledged government interaction in the tourism sector is essential, some researchers feel there is a poor record of synchronisation of policy existing between the tiers and each could benefit from focusing on the LTS of important components (Hall, 2007).

Dimmock and Musa (2014) identified the need for an adaptive management and leadership approach to encourage future-orientated thinking and the integration of

stakeholder concerns and perspectives to ensure the sustainability of marine resources and experiences. Dimmock and Musa (2014), also called for a systems approach to RSDT that may be able to provide a powerful collective platform for improved policy and management practices and to identify each stakeholder's agenda which may challenge sustainable goals.

### **3.11.1. Federal Government factors**

Tourism Australia is the Australian Government agency responsible for attracting international visitors to Australia. One of its main goals is summarised in the Tourism 2020 initiative which is a long-term strategy to build the resilience and competitiveness of Australia's tourism industry and grow its economic contribution (Tourism Australia, 2020). The literature reveals there are several Federal Government regulative channels which potentially exert major impacts on the LTS of RSDT in the Cairns section of the GBRMP. For example, since July 2018, all commercial vessels operating in Australian waters must meet the requirements of the Australian Maritime Safety Authority (Australian Government, 2020). The Federal Government also collaborates with organisations like the Australian Federation of Employers and Industries to establish wage rates for diving professionals (Professional Diving Industry (Recreational) Award, 2020). There is no evidence within the literature or public documents that Tourism Australia policies, the Australian Maritime Safety Authority or wage agreements or have had a major impact on RSDT. However, the latter two have the potential to add operation costs to Cairns-based RSDT operators and may impact their competitiveness, especially with RSDT destinations located in underdeveloped countries where government enforced codes of practice and wage agreements are uncommon.

There are potential impacts on RSDT radiating from the 2018 Federal Government \$443 million grant through the Great Barrier Reef Foundation, to assist in restoring and protecting the GBR (Bateman, 2018a,b; Bitu, 2018; Nally, 2018). This funding through a private foundation, as opposed to established Commonwealth agencies (e.g. GBRMPA and CSIRO), came under heavy criticism (Bitu, 2018; Carr, 2018; Dalton, 2018; Koziol, 2019; Marsden, 2018; Murray, 2018; Tomlinson, 2018) and eventually led to a Senate enquiry (Australian Government, 2018). However, the funds were not reallocated (Coggan, 2019).

There has also been Federal Government funding for the establishment of underwater sculptures off Townsville (Chomicki & Pamler, 2019) and support for the scuttling of naval vessels to attract RSDT further south in Queensland (ex-HMAS *Brisbane* in 2005 on the Sunshine Coast and ex-HMAS *Tobruk* in 2018 in Hervey Bay). However, there is no evidence within the literature or public documents to indicate there has been any direct funding for the promotion of RSDT in the Cairns section of the GBRMP within the last 20 years.

Federal Government jurisdiction and management over GBRMP, through the GBRMPA, has a major impact on RSDT. Of the numerous guidelines approved by the Authority, just over half directly relate to tourism management (GBRMPA, 2019a). The two major impacts on tourism operators are by the granting of Reef permits and the application of an Environmental Management Charge (EMC).

#### **3.11.1.1. Reef permits**

The GBRMPA utilises planning strategies through zoning of the Reef for commercial and non-commercial usages and works with user and advisory groups such as their Tourism Reef Advisory Committee and Local Marine Advisory Committees (LMACs) and AMPTO (Nally, 2019d). To support reef tourism, the GBRMPA maintains a permit system in accordance with the GBRMP Zoning Plan 2003 and the Queensland Zoning Plan (GBRMPA, 2019a). Applications to conduct tourism activities at specific sites are jointly assessed by GBRMPA and the Queensland Parks and Wildlife Service. Tourism and RSDT activities can be approved in all parts of the GBRMP except in the Preservation Zones. Approved sites are physically established and maintained by the tourism operator.

#### **3.11.1.2. Environmental Management Charge**

In Chapter Two it was argued that governments sometimes see tourism as a potential financing mechanism for funding marine conservation initiatives. Weaver (2008) discussed the impacts of visitation fees and quotas in ecotourism. An Environmental Management Charge (EMC) was introduced by the GBRMPA in 1983 (GBRMPA, 2019b). This fee is paid by visitors to the GBRMP permit holders and commercial charter operators

who commonly add an administration fee and remit the EMC component to the GBRMPA. These funds are applied to management of the GBRMP, education, research, programs, ranger patrols and policy development. From April 2020, the fee per person was \$7 for a full day visit or \$3.50 for a visit of less than three hours and applies to all visitors participating in tourist activities.

Moscardo, Saltzer, Galletly, Burke, and Hildebrandt (2003) developed a concept map which identified factors that could contribute to changing reef visitation patterns. Their analysis showed trends in the EMC returns differed across the different sections of the GBRMP, boat size categories and patterns of reef visitation, rather than a decline for one section or the park. It was also established in Chapter Two that divers are willing to pay relatively large sums to help protect the Marine Protected Areas (MPAs) they visit (Depondt & Green, 2006). However, researchers have also found economic instruments, such as user-fees to regulate tourism demand, minimise impact and generate revenue, are not often used in the management of marine resources or used outside of MPAs (Dixon et al., 1993; Shackley, 1998). Since not all RSDT falls within MPAs, the introduction of the EMC has implications for the cost of visitation and destination competitiveness of RSDT in the GBRMP.

### **3.11.2. Queensland State Government**

There is no evidence within the literature or public documents that the State Government has allocated specific funding for RSDT-orientated initiatives in the Cairns section of the GBRMP within the last 20 years. However, the State Government impacts directly and indirectly Cairns-based RSDT in four major ways.

#### **3.11.2.1. Port Authority charges**

Public and AMPTO documents revealed the cost of operation from the Cairns Port was higher than other Queensland ports. In 2019 a conflict developed between Cairns-based marine tourism operators and Ports North. AMPTO claimed Cairns was the only port in Queensland where a passenger levy was applied, refuelling carried a surcharge and the fees charged for berthing were the most expensive in Queensland. AMPTO cited vessels

were paying berthing fees of up to \$120,000 per year or twice to three times the fee of other tourism destinations in Queensland (AMPTO, 2019; Bateman, 2019a; Bateman & Mason, 2019; Martinelli, 2020; Mason, 2019a; Phillips, 2020).

### **3.11.2.2. Queensland recreational diving Code of Practice**

A part of the strategy of developing sustainable tourism is the implementation of Codes of Conduct and Codes of Practice. These codes have the potential to introduce costs of implementation and ongoing costs of compliance for tourism operators (Hall, 2007). The nature of scuba diving requires adherence to safety protocols and accidents have an obvious negative impact on the reputation and desirability of a RSDT destination. Australian diving accidents have been extensively treated in the literature since 1945 (Cummins, 1988; Lippman et al., 2011; McGeogh, 1998; Morgan 1988; Walker, 1998, 2002, 2006, 2009, 2010). Wilkinson and Goble (2012) identified that 25% of all calls to the Australian branch of the Divers Alert Network were from Queensland.

In response to highly publicised diving accidents from the late 1980s, the Department of Justice and Attorney-General, Workplace Health and Safety of the Queensland State Government introduced codes of practice for recreational scuba diving in 2005. Following criticism by stakeholders and diver training agencies of the 2011 version of the Code for not being fully consistent with global diver standards (Bateman, 2017h), an updated version was developed in 2018 (Queensland Government, 2018a) and is subject to amendments following consultation with the State Coroner, OHS officials and dive industry representatives.

The need to possess a C-card from a recognised training agency and complete a medical declaration required under the Code to gain access to diving has implications for RSDT. Other adventure tourist activities with similar, if not higher potential risks, like snow skiing (Siu et al., 2004), have no certification or medical fitness requirements to participate. Although certification, medical fitness to dive and codes of practice have been identified as restrictions to access by some researchers (Newsome et al., 2012), the diving industry seems to agree they contribute to increased safety. Similar codes are not found in all other

parts of the world which has possibly led to a reduction in competitiveness of Cairns-based RSDT. Meanwhile, negative press continues to result from diving accidents (Bateman, 2017d,e; Clarke, 2015; Cluff, 2016; Didden, 2015; Ekert, 2017; Hall, 2017; Mason & Bateman, 2016; Uhr, 2015).

#### **3.11.2.3. Shipwrecks and artificial reefs**

Governments have recognised historical and artificial shipwrecks have a high capacity to attract DTs (Edney, 2006c, 2011a, 2011b, 2012c). Direct economic benefits to RSDT, associated service industries and local economies is reflected in proposals for the sinking of ex-military vessels and creation of underwater sculptures as artificial reefs (Chomicki & Pamler, 2019; Leigo et al., 2016).

Improvements in technology and training have encouraged interest in wreck diving and contributed greatly to the advancement of the technical diving sector (Pyle, 2019; Strike & Cummins, 2012). There are two main shipwrecks in the Cairns section of the GBRMP (Trinity Bay and Green Island Wreck). These shipwrecks are in a depth of more than 30 metres and present significant safety and operational challenges for RSDT operators associated with the Code of Practice. While other RSDT destinations, including several within Queensland and other parts of Australia, have significant historical and artificial wreck sites at accessible depths, Cairns does not. Since 1980 this has resulted in Cairns-based RSDT stakeholders collectively calling for a scuttled shipwreck site to be established in the Cairns section of the GBRMP.

#### **3.11.2.4. Tourism and Events Queensland**

TEQ is the State Government's tourism and events marketing agency (2019c). TEQ operates on a national and international level for the overall benefit of Queensland's tourism and economy. In 2019, the Queensland Government provided a once-only \$500,000 grant through TEQ for the promotion of the scuttling of the Ex-HMAS *Tobruk* in 2018 in the Queensland Marine Park in Hervey Bay as an RSDT attraction. The initiative included financial support for Dive Queensland Inc. to attend three international dive expos in 2019

and promote RSDT throughout the State with flow-on benefits to Cairns (Cummins, 2019a,b,c).

### **3.11.3. Local Government**

Cairns is part of the Cairns Region local government area which is governed by the Cairns Regional Council (CRC). In 2019/2020, CRC allocated \$3.5 million in funding to Tourism Tropical North Queensland (TTNQ) for the promotion of tourism. However, there is no evidence within public documents as to how this money must be spent or that TTNQ has directly promoted Cairns-based RSDT in the last 10 years.

In 2019, following calls from its Cairns-based members for promotional assistance, Dive Queensland Inc. was allocated \$9,900 from CRC towards an international marketing initiative. A review of public records reveals this was the first time CRC directly financed a Cairns-based RSDT marketing project.

#### **3.11.3.1. Non-Government Organisations (NGOs)**

Although several NGOs have touch points with RSDT there is an apparent disconnect between many elements of different sectors. If the dive industry and RSDT have one aspect in common with tourism, it is the division of responsibilities and the multiple tiers of governance and influencers with few addressing complex issues like sustainability (Hall, 2007). While external tourism NGOs like PATA (Pacific Asia Travel Association), World Travel and Tourism Council (WTTC) and World Tourism Organisation (WTO) can exert an influence on tourism, national and regional tourism NGOs exert a more direct influence over Cairns-based tourism. These include: the Queensland Tourism Industry Council (QTIC), Australian Tourism Export Council (ATEC), Tourism Tropical North Queensland, Advanced Cairns and Cairns Tourism Industry Association.

In the RSDT context, NGOs such as AMPTO and Dive Queensland Inc. support and exert influence over their members' activities through formal membership agreements. However, within the dive industry and RSDT sector there is no peak body and little evidence of cross-affiliations. For example, the Dive Equipment and Marketing Association (DEMA) is USA centric. The Dive Industry Association of Australia is primarily New South Wales-

based, Dive Queensland Inc., is a state-wide marketing organisation and AMPTO represents members operating in the GBRMP.

Most evident of the NGOs, the diver training agencies (e.g. PADI, SSI, SDI & RAID), although foreign-owned private companies, display significant governance over the activities of their members globally. Diver training agencies also have representatives serve on organisations such as the International Standards Organisation (ISO) setting diver training standards and the Queensland State Government's committee that establishes and reviews the Code. Training agencies also decree what educational materials are used by their members during diver training (Cardwell, 2013; Jonas, 2013).

### 3.11.3.2. Governance factor summary

In Chapter Two, the major governance factors impacting the LTS of a RSDT destination were identified. Figure 3.19 illustrates the major governance factors identified in the literature specifically impacting the LTS of Cairns-based RSDT.

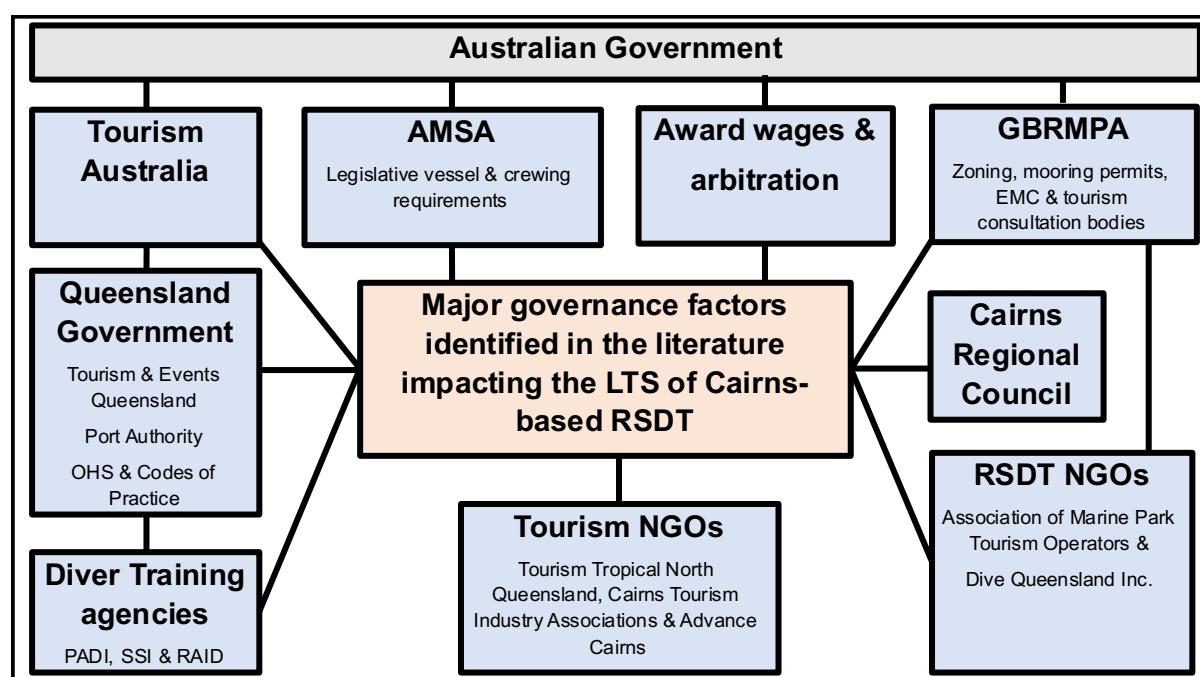


Figure 3.19. The major governance factors identified in the literature impacting the LTS of Cairns-based RSDT (Source: Author)



### 3.12. Cairns profile summary

The literature gives some indication of the relative importance of RSDT in the Cairns section of the GBRMP. Binney (2009) acknowledged Cairns as a dominant contributor to the Wet Tropics economy. However, there are no public databases to provide empirical evidence as to what factors impact its LTS. Nevertheless, the chapter demonstrates the magnitude of assets (e.g. RSDT vessels) to illustrate the importance of identifying gaps in the literature that could explain those factors.

Chapter One introduced, and Chapter Two cited gaps found in the literature relating to LTS of tourism and RSDT destinations (see Table 1.1). Those gaps are equally important to address when attempting to identify the LTS of RSDT in the Cairns section of the GBRMP and were cited in this chapter where appropriate. In addition, gaps in the literature were identified in this research that were specific to Cairns-based RSDT. These are summarised in Table 3.5.

Table 3.5. Gaps in the literature specific to Cairns-based RSDT

Gaps within the literature specific to Cairns-based RSDT
There has been no research conducted into the major factors impacting the LTS of Cairns-based RSDT as an iconic, globally renowned and economically important RSDT destination.
There is a lack of understanding of the contribution made by Cairns-based RSDT to the development of tourism in the Cairns region and in the GBRMP.
There has been no research conducted into the impact of the leakage of benefits gained from RSDT on the Cairns local community and locally owned RSDT assets.
There has been no research conducted into what the local residents think about Cairns-based RSDT.

It was acknowledged in Chapter One that not all these gaps were able to be addressed in this research to their fullest extent. For example, while the implications of the leakage of benefits gained from RSDT is addressed, further research is required to fully understand the impact on the Cairns and locally owned assets. It was also acknowledged in the delimitations section of Chapter One that this research did not include an investigation into what the Cairns residents think of RSDT since there was no clear conflict identified in the literature.

## **CHAPTER 4: METHODOLOGY**

### **4.1. Introduction**

The literature review identified a lack of academic and theoretical research contributions to the study of major factors impacting the LTS of RSDT. However, it was revealed that researchers have identified there are four major factors commonly impacting tourism sustainability.

Firstly, sociocultural factors have been identified by Pearce (1990b), Richard and Wilson (2004), Hall (2007), Pearce, Murphy, and Brymer (2009) and Rodrigues (2013). Secondly, environmental factors have been identified by Davis et al. (1996), Frechtling and Horvath (1999), Garrod and Wilson (2004), Hall (2007), Weaver (2008), Reddy and Wilkes (2012) and Newsome et al. (2013). Thirdly and fourthly, economic and governance factors have been identified by Hall (2007) and Dwyer et al. (2010).

Although these factors were explored further and used as an initial guide for parts of this research, it commenced without any preconceived assumptions or theoretical framework regarding major factors impacting the LTS of RSDT in the Cairns section of the GBRMP. This chapter discusses the research design including the choice of a paradigm, ontology, epistemology, research strategy, methodology and an overview of the research instruments. The following sections also describe the four-step approach to the research and data collection processes employed in this research.

### **4.2. Research paradigm**

Sarantakos (2005) defines paradigms as worldviews that signal distinctive ontological (view of reality), epistemological (view of knowing and the relationship between the knower and the to-be-known), methodological (view of mode of inquiry) and axiological (view of what is valuable) positions. Table 4.1 summarises the methodological approach used in this research, while Figure 4.1 illustrates the four-step approach and sequence of the research and data collection. In Chapter 10, tables are used to show the relationship between major LTS impacts identified, research instruments utilised and research objectives addressed.

Table 4.1. A summary of the methodological approach used in this research

Paradigm	Pragmatism
Ontology	What works in the empirical world because of multiple realities
Epistemology	Objective and subjective to seek an understanding of a specific context using multidisciplinary and extra-disciplinary approaches to generate knowledge
Axiology	Knowledge is propositional and value laden
Research Strategy	Location-based single case study
Methodology	Mixed Methods – qualitative and quantitative
Design	Triangulation
Research Instruments	<u>Qualitative</u> : Content analysis (e.g. newspapers, websites, blogs, government reports, TV broadcasts and documentaries), semi-structured interviews (e.g. face to face, teleconference and Skype), focus group, participant and non-participant observations and autoethnography <u>Quantitative</u> : Self-completed questionnaire.

Researchers generally agree social science is based on one or more theoretical paradigms. A paradigm is a set of basic beliefs dealing with worldviews and represents a definition for its holder, the nature of the world and the individual's place in it (Grix, 2010; Guba & Lincoln, 1994). A paradigm is how an investigator interprets their reality and assumes knowledge and social reality are based on beliefs and habits which are socially constructed (Pansiri, 2005).

Goldkuhl (2012) draws a comparison between paradigms and acknowledges qualitative research is often associated with interpretivism, sometimes 'positivism' and others performed following a pragmatism paradigm. Similarly, Jennings (2010) contends that an interpretivism paradigm predominantly involves a qualitative methodology. Meanwhile, a pragmatism paradigm provides a set of assumptions about knowledge and inquiry that distinguishes the line of investigation from purely quantitative approaches, which are based on a philosophy of post-positivism, and from purely qualitative approaches which underpin a philosophy of interpretivism or constructivism (Denscombe, 2008).

Kaushik and Walsh (2019) have described pragmatism as a research paradigm with important implications for social science research. A pragmatism paradigm and a mixed method approach (i.e. qualitative and quantitative) are often regarded, and can be justified,

as philosophical partners in research (Jennings, 2010; Pansiri, 2005). A pragmatism paradigm suits this research due to its practical nature and the way it investigates the major factors impacting the LTS of a specific, iconic, globally renowned and economically important RSDT destination in a representative way to predict realistic outcomes using both qualitative and quantitative research instruments.

### **4.3. Ontology**

According to Grix (2010), ontology is a branch of metaphysics concerned with the nature of being. It is concerned with the understanding and explanation of nature. Sarantakos (2005) contends ontology informs methodologies of what research is applicable to a study or the object of its focus. There are two major types of ontology: realism/objectivism and constructionism. The realism/objectivism ontology follows the positivism paradigm that perceives reality to be objective, simple, fixed and the world exists independent from people and their perceptions.

Alternatively, a constructionism ontology assumes there is no objective reality nor objective truth and the world is constructed by people who live in it (Sarantakos, 2005). Similarly, Botterill, and Platenkamp (2012) contend the social world is not discovered, but is constructed by history, society, ideas and language. Reality is constructed and based on culturally defined and historically situated interpretations and personal experiences or multiple realities (Pabel & Coghlan, 2011; Sarantakos, 2005). Goldkuhl (2012) contends it is important to add “symbolic” to “realism”, following the clear meaning-orientation in pragmatism. Meanwhile, Jennings (2010) contends that a suitable ontology for a pragmatism paradigm is what works in the empirical world. This paradigm allows researchers to intuitively choose research processes that best fit with the research question (Creswell, 2009).

There is an apparent level of dynamics, an evolutionary path of tourism development, and in the context of this research, it is more about stakeholder and RSDTs’ different experiences and their varying perceptions about RSDT in the GBRMP. Therefore, constructionism is the appropriate ontology basis for this research. This research was also

guided by the researcher's view that the LTS of RSDT is impacted by a wide range of perspectives of multiple stakeholders and DTs (i.e. multiple realities) rather than a narrow view of the LTS impacts of activities and policies of the RSDT workforce, departments and organisations (Okamoto, 2021). That is, this study adopted a holistic and systematic approach (Musa & Dimmock, 2015) to investigate the major factors that impact the LTS of RSDT in a single case study area.

#### **4.4. Epistemology**

Epistemology is the theory of knowledge. According to Botterill and Platenkamp (2012), it is the way of knowing the social world. Jennings (2010) asserts that a pragmatism paradigm involves an epistemology that is both objective and subjective in order to solve problems. Investigating the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP, the opinions and perceptions of stakeholders and dive tourists (DTs) are expressions of their everyday personal experiences.

The researcher considered the views of stakeholders and DTs as credible (Okamoto, 2021) using qualitative and quantitative research instruments. The researcher also acknowledged the multidisciplinary rationality of belief to the epistemology of the research (Tribe, 1997; Tribe & Liburd, 2016) since much of the knowledge generated within the RSDT sector of tourism is established through a variety of established disciplines (e.g. sociology, economics, geography and anthropology). Additionally, an extra - disciplinary approach was also used since not all knowledge of the RSDT sector is found in academic journals or undergoes rigorous peer review (Tribe, 1997; Okamoto, 2021).

#### **4.5. Axiology**

Klimska, Klimková and Ležnicki (2018) claim that axiology has been described by researchers as an effective tool for implementing the principles of sustainable development in tourism and as a tool that can be used to argue, organise, explain and highlight the role and significance of the assumptions underlying action plans. Jennings (2010) contends that a suitable axiology for a pragmatism paradigm is one which views knowledge as propositional, of intrinsic value and a potential means to social emancipation and is adopted

in this research.

#### **4.6. Research strategy**

A single case study design focusing on the analysis of a critical case originally introduced by Schmallegger (2010) was used as a research strategy. Case studies have been widely recognised as a suitable form of empirical inquiry in social sciences for some time as they can provide a comprehensive understanding of a contemporary phenomenon within a real-life context (Yin, 2012). A case study research strategy is not limited to a single source of data (Yin, 2012) and is therefore complementary to a mixed method methodology.

Some researchers have flagged criticisms of case study research strategies (Tellis, 1997; Yin, 1984; Zainal, 2007). Zainal (2007) contends a common criticism of case study method is its dependency on a single case making it difficult to draw general conclusions and that case studies have been criticised for their lack of rigour and a tendency for a biased interpretation of the data by the researcher. However, Zainal (2007) also states that a case study design is of paramount importance, and is especially useful when a holistic, in-depth, robust research investigation within small geographical areas is required. Hyde (2000) argues a single in-depth case study, with sufficient insight, may provide the basis for a theoretical explanation of general phenomena. Similarly, Yin (2009) advocates a case study methodology can be used to test and extend any theory developed.

Flyvbjerg (2006) introduced the five most common misunderstandings about case-study research and asserts it is false to assume:

1. theoretical knowledge is more valuable than practical knowledge
2. one cannot generalise from a single case and therefore the single-case study cannot contribute to scientific development
3. the case study is most useful for generating hypotheses, whereas other methods are more suitable for hypotheses testing and theory building
4. the case study contains a bias toward verification
5. it is often difficult to summarise specific case studies.

Flyvbjerg (2006) further provided a Kuhnian insight (a paradigm shift) by asserting scientific discipline without many thoroughly executed case studies is devoid of the systematic production of exemplars and is ineffective. Flyvbjerg (2006) also asserts social science may be strengthened by a greater number of good case studies.

Once the relationships under investigation are understood, a case study approach can also provide strong justification for applying the findings more broadly (Flyvbjerg, 2006; Hyde, 2000; Yin, 2009, 2012). Yin (2009) postulates case studies should not be seen as a sample, but rather as an example from which to confirm, contest or extend theory. A case study methodology also underpins all aspects of the research design, including the method, data collection techniques and analysis (Thompson, 2015).

A case study approach has been used by tourism researchers to analyse the characteristics and performance of regional tourism systems (Rodrigues, 2013; Schmallegger, 2010). Additionally, researchers have used a case study strategy to investigate scuba diving phenomena (Barker & Roberts, 2004; Bentz et al., 2016; Birtles et al., 2002; Curnock, 2010; Doiron & Weissenberger, 2014; Edney, 2012; Gössling et al., 2008; Pabel & Coghlan, 2011; Pabel & Prideaux, 2010; Shackley, 1998; Shaughnessy et al., 2008; Smith et al., 2010).

Thompson (2015) asserts that case studies are considered both a methodology (i.e. line of research inquiry that shapes research design/strategy) and a research method (i.e. technique used to collect data and conduct research). For the purposes of this research, a case study approach was considered suitable, because it permitted the researcher to understand the studied phenomenon (i.e. major factors impacting the LTS of RSDT) in a real-life context (i.e. in the Cairns section of the GBRMP).

#### **4.6.1. Why Cairns as a case study?**

A case study is the preferred research approach when how and why questions are proposed, or process questions are asked (Yin, 2012). This research focuses on such questions leading to the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP. While the case study area is described in more detail in Chapter Three, it is

important to build a critical case (Schmallegger, 2010) for why Cairns as a case study.

Cairns makes important economic contributions to the Wet Tropics and GBR, as the dominant provider of tourism infrastructure and employment as the gateway to the GBR for 50% of all visitors (Binney, 2009; Deloitte Reports, 2013, 2019; Cairns Regional Council, 2020c). Binney (2009) illustrated the importance of the RSDT sector throughout the GBRMP to the Australian and Queensland economies while Beaver and Keily (2015) contend that Cairns-based RSDT makes a significant contribution to the total revenues earned by the entire Australian dive industry.

Dwyer (Vice President PADI Asia Pacific, personal communication, February 12, 2020) described Cairns as one of the world's largest concentrations of RSDT. The agglomeration of related Cairns-based RSDT businesses support a wide range of commercial and employment opportunities locally and external to the region through various supply chains while displaying strong links and co-dependence on the tourist industry (K. Bryne, Chairperson Cairns Tourism Industry Association, personal communication, February 12, 2020).

Cairns-based RSDT utilises a World Heritage attraction (GBR) with its presence impacting the GBR's utility as a travel destination (Buckley, 2004; GBRMPA, 2019a; Hassan & Rahman, 2015; King & Halpenny, 2014; Wearing et al., 2016). Additionally, Cairns-based RSDT plays a role in maintaining Australia's international reputation for fostering sustainable tourism development within the GBRMP as the GBR remains a topic of global interest with its potential for sustainable development or decline (K. Bryne, personal communication, February 12, 2020; F. Merida, Assistant Director Reef Stewardship GBRMPA, personal communication, February 13, 2020).

#### **4.7. Research methods utilised**

Research is described as qualitative, quantitative, or mixed method (Creswell, 2003, 2009, 2011; Denzin & Lincoln, 2005; Grix, 2010; Jennings, 2010; Robson, 2006; Sarantakos, 2005; Yin, 2012). A mixed method is a design for collecting, analysing and



mixing both quantitative and qualitative data in a research project to understand the research problem (Denzin & Lincoln, 2008). This research used a mixed method approach. Mixed method research arose out of the literature of triangulation to add a qualitative component into quantitative studies to assist the numerical findings (Oppermann, 2000; Teddlie & Tashakkori, 2011). A mixed method approach to data collection can be simultaneous, or the researcher can conduct the qualitative and quantitative components separately (Pansiri, 2005). A mixed method approach also enables the limitations of qualitative and quantitative methodologies to be overcome (Pansiri, 2005).

Bernard (2017) claims a mixed methods approach can be justified by the needs of the research. The core purpose of a mixed methods approach used in this research is to overcome potential bias and validity issues that could arise from the single use of either a qualitative or quantitative approach and to capitalise on the strengths of using various methods to investigate the same phenomenon of interest.

Hyde (2000) argues a balance of induction and deduction is required for all research. In this research, the results of both qualitative and quantitative methods were able to be triangulated to confirm, and to cross-validate, the findings, with the inductive/qualitative approaches (i.e. focusing initially on what are the key issues) and the deductive/quantitative approach (i.e. identifying the range and magnitude of issues). To achieve this balanced form of research, a four-step approach to data collection was undertaken.

The first step was content analysis of public and stakeholders' documents including tourism plans, newspaper articles, television reports, documentaries, websites and blogs. RSDT flyer and brochure material were also collected during visits to Cairns-based sales kiosks, dive retail stores and charter boat operations. This was to assist investigations into the type of RSDT products and services offered. Additionally, content analysis was conducted on six scuba diving magazines with international distribution to determine the media content covered about the case study area in comparison to other Australian and international destinations.

Secondly, the findings of the content analysis were used to help create content for semi-structured interviews with a representative sample of key RSDT stakeholders. Sampling continued until saturation was reached and the gained information no longer added to the development of new knowledge (Bowen, 2008; Francis et al., 2010; Guest, Bunce & Johnson, 2006). This was to gain insights into the major factor stakeholders saw impacting the LTS and associated strategies they employ to off-set such impacts in the case study area.

Thirdly, the findings from the first two qualitative phases of the research were used to assist in the development of a questionnaire for administration to RSDTs visiting the case study area. The quantitative data obtained provided sociocultural profiles of this user group and their perspective of LTS factors. Similarly, the questionnaire was designed to uncover any sustainability factors not found during the literature review or the initial qualitative phase of the research.

Finally, as a fourth step in the research methodology, a focus group of supply-side and governance RSDT stakeholders who had not previously participated in the semi-structured interviews was engaged. This added a third qualitative element to the research provided and an opportunity for the focus group to provide clarification and additional insights, and to confirm or refute major findings of the first three steps of the data-gathering process.

#### **4.8. Research design**

With a mixed method approach, the research design is based on triangulation (Decrop, 1999; Denzin, 1988; Flick, 1998). Triangulation uses a triangle analogy, which indicates a single point is considered from three different and independent sources (Decrop, 1999). In a triangulation approach, the researcher collects both quantitative and qualitative data and then compares the two databases to determine if there is convergence, differences or some combination (Creswell, 2009). Consequently, multiple data sources are used in this research (Denzin & Lincoln, 2008; Fontana & Frey, 2005; Grix, 2010; Merriam, 2002; Robson, 2006; Creswell, 2003, 2009, 2011).

Some researchers question and caution on the use of triangulation primarily due to the different ontology and epistemology underpinning various research methods (Blaikie, 2009; Olsen, 2004). However, according to Yin (2012), further insights into reality can be gained by mixing quantitative with qualitative methods and the most robust evidence may be established if the data is from three independent sources which all coincide. Additionally, Creswell (2009) contends that more insight is gained from the combination of both qualitative and quantitative research than can be gained by either form by themselves. Their combined use provides an expanded understanding of research objectives.

Researchers have identified four major types of triangulation: data, method, investigator, and theoretical triangulation (Decrop, 1999; Denzin 1978; Oppermann, 2000). Data triangulation involves the use of a variety of data sources, while method triangulation entails the use of multiple methods to research a single problem (e.g. a combination of quantitative and qualitative approaches). Investigator triangulation is concerned with using several different researchers to interpret the same body of data and theoretical triangulation involves using multiple perspectives to interpret a single set of data (Decrop, 1999; Oppermann, 2000).

Data triangulation (content analysis of RSDT promotional collateral, stakeholder interviews, diver questionnaire, a focus group and field observations) and method triangulation (qualitative and quantitative) were therefore chosen as the primary research design for this research since the research topic indicated data needed to be collected from several sources (e.g. RSDT business stakeholders, governance bodies and DTs) to fully identify and understand the factors impacting LTS. In this research, investigator triangulation was also used. The researcher's supervisors provided additional insights to the data collected (Cummins, Pabel, & Prideaux, 2019). Although Yin (2012) cautions mixing triangulation methods, in this research each were applied independently to the other and to different parts of the research to minimise the chance of biases inherent with a single methodology (Oppermann, 2000).

#### 4.9. Four-step approach to the research design and data collection processes

Based on the mixed methods methodology utilised by this research, a four-step research process was employed. Figure 4.1 is a visual representation of the mixed method methodology, the four-step research strategy and the sequence of the data collection processes (Creswell, 2003, 2009). Figure 4.1 also illustrates the research began with early exploration (Creswell, 2003, 2009) using the content analysis as the first step and moved sequentially towards the focus group meeting as an explanatory aspect in the four-step data collection process.

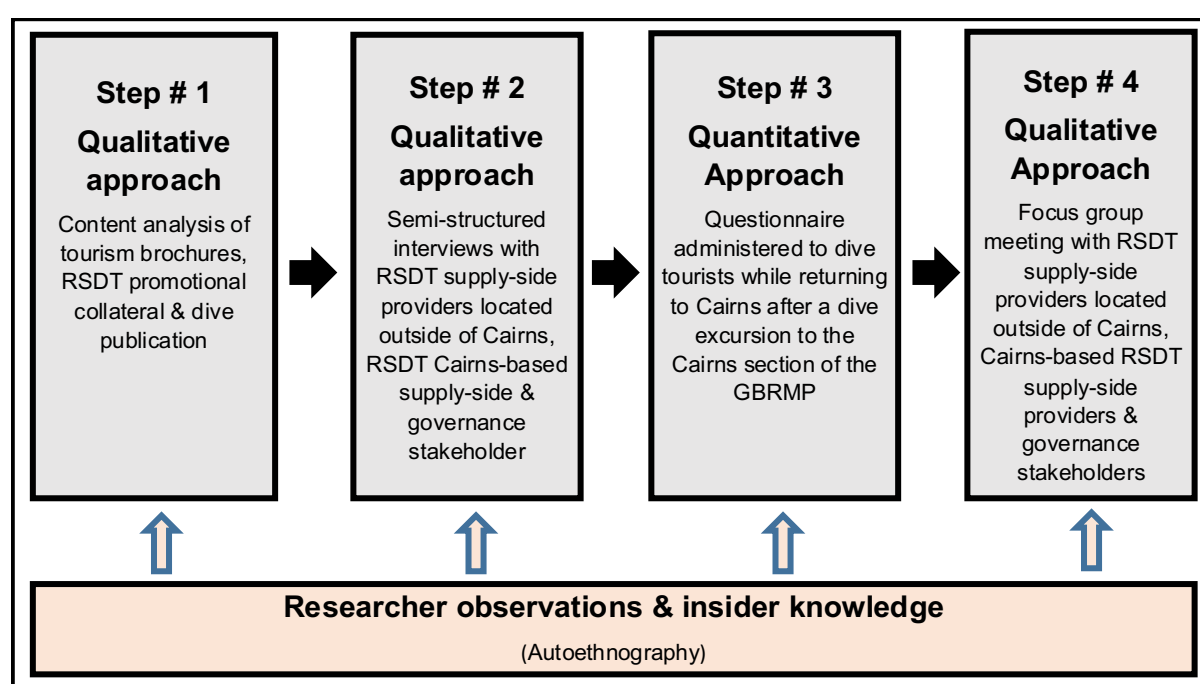


Figure 4.1. The four-step approach to data collection (Source: Author)

#### 4.10. Qualitative methods

According to Denzin and Lincoln (2005) qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the institutional constraints that shape the inquiry. Merriam (2002) postulated the key to understanding that qualitative research lies with the idea that meaning is socially constructed by individuals in interaction with their world.

Qualitative research can also be viewed as a field of inquiry in its own right and cuts

across disciplines, fields and subject matter. Qualitative research is a complex, interconnected family of terms, concepts and assumptions (Denzin & Lincoln, 2008). Qualitative research is also characterised by methods that attempt to examine inherent traits, characteristics and qualities and for this reason is often more interpretative than other methods (Grix, 2010). When a qualitative approach is the key component of the research, the theoretical core components are inductive. Induction begins without presumptions or a theoretical framework that dictates what variables should be examined or that a relationship exists between variables (Morse & Niehaus, 2009). Deductive reasoning involves beginning with a theory, developing hypotheses from that theory, collecting and analysing data to test those hypotheses.

Overall, a mixed approach is deemed as the appropriate co-driver of this research as it allows the researcher to use the initial research findings to develop a broader body of theory that initially prompted the research (Bryman, 2001; Hyde, 2000). A combined inductive and deductive approach also allowed the researchers to gain a better understanding of the topic under investigation (Hyde, 2000).

#### **4.10.1. Qualitative software programs employed in this research**

The qualitative method of this research involved both manual and software analysis of RSDD brochures, stakeholder interviews and a focus group to identify trends and relationships within these non-numerical data sources in an organised data filing system using Microsoft Excel. NVivo (version 12 Pro) and Leximancer software used in this research provided the opportunity to identify word frequencies and to construct graphs and models to represent the qualitative findings. They also allowed the researcher to draw objective conclusions that may not have been possible or easy with a purely manual analysis of the data. To avoid the dangers identified by some researchers (Bazeley, 2006; Dixon-Woods, Agarwal, Jones, Young, & Sutton, 2005; Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007), neither of the word analytical software packages advanced functions were used in an attempt to convert qualitative to quantitative data.

The use of two textual analysis software programs provided more objective ways of analysing and reporting text data, rather than just employing manual content analysis. Additionally, by applying two individual software programs to the same dataset, it was possible to utilise the features of each and to identify any common themes and possible differences between the findings and any new findings that could be gained. Additionally, the use of two independent programs provided an enhanced validation and productivity of the findings.

#### **4.10.1.1. NVivo**

NVivo was the major analytical tool used in the qualitative part of the research as it is a qualitative data analysis (QDA) computer software package especially designed for working with text-based information like that gained from the content analysis, semi-structured interviews and a focus group meeting conducted in this research and discussed later in the chapter. The software allows the researcher to utilise the word frequency, the percentage weighted scores and to generate a word cloud to identify and convey major themes. It does this by classifying, sorting and arranging information which also enables the examination of the major factors and relationships within the data (Bazeley & Jackson, 2013; Robson, 2006).

The NVivo software allowed a combined analysis with the potential for linking, shaping, searching and modeling the data. Additionally, NVivo identified trends and allowed cross-examination of information using its search engine and query functions. Once patterns within the data were identified, the researcher was able to develop themes regarding the major factors impacting LTS and the relationship between them within the case study area.

#### **4.10.1.2. Leximancer**

Several studies have utilised Leximancer as a text analytical program (Smith & Humphreys 2006; Cretchley, Rooney, & Gallois, 2010); Campbell, Pitt, Parent & Berthon, 2011; Biesenthal & Wilden, 2014). Leximancer was considered an appropriate complementary research tool to NVivo in this research since it clusters key concepts and connectivity between themes with high reliability and reproducibility (Smith & Humphreys,

2006). Leximancer conducts a conceptual (thematic) and relational (semantic) analysis of textual data (Campbell et al., 2011) by examining textual material for the frequency and co-occurrence of concepts that tend to cluster together in textual data without the need for a researcher to develop preconceived codes or categories.

Based on a text analysis, the software generates visual concept maps to present how concepts relate to one another. The concept maps are heat-mapped where warm colours (red, orange) indicate the most important themes, while cool colours (blue, green) denote less important ones (Leximancer, 2018). Concepts are presented as grey dots, whereas groups of semantically related concepts are indicated as key themes and shown by circles (Cretchley, Rooney, & Gallois, 2010).

#### **4.11. Qualitative data analysis, research instruments and methods of deployment in this research**

Five qualitative research instruments were employed: content analysis of dive brochures and magazines; semi-structured interviews with RSDT stakeholders; a focus group; field observations; and autoethnography (researcher's dive industry history and experience). The six phase thematic analysis developed by Braun and Clarke (2006, 2012) was used in qualitative stages of the research. At each step of the data collection process the researcher manually familiarised himself with the data gathered using the research instruments and developed initial codes. This was followed by the identification of themes and concepts using word recognition software (NVivo and Leximancer). The resulting themes and concepts were then reviewed, confirmed appropriate and named to be communicated in the research findings.

##### **4.11.1. Content analysis**

Content analysis is a technique for systematically describing written, spoken, or visual communication to identify key features indicating specific issues and to be able to develop categories that can be aggregated into perceptible constructs out of which meaning can be developed (Stepchenkova, Kirilenko, & Morrison, 2009). Content analysis is also a documentary method aimed at qualitative and/or quantitative analysis of the content of texts,

pictures, films and other forms of verbal, visual or written communication (Sarantakos, 2005).

Content analysis was used to conduct an examination of public and stakeholders' documents including tourism plans, promotional brochures, flyers, newspaper articles, television reports, dive publications (i.e. magazines), documentaries, websites and blogs. Content analysis was deemed essential for this research to identify themes in document and marketing collateral based on current strategies of private RSDT stakeholders and NGOs; tourism strategies by the government agencies at all three levels; the type of RSDT products and services offered and factors impacting LTS.

#### **4.11.1.1. Content analysis of dive operator brochures**

RSDT brochure material was collected from 21 sales kiosks, dive retail stores and charter boat operations, to assist investigations into the type of products and services offered by RSDT operators in the Cairns section of the GBRMP. Although Tripadvisor (2019) lists 10 pages of various entities supplying day and overnight trips to the GBRMPA out of Cairns, the objective was to establish collectively what specifically RSDT operators were currently offering and what relationship the product had with sustainability and LTS factors.

The combined approach suggested by Downe-Wamboldt (1992) to utilising both latent and manifest content analyses was utilised in this research. Firstly, and as defined by Dooley (2016), latent content analysis was employed to manually find and record commonly occurring words and themes. Secondly, manifest content analysis was then conducted using NVivo and Microsoft Word's search and query functions were used to establish word frequencies. This combined approach assisted the researcher to do a thematic content analysis of the non-numerical data to establish key words, phrases, themes and to detect stemmed words (i.e. identify similar words such as dive, dived, dives, diving and diver) that may have related to LTS factors.

This allowed the researcher to identify what the stakeholders were attempting to sell via their brochures, as well as identify what they were not selling (i.e. possible missed opportunities). Both factors could improve or threaten their LTS. For example, the NVivo



word count recognised potential opportunities identified in the literature review such as catering for disabled, wheelchair divers (Dimmock & Cummins, 2013; Khoo & Walsh, 2013; Marshall, 2016; Walsh et al., 2012) which were not reflected in any of the stakeholder promotional brochures.

#### **4.11.1.2. Content analysis of tourism brochures**

Cairns appears to have many different tourism activities that compete and/or compliment RSDT. To test this, content analysis was conducted manually on tour brochures collected in Cairns from travel agents, kiosks and hotel receptions from June 2017 to September 2019 and by visiting the website Things to do in Cairns ([www.thingstodoincairns.com](http://www.thingstodoincairns.com)).

From these sources a list of tourism activities was developed. The objective was to establish the number of non-diving tourist activities found in Cairns and the immediate hinterland along with the possible level of complimentary experiences and/or competition RSDT faced from these activities. Employing investigator triangulation, the list was also given to a prominent Cairns-based tourism operator to review to establish accuracy.

#### **4.11.1.3. Content analysis of scuba diving magazines**

Content analysis was also used as a means of media monitoring to determine the amount of editorial, advertising and overall marketing reach Cairns-based RSDTs had in comparison to other Australian and overseas dive destinations. The literature review indicated effective marketing and editorial content in magazines and other media support destination desirability and LTS (Pike, 2018; Wearing et al., 2016).

Six prominent dive magazines were analysed, including hard copy, online and publications with a combination of both. Firstly, content analysis was applied to *Dive Log Australasia* (incorporating *Sportdiving Magazine*) from June 2017 to December 2018. Analysis of Japan's *Marine Diving* magazine took place over 31 months from June 2017 to December 2019 and of *The Undersea Journal*, originating out of the USA, over 24 months from June 2017 to June 2019. The percentage of both editorial and advertising per page (or part page) was recorded manually and compared by percentage to the total page count per

issue.

A similar analysis was undertaken over shorter time periods of other dive magazines (*Scuba Diver Asia Pacific* and *Scuba Diver United Kingdom*) which are published and distributed in two other major dive market segments identified in the literature review. This was undertaken to identify similar or conflicting trends to those found in the longer period analysis of *Dive Log Australasia*, *Marine Diving* and *The Undersea Journal*. The same analysis was also conducted on three consecutive annual editions of *Action Asia Dive Holiday Planner* (2016/17, 2017/18 and 2018/19 versions). This approach was justified since each of the six magazines had different publication periods. For example, *Dive Log Australasia* and *Marine Diving* are monthly publications, *The Undersea Journal* is a quarterly and *Action Diver* is an annual. Also, during the analysis *Scuba Diver Asia Pacific* changed from a bi-monthly to a monthly publication. Nevertheless, the content analysis of all these magazines was undertaken between 2016 and 2019.

#### **4.11.1.4. Content analysis and its relationship to the research objectives**

Content analysis was the first step in the four-step data collection process. The findings were used to help guide and develop the prompts for the RSDT stakeholder semi-structured interviews, the DT questionnaire and the prompts for the RSDT focus group meeting. Therefore, the content analysis was able to contribute to research objectives two, three, four and five.

#### **4.11.2. Semi-structured interviews**

The tourism literature reveals that stakeholders often have different perspectives, priorities and values that add to the complexities of achieving LTS. Prideaux (2013b) identified a tendency for small to medium firms in the tourism sector to focus on short-term factors that impact annual profit and loss outcomes rather than long-term environmental factors that may not have a direct effect on annual profit and loss for a decade or more. This is particularly true when smaller stakeholders (restaurant owners for example) have no direct interest or influence over factors impacting the LTS of the RSDT. To achieve a cooperative approach towards sustainability, there is a need for stakeholders to recognise that a high

degree of communication and collaboration is necessary between all parts of the tourism sector (Ku & Chen, 2013). However, where there are multiple stakeholders with varying levels of influence, challenges exist in managing and improving sustainability outcomes at the various levels (Plummer & Fennell, 2009).

Understanding the factors that impact the LTS of stakeholders is especially important in the context of Marine Protected Areas (MPAs), where the relationship dynamics between stakeholders are complex. However, various perspectives, priorities and values can reveal how stakeholder needs and issues can be acknowledged in decision-making processes (Dimmock & Musa, 2015).

For RSDT to be managed within the principles of sustainability, stakeholders must understand how to balance DT satisfaction levels with the other elements of sustainability (Hammerton & Bucher, 2015) including the views of the supporting community and impacts on the natural environment. This may include reducing problematic behaviours to raise environmental awareness (Martin et al., 2017), enforcement of MPA regulations, understanding a range of environmentally related issues and additional diver environmental education.

The literature review and preliminary findings of the content analysis provided an insight into the knowledge gaps that existed in relation to the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP. Bernard (2017) asserts semi-structured interviews are useful in research that involves intense case studies. A semi-structured interview research instrument was administered to RSDT stakeholders to further add to the investigation. The interviews with Cairns-based RSDT stakeholders about their subjective experiences outlined what they saw as major factors impacting LTS.

According to Veal (2006), interviews allow researchers to probe more deeply than is possible with a questionnaire or survey techniques. Robson (2006) contends that a semi-structured interview should have predetermined questions, but the order can be modified based upon the interviewer's perception of what seems most appropriate. Similarly, Bryman (2001) and Jennings (2010) propose these types of interviews remain within the genre of a

conversation. However, the researcher has a list of questions that focuses the interaction while giving some latitude to ask further questions in response to what may seem like significant replies.

A purposive sampling strategy was chosen to recruit RSDT stakeholders' interviewees (Guest et al., 2006; Jennings, 2010). Selection was based on predetermined relevant criteria and the stakeholder's potential to provide further insights to the research (Guest et al., 2006). The interviewees, were key and specialised informants, and also elite members (Bernard, 2017) of the RSDT community.

The selection of potential participants was based on two major criteria. Firstly, interviewees were chosen across three major categories: supply-side providers located outside the Cairns region, Cairns-based supply-side and governance. Secondly, interviewees were chosen based on their involvement in the 4 Es of the scuba diving industry as described by Dimmock & Cummins (2013) and Cummins, Pabel and Prideaux, (2019a). These inclusions were to address the view that RSDT is characterised by an interaction between all 4 E components (Dimmock et al., 2013).

Codes and coding can play a role in the qualitative data analytic process ( Saldaña, 2015). A code is the most often used word or a short phrase that symbolically assigns a summative, salient, essence capturing, and/or evocative attribute for a portion of language-based or visual data process ( Saldaña, 2015). Guest et al., (2006) suggests a codebook of questions be developed to help guide questions and probe for responses. Additionally, a schedule of questions adds structure to the interview (Guest et al., 2006; Jennings, 2010), while also providing the flexibility to explore additional insights that may be identified (Grix, 2010). A semi-structured interview schedule was developed including 11 key questions as well as several probing questions for the specific stakeholder groups. A codebook was constructed from the initial findings of the literature review and the content analysis. Initially, the codebook contained 11 major codes, or prompt items, reflecting key areas under investigation. These major codes had 90 sub-codes, or prompts, that could be used if required to maintain conversation.

Guest et al., (2006) found most codes were confirmed within the early stages of interviewing. Like the Guest et al., (2006) study, the codes in this research remained the same throughout. Pilot interviews were undertaken to identify any shortfalls with the intended questions. A total of three pilot interviews were completed, one in each of the stakeholder categories. No shortfalls were detected. Therefore, these pilot interviews were included in the final data. During the fifth interview with a supply-side interviewee, a new item significantly impacting LTS was identified (i.e. State payroll tax). This item was added to the codebook under economic impacts, bringing the sub-codes to 91. After this fifth interview, no new information was detected which required modifications to the codebook.

To justify the first four interviews being retained within the data, and to include the impact of State payroll tax on their LTS across the research, the first four interviewees were contacted again and asked to comment on that single item. These additional comments were recorded, converted to text and added to the respective interviewee's responses.

Table 4.2. shows the major semi-structured interview codes and number of sub-codes used in this research. The major prompt codes and sub-codes are also shown in Appendix D.

Table 4.2. Major semi-structured interview codes and number of sub-codes

Major code	Number of sub-codes
Tell me about yourself and your company	9
Tell me about your product offerings	18
Can you explain how you sell diver travel?	8
Can you explain how your company market your products?	15
What do you think are the major factors impacting your company's long-term sustainability of recreational scuba diving tourism in the Cairns section of the GBRMP?	3
What sociocultural factors impact your company's long-term sustainability?	5
Tell me about your employees	3
What kind of environment factors impact your company's long-term sustainability?	13
What kind of governance factors impact your company's long-term sustainability?	7
What kind of economic factors impact your company's long-term sustainability?	9
Is there anything you feel that we did not share today and should have regarding your company's long-term sustainability in the Cairns section of the GBRMP?	1
N = 11	N = 91

Since the stakeholder interviewees included individuals with quite different and specific levels of involvement in RSDT, a further 41 sub-prompts were created that could be used, if required, for those with specific interests not reflected across the entire group. For example, due to their involvement in RSDT, it was deemed necessary for specific sub-prompts to be created in the codebook for stakeholders involved in event organisation, publishing, equipment retailing and wholesale travel. Table 4.3 shows the number of sub-codes used in interviews with four areas of interest in RSDT in Cairns.

Table 4.3. The number of sub-codes used in respect to four areas of interest in RSDT in the Cairns section of the GBRMP

Areas of interest in RSDT	Number of sub-codes
Diving equipment retailers	8
Wholesale travel agent	11
Publisher	8
Dive show convenor	14
N = 4	N = 41

The interviews were conducted based on Kvale's (1994, 1996) nine types of questioning techniques utilised in semi-structured interviews. To start the series of prompts from the question schedule, an introductory question was first asked which enabled the interviewee to relate information about themselves, their background and involvement in Cairns RSDT. This initial question was also designed to set the scene and allow both the interviewee and interviewer to become comfortable with the interview process.

The initial question was followed by probing, specific, direct, and indirect questions (Bernard, 2017). Structured questions relating to insights gained from the literature review and content analysis were also utilised. Throughout the interviews, interviewees were given time to reflect on the prompts. If the interviewee was unclear in their responses, or the interviewer was unsure the question was clearly interpreted, the prompt was repeated in a slightly different way to gain clarification.

The interviewer followed the guidelines proposed by Kvale (1996) and Bryman (2008). The questions or prompts were delivered in a knowledgeable, clear, open, balanced and ethically sensitive manner. Additionally, whilst interview question prompts guided the

investigation of key knowledge gaps identified in the literature review and content analysis, and to gain further insights, they were also designed to stimulate participants' views in two key sections of the investigation. The first was to investigate their thoughts on the major factors impacting LTS. The second prompted a discussion of their personal approaches to LTS management.

The interviews lasted between 30 and 70 minutes and took place when stakeholders were more amenable to participate in terms of time budgets and business pressures. No more than two interviews were conducted within any 24-hour period to ensure the interviewer did not suffer from fatigue. Most of the interviews were face to face, however telephone and Skype were also used for participants outside of the Cairns region.

Each interview was audio-recorded, as recommended by Robson (2006). Two recording-devices were used. A Philips VoiceTracker was used as the primary recording device and a smartphone was simultaneously used as a back-up, in case the primary audio-recording device failed. Initially, several mock interviews using both recording devices were undertaken to ensure the devices captured the voices in similar environments to those likely to be experienced in the actual interviews.

Morse (1995), Flick (2002), Charmaz (2005) and Guest et al., (2006) have described the concept of saturation. Whilst Guest et al., (2006) suggest that saturation is a difficult term to define, it can be reached with as little as six interviews. However, there seems to be varying opinion between researchers as to the number of interviews that need to be conducted to reach an acceptable sample size in qualitative research. For example, Bertaux (1981) claims the minimum sample size for qualitative research is 15 while Bernard (2017) suggests most ethnographic studies are based on 36.

The number of interviews in this research, however, continued until no new insights were gained. This occurred after 33 interviews were completed and it was deemed to be within the range of recommendations in the literature. With 33 interviews completed, there was a high level of confidence saturation had been reached and there were diminishing returns by engaging further interviewees (Robson, 2006).

#### **4.11.2.1. Analysis of the interview transcripts**

The audio-taped interview recordings were transcribed into text for analysis. This resulted in a text of 141,477 words suitable for analysis using NVivo and Leximancer software. To ensure the anonymity of participants, the process of analysis involved removing any personal names or company affiliations. Firstly, all transcripts were copied into four separate text documents according to their stakeholder group as well as a fourth combined group. Secondly, the four documents were uploaded into the two software programs discussed earlier, NVivo and Leximancer, for automated content analysis.

#### **4.11.2.2. Semi-structured interviews' relationship with research aim and objectives**

The semi-structured interviews were the second step in the four-step data collection process. Along with the findings from the content analysis, the findings from the semi-structured interviews were used to help guide the develop of the DT questionnaire and the prompts for RSDT focus group. Therefore, the semi-structured interviews were able to contribute to the five research objectives.

#### **4.11.3. Focus group**

Jennings (2010) describes focus groups as a qualitative research method that provides interaction between group members, adding richness to the data collection as a result of group members questioning, clarifying, challenging and discussing their positions regarding the focus of the discussion with each other. According to Sarantakos (2005) a focus group is also referred to as focus group interviewing or group discussion because it addresses the group rather than specific members.

Veal (2006) contends that in a focus group the subjects interact with each other as well as the interviewer and further suggests interviewing groups of people rather than individually is becoming increasingly popular. Similarly, Kitzinger (2005) sees focus groups as collective activity and Robson (2006) sees focus groups as a very popular method of data collection in many fields of social science.

Bernard (2017) contends a focus group does not replace a survey, it complements



them while Bryman (2004) contends a focus group method places an emphasis within the questioning process on tightly defined topics. Additionally, in this research, a focus group had the potential to add validation to the data by contributing to an extended triangulation research design. A focus group instrument was used and is well suited to this research as a final step of data collection.

The main objective of the focus group was to provide clarification of, allow further confirmation of, or to refute, the findings of the first three research steps in this research. This also included the potential to investigate an extended range of opinions, perceptions and ideas expressed in the group (Krueger & Casey, 2015). Questions generated from the content analysis, stakeholder interviews and DTs surveys were used in introducing conversation prompts. This allowed a free flow of information without being too rigid. A fully structured approach was rejected, as it was deemed the same result could have been obtained by a survey of participants.

The literature suggests there is no ideal number of participants for a focus group, with suggestions varying from two to 12 individuals, depending on the nature of the research (Bernard, 2017; Gibbs, 1997; Morgan, 1996; Powell & Single, 1996; Rabiee, 2004; Wolf, 2019). The focus group for this research comprised eight RSDT supply-side and governance stakeholders not previously represented in the semi-structured interviews and were solicited using purposive sampling strategy (Jennings, 2010). Some had dual roles. For example, some individual stakeholders also served as an executive on an NGO. It was felt these individuals enriched the data.

A pilot focus group was conducted to evaluate the intended approach and to identify any potential issues. The pilot focus group concluded without generating any concerns for the interviewer or the focus group participants. Time limitations and the concept of saturation (Charmaz, 2005; Flick, 1998; Morse, 1995) were considered and it was deemed that the results from the pilot focus group could be used as the single focus group undertaken in this research.

The focus group took place face to face in Cairns with participants and the

interviewer seated in a round-table configuration. This approach eliminated any potential for false conclusions to be drawn by participants regarding the status of seating arrangements.

The focus group started with a welcome statement and an overview of the research objectives. This was followed by a statement regarding the focus group's ground rules, including the need for all participants to be afforded the time to express opinions and to be respected for any differences of opinion that may have arisen within the group (Wolfe, 2019).

The nature of a focus group is such that confidentiality cannot be guaranteed. However, the researchers provided participants with the procedures in place to maintain confidentiality of the research data and requested participants not to repeat what is said in the focus group to others. This was deemed to be particularly important because, as common stakeholders in RSDT, several of the focus group members knew each other prior to the focus group. After these initial comments, each participant was asked to give a self-introduction. This was utilised as a way of the researcher recording focus group participants' profiles, ensure all participants were familiar with each other's background and to comfortably commence discussions.

This was then followed by semi-structured prompts drafted from the findings of the first three steps of the research (content analysis, stakeholder interviews and DT questionnaire). During the entire focus group session, the interviewer monitored speech characteristics (paralinguistics) and body language for any signs of discomfort or stress. At the conclusion of the focus group, each stakeholder was given a gift as means of expressing gratitude for their participation. The gift was in the form of a soft-covered book which featured articles from renowned diving personalities and considered to be of significant interest to the participants (see Appendix F).

The focus group took 65 minutes and was voice recorded as suggested by Bernard (2017). The voice recordings were transcribed to text for manual and NVivo analysis. The use of NVivo software was deemed to be able to enhance the validity of the findings from a manual analysis of the text data.

The discussion prompts consisted of six major outcomes from the findings of the first

three steps of the research. The themes and associated prompts used by the researcher in the focus group meeting are represented in Table 4.4.

Table 4.4. The focus group themes and major prompts

Theme	Prompts
# 1 Major dive publication findings	Why do you think recreational scuba diving tourism operators in the Cairns section of the GBRMP have less exposure in dive publications in terms of advertising and editorial, than other dive destinations (i.e. both online and hard copy)?
# 2 Major stakeholder brochures findings	Why do you think Cairns recreational scuba diving tourism operators seem to place so much emphasis in their brochures on administrative material rather than an emphasis on selling the sizzle?
# 3 Socio-cultural findings	Why do you think recreational scuba diving tourism operators in the Cairns section of the GBRMP are not getting more Chinese divers when Chinese tourists are Australia's biggest in-bound tourism sector?
# 4 Major diver impression of the GBR findings	Why do you think divers returning from a day's diving in the GBRMP have generally reported they have had a great day when there is obviously a lot of bad publicity out there (i.e. domestically and internationally) on the current condition, and potential future, of the GBR?
# 5 Major cost of operation findings	Do you think Cairns recreational scuba diving tourism struggles to off-set the cost of generally doing business in comparison to other dive destinations around the world, especially those within the Coral Triangle?
# 6 Major stakeholder interview findings	Do you think negative stories about the possible impact on the GBRMP from climate change and the GBRMPA's recent report on its future has had, or will have, an adverse impact on your business? Why do you think RSDT operators in the Cairns section of the GBRMP do not seem to have a plan B if the GBR's potential to further decline was to be realised?
Closing question	Quickly around the room, and in one word or sentence, what do you see as the single major factor impacting your long-term sustainability as a RSDT operator in the Cairns section of the GBRMP?
Final thoughts?	Is there something we didn't mention today/we should have discussed today?

#### 4.11.3.1. The focus group's relationship with research objectives

Apart from clarifying, validating or refuting the findings from the first three steps of the four-step data collection process, the focus group contributed to research objectives two, three, four and five by providing additional input on the factors they saw impacting LTS of RSDT in the Cairns section of the GBRMP.

#### **4.11.4. Observations**

Sarantakos (2005) contends observations can be used to research all observable social phenomena, as long as they are accessible. Angrosino (2005) proposes observation is the fundamental basis of all research methods, and body language and gestural clues can lend meaning to the words spoken by interviewees. On-site observation is also an invaluable way of collecting data as it allows the researcher to witness social phenomena personally and not be biased by the reports of others (Yin, 2012).

According to Grix (2010), there are two types of observation techniques: participant and non-participant. Other studies of divers (Cardwell, 2013) and DTs (O'Neil et al., 2000) have used both observation techniques during field work. In this research, both techniques were employed while collecting data during all fieldwork. On-site observations and relevant conversations were recorded in a field notebook. This enabled the researcher to collect information that may not be revealed in other research methods (Sarantakos, 2005). Where possible, this process was aided by photography such as used by O'Neil et al., (2000).

##### **4.11.4.1. Observations at international dive expos**

Between 2017 and 2018, Dive Queensland Inc. funded exhibition booths at four international dive expos (Asian Dive Expo – ADEX, 2017, 2018; Malaysian International Dive Expo – MIDE, 2017, 2018). The researcher was able to attend these four expos on behalf of his company and as a representative of Dive Queensland Inc. Additionally, in 2019 as a representative of Dive Queensland Inc., and as a business consultant to TEQ, the researcher attended six international dive expos (ADEX 2019; Australian International Dive Expo – AIDE, 2019; DEMA, 2019; Marine Diving Fair, 2019; MIDE; OZTek, 2019).

Limited access reports were provided to Board of Dive Queensland Inc., CEO of AMPTO, TEQ and GBRMPA (Cummins, 2018a, 2019a,b,c). It is possible to reveal that these reports contained observations on the level of participation of Cairns-based RSDT operators in comparison to other RSDT destinations. The nature of product offerings, apparent booth traffic, booth sizes, quality of design, level of Government and/or NGO support was noted.

It is also possible to reveal that the 2017 and 2018 reports concluded that Queensland and Cairns-based RSDT providers were seriously under-performing in terms of their commitment to trade shows compared to their competitors at ADEX and MIDE. Similarly, the 2019 reports confirmed that although there was a significant increase in the quality of the Queensland booth due to funding provided by TEQ, Queensland and Cairns-based RSDT providers were still poorly represented compared to their international competitors. The reports also referenced conversations the researcher had with booth visitors that indicated the GBRMP RSDT operators were likely facing significant reductions in business due to poor international press resulting from the 2016 and 2017 coral bleaching episodes. Additionally it was noted that from 2017 to 2019 only RSDT operators in Queensland were represented at these expos. That is, there was no other representation from RSDT operators elsewhere in Australia.

#### **4.11.5. Researcher autoethnography and insider experiences**

Observations offered in this research also originate from a qualitative, autoethnography method approach (Adams, Ellis, & Jones, 2017) since it draws on the researcher's significant experience, expertise and reflections (Cummins, Pabel, & Prideaux, 2019a). Additionally, the research also uses insider experiences (Brannick & Coghlan, 2007; Costley, Elliott, & Gibbs, 2010; Greene, 2014; Taylor, 2011; Unluer, 2012) from the researcher's current role as Chairman of a RSDT marketing NGO Dive Queensland Inc., member of the Cairns local Marine Advisory Committee of GBRMPA (LMAC), member of the Queensland Occupational Health and Safety Committee (Diving), as a speaker at international dive events, dive business consultant to TEQ and as a former senior executive of two recreational scuba diving training agencies (Cummins et al., 2019a). Observations were recorded in the researcher's field notebook during all four steps of the four-step data collection process and contributed to all five research objectives.

#### **4.12. Quantitative Method**

Quantitative and qualitative methodologies are often seen as the complete opposite of each other (Grix, 2010) and some researchers have observed the existence of paradigm

wars. However, Robson (2006) and Bernard (2017) both advocated, regardless of the pragmatic approach, that the methodology needs to be selected based on what works best for a topic under investigation (Jennings, 2010).

The advantages and disadvantages of both methodologies has led to the mixed methods approach becoming popular amongst researchers. Quantitative methodologies generally emphasise the collection and analysis of statistical data. That is, to be able to produce data which can be quantified and used to find patterns and relationships between variables leading to theory building, hypotheses testing and the making of predictions (Flick, 2002; Grix, 2010; Jennings, 2010; Ragin, 1994; Veal, 2005). This is achieved by finding variables for concepts, operationalising them in the research and measuring them (Grix, 2010).

Quantitative studies are interested in comparison and causality. The aim is for the sample studied to be representative of a wider population. Yin (2012) contends a case study research strategy is not limited to a single source of data. A quantitative instrument was also used to gain further insights into the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.

#### **4.12.1. Diver tourist questionnaire**

A questionnaire is a normative social science research method that demonstrates time effectiveness in collecting data. Additionally, data collected via questionnaires has become relatively easy to quantify using statistical analysis provided by programs such as SPSS. In the context of this research, a questionnaire was considered an efficient and effective research tool to measure customer satisfaction which is a key element in tourism sustainability (Zhenz et al., 2017).

RSDT researchers have used questionnaires and surveys as a research method for some time (Bentz, Lopes et al., 2016; Edney, 2012; O'Neil et al., 2000; Pabel, 2009; Pabel & Coghlan, 2011). Consequently, a quantitative strategy utilising a self-completed questionnaire applied to a valid sample population of DTs was used to gain profile data, identify their perceptions of the destination's LTS, and destination competitiveness (Ritchie &

Crouch, 2003). DTs were surveyed as they returned to the Cairns port after completing a dive in the GBRMP and when the dive was fresh in their mind.

The findings from the qualitative steps of the research were used to help develop the questionnaire to uncover additional LTS factors. Most questions were based on the findings of the qualitative research findings, while others were based upon previous studies investigating dive and marine tourism. For example, some of the questions were identical to those of Pabel (2009), Pabel and Prideaux (2010) and Pabel and Coghlan (2011).

A combination of open and closed questions was used to give an indication of whether the defined response categories adequately covered all the responses participants wished to provide (Pallant, 2009). A Likert Scale was utilised, where appropriate, to give a wide range of possible scores (Allen & Seaman, 2007; DeVellis, 2016; Likert, 1932). Where appropriate, “other” or “not applicable” options were included for each item in the Likert Scale (Pallant, 2009). This was to ensure the responses reflected accurately the respondent’s choice, rather than forcing them to choose a response not truly reflective of their position, opinion, or causing them to not respond to the question at all. Similarly, a small number of “yes” and “no” options were included and only where a definitive answer was appropriate (e.g. “have you dived on coral reefs before?”).

A draft paper format of the questionnaire was pilot-tested in early October 2018 on ten DTs to ensure the completion time would not exceed 15 minutes, to ensure the questions were clear and to possibly provide further potential insights from a trial run (Veal, 2006). The questionnaire was then modified to address some minor wording concerns identified. The final questionnaire was distributed in printed format over a three-month period (October to December 2018) to DTs returning to Cairns from a trip to the GBRMP. This approach is similar to that employed by Palau-Saumell et al., (2014) when it could be assumed recollection of the dive and availability to the researcher were at their highest. Ten different dive charter vessels were utilised. The questionnaire was distributed solely by the researcher on 27 of the 30 trips utilised for data collection. On the other three trips fully briefed assistants were utilised. Distribution occurred during the week and weekends on six

day and four live aboards to address biases that may have been caused by using a small number of host vessels.

RSDT operators are required by the Queensland Government's Code of Practice (Queensland Government, 2018a) to have anyone intending to scuba dive to complete a medical declaration, liability release and attend a dive safety briefing. The questionnaire administrators were introduced to DTs during the latter and were able to give a brief account of the aim of the research being conducted, the confidential nature of the data collected, the voluntary nature of participation, an approximation of the time the questionnaire would take to complete and foreshadowed a small token of appreciation that would be presented to respondents. The gift was a luggage tag with a full-colour photograph of a turtle and the words "I have dived the Great Barrier Reef" on one side and provision for contact information on the other (see Appendix F). A turtle was chosen as the graphic for the gift since anecdotal information suggested it is the most popular want-to-see animal for divers in the GBRMP. It is also felt the provision of the gift significantly heightened and contributed to high questionnaire response rates. Of the 534 questionnaires distributed, 533 were completed.

This allowed the researcher to positively, and quickly, connect with potential respondents before diving and during the surface intervals between multiple dives of the day. It was felt that this approach would ensure every DT on board was given equal opportunity to participate, increase comfort levels, minimise any potential for social desirability bias (Grimm, 2010) and to increase questionnaire response rates. Additionally, this provided the opportunity for the researcher to record in the field notebook any voluntary comments made by respondents that may contribute to the findings. These are discussed in Chapters Eight and Ten.

The questionnaire was restricted to certified divers and those who had undertaken multiple introductory dives in other parts of the world and therefore capable of drawing comparisons and conclusions as to what they saw as major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.

Information collected included the tourist divers' sociocultural and demographic



characteristics, diving history (e.g. experience), previous destinations visited, comparison with other destinations, satisfaction with the day's excursion, their intentions to re-visit, whether they would recommend the destination to others and sustainability aspects of the GBRMP important to the respondents. A copy of the questionnaire is in Appendix E.

Although domestic and international DTs were targeted in this research, the final questionnaire was only written in English. This approach may have caused some bias; however, the Queensland Code of Recreational Diving Practice requires interpreters need to be available for anyone not able to read or understand English and were used by the researcher where appropriate. It was observed many DTs, especially Europeans, can speak and read English, while Japanese tourist divers can commonly read English. Additionally, the design of the questionnaire using Likert scales wherever possible was useful to minimise the need for participants to write answers.

#### **4.12.2. Quantitative data analysis**

SPSS (Version 26) software was utilised in this part of the research. It is used for interactive, or batched, statistical analysis and enables researchers to enter and store data, analyse data using various statistical techniques, generate data and output files, tabulate results and create graphs and charts (Jennings, 2010; Pallant, 2013).

SPSS was utilised to convert the DTs' responses to data files by defining and labelling the variables and assigning numbers (i.e. a code) to each of the possible responses. The data was then entered into SPSS using a developed numerical codebook approach recommended by Pallant (2009). For open-ended questions, codes were allocated by scanning through the questionnaire and looking for common responses (e.g. places DTs had dived) and themes (e.g. type of equipment purchased, or dive courses taken).

The established SPSS data set was then checked for errors and cleaned (Pallant, 2009). Responses that were out-of-range and outliers (Pallant, 2009) were checked to reduce the chance of obtaining distorted results, particularly in the correlation phase of the data analysis. Checking for errors also included a search of the category (e.g. a fixed number of possible gender values) and continuous variables (i.e. many possible age values).

The very small number of errors detected were either corrected or the value was deleted from the database.

The clean data was then further inspected to explore the exact nature of the variables in preparation for conducting the specific statistical techniques employed in this part of the research to address the research objectives. SPSS (version 26) was utilised to generate a combination of tables, graphics and statistical tests. Percentages were expressed to one decimal place. Open-ended questions were subjected to content analysis and grouped accordingly. The data did not conform to normality, therefore nonparametric tests (i.e. Pearson's Chi-Square, Cramer's V and Kruskal-Wallis tests) were used for the analysis. A 95% confidence level was employed. The findings were then compared with the qualitative findings from the stakeholder interviews. Primarily, the qualitative data provided a stakeholder insight, while the quantitative data provided a tourist diver's perspective of the LTS factors impacting RSDT in the Cairns section of the GBRMPs. Both data sets presented implications to competitiveness with other destinations. The combination of qualitative and quantitative techniques contributed to a better understanding of the role played by LTS factors within RSDT and was better able to address the research objectives. The self-completed DT questionnaire was the third step in the four-step data collection process and able to contribute to all five research objectives.

#### **4.13. Limitations of this research**

The limitations of this research are those factors that were beyond the control of the researcher (Simon, 2011). The limitations of the chosen research approach are predictable and acknowledged. These include limitations created by time and cost constraints. The length of the questionnaire was limited due to available space and the time constraints for administration. Cost, time and language constraints would not allow the researcher to interview owners, CEOs and senior decision makers of multinational stakeholder companies who reside outside of Australia. However, in the cases where their senior representative in Australia was interviewed, they contributed valuably to interview and focus group discussions.

It is acknowledged that this research is a snapshot of the current situation with a consideration of what is likely to happen into the future. Caution may also be required if attempting to apply the findings of this research to other RSDT destinations. Similarly, this research only addresses the major factors impacting LTS of RSDT in the Cairns section of the GBRMP, as a broader approach would have introduced considerable complexities in attempting to derive models on a wider range of RSDT destinations.

#### **4.14. Methodology summary**

A single case study research strategy was considered as the most suitable for this research to gain an in-depth understanding of the major factors impacting the LTS of such an important dive destination as that found in the Cairns section of the GBRMP. A review of the literature indicated a case study also has the potential for application to other studies (Yin, 2012).

The chapter described the methodological approach chosen for this research and provided a discussion of the selected research paradigm, ontology, epistemology, research strategy methodology and design. The section also provided an explanation of the research methods, including the use of data collection instruments, analysis, software tools and interpretation procedures.

## **CHAPTER FIVE: FINDINGS FROM THE CONTENT ANALYSIS**

### **5.1. Introduction**

The next five chapters present the findings in the order the data was gathered. Content analysis of Cairns-based RSDT stakeholder promotional brochures, non-diving tourism brochures and dive media monitoring was the first step in the data collection process. The main objective was to produce a narrative from those qualitative findings. The narrative is important as it provides an understanding of the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.

Throughout this chapter, brief reference is made to all four steps of the data collection process where appropriate to flag common findings. This is consistent with the single case study research strategy, mixed method methodology and triangulation design of the study and as described in Chapter Four and illustrated in Figure 4.1. Field observations will also be briefly presented throughout this chapter, although these will be discussed in detail, along with insider experiences of the researcher, in Chapter Eight.

### **5.2. Content analysis of Cairns-based RSDT stakeholder brochures**

Content analysis was conducted on the promotional brochures of the 21 RSDT stakeholders offering dive excursions to the Cairns section of the GBRMP. These brochures are available throughout Cairns through travel agents, travel kiosks, hotel receptions and the RSDT stakeholders' offices. Their primary function is to present RSDT opportunities to scuba divers who have not made a commitment to travel to the GBRMP for diving before arriving in Cairns. The brochures are also utilised throughout the demand-side, including distribution at visitor information centres throughout Australia, at the Australian Tourism Exchange and dive exhibitions. The objective of the content analysis was to establish the key themes reflected in the brochures and what links existed to addressing major factors impacting LTS, including those identified in the literature.

All 21 brochures were in full colour and in an A4 format. Sixteen of the brochures were in a six-page fold-out format, four of the brochures were in four-page leaf format and

one was in an eight-page booklet format. A manual analysis revealed a high concentration of photographs with all 21 brochures featuring a photograph of the stakeholder's vessel or dive pontoon. Ten brochures featured the dive vessel on the front cover, while nine others featured a combination of the vessel and at least one marine animal likely to be encountered on a dive excursion. Two brochures featured a diver interacting with a specific marine animal (i.e. sharks and a wrasse) on the front cover.

A reasonable explanation for the high concentration of vessel photos is the possible result of the company's pride in the vessel and an effort to address competitiveness within the high standard of RSDT vessels operating in the Cairns section of the GBRMP and beyond. Furthermore, the manual content analysis identified frequent use of photographs of sharks, turtles, potato cod, starfish, Minke whales and local fish identity Wally the wrasse, which is an obvious reflection of the stakeholder's desire to promote the presence of iconic animals found in the Cairns section of the GBRMP. It was not surprising following the popularity of Disney's feature film Finding Nemo, that 12 of the 21 brochures (57%) had photographs of anemone fish.

The brochures were also manually converted to a 31,051-word text document and analysed with NVivo 12 Pro word recognition software. Using the NVivo word frequency score function insignificant words and those under four letters in length were removed. Twenty eight major themes were identified consisting of a total of 6,755 words. These were ranked as summarised in Table 5.1.

Table 5.1. Theme, rank and word frequency score of RSDT supply-side stakeholder promotional brochure themes

Theme rank	Theme	Word frequency score
1	<u>Administration</u> : (day, refund, cancellation, free, cost, transfers, time, pricing, dollars, package, hours, optional, includes, extra, first, included, dollars, owned, ward)	657
2	<u>Dive</u> : (dive, diving, divers, dives)	556
3	<u>Training</u> : (introductory, courses, certification, PADI, instructor, advanced, nitrox, night)	526
4	<u>Animal encounters expected</u> : (coral, marine, fish)	513
5	<u>Life experience</u> : (experience, adventure, enjoy, relax, fun, memorable, unforgettable, passion, exhilarating)	442
6	<u>Dive site names</u> : (Green Island, Ribbon, Michaelmus, Cay, Cod, Hole)	405
7	<u>Dive site description</u> : (exclusive, scenic, spectacular, beauty, unique, variety, visibility, pristine, stunning, perfect, unmatched)	322
8	<u>Staff</u> : (crew, courteous, ratio, customer, service, friendly, professional)	302
9	<u>Other activities offered</u> : (activities, cruises, glass, bottom, rainforest, Kuranda, Skyrail, rafting)	295
10	<u>Snorkelling</u> : (snorkelling, snorkel, snorkellers)	285
11	<u>Environment</u> : (environment, environmental, eco, ecotourism, biologist, conservation, sustainable)	282
12	<u>Vessel quality</u> : (vessel, boat, air conditioned, sun, deck, comfortable, fast)	271
13	<u>Heritage, culture and history</u> : (heritage, Daintree, Tjapukai)	234
14	<u>Governance</u> : (medical, age, EMC)	223
15	<u>Supervision</u> : (safety, hazard, protection, guides, Life, Guard, safety)	211
16	<u>Great Barrier Reef</u> : (Great Barrier Reef, GBRMP)	201
17	<u>Cairns</u> : (Cairns)	189
18	<u>Food and beverage</u> : (tea, bar, b, q, soft, drink, lunch)	178
19	<u>Equipment</u> : (hire, sales, repair, suit)	131
20	<u>Weather</u> : (weather, conditions, permitting)	120
21	<u>Photography</u> : (camera, photography, pictures, video)	101
22	<u>Flying after diving</u> : (flight, flights, flying, information)	91
23	<u>Logos displayed</u> : (company, Climate, Action, Twitter, YouTube, Facebook, Instagram, Tripadvisor, PADI, ECO Tourism Australia, nitrox/enriched air)	61
24	<u>Family</u> : (family, children)	56
25	<u>Internet</u> : (social media, Wi-Fi, website, online, com, www)	50
26	<u>Queensland</u> : (Queensland)	19
27	<u>For sale</u> : (logbook, souvenirs, manual)	19
28	<u>Languages offered</u> : (multiple, English, German, Japanese)	15
Total theme word frequency:		6,755

It is acknowledged with a word frequency score of 590 and a weighted percentage of 2.7, the word reef had the highest individual word frequency score across all 21 brochures.

The words world and Australian had high individual word frequency scores of 77 and 48 respectively. However, reef, world and Australian were not included as individual themes since a manual analysis revealed they had multiple links to different themes and their inclusion may have distorted the data.

Percentage weight scores ranged from 2.7% (i.e. reef) down to multiple words with a percentage weight score of 0.1% (e.g. stingray). Only three other words had a percentage weight score above 1% (i.e. dive, day and great). Given the objective of the content analysis was to identify themes, the NVivo weighted percentage function was not seen to add to the findings and is not reported in any further detail in this section.

### **5.2.1. Brochure theme: Administration**

NVivo revealed a high concentration of administrative words. These words contributed to a word frequency score of 657, hence the administration theme was ranked one. Administration words included cancellation, refund, pricing and policies, as shown in Table 5.1. It is reasonable to assume administrative items such as these need to be included in brochure promotions. However, administrative items dominate the brochures and may detract from the more obvious goal of promoting the RSDT activity and what marketers would call 'selling the sizzle, not the steak'.

### **5.2.2. Brochure theme: Dive**

It was established in Chapter Three that Cairns is known as an internationally renowned dive destination. Therefore, diving-related words and the resulting theme ranked at two with a word frequency score of 556. Key words included diving, dives and divers. This finding confirms the importance Cairns-based RSDT stakeholders place on maintaining quality diving opportunities for their LTS and competitiveness with other dive destinations.

### **5.2.3. Brochure theme: Training**

Chapter Three also revealed Cairns is known as a global hub to gain various levels of diver certifications and to undertake non-certification dive experiences (i.e. introductory dive, resort course, a try-dive and discover scuba diving programs). With one of the highest numbers of diver certifications and 'experience' dive registrations in the world (D. Dwyer,

Vice President PADI Asia Pacific, personal communication, February 12, 2020), it is not surprising these programs are featured strongly in the stakeholder brochures and ranked three with a word frequency score of 526. A reasonable conclusion to be derived from these two findings is the quality of diving and training offered in the Cairns section of the GBRMP is critical to LTS.

#### **5.2.4. Brochure theme: Animal encounters**

The literature review revealed the importance of animal encounters to maintaining the LTS of a RSDT destination. The animal encounters expected theme ranked four with a word frequency score of 513. This along with the manual analysis of the photographs used in the brochures, revealed RSDT stakeholders align with the literature with regards to the importance placed on the marine life, quality of the coral, and the number and variety of fish life divers can expect to see (Farr et al., 2014; Miller, 2005; Orams, 1999; Prideaux et al., 2017; Rudd & Tupper, 2002).

#### **5.2.5. Brochure theme: Life experience**

A life experiences theme ranked fifth amongst the 28 themes, with a word frequency score of 442. One would expect that life experience themes, such as adventure, enjoy, relax, fun, memorable, unforgettable, passion and exhilarating, should be more important features of promotional collateral and have a higher word frequency scores than administrative themes at rank one. For example, with recreational divers, the literature revealed emotion is highlighted above other satisfaction experiences (Ince & Bowen, 2011).

#### **5.2.6. Brochure theme: Dive site names**

Ranked sixth with a word frequency score of 405, the dive site name was reflected throughout all 21 brochures. Four of these, the Outer Great Barrier Reef, Ribbon, Coral Sea, and Cod Hole are ranked by Lew (2013) within the top 30 dive sites in the world. However, they acknowledged the latter three are only serviced by live-aboard vessels. Meanwhile, dive sites such as Green Island, Fitzroy Island, Hastings, Norman, Saxon, Flynn, and Milln reef are well known to certified divers and predominately visited by day boats.



#### **5.2.7. Brochure theme: Dive site descriptions**

Dive site descriptions ranked seventh with a word frequency score of 322. The brochures described the characteristics including words such as exclusive, scenic, spectacular, beauty, unique, variety. If the word frequency scores for naming and description of dive sites are combined (total of 727), these themes collectively outrank administration. It is therefore reasonable to assume RSDT stakeholders see these two themes as a critical component of their value proposition to attract dive consumers and has links to destination competitiveness.

#### **5.2.8. Brochure theme: Staff**

The staff theme ranked number eighth with a word frequency score of 302 and includes claims of quality, courteousness, friendly attitudes and professional behaviour. Also promoted within the theme is low guest ratios and a focus on customer service. These themes are supported within the literature as vital ingredients for the LTS of tourism destinations (Dwyer et al., 2010; MacCarthy et al., 2006; Musa, 2002; Saumell et al., 2014).

#### **5.2.9. Brochure theme: Other activities offered**

The other activities offered theme ranked ninth with a word frequency score of 295. This is an important ranking within the 28 themes, especially since the investigation into the number of non-dive tourism activities offered in the Cairns region reported later in this chapter is significant. It is clear from the NVivo analysis that RSDT stakeholders in the Cairns section of the GBRMP support the contention in the literature that marine tourists want to seek a variety of activities whilst on vacation (Cummins, 2008; Van der Merwe et al., 2011). RSDT stakeholders therefore place importance on the cross marketing of non-dive tourism activities such as visiting Kuranda in the Cairns hinterland, white water rafting, and visits to Cape Tribulation, Mosman Gorge and Hartley Crocodile Adventures identified in the brochures.

#### **5.2.10. Brochure theme: Snorkelling**

With a rank of 10 and a word frequency score of 285, the importance RSDT stakeholders place on snorkelling customers was revealed. However, field observations

reported in Chapter Eight suggest that whilst having a mixture of snorkellers and scuba divers on-board a dive vessel may add to revenue streams for stakeholders and ensure the maximum carrying capacity of the vessel is met, the presence of snorkellers can also be perceived by experienced scuba divers as a hindrance. For example, during the diver surveys, one diver commented: “there are too many snorkellers on board and they are getting in our way”. A manual analysis of the brochures further revealed one stakeholder had addressed the possible concern of overcrowding on some vessels by stating on the front cover of the brochure: “maximum of 36 passengers – no crowds”.

#### **5.2.11. Brochure theme: Environment**

The NVivo analysis identified environment as a key theme with a ranking of 11 and a word frequency score of 282. A further manual analysis confirmed all 21 operators acknowledged in some way an eco-tourism affiliation, cited an eco-certified credential and/or membership of a climate action group. Environment-related services included having a marine biologist on-board the dive vessels, along with marine biology presentations. Additionally, a manual analysis of the brochures confirmed the presence of the Eco Certified – Advanced Ecotourism logo on 16 of the 21 brochures. It is clear stakeholders wish to promote a strong care for the environment and conservation message in their marketing collateral which may also be the result of the challenges faced and identified in Chapters Two and Three regarding public impression of the condition of the GBR. It is noted that an Advanced Ecotourism certification gained by commercial operators contributes to a longer permit term being granted by the GBRMPA.

#### **5.2.12. Brochure theme: Vessel quality**

Ranked 12th, with a word frequency score of 271, vessel quality was promoted across all 21 brochures. As was mentioned earlier, the manual analysis of the brochures revealed a high concentration of vessel photographs. Furthermore, Chapter Three identified an apparent high level of competitiveness between local and international operators with similar vessels.

#### **5.2.13. Brochure theme: Heritage, culture and history**

The heritage, culture and history theme were ranked 13th, with a word frequency score of 234 and included reference to the Tjapukai Aboriginal Cultural Park, reference to Captain Cook and the World Heritage Regions of the GBR Daintree National Park.

#### **5.2.14. Brochure theme: Governance**

A governance theme ranked 14th with a word frequency score of 223. It is not surprising to find compliances and governance referenced in promotional collateral given the literature revealed recreational scuba diving and snorkelling is heavily regulated in the State of Queensland via a Code of Practice (Queensland Government, 2018a). Brochures talked about the need for divers to complete and sign medical declarations, deeds, waivers, releases and conform to minimum age requirements. Additionally, the brochures related the Environmental Management Charge (EMC) for everyone entering the GBRMP via a commercial operator.

#### **5.2.15. Brochure theme: Supervision**

A supervision theme ranked 15th with a word frequency score of 211. A manual analysis of the brochures talked about the use of safety, hazard, protection, guides, guided dives, security, the provision of lifeguards, dive briefings and statements regarding how the operators take safety seriously which has additional implications to stakeholders and the emphasis the Department of Justice and Attorney-General Workplace Health and Safety Queensland place on safety. Collectively, the NVivo analysis revealed the governance and the supervision theme had a collective word frequency score of 434. This is a significant finding with implications for stakeholders.

#### **5.2.16. Brochure theme: GBR and Cairns**

The GBR and Cairns themes ranked 16th and 17th with word frequency scores of 201 and 189 respectively. These generic terms as themes could be expected since Cairns is a major gateway for RSDT experiences in the GBRMP.

### **5.2.17. Brochure theme: Food and beverage**

Food and beverage provided on the dive vessel ranked 18th with a word frequency score of 178. The manual analysis revealed brochures talked about operators providing tea, coffee, wine, beer and soft drinks. In the 21 brochures, 13 showed smorgasbord style photographs which reflects the importance stakeholders place on the quality of food and beverages in marketing collateral. Some mentioned on-board BBQ and the inclusion of seafood on the menu. During the diver surveys reported in Chapter Seven, one RSDT stakeholder pointed out that “you can do everything right all day, but if the food is bad you will definitely get negative comments on TripAdvisor”.

### **5.2.18. Brochure theme: Equipment**

The equipment theme ranked 19th with a word frequency score of 131. This is a predicable inclusion amongst the 28 major themes as equipment is one of the 4 Es of the dive industry (Cummins, 2008; Dimmock et al., 2013) with hire, sales and repair being essential ingredients of an equipment-intensive tourism activity. The brochures talked about the need for divers to hire or provide their own equipment and the need for Lycra/stinger suits or wetsuits for protection against the elements.

### **5.2.19. Brochure theme: Weather**

A weather theme ranked 20th with a word frequency score of 120. Weather in the Cairns section of the GBRMP, including the potential for strong winds, cyclones and a rainy season caused by the tropical monsoon climate was identified in Chapter Three.

### **5.2.20. Brochure theme: Photography**

Underwater photography is a major component of RSDT (Dimmock & Cummins, 2013) and was ranked 21st with a word frequency score of 101. Brochures talked about cameras, photographic and video opportunities and photographic services offered on the vessel. Underwater photography is a major activity for divers especially since the development of high-end, compact and GoPro style digital cameras (Cummins, 2008; Richardson, Kinsella, & Shreeves, 2005). Apart from deriving additional income from selling photographs taken of divers by on-board professional photographers, stakeholders also

derive income from the hire of underwater cameras, as well as promotional benefits by encouraging divers to upload their photographic results to social media platforms such as Facebook and Instagram. The manual analysis of the brochures indicated all 21 brochures made some reference to a website and/or social media platform which created a theme of its own discussed later in this chapter.

#### **5.2.21. Brochure theme: Flying after diving**

The literature review identified the hazards associated with flying after diving (Cummins, 2008; Divers Alert Network, 2019; Freiburger et al., 2002; Sheffield, 1990; Vann & Thalmann, 1993). A flying after diving theme ranked at 22nd, with a word frequency score of 91.

#### **5.2.22. Brochure theme: Logos**

A logo theme ranked 23rd with a word frequency score of 61. All 21 of the brochures featured logos of various kinds including the company's logo, environmental organisation affiliation identified earlier in this chapter, tourism NGOs logos such as that of training agency PADI. Additionally, the brochures displayed the logos of social media sites such as Facebook, Instagram, Twitter, YouTube, and Google where it appeared RSDT stakeholders wished to leverage these platforms for promotions.

The PADI logo appeared on 11 brochures (47.6%) and PADI's sponsored marine charity, Project AWARE, was mentioned on one of the 21 brochures. There was no evidence on the brochures of any other training agency operating in the Cairns section of the GBRMP. Meanwhile, the Dive Queensland Inc. logo only appeared on two brochures.

#### **5.2.23. Brochure theme: Family**

The brochures also identified a family theme which was ranked 24th with a word frequency score of 56. A children services sub-theme with an individual word frequency score of 23 was also identified. Additionally, a Google search using the key words "family", "scuba", "diving", and "holidays" resulted in numerous offerings of family-orientated dive holidays in Cairns.

#### **5.2.24. Brochure theme: Internet**

An internet theme ranked at 25th with a word frequency score of 50. This theme appeared across all 21 brochures with the brochures citing websites, social media platforms, online services, free Wi-Fi and the provision of QR codes to gain additional information.

#### **5.2.25. Brochure theme: Queensland**

With a word frequency score of 19 the Queensland theme ranked 26th. It is acknowledged this is considerably lower than the GBR and Cairns themes which ranked 16th and 17th with word frequency scores of 201 and 189 respectively.

#### **5.2.26. Brochure theme: Sales**

A sales theme ranked at 27, with a word frequency count of 19. While the availability of dive logbooks, souvenirs and PADI training manuals were promoted as add-ons, the ranking of this theme indicates that a primary purpose of marketing collateral such as print brochures is to generate sales.

#### **5.2.27. Brochure theme: Languages**

The languages theme occupied the final ranking position of 28 with a word frequency score of 15. On further investigation of the ranking of this theme it was revealed that some stakeholders provide brochures in multiple languages.

### **5.3. NVivo stakeholder brochure word cloud**

From the text data, NVivo produced a word frequency cloud. Word clouds show specific words identified within the text, where bigger and bolder words represent more frequently used words in the text data. Therefore, the word frequency cloud in Figure 5.1 collectively illustrates the major Cairns-based RSDT stakeholders promotional brochure themes.



Figure 5.1. The major Cairns-based RSDT stakeholders promotional brochure themes

#### 5.4. Additional findings from a manual content analysis of Cairns-based stakeholder brochures

The literature revealed the potentials for RSDT destinations to provide services to DTs with disabilities (Dimmock & Cummins, 2013; Khoo & Walsh, 2013; Marshall, 2016; Walsh et al., 2012). There was no evidence across all 21 brochures stakeholders are pursuing this market. Given the human hostilities throughout the world and the potential impact on dive destinations, such as those experienced by the Egyptian dive industry (Cairo Post, 2016) reported in Chapter Two, there was no evidence of an attempt to promote Cairns as a safe dive destination. Only one operator utilised a testimonial in their brochure.

#### 5.5. Summary of findings of the Cairns-based stakeholder promotional brochures

The content analysis of the promotional brochures utilised by RSDT stakeholders in the Cairns section of the GBRMP using both manual and NVivo word recognition software revealed stakeholders are in a relatively good position regarding the delivery of a RSDT product with associated service levels. That is, the brochures display characteristics identified in the literature to be of major importance to stakeholders on the supply and

governance sides when addressing and meeting diver expectations and destination competitiveness with implications to the LTS of their businesses.

## **5.6. Analysis of non-diving tourism activities available in Cairns**

Chapter Three established Cairns as an international tourism destination with RSDT as one sector in the mix of the total activities offered to tourists. To be able to validate the latter, content analysis was conducted manually on tourism brochures collected from Cairns-based travel agents, kiosks, hotel receptions and websites from June 2017 to September 2019 as outlined in Chapter Four. The aim was to establish a list of tourism activities offered within the Cairns region and establish the potential of these activities to impact the LTS of RSDT.

Van der Merwe et al. (2011) claim marine tourists seek a variety of activities and things to do much more than other types of tourism. The analysis revealed there are at least 95 different tourism activities which either complement or compete locally with RSDT for a share of the Cairns tourist's wallet or purse (see Appendix B). Further analysis found 62% to 74.7% of these activities are adventure and/or nature-based tourism activities as defined in the literature and include four-wheel driving, bird watching, bush walking, canoeing, bungy jumping, go-charters, paddle boarding, river cruises and zip lining (as shown in Figure 5.2).





Figure 5.2. Kiosk billboards and brochure displays illustrating multiple tourism operators competing for the Cairns tourist's purse (Photographs: Author)

## 5.7. Content analysis of dive magazines

The literature review indicated effective marketing and editorial content in magazines and other media support destination desirability and LTS (Pike, 2018; Wearing et al., 2016). Media monitoring can contribute insights into the level of exposure RSDT destinations receive with implications for competitiveness. Manual content analysis was used as a means of media monitoring to determine the amount of editorial, advertising and overall media exposure Cairns-based RSDT had in comparison to other Australian and internationally located RSDT destinations as described in Chapter Four. Table 5.2 presents a summary of the key features based on six representative dive publications analysed, including: editorial origin, area of distribution, publication schedule, whether print and digital versions exist, and circulation per issue.

Table 5.2. The key features of six dive publications

Key features	Dive Log	Marine Diving	Undersea Journal	Scuba Diver UK	Scuba Diver Asia Pacific	Action Diver Planner
Origin	Australia	Japan	USA	UK	UK	Hong Kong
Distribution	Australia, New Zealand & Asia Pacific through dive shops, clubs & newsstands	Japan with some international subscriptions	Globally through the PADI membership and industry stakeholders	UK, Ireland, Malta & Gozo Island	Australia and New Zealand	Throughout Asia plus available to visitors at major Asian dive & travel expos
Publication schedule	Monthly	Monthly	Quarterly	Monthly	Monthly	Annually
Print version	Yes	Yes	Yes	Yes	Yes	Yes
Digital version	Yes	Yes (copy also placed on website)	Yes	Yes	Yes	Yes
Circulation per issue	8,000 print (no digital metrics available)	100,000 print	Approximately 140,000 per quarter in a combination of print and digital	15,000 print and 1,000 digital subscriptions	15,000 into Australia and 3,000 into New Zealand	67,000

The following section examines the findings from these six publications by comparing the volumes, percentages and total advertising and editorial space attributed to international, Australian (non-Cairns) and Cairns-based RSDT against the publication's total page number. It is acknowledged the analysis included identifying sections of pages and, therefore, the data reported includes fractions of pages while percentage scores were rounded to one decimal place.

### 5.7.1. Content analysis of *Dive Log* magazine

Over the 19 month period *Dive Log Australasia* was analysed (June 2017 to December 2018), a total of 1,520 pages, or 80 pages per edition were produced. The analysis found international-based RSDT stakeholders contributed 144.5 pages (9.5%) of advertising, gained 179.92 pages (11.8%) of editorial content and received a combined media exposure of 324.46 pages (21.4%) within the total of 1,520 pages published. The

analysis also found Australian (non-Cairns) RSDT stakeholders contributed 35.24 pages (2.3%) of advertising, gained 94.71 pages (6.2%) of editorial content and received a combined media exposure of 128.95 pages (8.5%) within the total 1,520 pages published. In contrast, the analysis found Cairns-based RSDT stakeholders contributed 28.69 pages of advertising (1.8%), gained 11.44 pages of editorial content (0.8%) and received a combined media exposure of 40.13 pages (2.6%) within the total of 1,520 pages published.

Table 5.3 illustrates the total pages of media exposures for international-based, Australian (non-Cairns) and Cairns RSDT stakeholders in *Dive Log*. The full dataset used to construct Table 5.3 is found in Appendix C. It shows Cairns-based RSDT has significantly fewer total media exposures than the other two destination categories over the study period. The implication of these findings will be discussed in Chapter 10.

Table 5.3. Total media exposure gained by international-based, Australian (non-Cairns) and Cairns RSDT stakeholders in *Dive Log*

Issue totals	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>International RSDT destination media exposure</b>							
Totals	1520	144.54	9.5%	179.92	11.8%	324.46	21.4%
<b>Australian (Non-Cairns) RSDT destination media exposure</b>							
Totals	1520	35.24	2.3%	94.71	6.2%	128.95	8.5%
<b>Cairns RSDT destination media exposure</b>							
Totals	1520	28.69	1.8%	11.44	0.8 %	40.13	2.6%

### 5.7.2. Content analysis of *Marine Diving Magazine*

During the 31 month analysis (June 2017 to December 2019) of *Marine Diving Magazine*, there was no advertising or editorial content for any Australian-based RSDT destination.

### 5.7.3. Content analysis of *The Undersea Journal*

Over the six quarterly editions of PADI's *The Undersea Journal* (Third Quarter 2017 to Fourth Quarter 2018), a total of 480 pages, the analysis found international-based RSDT stakeholders contributed 17.62 pages of advertising (3.7%), gained 27.02 pages of editorial content (5.6%) and received a combined media exposure of 44.64 pages (9.3%) within the

total 480 pages published. The analysis also found Australian (non-Cairns) RSDT stakeholders contributed no pages of advertising, 0.21 pages (0.1%) of editorial content and received a combined media exposure of 0.21 pages (0.1%). Cairns-based RSDT stakeholders contributed 0.15 pages of advertising (0.1%), gained 1.21 pages (0.3%) of editorial content and received a combined media exposure of 1.36 pages (0.3%) within the total of 480 pages published. Further analysis of the quarterly data revealed Cairns-based RSDT stakeholders had considerably fewer total media exposures than international-based RSDT destinations and equal or slightly more than Australian (non-Cairns) based RSDT stakeholder destinations in every quarter except the fourth quarter 2018.

Table 5.4 summarises the media exposure gained by international-based, Australian (non-Cairns) and Cairns RSDT in the Undersea Journal. The full dataset used to construct Table 5.4 is found in Appendix C.

Table 5.4. Media exposure gained by international-based, Australian (non-Cairns) and Cairns RSDT stakeholders in *The Undersea Journal*

Totals	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>International RSDT destination media exposure</b>							
Totals	480	17.62	3.7%	27.02	5.6%	44.64	9.3%
<b>Australian (Non-Cairns) RSDT destination media exposure</b>							
Totals	480	0.00	0.00%	0.21	0.1%	0.21	0.1%
<b>Cairns RSDT destination media exposure</b>							
Totals	480	0.15	0.1%	1.21	0.3%	1.36	0.3%

#### 5.7.4. Content analysis of *Scuba Diver Asia Pacific* magazine

Seven consecutive monthly editions of *Scuba Diver Asia Pacific* magazine with a total of 508 pages was analysed from April 2018. The analysis found international-based RSDT stakeholders contributed 69.85 pages (13.8%) of advertising, gained 77.50 pages (15.3%) of editorial content and received a combined media exposure of 147.35 pages (29.00%) within the total 508 pages published. The analysis also found Australian (non-Cairns) based RSDT stakeholders contributed 1.58 pages (0.3%) of advertising, gained

29.00 pages (5.7%) of editorial content and received a combined media exposure of 30.58 pages (6%).

In contrast, the analysis found Cairns-based RSDT contributed 4.08 pages of advertising (0.8%), had zero pages of editorial content and received a combined media exposure of 4.08 pages (0.8%). These findings are summarised in Table 5.5 and show that Cairns-based RSDT destinations had considerably fewer total media exposures than both international-based and Australian (non-Cairns) RSDT and only had more media exposure than Australian (non-Cairns) based RSDT destinations in the seventh edition. A major finding from the analysis revealed Cairns-based RSDT stakeholders had zero editorial content over all seven issues of *Scuba Diver Asia Pacific*. The full dataset used to construct Table 5.5 is found in Appendix C.

Table 5.5. Media exposure gained by international-based, Australian (non-Cairns) and Cairns RSDT stakeholders in *Scuba Diver Asia Pacific* magazine

Issue totals	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>International RSDT destination media exposure</b>							
Totals	508	69.85	13.8%	77.50	15.3%	147.35	29.0%
<b>Australian (Non-Cairns) RSDT destination media exposure</b>							
Totals	508	1.58	0.3%	29.00	5.7%	30.58	6.0%
<b>Cairns RSDT destination media exposure</b>							
Totals	508	4.08	0.8%	0.00	0.0%	4.08	0.8%

#### 5.7.5. Content analysis of *Scuba Diver UK* magazine

In the three editions of *Scuba Diver UK* magazine analysed from April 2017 to April 2018, a total of 308 pages were produced. The analysis found international-based RSDT stakeholders contributed 45.25 pages (14.7%) of advertising, gained 71.00 pages (23%) of editorial content and received a combined media exposure of 116.25 pages (37.7%) within the total 308 pages published. In contrast, Australian (non-Cairns) and Cairns-based RSDT stakeholders had no media exposure. Table 5.6 shows the media exposure gained by

international-based stakeholders in *Scuba Diver UK* magazine. The full dataset used to construct Table 5.6 is found in Appendix C.

Table 5.6. Media exposure gained by international-based stakeholders in *Scuba Diver UK* magazine

Monthly total	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>International RSDT destination media exposure</b>							
Total	308	45.25	14.7 %	71.00	23.0 %	116.25	37.7 %

### 5.7.6. Content analysis of *Action Diver Dive Holiday Planner* magazine

Content analysis of three consecutive annual editions of *Action Diver Dive Holiday Planner* magazine (2016/17 to 2018/19) revealed a total of 278 pages were published. The analysis found international-based RSDT stakeholders contributed 78.75 pages (28.3%) of advertising, gained 51.50 pages (18.3%) of editorial content and received a combined media exposure of 130.25 pages (46.9%). The analysis also found Australian (non-Cairns) RSDT contributed 3.0 pages (1.1%) of advertising, gained 6.49 pages (2.3%) of editorial content and received a combined media exposure of 9.49 pages (3.4%). In contrast, the analysis found Cairns-based RSDT stakeholders contributed 3.00 pages of advertising (1.8%), gained 4.68 pages (1.7%) of editorial content and received a combined media exposure of 7.68 pages (2.6%).

The analysis also revealed Cairns had fewer total media exposures than international and Australian (non-Cairns) destinations and fewer total media exposure scores in each annual edition. However, in the 2018/2019 edition, Cairns-based RSDT stakeholders did have an equal amount of advertising content to Australia (non-Cairns) RSDT stakeholders. Table 5.7 illustrates the total pages of media exposures for international-based, Australian (non-Cairns) and Cairns RSDT stakeholders in *Action Asia Annual Planner* magazine in the three consecutive years from 2016/2017 to 2018/19. The full dataset used to construct Table 5.7 is found in Appendix C.



Table 5.7. Media exposure gained by international-based stakeholders in *Action Asia Annual Planner* magazine

Annual totals	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>International RSDT destination media exposure</b>							
Totals	278	78.75	28.3 %	51.50	18.6 %	130.25	46.9 %
<b>Australian (Non-Cairns) RSDT destination media exposure</b>							
Totals	278	3.0	1.1 %	6.49	2.3 %	9.49	3.4 %
<b>Cairns RSDT destination media exposure</b>							
Totals	278	3.0	1.1 %	4.68	1.7 %	7.68	2.8 %

### 5.7.7. Summary of dive magazine media exposure

The findings of the content analysis of the six dive publications indicates RSDT in the Cairns section of the GBRMP has considerably less advertising and editorial media exposure across all six publications. This appears to be inconsistent with Cairns as the Gateway to the GBR and anecdotal claims that Cairns is a globally renowned and iconic destination for DTs. A surprising finding was that the Australian-based dive publication featured international and other Australian-based RSDT stakeholder advertising and editorial content considerably more than those based in Cairns. The lack of media exposure is a major factor facing the LTS and competitiveness of RSDTs and will be further discussed in Chapter Ten.

The content analysis of tourism promotional documents and dive publications was the first step in the four-step data collection process. The findings were used to help guide and develop the prompts for the RSDT stakeholder semi-structured interviews, the DT questionnaire and the prompts for the RSDT focus group, the other three steps in the data collection process. Therefore, the content analysis was able to contribute to research objectives two, three, four and five.

## CHAPTER SIX: FINDINGS FROM THE STAKEHOLDER SEMI-STRUCTURED INTERVIEWS

### 6.1. Introduction

This chapter presents the findings from semi-structured interviews with 33 RSDT stakeholders on the supply and governance-sides. This is the second step of the four step data gathering process described in Chapter Four and illustrated in Figure 4.1. The goal was to produce a narrative to gain an understanding of what RSDT stakeholders with interests in the Cairns section of the GBRMP see as the major factors impacting their LTS. That is, to address research objective two, three and four. The findings from the content analysis of the tourism promotional brochures and dive publications were used to help develop the interview prompts.

### 6.2. Stakeholder interviewee profiles

Interviewees represented three distinct groups. The first group was the supply-side stakeholders located outside of Cairns (11 individuals). These individuals had the potential to push their clients or products to Cairns-based RSDT operators and in return gain sales and commissions. Secondly, Cairns-based supply-side RSDT operators (13 individuals) which included dive retailers, training facilities and charter vessels. Thirdly, governance (9 individuals). These interviewees represented all three levels of government and NGOs.

In addition, the 4 Es were represented across the interviewees (diver educationalists, equipment manufacturers, environmental authorities and experience/tourism operators).

Table 6.1 shows the number of participants, activity area, management function and office location for each of the three interviewee categories.

Table 6.1. Participants of the semi-structured interviews

Number of interviewees	Activity	Interviewee identification number	Function	Location
Supply-side stakeholders outside of Cairns (n=11)				
1	Scuba diving publication	1	Editor	Location withheld
1	Scuba diving wholesale travel operator	5	Owner	International



1	Scuba diving show/event organiser	4	Convenor	International
3	Scuba diving equipment wholesaler	3	General Manager	Sydney
		6	CEO	Sydney
		2		Melbourne
5	Scuba diving retailers outside of the Cairns area who sell travel	7	Store manager	Adelaide
		9	Store owner	Brisbane
		11		Melbourne
		8		Sydney
		10		Sydney
Cairns-based supply-side providers (n=13)				
3	Scuba diving retailer	14	Manager	Cairns
		18	Owner	
		20		
3	Scuba diving training facility	13		
		16		
		17		
7	Scuba diving charter vessel operator	12		
		15		
		19		
		21		
		22		
		23		
		24		
Governance-side (n=9)				
2	Federal Government	28	Department Director	National
		29		
1	State Government	30	Department Manager	Cairns
1	Local Government	25		
5	Tourism and diver training agency NGOs	26	Senior executive	Cairns
		27		National
		31		Cairns
		32		
		33		
Total interviewees: N = 33				

### 6.2.1. Stakeholder demographic and business history profiles

The audio-recordings were converted to text and first analysed manually.

Percentages are expressed to one decimal place. The manual analysis revealed the mean age of all interviewees was 54 years (range of 34 to 77). Ten (30.3%) of the stakeholders described themselves as being in retirement mode. Business history (years in business) of the stakeholders ranged between eight to 58 years. The average length of experience working in RSDT was 28 years with only one participant having less than 10 years'

experience. Thirty (90.9%) of the stakeholders were scuba divers when entering RSDT and 21 (63.6%) had scuba diving instructor credentials. Only one interviewee was not a diver. Three (9.1%) were female.

The number of employees in the interviewees' entities was captured but not reported in detail here due to the potential to compromise confidentiality. However, the number of employees ranged from one in the case of a supply-side agent located outside of Cairns to over 40 on the Cairns-based supply-side. On the governance-side the number of employees ranged from three in an NGO to several hundred in the case of Government bodies. All supply-side businesses were incorporated companies, while on the governance-side there was a mixture of government, private companies and incorporated associations.

Fourteen (42.4%) participants worked in multiple roles. For example, they owned a charter vessel and/or ran a dive school and/or had a retail outlet on the supply-side and/or served on a NGO committee on the governance-side. It was considered these individuals significantly enriched the data, given their breadth of experience and knowledge.

### **6.3. Analytic tools used for the stakeholder interviews**

The transcripts were copied into four separate text documents according to the three stakeholder groups and a combined group. The supply-side providers outside of Cairns group text document had 39,161 words, the Cairns-based supply-side had 64,128 words, the governance-side had 38,188 words and the combined group had 141,477 words. These four data sets were analysed using two text analytical programs, NVivo (version 12 Pro) and Leximancer, as described in Chapter Four. The main objective of using two word recognition software programs was to gain access to the Leximancer connectivity score function and to identify any variance in the themes between the two.

Insignificant words (e.g. conjunctions and prepositions) and those under four letters in length were removed from the analysis. Words that may have compromised the interviewees' confidentiality were also removed.

#### 6.4. NVivo analysis of supply-side RSDT stakeholder located outside of Cairns

The NVivo word frequency score function was applied to the word text files of the supply-side interviewees located outside of Cairns. Eight major themes were able to be identified consisting of a total of 3,274 words. These were ranked as summarised in Table 6.2.

Table 6.2. NVivo analysis of supply-side stakeholders located outside of Cairns

Theme rank	Theme	Word Frequency Score
1	<u>Cairns</u> : Cairns, people, local, Reef, boat, operators	904
2	<u>Business</u> : business, time, company, cost, offer, code	793
3	<u>Dive</u> : dive, diving, diver	618
4	<u>Product</u> : product, customers, price, dollar	338
5	<u>Training</u> : training, course, PADI, nitrox, CCR, tech	219
6	<u>Travel</u> : travel, trips	205
7	<u>Media</u> : media, shows, event, magazines, publicity	152
8	<u>Shipwreck</u> : wreck, shipwreck	45
Total		3,274

##### 6.4.1. Supply-side stakeholders located outside of Cairns: Cairns theme

The NVivo analysis ranked Cairns highest amongst the eight themes with a word frequency score of 904. This was not a surprising finding given the nature of this research. Interviewees talked about the type of people visiting Cairns, local topics, the GBR and Cairns-based dive vessels. They also expressed concern over the set rules and protocols as to how individual and retail store members can conduct business activities.

##### 6.4.2. Supply-side stakeholders located outside of Cairns: Business theme

The business theme ranked second with a word frequency score of 793. All the interviewees talked about their business structure and company history. The major factors they saw as impacting their long-term business relationship with Cairns-based RSDT stakeholders included the cost of overheads in Cairns (e.g. commercial rent and marina charges) and operational costs caused by the Code of Practice (Queensland Government, 2018a). For example:

- Interviewee 2 said: “The cost of doing business is so high compared to other parts of the world that we automatically become almost non-competitive on a price scale.”
- Interviewee 5 said: “The Code of Practice has definitely added to the cost base.”
- Stakeholder 6 said: “They are competing against lower cost environments like Thailand.”

Interviewees also talked about the impact of domestic airfares and how these create a preference for them to promote overseas dive destinations. For example, interviewee 1 said: “The cost of my return air ticket (to Cairns) was \$754.69. For little more than double this you can have a week at a dive resort overseas including air fares.”

Several of the interviewees indicated Cairns was not important to their businesses. For example, Interviewee 1 said “without the fantastic support we get from overseas dive operators [words removed to protect confidentiality] we would not exist” and Interviewee 11 said “we have made no plans to expand our travel options into Cairns”. In contrast, all three of the dive equipment suppliers acknowledged Cairns’ importance to their businesses. For example, Interviewee 6 said: “I can with all certainty say we have a couple of the largest dealers in the country in Cairns and have done so for quite a long period of time.”

Meanwhile, dive retailers located outside of Cairns voiced some interest with increasing business to Cairns. For example, Interviewee 10 said: “I’d like to expand it to Cairns, but I haven’t worked out how to make money out of it to be honest. I make more money out of sending someone to Vanuatu.”

#### **6.4.3. Supply-side stakeholders located outside of Cairns: Dive theme**

It was established in Chapter Three that Cairns is known as an internationally renowned dive destination. The dive theme ranked third with a word frequency score of 618. Interviewees talked about relationships with Cairns-based RSDT companies, dive sites, the dive experience and problems and successes they had with sending divers to Cairns. Interviewees were divided on their perception of the diving quality with some saying they were impressed with the diving and others saying the diving was better elsewhere. While interviewees were divided on the quality of daily diving excursions, all interviewees

acknowledged the quality of the live-aboard dive experiences. For example, Interviewee 6 said: “The Cairns day trip diving is good for what it is, it’s not great. Once you get out to the outer Great Barrier Reef, the diving is world class.”

Several interviewees talked about the perception the dive sites could not accommodate their current carrying capacity in the long-term. For example, Interviewee 2 said: “Some of these dive sites have not changed or moved for the best part of 15 years and consistently have a number of between 60 to 100 people on the same location, day in day out.”

#### **6.4.4. Supply-side stakeholders located outside of Cairns: Product theme**

The importance of offering and maintaining a quality product to the LTS of a RSDT destination was also revealed in the literature. The product theme ranked fourth with a word frequency score of 342. Interviewees talked about customer service and how price related to the attractiveness and competitiveness of the product compared to destinations overseas they promoted. For example, Interviewee 2 said “Cairns needs to lift its game, in terms of customer service to justify the cost”. Interviewee 11 said “Cairns is just too expensive to send people to, compared to your other overseas destinations”.

With a word frequency score of 49, the NVivo analysis revealed supply-side interviewees located outside Cairns saw fluctuations in the Australian dollar as influencing their decision to send their customers to Cairns. For example, Interviewee 2 said: “It [Australian dollar fluctuations] affects almost every aspect of my business.” Interviewee 10 said: “Whenever the dollar moves, we see an effect of it on the number of our customers quite significantly.”

#### **6.4.5. Supply-side stakeholders located outside of Cairns: Training theme**

The training theme ranked fifth with a word frequency score of 219. Interviewees talked about courses and the potential benefits of operators promoting technical diving courses. For example, nine of the 11 interviewees said offering technical diving would be a means of increasing the attractiveness and competitiveness of Cairns with overseas destinations. Similarly, six of the interviewees acknowledged the need for Cairns-based

operators to offer training and provide nitrox/enriched air fills. For example, Interviewee 6 said: “Cairns retailers should offer nitrox because globally it’s becoming the accepted gas for recreational diving particularly with an aging population.”

#### **6.4.6. Supply-side stakeholders located outside of Cairns: Travel theme**

A travel theme ranked sixth with a word frequency score of 205. Interviewees talked about their customer’s travel patterns, preference for overseas destinations and challenges they faced in sending dive customers to Cairns. Five interviewees admitted they did not promote sending any divers to Cairns by direct contact or in their marketing collateral. For example, Interviewee 11 (a dive store owner) said: “We have no plans to expand our travel options into Cairns while we do nine overseas (group) trips a year.”

The remaining six interviewees indicated they sent low numbers to Cairns and usually to dive from a live-aboard. For example, Interviewee 8 said: “We send about five percent of our customers to Cairns” and “Our customers travel at least once a year overseas or have one big holiday a year”. One of the five dive store owners revealed issues with complying with FairTrading rules (i.e. legislative requirements for retailers of travel packages) with the implication he is forced to deal with a dive travel wholesaler who prefers overseas destinations. Interviewee 10 said: “I get regular calls from FairTrading when we advertise trips saying you can’t advertise that trip; you have to go through a registered travel wholesaler.”

#### **6.4.7. Supply-side stakeholders located outside of Cairns: Media theme**

A media theme ranked seventh with a word frequency score of 152. All 11 interviewees talked about the impact bad publicity regarding the condition of the GBR was having on their ability to successfully promote RSDT to Cairns. For example, Interviewee 1 said: “The constant press referencing the Great Barrier Reef is dead, climate change, the Adani Coal mine, coral bleaching, etc., do nothing to encourage international or local divers to plan a trip to Cairns or the Great Barrier Reef.” Interviewee 2 said: “In terms of the public, the Great Barrier Reef has suffered from bad publicity.”

Interviewees also talked about their level of participation in dive shows and their opinions of contributing advertising and editorial content to dive magazines. Eight of the 11 interviewees revealed they participated in dive shows and other promotional events. However, there was no evidence their participation included promotion of Cairns RSDT. For example, Interviewee 4 said: “In terms of dive travel promotions I think it’s much like fishing net, you stand there and wait for the show attendees to make enquiries [about a RSDT destination].”

#### **6.4.8. Supply-side stakeholders located outside of Cairns: Shipwreck theme**

A shipwreck theme ranked eighth. Although this theme could have been discarded due to the relatively low word frequency score of 45, it was included as all the interviewees expressed an opinion on whether the presence of a shipwreck would add to the appeal of Cairns as a RSDT destination. Eight of the interviewees felt a shipwreck would add to the appeal while the other three were undecided. For example, Interviewee 3 said: “If they sunk a diveable wreck off Cairns it would be a huge asset.” Interviewee 7 said: “If Cairns had a wreck like a lot of other locations around the country that would increase its appeal to your customers.”

#### 6.4.9. NVivo word cloud of supply-side stakeholders located outside of Cairns

A NVivo word cloud allows the word frequency scores to illustrate the themes and associated words in a visual perspective. Figure 6.1 shows the major words used to generate the eight themes from the supply-side interviewees located outside of Cairns and illustrates what they saw as impacting the LTS of RSDT in the Cairns section of the GBRMP. It is reasonable to assume the appearance of Cairns as a major component of the word cloud is a result of the nature of this research.

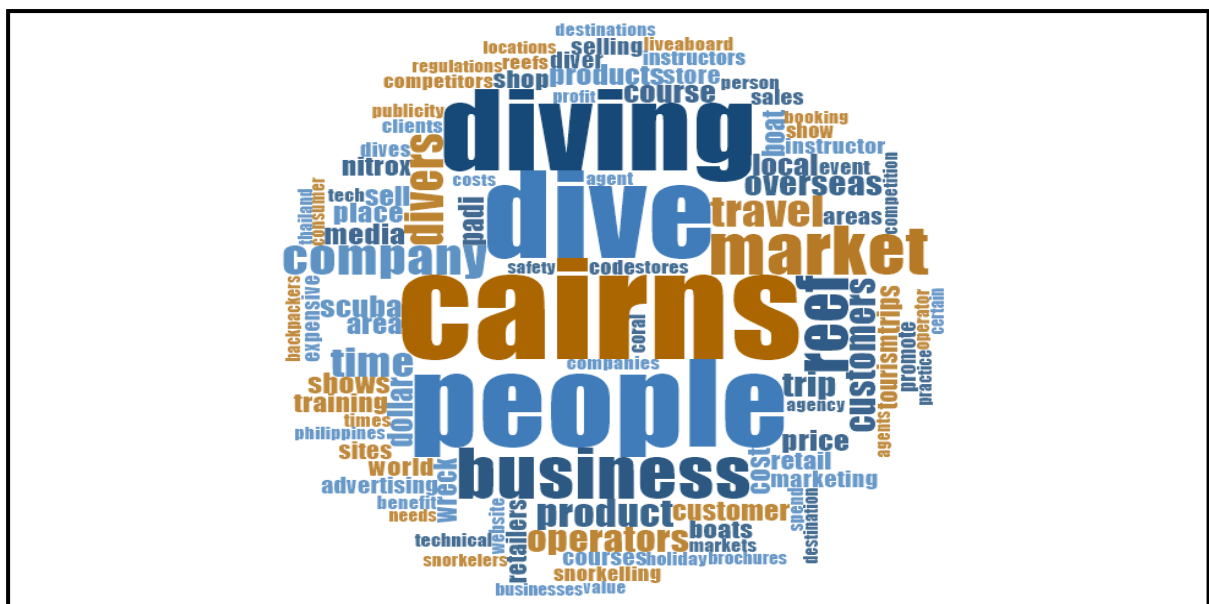


Figure 6.1. NVivo word cloud summary of supply-side stakeholders located outside of Cairns

#### 6.4.10. Leximancer analysis of supply-side stakeholders located outside of Cairns

The main objective of using the Leximancer software was to gain access to its connectivity score function. A secondary objective was to identify any variance in the themes identified in the NVivo analysis. However, the Leximancer analysis revealed similar results to NVivo in terms of the major themes generated and the words (i.e. concepts) used to generate the six themes it generated. The themes, connectivity scores and concepts mentioned within the theme generated by Leximancer are represented in Table 6.3 and, like NVivo, ranked Cairns as the most important theme for supply-side interviewees located



outside of Cairns with 100% connectivity score and business second with a connectivity score of 33%.

Table: 6.3. Leximancer thematic summary of supply-side stakeholders located outside of Cairns

Theme	Connectivity percentage	Concepts mentioned within theme
Cairns	100	Cairns, dive, people, local, Reef, boat, operators
Business	33	business, time, company
Product	29	product, customers, dollar, course, price
Travel	20	travel, trip
Terms	4	terms
Media	2	media

The Leximancer software also generates a concept map to illustrate the relationship between concepts. That is, the resulting visual maps present the most frequently occurring concepts and how they relate to one another (see Chapter Four). Figure 6.2 shows the Leximancer concept map for the supply-side interviewees located outside of Cairns with the four highest themes having relatively high levels of semantical relationships between the concepts. Figure 6.2 shows that supply-side interviewees located outside of Cairns are more interested in the market, people (clients), the reef and business than they are in the product offering, courses and media reports. Further analysis of the data revealed Leximancer had created terms as a theme because of the interviewees commonly using the phrase “In terms of ...” and reference to the “world”.

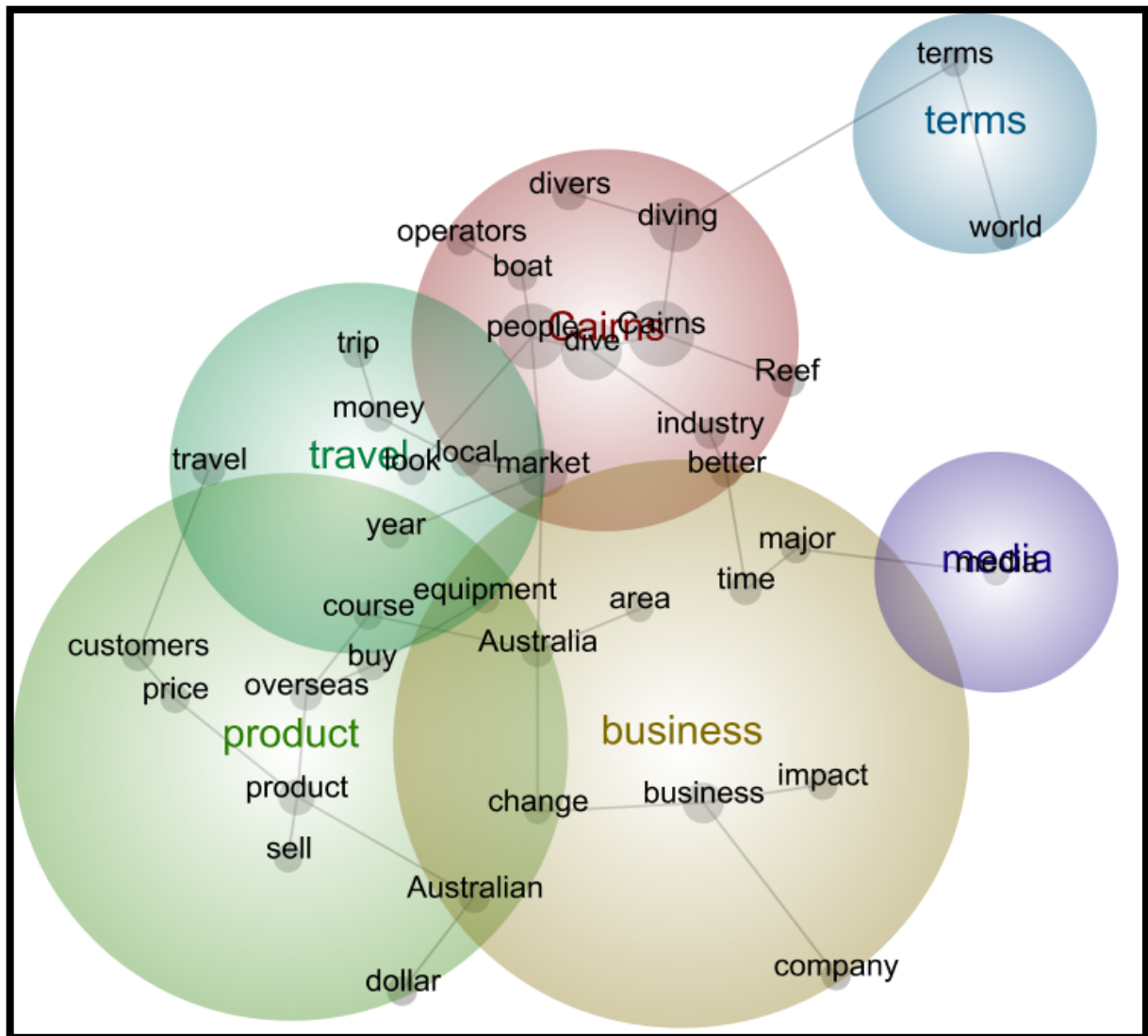


Figure 6.2. Leximancer concept map of interviews with supply-side stakeholders located outside of Cairns

### 6.5. NVivo analysis of Cairns-based supply-side RSDT stakeholders

The NVivo word frequency score function was applied to the 64,128 word text file of the Cairns-based supply-side interviewees. Eight major themes were able to be identified consisting of a total of 5,855 words and summarised in Table 6.4.

Table 6.4. NVivo analysis of Cairns-based supply-side stakeholder interviews

Theme rank	Theme	Word frequency score
1	<u>Business</u> : business, industry, company, staff, markets, code	1,755
2	<u>Cairns</u> : Cairns, people, reef, activities, boat, operator, port	1,658
3	<u>Dive</u> : dive, diving, diver, dives, scuba	794
4	<u>Training</u> : training, course, certified, nitrox, PADI, instructor	689
5	<u>Product</u> : product, tourism, customer, service, price, quality	608
6	<u>Media</u> : media, shows, advertising, events, publicity	166
7	<u>Coral</u> : coral, bleaching, climate	121
8	<u>Shipwreck</u> : wreck, Yongala	64
Total		5,855

### 6.5.1. Cairns-based supply-side stakeholder: Business theme

A business theme ranked highest amongst the eight themes, with a word frequency score of 1,755. Like the findings from the supply-side interviewees located outside Cairns, all the Cairns-based supply-side interviewees talked about their business structure, how they became involved in RSDT, their company history, the dive industry, the RSDT market and how doing business in Cairns creates challenges when compared to overseas destinations. Twelve of the 13 interviewees stated the cost of doing business in Australia and Cairns was a constant challenge. For example, Interviewee 22 said: “The cost of doing business in Australia is expensive compared to a lot of other global destinations” and “I think Cairns is a reasonably expensive tourism destination to come to. Especially for the international visitor who are used to a cheaper cost of living than what Cairns offers.”

Five interviewees talked about the impact of the Queensland Government’s payroll tax on their businesses. For example, Interviewee 20 said: “The major impact on the LTS of dive tourism is the high cost of doing business, high wages, but to add to the insult, the impact really is the issue of payroll tax” and “regardless of profit, we pay about \$40,000 a year.”

Interviewees were divided on who they saw as their competitors. Nine considered that other activities, apart from scuba diving, visitors can undertake in Cairns were not their competitors, while only one indicated they were competitors and the remaining three had no opinion. For example, Interviewee 12 said: "Other activities you can do in Cairns are not my competition, they enhance it [my business]." While Interviewee 7 said: "With the expansion of those markets [other activities] that may be taking potential customers away from our diving." Four interviewees indicated overseas RSDT destinations were their competitors and cited locations such as Thailand, Philippines, Fiji, Vanuatu, and Papua New Guinea. Three interviewees felt Cairns RSDT operators with a very similar product to them were their major competitor while one felt the Whitsunday region of Queensland was their biggest competitor.

Chapter Three revealed a dispute existed between the Cairns Port Authority and RSDT operators who claimed they pay the highest fees of comparable ports in Queensland with Cairns the only port in Queensland having a passenger departure levy in addition to a dive vessel's berthing charge. For example, Interviewee 23 said: "On departure tax from Cairns marina. Don't get me started, Cairns is the only Port in Queensland that has a passenger levy in addition to a berth charge."

All thirteen interviewees talked about impacts they experience from changes in international currency values and went to some length to explain why they supported a lower Australian dollar against the Euro and United States dollar "in particular". For example, Interviewee 12 said: "When the Australian dollar is low, compared to the Euro and the American dollar, we get a lot more [dive tourists], when the dollar is high, then a lot less."

All the interviewees talked about the impact of the Queensland Government's Diving Code of Practice on the cost of operations but were divided as to whether the Code was a good or bad thing. For example, Interviewee 14 said: "Other countries may have very few industry regulations covering their diving activities. Us having very good safety regulations certainly makes us stand out from the crowd." Interviewee 22 said: "I think it is good to have a guideline for operators to adhere to and to reference, but I think it has gone a little overboard and now has probably gone a bit further than it needed."

A significant finding was nine of the 13 interviewees (69%) felt RSDT to the Cairns section of the GBRMP had declined. Two of these related their perception to a general decline in the scuba diving industry. Of the remaining four, two felt RSDT in the Cairns section of the GBRMP had not declined and two made no comment. A further significant finding was only seven of the 13 interviewees (53.8%) had a formal business and/or strategic plan in place to address current and future impacts.

#### **6.5.2. Cairns-based supply-side stakeholder: Cairns theme**

NVivo revealed a high concentration of Cairns words and was ranked second with a word frequency score of 1,637. It is also noted a Cairns theme ranked highest amongst the eight themes with the supply-side stakeholders located outside of Cairns. It is reasonable to assume the appearance of Cairns as a major component of the word clouds developed throughout the analysis is partly a result of the nature of this research since interviewees talked about the type of people visiting Cairns, local topics, the reef being accessible from Cairns and Cairns-based dive vessels in a broad sense.

#### **6.5.3. Cairns-based supply-side stakeholder: Dive theme**

It was established in Chapter Three that Cairns is known as an internationally renowned dive destination. The dive theme ranked as the third most important theme with a word frequency score of 794. This supports the findings of the content analysis of stakeholder brochures where the dive theme was ranked two and in the supply-side interviews where it was ranked three. Interviewees talked about the type of diver attracted to the region and the quality of diving offered but were divided on whether the diving was better than that experienced at other RSDT destinations. For example, Interviewee 13 said: "The Reef for a day isn't as hard core a dive location as maybe it used to be" and "a lot of the hard-core divers find it too crowded." Interviewee 15 said: "We still have fantastic diving." Interviewee 17 said: "In terms of the quality of the dive sites immediately off Cairns it is sad in comparison to what it was 20 years ago, when I first came here." These findings support the contention of several supply-side interviewees located outside of Cairns who felt Cairns-based RSDT had lost its appeal to the experienced diver.

#### **6.5.4. Cairns-based supply-side stakeholder: Training theme**

A training theme ranked fourth with a word frequency score of 689. All 13 interviewees indicated the importance of diver training from entry level, continuing education courses and instructor training to their businesses. Two interviews indicated they had relationship agreements with other local training providers to supply entry level training while they only offered higher level courses. For example, three of the interviewees had a focus on instructor training. Eight indicated that introductory dives and snorkelling was a large part of their business. For example, Interviewee 21 said: “snorkelers and intros (introductory dives) are probably 60% of our business.”

The interviewees were divided on their level of satisfaction with diver training. Issues impacting sustainability included: current diver training numbers, the cost of certification materials, the level of profitability gained from conducting instructor training courses, and impacts from their competitors. For example, Interviewee 13 said: “Thailand is where the overheads are less so although the courses are a similar price, they win on food and accommodation” and “that is why it is quieter here with training than it normally is or was”. Interviewee 23 said: “You look at the dive training numbers [they] have been softening and have been softening for a while. I’m not sure certification agencies would agree with that but it’s certainly the case at the moment”. Interviewee 6 said: “At last count I have 96 different courses I can offer.”

Eleven supply-side interviewees located outside of Cairns indicated a concern regarding Cairns-based stakeholders not embracing the use of nitrox/enriched air as gas mix and/or missing an opportunity. However, of the 13 supply-side interviewees located in Cairns, 11 indicated they do offer nitrox/enriched air as a breathing gas and/or nitrox training. Of the remaining two, one indicated they will offer nitrox/enriched air in the future and one indicated they would not provide nitrox/enriched air due to the cost of installation and maintenance.

Similarly, supply-side interviewees located outside of Cairns felt there was an opportunity to increase the attractiveness of Cairns-based training by offering technical and

closed circuit rebreather training. However, of the 13 supply-side interviewees located in Cairns, only three saw this as a possible opportunity. For example, Interviewee 22 said: “The cost and time associated with the training [Tech and CCR diving] and then either buying or hiring the equipment is hard to justify.”

The interviewees also revealed training offerings by Cairns-based stakeholders were not just focused purely on diving programs. Eleven of the 13 interviewees indicated that, apart from dive programs, they derived additional income from at least one other form of training program. These included equipment servicing, and first aid and commercial diver training. Additionally, several of the interviewees indicated they ran informal training programs for the guests on the way to or from the Reef.

#### **6.5.5. Cairns-based supply-side stakeholder: Product theme**

A product theme ranked fifth with a word frequency score of 608. This ranking is close to the supply-side interviewees located outside of Cairns who placed it fourth. Interviewees talked about impacts created by comparative pricing with other RSDT destinations, vessel quality, the level of service they offer and how they cater for non-English speaking divers. Interviewee 12 said about the quality of the vessel: “It’s part of where we are as a product, Cairns, as a product.” Interviewee 22 said: “The cost of just the diving component from Cairns can be as much as \$300 for a certified diver (per day) so customer service must be first rate.”

Interviewee 14 said: “Spanish, German, French, Chinese, Japanese are the core languages we have to allow us to focus on those international customers.” Interviewee 22 said: “I am going to get a bit more pro-active about handling the potentials from China, India, and Middle East in the future.”

#### **6.5.6. Cairns-based supply-side stakeholder: Media theme**

A media theme ranked sixth with a word frequency score of 166. Like all 11 supply-side interviewees located outside of Cairns, all 13 supply-side interviewees talked about the impact that bad publicity regarding the condition of the GBR was having on their businesses. For example, Interviewee 18 said: “the media releases and newspapers overseas show us

as if the whole of the GBR is dying or is dead. And people have a very negative view of coming here to dive now and are going to other destinations.”

Eight interviewees revealed they participated in dive shows and other promotional events. All 13 interviewees talked about how social media was their primary method of communicating with potential customers and their opinions of contributing advertising and editorial content to dive magazines. For example, Interviewee 15 said: “We have a website and social media, but do not do so much in magazines. We got out of print media about 10 years ago.” This finding is consistent with findings from the content analysis of dive magazines reported in Chapter Five. There was no evidence of stakeholders utilising or taking advantage of collaborative/multiband advertising. Meanwhile, Can, Ekinci, Viglia and Buhalis (2020) suggest that, compared to single brand advertising, joint brand advertising increases tourists’ search behaviour and stimulates product interest, which in turn increases tourists’ intention to visit.

#### **6.5.7. Cairns-based supply-side stakeholder: Coral theme**

The coral theme ranked seventh of the eight themes with a word frequency score of 121. It is significant to find coral ranked so low considering coral reefs are the main drawcard for divers (Pabel & Prideaux, 2018) and coral reefs globally have attracted considerable media attention. Interviewee 12 said: “Three years ago there was some of the prettiest coral I’ve seen on the GBR, that was the year before the coral bleaching.”

#### **6.5.8. Cairns-based supply-side stakeholder: Shipwreck theme**

A shipwreck ranked eighth as a theme with a relatively low word frequency score of 64. However, all 13 interviewees felt a shipwreck would add to the appeal and expand the dive offerings. Additionally, four interviewees talked about the success of RSdT to the wreck of the *Yongala* and three talked about the potential for a wreck to expand their training programs. For example, Interviewee 14 said: “The *Yongala* is quite a good example of the fame which a wreck can give a location” and “A wreck diving programme would certainly help, but on top of that it would attract a different demographic of diver.”



#### 6.5.9. NVivo word cloud of the Cairns-based supply-side stakeholders

NVivo was used to generate a word cloud of the Cairns-based supply-side stakeholder interviews. Figure 6.3 shows the major words used to generate the eight themes Cairns-based supply-side interviewees saw as impacting the LTS of RSDT in the Cairns section of the GBRMP. Clearly the most frequently used words in the supply-side interviews were Cairns and people, together with business and dive-related words. This supports the narrative generated from the individual themes identified and is largely consistent with the word cloud of supply-side interviewees located outside of Cairns and the impression of the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.



Figure 6.3. NVivo word cloud summary of Cairns-based supply-side stakeholder interviews

#### 6.5.10. Leximancer analysis of Cairns-based supply-side stakeholders

The Leximancer software was used to generate a concept map (Figure 6. 4). Like the NVivo analysis, the Leximancer software revealed Cairns-based supply-side interviewees were mainly concerned with the quality of their product, staff training, the condition of the dive industry and the role these played in achieving and maintaining RSDT in the Cairns section of the GBRMP as a competitive destination. However, the Leximancer concept map shows relatively weak connectivity between business and other concepts (i.e. 15%) while there are strong overlaps between Cairns, dive and people. The Leximancer concept map

also indicated coral was somewhat isolated from the other concepts with low connectivity (i.e. 3% connectivity score) and of relatively low importance indicated by the colour of its heat map. This is consistent with the low NVivo ranking of coral as a theme.

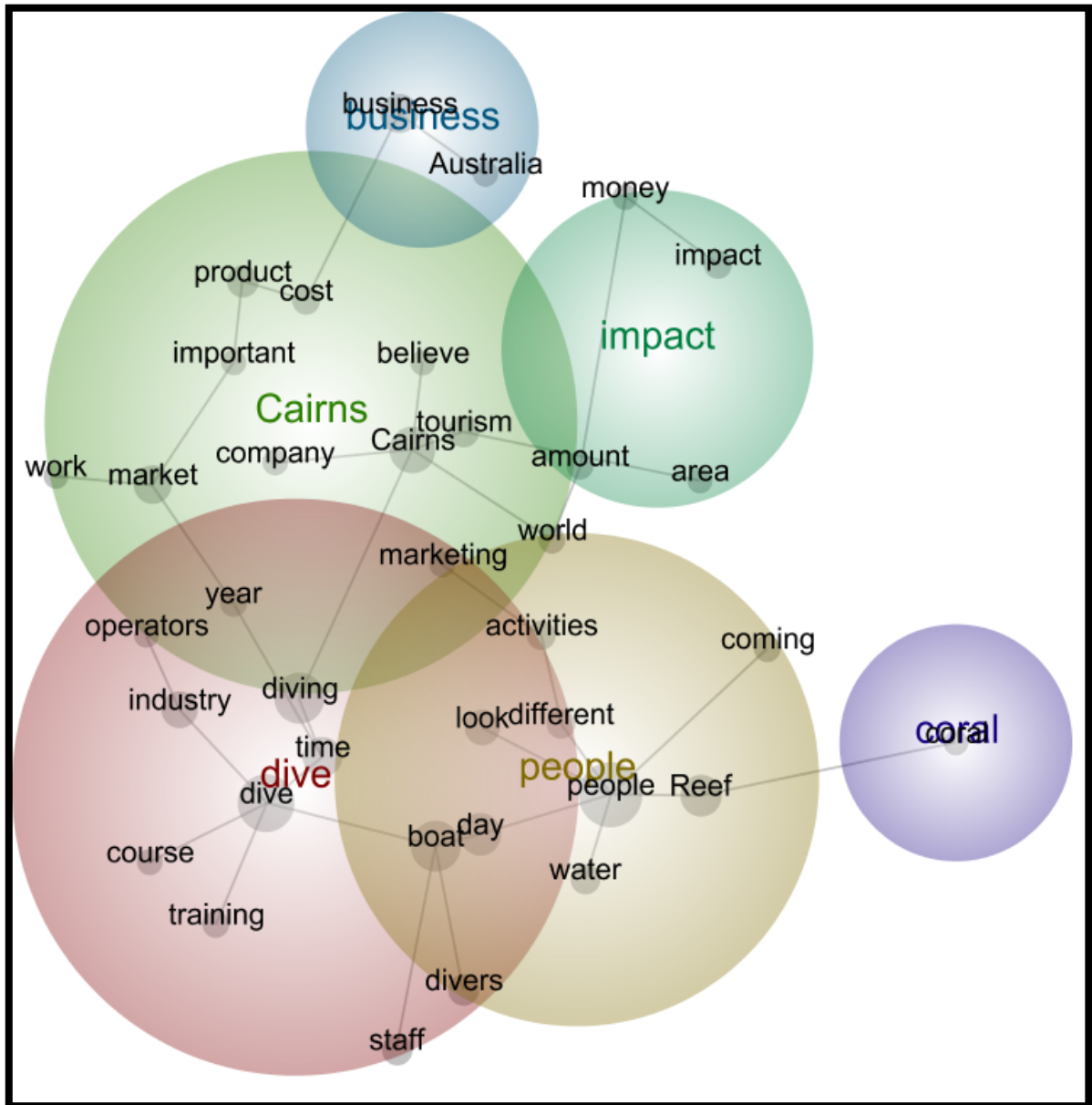


Figure 6.4. Leximancer concept map of Cairns-based supply-side stakeholder interviews

## 6.6. NVivo analysis of governance RSDT stakeholder interviews

Using the NVivo word frequency score function was applied to the 38,188 word text file of governance interviewees. Eight major themes were able to be identified consisting of a total of 3,434 words as shown in Table 6.5.

Table 6.5. NVivo analysis of governance stakeholder interviews

Theme rank	Theme	Word frequency score
1	<u>Business</u> : business, industry, market, money, company, costs	892
2	<u>Cairns</u> : Cairns, people, reef, operator, boat, vessel, local, visitors	886
3	<u>Dive</u> : dive, divers, diving, dives, dived, safety, recreational	505
4	<u>Product</u> : product, tourism, price, quality, expensive, service, tour	380
5	<u>Training</u> : training, courses, certified, instructor, programs, PADI, nitrox	300
6	<u>Governance</u> : government, authority, regulated, permit, code	279
7	<u>Media</u> : media, social, shows, events, magazines, web	117
8	<u>Coral</u> : coral, environment, bleaching, dead, damaged	75
Total		3,434

The findings from the governance interviewees closely followed those of both groups supply-side interviewees. That is, governance interviewees talked about similar aspects and parallel themes emerged. From a system's perspective, several governance interviewees talked about scenarios that included the potential for the GBR's decline and a major concern Cairns would falter if there was no reef tourism.

#### 6.6.1. Governance stakeholder: Business theme

A business theme ranked first with a word frequency score of 892. The most significant trend to emerge out of the business theme was eight of the nine interviewees thought RSDT in Cairns had declined. Seven indicated competition was strong from both overseas destinations and other activities available to tourists in Cairns. Six identified the cost of operating in Cairns presented significant challenges in comparison to RSDT destinations overseas while three identified the negative impact of commissions paid to agents and sales kiosks. For example, Interviewee 27 said: "We had a big decline in student numbers over a five year period and then we had five consistent years of growth, but it is still not back to what it was in its big days." Interviewee 30 said: "Kiosks charge a commission over the top for what they do, that just adds to the expense." Interviewee 30 also said: "The

major factor impacting sustainability of scuba diving in Cairns is the actual cost of going out to the Reef” and “There seems to be a decline of the traditional backpacker market. They now seem to go to Thailand where it is cheaper.”

Two interviewees commented on the marketing efforts attributed to RSDT and other governance organisations, especially those involved in promoting tourism to Australia and Queensland. For example, referring to the national level, Interviewee 26 said: “The Reef, the rainforest, and the Opera House, that is how the world views us, that is how we should be marketing it” and “It seems like they’re following television with food and wine, and you get the Hunter and Barossa Valley.” Interviewee 3 said: “we have the best dive centres, the best boats, and I just would like to see us as an industry promote what Cairns has to offer, what the Great Barrier Reef has to offer and the services we offer more effectively on today’s platforms [social media].”

#### **6.6.2. Governance stakeholder: Cairns theme**

The Cairns theme was ranked second with a word frequency score of 886. It should be noted the Cairns’ theme also ranked second with Cairns-based supply-side interviewees and highest with supply-side interviewees located outside of Cairns. Like both the supply-side groups, governance interviewees talked about the type of people visiting Cairns, local topics, the Reef, operators and the dive boats.

#### **6.6.3. Governance stakeholder: Dive theme**

The dive theme ranked third with a word frequency score of 505. Like both the supply-side interviewee groups, the governance interviewees voiced their opinion on the quality of diving to be experienced in the Cairns section of the GBRMP. All nine interviewees agreed the diving was very good.

#### **6.6.4. Governance stakeholder: Product theme**

The product theme ranked fourth with a word frequency score of 380. Interviewees talked about impacts created by comparative pricing with other RSDT destinations, how they cater for non-English speaking divers and the level of service offered. Three interviewees expressed concerns about service levels experienced in Cairns across tourism in general.

For example, Interviewee 26 said: “I don’t think we give good service. We need to be because that is the price range we are in” and “We are offering a typical two to three star service, even in the 5 Star hotels.” Interviewee 26 also said: “The training agency seem to be pumping out more and more instructors, that some would argue they don’t have that kind of customer service experience attitude required.”

Two interviewees were highly critical of the product offerings. For example, Interviewee 5 said: “Cairns dive operators are really stuck in a rut, and need to move on and redevelop their product, maybe combining it with other things, that would make it more attractive to the families and general divers out there.” Interviewee 33 said: “One thing that stands out is the fact that there are very few innovative ideas or innovations introduced in the tourism sector up here in Cairns, over recent years.

#### **6.6.5. Governance stakeholder: Training theme**

A training theme ranked fifth with a word frequency score of 300. Interviewees talked mainly about the courses they were aware of on offer in Cairns. In a similar finding to that from the supply-side interviewees, governance interviewees felt nitrox/enriched air should be used more widely as a breathing gas and included in diver training, while interviewees were divided on whether technical and closed circuit rebreather diving should be promoted in Cairns.

#### **6.6.6. Governance stakeholder: Governance theme**

A governance theme appeared for the first time across the interviews with a word frequency score of 247. Interviewees talked about activities of the three levels of government, the Queensland Government’s Code of Practice, operator permits and the EMC. The literature revealed the Code has implications for operators wishing to enter the non-English speaking markets, whilst on the other hand the Federal Government’s immigration laws restrict dive operators from recruiting overseas. It is therefore not surprising five of the nine interviewees indicated challenges with addressing the Chinese, Japanese and other non-English speaking markets. For example, Interviewee 27 said: “China is the

fastest growing market in the world today, and you can't offer services unless you have Chinese-speaking instructors."

Meanwhile, all the NGO participants within the governance interviewees revealed they got no government support. For example, Interviewee 26 said: "I don't think we get enough support to promote the industry from government. No, not at all."

Interviewees were divided on the EMC and, like several supply-side interviewees, were confused as to where the proceeds were allocated. Four of the NGOs were critical of the process and questioned why only those visiting the GBRMP through tour operators should pay the EMC. For example, Interviewee 26 said: "It's just a disgrace, they take it off the tourism operators, and nobody else pays" and "They estimate there is 20 million other visitations to the Reef, and it would not be difficult to have a system where say recreational fisherman operating in the Park pay annual fee of \$100. The New South Wales style, where you have a sticker on your car if you want to go into a Park."

#### **6.6.7. Governance stakeholder: Media theme**

A media theme ranked seventh with a word frequency score of 117. Like both groups of supply-side interviewees, the governance interviewees cited bad publicity about the GBR impacting their activities. For example, Interviewee 28 said: "PR, both nationally and globally, about the condition of the GBR has had a negative effect on Park operators. It's probably one of the greatest challenges that the tourism industry has ever had to face."

All the interviewees indicated they used websites and social media platforms to promote their activities while five indicated they promoted in print media (e.g. dive magazines) and four indicated they used printed brochures but were moving more to digital. Six stated they participated in tourism promotional events and two specifically called for Cairns to host a promotional event (e.g. a dive festival).

#### **6.6.8. Governance stakeholder: Coral theme**

Coral ranked last of the eight themes with a word frequency score of 75. All the interviewees talked about coral bleaching and concerns for the environment and revealed they had an environmental policy and/or an accreditation. Interviewee 2 said: "we need to



the NVivo analysis linked to a Cairns theme. Apart from people, which had a connectivity score of 100%, all the other Leximancer themes had single digit connectivity scores between the concepts. For example, whilst the business and training themes scored in the top five NVivo word frequency counts with both groups of supply-side interviewees, Leximancer indicated connectivity scores of 9% and 5% respectively with other concepts in the governance group.

The Leximancer concept map also indicates that coral was somewhat isolated from the other concepts with a low connectivity score (8%) and had a relatively low importance indicated by the colour of its heat map. Additionally, there was very little overlap between all the themes.



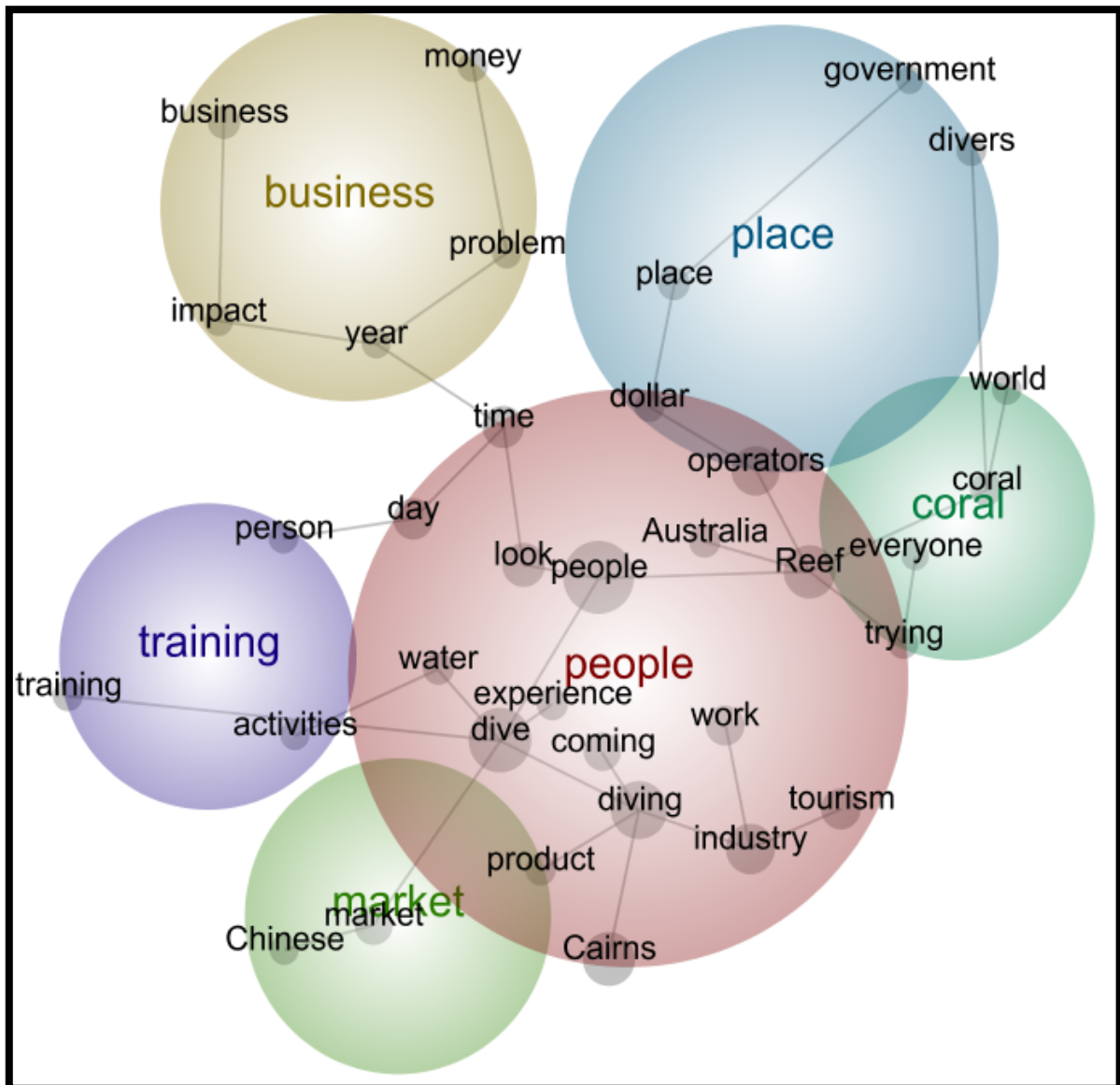


Figure 6.6. Leximancer concept map of governance-side stakeholder interviews

### 6.7. NVivo analysis of the combined stakeholder interviews

The NVivo word frequency and percentage weight score functions were used to identify themes common to all three stakeholder groups. The analysis identified 10 themes which appeared across the three stakeholder groups as shown in Table 6.6. By comparing these themes to the themes identified in the individual groups, it was found the top six themes were common to all three groups. These themes contributed a word frequency score of 11,774 and percentage weight score of 8.3% from the 141,477 text file. The remaining four themes contributed a word frequency score of just 798 and a percentage weight score

of 0.6%. Clearly the Cairns, business, dive, product, training and media themes were seen collectively by the interviewee groups as those major factors impacting their LTS.

Table 6.6. NVivo analysis of the major themes of the combined stakeholder interview groups

Theme	Total rank position	Supply-side located outside of Cairns		Cairns-based supply-side		Governance		Total word frequency score
		Word frequency score	Rank in the group	Word frequency score	Rank in the group	Word frequency score	Rank in the group	
Cairns	1	904	1	1,658	2	886	2	3,448
Business	2	793	2	1,755	1	892	1	3,440
Dive	3	618	3	794	3	505	3	1,917
Product	4	338	4	608	5	380	4	1,326
Training	5	219	5	689	4	300	5	1,208
Media	6	152	7	166	6	117	7	435
Subtotal (1)								11,774
Governance	7	NA	NA	NA	NA	279	6	279
Travel	8	205	6	NA	NA	NA	NA	205
Eco/coral	9	NA	NA	121	7	75	8	196
Wreck	10	45	8	64	8	NA	NA	109
Subtotal (2)								789
Grand total								12,563

### 6.7.1. NVivo word cloud and Leximancer concept map of the combined stakeholder interviews

A comparison between the two revealed that the NVivo word cloud and Leximancer concept map for the combined stakeholder interviews produced similar findings. NVivo generated a word cloud of the top 10 themes to emerge across all three stakeholder groups and is shown in Figure 6.7. Given the six top themes appeared in all three stakeholder interview groups, the word cloud has a similar appearance to the individual word clouds generated for the three interviewee groups.



Figure 6.7. NVivo word cloud of the top themes across the three stakeholder groups

The transcripts of each stakeholder group were loaded into Leximancer as separate documents with the option to apply file tags for each stakeholder group. Concepts that emerged from the content of a particular stakeholder group clustered near that stakeholder groups' file tag in the concept map. This option is helpful addition to the findings by revealing the differences between the three stakeholder groups. For example, Figure 6.6. the concepts of 'staff', 'boat' and 'marketing' are clustered near the 'Supply (Cairns-based)' file tag, indicating they are fairly specific to this stakeholder group. Figure 6.6. also shows the concepts of 'Cairns', 'Australian dollar' and 'travel' settled close to the 'Supply (outside of Cairns)' file tag while the concepts of 'operators', 'tourism', 'industry', 'Chinese' 'market' and 'fact' clustered near the 'Governance' file tag.

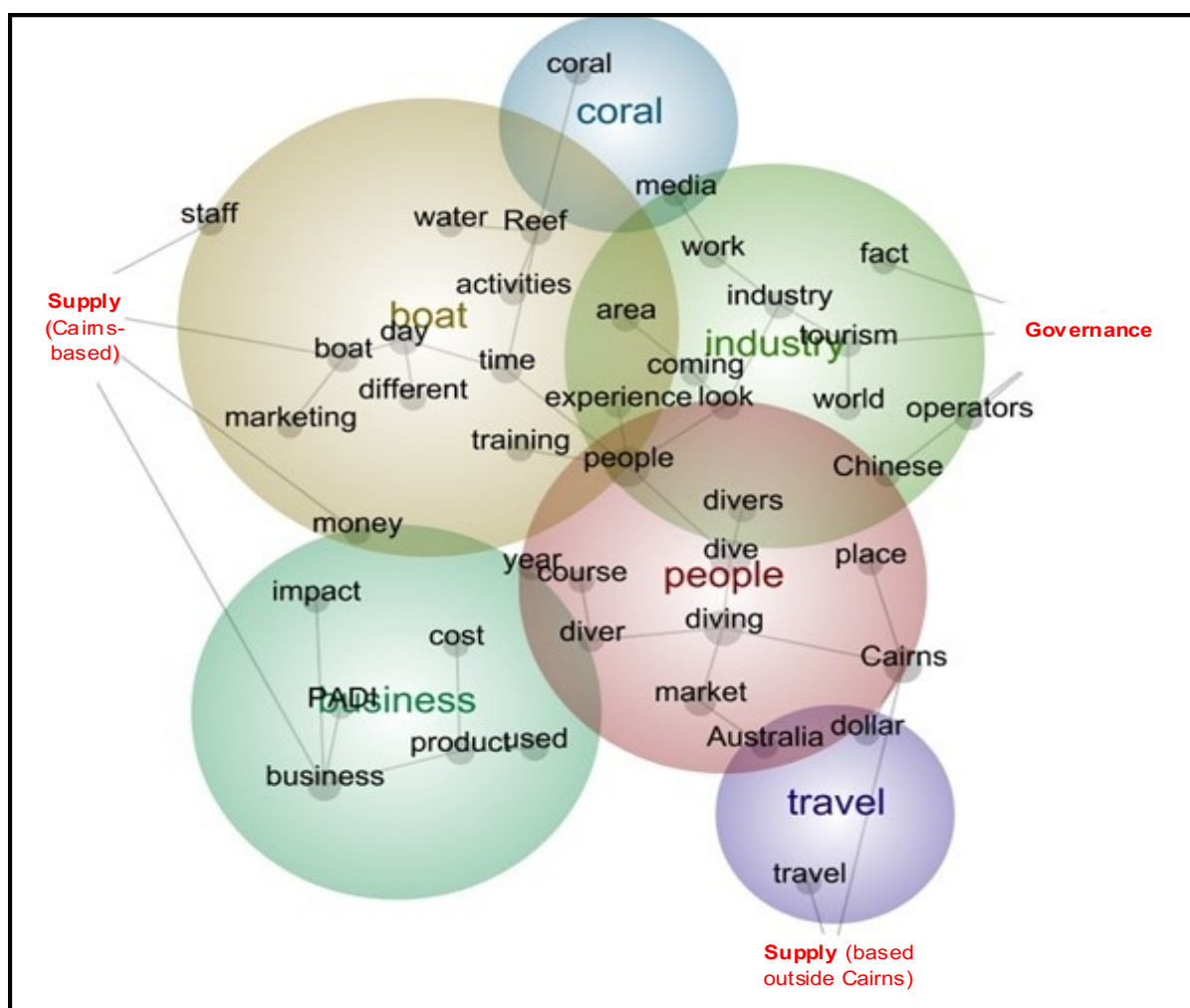


Figure 6.8. Leximancer combined concept map of the three stakeholder groups

## 6.8. Additional findings from the NVivo and Leximancer analysis of the interviews

The literature indicated sociocultural factors as one of the four major factors researchers have identified as impacting LTS of a tourism destination. All three stakeholder groups identified and placed importance on people as a concept aligned with the Cairns theme. However, there was division amongst the three groups of stakeholders regarding the importance of backpackers to RSDT in the Cairns section of the GBRMP. For example, 10 of the 11 supply-side interviewees located outside of Cairns did not see the significance of the backpacker to either themselves or Cairns-based stakeholders.

In contrast, 10 of the 13 Cairns-based supply-side interviewees saw the backpacker market as important although also suggesting it was changing. For example, Interviewee 5 (supply-side located outside of Cairns) said “We do not deal with the backpacker market at

all”, while Interviewee 12 (Cairns-based supply-side) said “Backpackers are critical. I’d say potentially 50% of our business is backpackers” and “Third world countries are able to do that [i.e. address the backpacker market] way better than we can, simply because of their pricing structures”. This is a significant finding since there appears to be a disconnect between the two supply-side stakeholder groups regarding the importance placed on the contribution the backpackers market plays regarding RSDT in the Cairns section of the GBRMP.

The literature also indicated several economic factors impact the LTS of a tourism destination (Hall, 2007), adventure tourism (Williams & Souter, 2005) and RSDT (Dimmock & Cummins, 2013), including the impact of fluctuations in currency exchanges. All three groups of stakeholders highlighted the impact fluctuations in the Australian dollar had on their business, how divers’ shop online and price match before making bookings.

Most of the interviewees across all three groups talked about the impact of the Codes of Practice (Worksafe, 2018) on the attractiveness of Cairns as a RSDT destination, as reported earlier in the findings. An important additional finding was several of the supply-side interviewees located outside Cairns held the perception that the Code dictated unrealistic restrictions by confining divers to shallow depths and relatively short bottom times (i.e. the time divers can spend underwater). They suggested this made Cairns less attractive to experienced divers who would be required to limit their depth and/or surface well before their air reached 50 bar (i.e. international protocol for the safe amount of air remaining in the scuba cylinder when the diver is advised to return to the surface).

However, manual analysis of the Code and the Cairns-based supply-side stakeholder transcripts indicates these restrictions are the result of operational issues enforced by the vessel owner or the crew to meet travel times to and from the Reef and/or to overemphasise safe diving protocols, rather than a requirement of the Code. That is, there seems to be a general misunderstanding of the Code’s impact between some stakeholders and/or their staff. For example, Interviewee 12 (Cairns-based supply-side) said: “They recently changed the code, and I had to go down to the boat and explain it to the staff” and “The crew

misunderstood the code.” These findings suggest there is a need for stakeholders and their staff to fully understand the impact, or perceived impact, the Code and their chosen method of operating dive activities has on their attractiveness to experienced divers.

Supply-side interviewees were in general agreement there was little impact on their businesses resulting from the EMC. However, supply-side Interviewee 10 said: “There is no impact from the EMC on our business sending people to Cairns” and Interviewee 12 said: “The EMC does not impact us.” In contrast all the NGOs in the governance group were non-supportive of the EMC. For example, Interviewee 27 (governance-side) said: “I think EMC is an issue for members working in Cairns. I think customers hate the add-ons.” Meanwhile, all the Cairns-based supply-side and governance interviewees, and seven of the 11 supply-side interviewees located outside of Cairns, indicated they had environmental accreditations and/or active programs within their businesses.

Given the strength of the business theme across all three groups, it is important to note there was some concern regarding the impact kiosks and agents had on the profitability of Cairns-based stakeholders. Although some interviewees acknowledged the role of kiosks and agents, most interviewees across all three groups indicated the commissions charged on sales of RSDT experiences were high, seriously impacted potential profits and inhibited business development. Some Cairns-based supply side interviewees shared their development strategy for dealing with travel kiosk and agent commissions which impact profitability. These included developing and maintaining their own booking systems either online and/or through direct contact with potential customers through their shop fronts.

## **6.9. Summary of the stakeholder interview findings**

The stakeholder semi-structured interviews were the second in the four-step data collection process (see Figure 4.1). The findings were used to help guide the development of the DT questionnaire and the prompts for the RSDT focus group. The interviews were able to contribute to research objectives two, three, four and five by providing an important insight into the major factors RSDT stakeholders in the Cairns section of the GBRMP saw impacting

their LTS. The implications of these findings will be addressed in Chapter Ten, together with the findings from the other components of the four-step data collection process.

## **CHAPTER SEVEN: FINDINGS FROM THE DIVE TOURIST QUESTIONNAIRE**

### **7.1. Introduction**

This chapter reports the quantitative and third step of the four-step data gathering process described in Chapter Four (see Figure 4.1) and represents empirical evidence to address research objectives two, three, four and five. The chapter also addresses research question one which seeks to develop sociocultural and demographic profiles of diver tourists who visit the Cairns section of the GBRMP.

The literature review revealed researchers had identified four major factors impacting the LTS of a tourism destination (i.e. sociocultural, environmental, economic and governance factors). Therefore, the questionnaire findings are reported by their relationship with these four major impacts. Although reported within their own chapters, brief reference is made to findings of the first two steps of the data collection process since those findings were used to help formulate the DT questionnaire. Therefore, the implications of the findings from the DT questionnaire will be addressed in the discussion chapter together with those from the other data gathering phases of the research.

### **7.2. Sociocultural and demographic findings**

All 533 DTs responded to the sociocultural and demographic questions summarised in Table 7.1. Of the DTs, 82.4% held PADI certification credentials and when compared with PADI certification statistics (PADI, 2017a, 2018), the DT analysis revealed a slightly higher number of female divers. However, the PADI data also indicate that the number of females trained in each year from 2013 to 2018 is progressively increasing. Therefore, the DT gender parameters appear to approximate the broader PADI diver population. The age of the DTs varied from 18 to 81 years, with a mean age of 33.7, median of 30, mode of 28 and a standard deviation of 12.7. Most DTs fell between the ages of 21 and 40 (72.6%). The minimum age group is attributed to the questionnaire being limited to DTs of 18 years and over due to the ethical clearance of the research, while the maximum age demonstrates some DTs undertake RSDT in their 80s.



The DTs originated from 41 countries. These were categorised into 10 major countries or regions for ease of analysis as shown in Table 7.1. The analysis also showed 80.5% of the DTs had international origins and 19.5% were domestic. The cumulative percentage score demonstrated Europe, USA and the domestic market made up 65.4% of all the DTs. The relatively low participation from non-English speaking DTs was not caused by the questionnaire being in English. When non-English speaking DTs were on board, an appropriate translator was required to be present under the Code of Practice and could assist the DT with the answering of the questionnaire.

An analysis indicated 34% travelled alone, 32.3% travelled with a partner and 24.2% travelled with a friend or friends as shown in Table 7.4. That is, 90.5% travelled alone, in pairs or a small group of friends, while those travelling in a travel group constituted 5.3% and those travelling with family, including children, constituted 4.3%. Most DTs (78%) arrived by plane with the next favoured modes of transport by either car, van or bus (18.6%). Only four DTs arrived by cruise ship or train and 14 DTs used a mode of transport that was not identified.

Table 7.1 shows the most common style of accommodation was backpacker hostels (36.6%) followed by hotels (35.3%). Cumulatively, backpacker hostels and hotels provided accommodation for 71.9% of the DTs, while all other forms of accommodation provided the remaining 28.1%. There was an even split between the number of Australians and those from overseas who stayed with family or friends. Of the 42 DTs camping, 13 were Australians. Professionals made up 33.2% of the DTs, while backpackers made up 22.1% and 11.4% were unemployed.

Scholtz and Kruger (2020) claim there is very little information available on divers' preferences when it comes to social media such as Facebook and whether different segments of the diving market have different preferences. To address this gap, DTs were given the opportunity to nominate the social media platforms they use from six options (i. e. multiple answers applied where applicable). This resulted in a total of 3,198 preference responses. Table 7.1 shows Facebook, with a usage by 75.8% of DTs, was the most

favoured. This was followed by Instagram with 55% and YouTube with 34.7%. WeChat appears to be underutilised given the limited number of Chinese respondents.

Table 7.1. Sociocultural and demographic data of questionnaire respondents

Gender	Percentage	Mode of arrival	Percentage
Male	56.8	Plane	78.0
Female	42.8	Car/van	11.8
Indeterminate/intersex/ unspecified	0.2	Bus	6.8
Would rather not say	0.2	Cruise ship	0.6
		Train	0.2
		Other	2.6
Age range	Percentage	Accommodation style	Percentage
<20	5.6	Backpacker hostel	36.6
21–30	46.9	Hotel	35.3
31–40	25.7	With family & friends	8.8
41–50	7.1	Resort	8.1
51–60	7.9	Camping	7.9
61–70	5.8	Live-aboard dive vessel or cruise ship	3.4
>70	0.9		
Country/region of origin	Percentage	Type of employment	Percentage
Europe	23.8	Professional	33.2
USA	22.1	Backpacker	22.1
Australia	19.5	Unemployed	11.4
UK	8.8	Government	8.8
Scandinavia	6.8	Managerial	7.7
Canada	6.2	Office worker	6.4
Japan	5.1	Tradesperson	4.7
Asia Pacific	3.0	Salesperson	4.3
Korea	2.1	Domestic duties	1.3
Other	2.6		
Travel Party	Percentage	Social media platforms	Percentage
Alone	34.0	Facebook	75.8
With partner	32.3	Instagram	55.0
With friend(s)	24.2	YouTube	34.7
In a group	5.3	Twitter	10.5
With family and kids	4.3	WeChat	3.8
		Other	10.1

### 7.2.1. Length of stay in Cairns and Australia

The analysis of the average length of stay in Cairns revealed 41 outliers indicating intended stays of over a year in Cairns. Since these differed significantly from other observations and could severely skew the results, only stays of one to 31 days were included in the statistical analysis. Additionally, 33 DTs chose not to reveal their expected time in Cairns resulting in 459 useable results. The results show the average stay was six days.

The number of responses to the projected time to be spent in Australia was reduced to 393 useable results as respondents were either Australians or international DTs who chose not to respond to the question. The results show the average expected stay was 104 days. Additionally, 12.7% of the international respondents intended to spend over a year in Australia and 7.2% indicated they intended to spend their entire time in Cairns. Of all the respondents indicating long stays in Cairns and/or Australia, most were working holiday visa holders.

### 7.2.2. Methods used to find and book a dive operator

Figure 7.1. shows the most common method DTs used to find a dive operator was by an internet search, followed by assistance from either family or friends the next most common method (WOM or word of mouth). Figure 7.1 also shows more DTs found a dive tour operator through a Cairns travel kiosk (9.4%), or through a travel agent at their home (6.4%), than through a Cairns-based dive retail centre (3.8%) or a dive retail store in their home area (1.3%). Results reveal the use of dive magazines and dive exhibitions may be underutilised by dive tour operators.

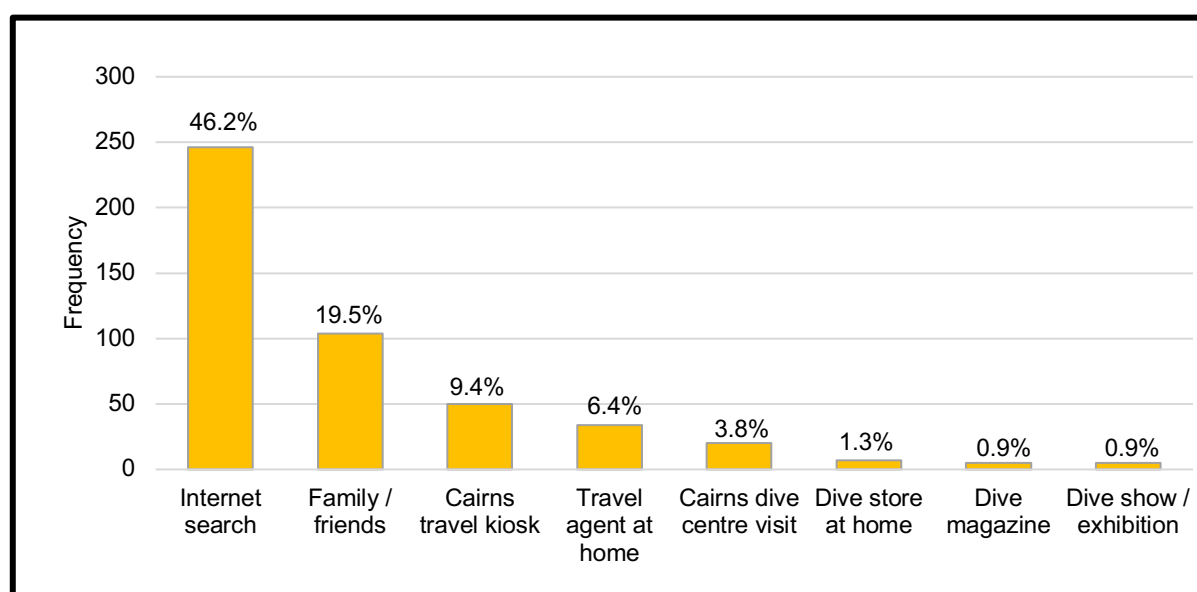


Figure 7.1. How dive tourists found the Cairns tour operator they utilised (N = 471)

Table 7.2 shows 49% of DTs' dive excursion bookings came through either an agent of the dive tour operator or directly through the dive tour operators' booking system. The stakeholder interviews revealed a concern regarding the commissions paid to Cairns travel

kiosks (see Chapter Six). However, Figure 7.1 shows only 9.4% of respondents found out about the dive tour operator they utilised through a Cairns travel kiosk and Table 7.2 shows only 14.3% booked through a Cairns travel kiosk.

In contrast, bookings through a Cairns kiosk are approximately twice as popular as booking through a Cairns dive retail store and a travel agent at the DT's home. This part of the questionnaire also supports the previous findings that very few direct bookings come through an RSDT operator exhibiting at a dive expo (0.6%).

Table 7.2. How dive excursions were booked

Booking method	Frequency	Percent
Dive operator's internet booking system	145	27.2
Dive operator's agent's internet booking system	116	21.8
Cairns travel kiosks	76	14.3
Friends/family	49	9.2
Cairns dive shop visit	39	7.3
Travel agent at home	32	6.0
Dive show/exhibition	3	0.6
Other	73	13.7
Total	533	100.0

Most DTs (88.3%) agreed or strongly agreed to Cairns' reputation as a safe vacation destination, free of terrorism or civil unrest, and this had influenced their decision to visit. It is also acknowledged later in the chapter that most felt Cairns offered safe diving.

The existence and possible impact on RSDT by other tourism activities was revealed in Chapter Three and in the stakeholder interviews in Chapter Six. Of the DTs, 64.9% indicated the existence of other activities in Cairns impacted their decision to visit in a positive way, while 29.9% said it did not. The analysis also revealed the majority of the DTs visited Cairns to dive the GBR (76.7%) while only 8.1% indicated that diving was not their major reason for visiting Cairns.

### 7.2.3. Qualifications, experience levels and interests

As illustrated in Table 7.3, 82.4% of DTs held PADI certification credentials. Since the study was concerned with the LTS of RSDT in the Cairns section of the GBRMP, it was also important to determine the level of diving experience and the associated potential for

the DTs to make assessments of diving conditions observed, especially in respect to comparisons made to other places they had dived. Therefore, several methods were used to assess the experience level of the DTs.

Table 7.3. Dive tourists' training agency

Training agency	Frequency	Percent
Professional Association of Diving Instructors (PADI)	439	82.4
Scuba Schools International (SSI)	45	8.4
Scuba Diving International (SDI)	6	1.1
Rebreather Association of International Divers (RAID)	6	1.1
Other	37	6.9
Total	533	100.0

Figure 7.2 shows 52.2% held Openwater (entry level) certification and 29.8% held an Adventure Diver certification. It is quite common for divers to undertake the Adventure Diver program immediately after Openwater certification. Therefore, divers with Adventure Diver certification may have only completed a total of nine dives (i.e. four on the Openwater and five on the Adventure Diver course). Figure 7.2 also shows only 18.1% had certifications above Adventure Diver. That is, 6.8% held Rescue, Master Scuba Diver or Technical Diver certifications and 11.3% held professional qualifications (Divemaster or Instructor). Using certification level as a criterion, 82% could be defined as having a relatively low level of formal qualification/certification. However, not all divers seek or require formal recognition of their experience and Queensland dive operators often look to the diver's logbook, the number of dives completed and the time of the last dive as a more accurate measure of experience.

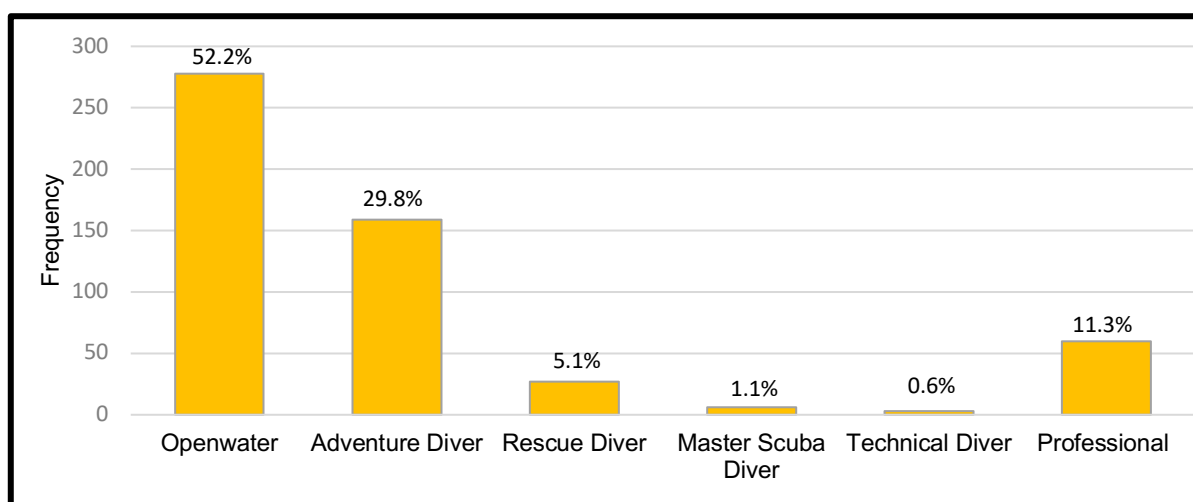


Figure 7.2. Dive tourists' highest level of certification

To further ascertain the experience of the respondents, DTs were asked to give an approximation of the total number of dives they had completed. The responses were transformed into the ranges as shown in Table 7.4. The analysis revealed most of the DTs were relatively inexperienced with 70% having completed 50 or fewer dives. Meanwhile, dive professionals (6.2%) accounted for 54.5% of the cumulative total of the 97,320 dives undertaken and four DTs had completed over 5,000 dives. This finding indicates how diverse the DTs were in terms of diving experience.

Table 7.4. The range of scuba dives completed by DTs

Number of dives	Frequency	Percent
5–50	373	70.0
51–100	56	10.5
>101	104	19.5
Total	533	100.0

#### 7.2.4. Defining diving experience

Based on their experience, the author anticipated DTs may have differing opinions of the quality of RSDT in the Cairns section of the GBRMP and the factors that may contribute to its LTS. The literature reflects that there is no standard measure of how a diver's experience level is measured. This is likely to be the result of confusion caused between dive course names, formal certifications held, and the broader definitions of experience used

in other areas of research and by the public. For example, PADI awards an individual an Openwater certification (entry level certification) after the diver satisfactorily completes four scuba training dives. That same individual can then immediately progress to the PADI Adventure Diver course (i.e. an advanced course) or similar course with another diver training agency without completing any further dives between the courses. On advanced courses they will be required to successfully complete five dives. They can then immediately progress to the Rescue Course where they will complete 10 rescue scenarios. Such an individual may have completed a total of 19 dives. Conversely, some Openwater divers may not have undertaken further formal training after their initial certification and could have completed hundreds of dives.

The number of dives completed was therefore deemed more appropriate to the level of certification in this research because the ability for the questionnaire respondents to make value judgements from their diving experiences, not training experiences, was considered essential to address the research objectives. Therefore, three categories of diver experience were created. In this research, an inexperienced diver is defined as having fewer than 50 dives. An intermediate diver is defined as having 51 to 100 dives. An experienced diver is defined as having over 100 dives which is also the minimum number required to be certified as a scuba instructor.

#### **7.2.5. Commitment to diving**

When asked to describe their overall interest in diving, only 10.5% described themselves as totally committed, 3.9% admitted they were not committed to diving, 29.8% only dive on vacation and 5.3% only dive in the tropics. A Chi-Square test ( $\chi^2(12, N = 533) = 255.57, p < .05$ ) showed a significant difference between diving experience and commitment with the inexperienced category having the least commitment. Cramer's V (.490) shows a moderate to strong association. A Kruskal-Wallis test ( $X^2(2, N= 533) = 168.80, p < .05$ ) supported these findings.



### 7.2.6. Experience with coral diving

When asked whether they had dived on coral reefs before visiting the Cairns section of the GBRMP, 74.9% of the DTs indicated they had. The analysis revealed 66.5% of the inexperienced, 90.7% of the intermediate and 96.2% of the experienced categories had dived on coral before. This is a significant finding given the small number of total dives the inexperienced DTs had completed (see Table 7.5) and may indicate even inexperienced DTs are attracted to coral diving. To determine the significance of these results, a Chi-Square test ( $X^2(2, N = 533) = 46.84, p < .05$ ) was run which showed a significant difference between diving experience and whether the DT had dived on coral reefs prior to visiting the Cairns section of the GBRMP and confirmed the inexperienced diver category had the lowest experience with diving on coral. Cramer's V (.296) showed a small to moderate association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 46.75, p < .05$ ) supported these findings.

Further analysis revealed that collectively the DTs had previously dived on coral reefs at 841 locations across 16 countries/regions. This is an important insight to the DTs' ability to make assessments of the coral quality observed in the Cairns section of the GBRMP and to reveal any factors that may impact LTS of Cairns-based RSDT. Table 7.5 shows the rank, location and number of dives the DTs had observed at other coral reef destinations before visiting Cairns.

Table 7.5. Experience with coral reefs

Rank	Country/Region dived on coral before visiting the Cairns section of the GBRMP	Number of dives
1.	Bahamas and Caribbean	132
2.	Indonesia	107
3.	Thailand	97
4.	Other parts of the GBRMP	79
5.	South Pacific and Micronesia (e.g. PNG, Fiji, Samoa, Solomon Islands, New Caledonia, Vanuatu, Tahiti, Gaum, & Palau)	73
6.	Egypt, Red Sea & Middle East	60
7.	Mexico	55
8.	Maldives & Indian Ocean	41
9.	Hawaii USA	39
10.	Philippines	33
11.	Other parts of Australia (includes Ningaloo in Western Australia)	32
12.	Malaysia	31
13.	Florida USA	24
14.	Africa	15
15.	East China Sea	14
16.	South America (includes Galapagos Islands)	9
Total number of dives on coral reefs before visiting Cairns		841

### 7.2.7. Diving preferences

When asked whether they preferred to dive on nitrox/enriched air when it was available, 24.1% either agreed or strongly agreed they preferred nitrox/enriched air, 14.1% had no preference for nitrox/enriched air, with the remainder maintaining a neutral position. A Chi-Square test ( $X^2(10, N = 533) = 70.65, p < .05$ ) showed a significant difference between diving experience and interest in diving on nitrox/enriched air with the inexperienced category having the least interest. Cramer's V (.257) showed a small relationship. A Kruskal-Wallis test ( $X^2(2, N = 533) = 13.65, p < .05$ ) supported these findings.

When asked whether they would have undertaken some technical diving if offered, the DTs were almost equally divided with 29.4% indicating an interest and 27.8% indicating no interest. The remainder (42.8%) had no preference for a technical diving experience. A Chi-Square test ( $X^2(10, N = 533) = 24.50, p < .05$ ) showed a significant difference between diving experience and a preference for a technical diving experience with the experienced DTs more likely to have undertaken technical diving if offered. Cramer's V (.152) showed a

small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 8.94, p < .05$ ) supported these findings.

The stakeholder interviewees were in general agreement that a shipwreck would significantly add to the attractiveness of their product offerings (see Chapter Six). However, when asked whether they wished Cairns had a shipwreck they could have dived, only half of the DTs (50.8%) indicated an interest. Furthermore, 14.3% indicated no interest in wreck diving and the remainder were uncommitted. It was also revealed in Chapter Six that some of the stakeholder interviewees had a concern regarding the impact by the transit times to the GBRMP (between 1.5 to 2.5 hours each way for day boats), however 91% of the DTs indicated transit times were not a concern.

When asked whether they preferred a vessel that just catered for certified scuba divers with no swimmers or snorkellers aboard, 36.6% wanted such a vessel, while 20.6% were happy to share the vessel and 38.3% had no preference. A Chi-Square test ( $X^2(10, N = 533) = 37.21, p < .05$ ) showed a significant difference indicating that more experienced divers preferred a vessel just catering for certified divers. Cramer's V (.187) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 26.53, p < .05$ ) supported these findings.

### **7.3. Environmental findings**

The DTs were asked to comment on several environmental factors that the literature review and stakeholder interviews indicated had implications to the LTS of tourism. These included the impact of the Environmental Management Charge (EMC) on DTs and the environmental practices of supply-side providers.

#### **7.3.1. Environmental Management Charge**

When asked if they were happy to pay the EMC to visit the GBRMP, 354 (66.4%) said they were. A Chi-Square test ( $X^2(10, N = 533) = 11.43, p > .05$ ) showed no significant difference between diving experience and willingness to pay the EMC. A Kruskal-Wallis test ( $X^2(2, N = 533) = .737, p > .05$ ) supported these findings. However, 16.1% had a neutral position, while a further 13.9% indicated they had never heard of the EMC. Further analysis

revealed 46.7% indicated it was not made clear to them what the EMC was or how it was used.

The analysis also found 59.9% of DTs agreed they would be happy to pay a larger EMC fee if it benefited the GBR. A Chi-Square test ( $X^2(10, N = 533) = 9.06, p > .05$ ) showed no significant difference between diving experience and willingness to pay more if the EMC benefited the GBR. A Kruskal-Wallis test ( $X^2(2, N = 533) = 1.75, p > .05$ ) supported these findings.

### **7.3.2. The importance of the dive operator displaying ecofriendly practices**

When asked about the importance of the dive operator displaying ecofriendly practices, 85% indicated that ecofriendly practices were either somewhat important, important or very important in their decision to use the operator. A Chi-Square test ( $X^2(10, N = 533) = 14.90, p > .05$ ) showed no significant difference between diving experience and the importance of ecofriendly practices in their decision to use an operator. A Kruskal-Wallis test ( $X^2(2, N = 533) = .58, p > .05$ ) supported these findings. Further analysis revealed 74.1% found the dive vessel had practiced eco-friendly policies and practices during their dive excursion.

### **7.3.3. Negative media reports**

During the literature review and stakeholder interviews (see Chapter Six), it was revealed the GBR received negative publicity regarding coral bleaching, cyclones and crown-of-thorns starfish (COTS) infestations. The analysis revealed 72.2% of DTs agreed or strongly agreed they had heard media reports about the condition of the GBR before arriving in Cairns, while only 13.9% had not.

### **7.3.4. Responses to environmental diving conditions compared to other places dived**

Frequency scores and nonparametric tests were used to reveal DTs responses to environmental diving conditions experienced in the Cairns section of the GBRMP compared to other places they had dived. The analysis found 85.3% of DTs indicated they were satisfied or extremely satisfied with the general diving quality, only 3.6% said they were very

dissatisfied or somewhat dissatisfied and 11.7% had neutral positions. A Chi-Square test ( $X^2(8, N = 533) = 12.04, p > .05$ ) showed no significant difference between diving experience and satisfaction with the general quality of the diving. A Kruskal-Wallis test ( $X^2(2, N = 533) = 5.37, p > .05$ ) supported these findings.

Meanwhile, 78.8% of the DTs said they were satisfied or extremely satisfied with the underwater visibility, 7.9% said they were very dissatisfied or somewhat dissatisfied and 13.3% had neutral positions. A Chi-Square test ( $X^2(8, N = 533) = 23.69, p < .05$ ) showed a significant difference between the diving experience categories and levels of satisfaction with the underwater visibility with more experienced divers indicating lower satisfaction with visibility. Cramer's V (.149) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 9.37, p < .05$ ) supported these findings.

When asked about the quality and abundance of marine life, 75.6% said they were satisfied or extremely satisfied, only 8.6% said they were very dissatisfied or somewhat dissatisfied and 15.76% had neutral positions. A Chi-Square test ( $X^2(8, N = 533) = 14.03, p > .05$ ) showed no significant difference between the diving experience categories and levels of satisfaction with the quality and abundance of marine life. A Kruskal-Wallis test ( $X^2(2, N = 533) = 4.84, p > .05$ ) supported these findings.

The analysis revealed 71.9% of DTs were satisfied or extremely satisfied with the quality and abundance of coral. Only 11.1% said they were very dissatisfied or somewhat dissatisfied and the remainder took a neutral position. Chi-Square test ( $X^2(8, N = 533) = 10.04, p > .05$ ) showed no significant difference between the diving experience categories and levels of satisfaction with the quality and abundance of coral. A Kruskal-Wallis test ( $X^2(2, N = 533) = 5.25, p > .05$ ) supported these findings. Given the negative media coverage revealed in the literature and stakeholder interviews on the condition of the coral in the GBRMP, it was revealing to see the high levels of satisfaction with the quality and abundance of coral and marine life.

## 7.4. Economic findings

The DTs were asked to comment on several economic factors the literature review and stakeholder interviews indicated had implications to the economic LTS ability of tourism. These included the DTs predicted expenditure, currency values, the costs associated with visiting the destination and expenditure behaviour.

### 7.4.1. Predicted expenditure over the next 12 months

When asked how many dive trips would be undertaken in an average year, 80.9% of the DTs indicated they would do up to three, while 4.7% indicated they would not do any. The median was 2.00 and the mode was 1. A Chi-Square test ( $X^2(46, N = 533) = 90.07, p < .05$ ) showed a significant difference between the diving experience categories and the number of dive trips DTs planned to undertake in an average year with the greater the experience category, the more trips the DT is likely to undertake. Cramer's V (.297) showed a small to moderate association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 35.58, p < .05$ ) supported these findings.

When asked to predict expenditure over the next 12 months on a scuba diving vacation, responses ranged from not likely to spend anything to spending over \$5,000 (see Figure 7.3). A Chi-Square test ( $X^2(10, N = 533) = 78.65, p < .05$ ) showed a significant difference indicating that divers with higher levels of experience were likely to spend more on their dive vacation than less experienced divers. Cramer's V (.272) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 38.77, p < .05$ ) supported these findings. For example, only 2.7% of the inexperienced DTs were likely to spend over \$5,000.

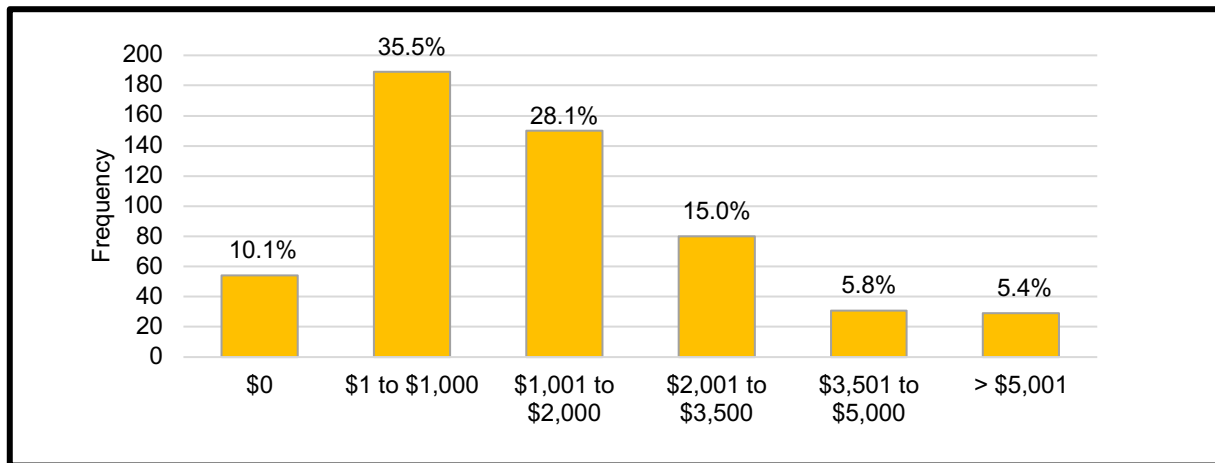


Figure 7.3. Expected dive vacation expenditure in the next 12 months

#### 7.4.2. Currency value

Several of the stakeholder interviewees indicated a concern regarding the impact of currency fluctuations (see Chapter Six). While 33.8% of the DTs indicated the value of the Australian dollar (AUD) was important in their decision to visit Cairns, almost half indicated it was not (49.7%) with the remainder undecided. A Chi-Square test ( $X^2(10, N = 533) = 23.48$ ,  $p < .05$ ) showed a significant difference linked to the diving experience categories, with the higher the level of experience, the more important the value of the AUD was to the DT. Cramer's V (.148) showed a small association.

#### 7.4.3. Perceptions of costs

Of the DTs, 64% felt the cost of travelling to Cairns was important in their decision to visit. A Chi-Square test ( $X^2(10, N = 533) = 9.93$ ,  $p > .05$ ) showed no significant difference between the diving experience categories and perceptions around cost of travelling to Cairns. A Kruskal-Wallis test ( $X^2(2, N = 533) = 2.65$ ,  $p > .05$ ) supported these findings. When asked whether they thought Cairns was an expensive destination to visit, 46.4% thought it was, (20.8% thought it was not, while the remainder were undecided). A Chi-Square test ( $X^2(10, N = 533) = 16.73$ ,  $p > .05$ ) showed no significant difference between the diving experience categories and whether the DTs thought Cairns is an expensive destination to visit. A Kruskal-Wallis test ( $X^2(2, N = 533) = .30$ ,  $p > .05$ ) supported these findings.

Of the DTs, 82% agreed or strongly agreed the day's dive excursion was worth the money spent, while only 3.7% thought it was not and the remainder were neutral (14.3%). Presented in a slightly different way to confirm an identifiable trend in positive satisfaction levels, 76.5% perceived the value for money was better than other dive destinations they had visited while only 5.4% said it was not. A Chi-Square test ( $X^2(10, N = 533) = 34.41, p < .05$ ) showed a significant difference between diving experience and whether the day's dive excursion was viewed as worth the money spent. The inexperienced category indicated it was worth the money more so than the two more experienced categories. Cramer's V (.180) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 8.25, p < .05$ ) supported these findings.

#### **7.4.4. Purchases of diving equipment and training courses**

The literature and some stakeholder interviews indicated Cairns had high levels of equipment purchases but when asked whether they had purchased any diving equipment while in Cairns (i.e. a source of income for dive retailers and impacts financial sustainability), only 18.2% of the DTs had purchased any dive equipment. This was primarily in the form of expenditure on dive masks, snorkels and fins or 54.2% of the total purchases identified. In terms of "high-end" items, only 16 DTs purchased a full kit of scuba gear, seven purchased a wetsuit, seven purchased an underwater camera and six purchased a dive computer.

A Chi-Square test ( $X^2(2, N = 533) = 19.43, p < .05$ ) showed a significant difference between the diver experience categories and whether they purchased equipment. Cramer's V (.191) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 19.39, p < .05$ ) supported these findings. The intermediate diver category displayed the lowest level of equipment purchases while together the inexperienced and experienced/professional diver categories made up 86.3% of all those purchasing masks, snorkels and fins. The inexperienced and experienced category also made up 97% of high-end items such as regulators, dive computers and full-kit purchases.

Table 7.6 shows the relatively low number of courses taken by the DTs with only 18.9% of the DTs indicating they undertook some form of dive training whilst in Cairns. Of all



157 courses undertaken, 40.76% were at the Openwater level. It is also noted there is the strong possibility that double-counting may have occurred as a single DT may have completed more than one of the courses listed (Cummins et al., 2019). A Chi-Square test ( $X^2(4, N = 533) = 2.94, p > .05$ ) showed no significant difference between diving experience and whether the DTs undertook a course. A Kruskal-Wallis test ( $X^2(2, N = 533) = 2.70, p > .05$ ) supported these findings. Given the importance revealed in the stakeholder interviews of training revenues, this finding reflects a significant loss of opportunity, especially for courses above Openwater and Adventure Diver.

Table 7.6. Courses completed by DTs

Rank	Course	Frequency	% of total courses undertaken	% compared to total DT respondents
1	Openwater Diver	64	40.76	12.00
2	Adventure Diver	45	28.67	8.44
3	Professional (Divemaster & Instructor)	16	10.20	3.00
4	Rescue Diver	12	7.64	2.25
5	Nitrox/enriched Air Diver course	8	5.10	1.50
6	Solo Diver course	3	1.91	0.56
7	Deep Diver course	2	1.27	0.38
8	Buoyancy control course	2	1.27	0.38
9	Navigation Diver course	2	1.27	0.38
10	Boat Diver specialty course	2	1.27	0.38
11	Underwater Photography course	1	0.64	0.19
Total		157	100	100

#### 7.4.5. Perceptions of services compared to other places dived

In terms of the customer service levels, 60.4% of DTs agreed or strongly agreed the customer service was better than found elsewhere they had dived. Only 4.5% said it was poorer and the remainder were uncommitted. A Chi-Square test ( $X^2(10, N = 533) = 16.19, p > .05$ ) showed no significant difference between the experience categories and customer service level impressions. A Kruskal-Wallis test ( $X^2(2, N = 533) = 1.43, p > .05$ ) supported these findings.

Additionally, 61.7% agreed or strongly agreed the quality of the vessel's crew was better than elsewhere they had dived, only 3.9% said they were worse, and the remainder

were uncommitted. A Chi-Square test ( $X^2(10, N = 533) = 15.66, p > .05$ ) showed no significant difference between the experience categories and the quality of the crew. A Kruskal-Wallis test ( $X^2(2, N = 533) = .80, p > .05$ ) supported these findings. When asked their overall opinion of the quality of food and refreshments served on the vessel, 84.2% said it was better than found in other places they had dived and only 3.8% indicated it was worse.

Both the stakeholder brochure analysis and interviews revealed a high level of pride in their vessels. The questionnaire asked two questions regarding the quality of the vessel. When asked, 87.2% agreed or strongly agreed the vessel was better than expected and only 1.5% said it was worse. However, when asked how the vessel compared to those found elsewhere, 68.7% indicated the vessel was better and only 2.3% indicated it was worse. A Chi-Square test ( $X^2(10, N = 533) = 26.18, p < .05$ ) showed a significant difference between the diver experience categories, with the intermediate category having a higher response towards the vessel being better in Cairns than did the inexperienced and experienced categories. Cramer's V (.16) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = .8.16, p < .05$ ) supported these findings.

The analysis revealed DTs felt the product and service levels were superior to that found elsewhere. More specifically, when asked about their general level of satisfaction compared to other destinations they had dived, 86.1% were either satisfied or extremely satisfied. Only 2.8% were either dissatisfied or extremely dissatisfied.

## **7.5. Governance findings**

The DTs were asked to comment on governance factors the literature review and stakeholder interviews indicated had implications to the LTS of tourism. The quality of dive briefings and the necessity for them to be conducted is a high safety priority for RSDT operators under the Queensland Government's diving regulations. Of the DTs, 84.6% expressed they were either satisfied or extremely satisfied with the quality of the dive briefings. Only 3.9% indicated some level of dissatisfaction. A Chi-Square test ( $X^2(8, N = 533) = 3.87, p > .05$ ) showed no significant difference between the experience categories

and the quality of briefings DTs found elsewhere. A Kruskal-Wallis test ( $X^2(2, N = 533) = .42, p > .05$ ) supported these findings.

Cramer's V (.169) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 2.76, p < .05$ ) supported these findings. This is a significant finding since several of the supply-side stakeholder interviewees located outside of Cairns felt regulating depth and bottom time had an impact on Cairns as a desirable RSDT destination (see Chapter Six).

Furthermore, of the DTs, 88.3% agreed or strongly agreed Cairns is a safe place to dive because of the dive regulations and 76.6% agreed or strongly agreed to having their depth and bottom time (time submerged) regulated by the vessels' divemaster. However, a Chi-Square test ( $X^2(10, N = 533) = 30.39, p < .05$ ) showed a significant difference between the experience categories with the inexperienced divers more agreeable to having their depth and bottom time regulated by the divemaster than the two more experienced categories. Cramer's V (.169) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = 2.76, p < .05$ ) supported these findings. This is a significant finding since several of the supply-side stakeholder interviewees located outside of Cairns felt regulating depth and bottom time had an impact on Cairns as a desirable RSDT destination (see Chapter Six).

## **7.6. General impression of scuba diving in the Cairns section of the GBRMP**

The questionnaire asked what dive destination(s) the DTs had in mind when drawing comparisons on the quality of diving found in the Cairns section of the GBRMP. This question allowed DTs to list multiple destinations and did not necessarily require those offering coral diving. That is, a comparison was being sought over a wider range of RSDT destinations. This resulted in a total of 934 dive destinations being used by respondents to compare their diving experiences as shown in Figure 7.4. This also gave further insights to the destination competitiveness of Cairns-based RSDT which was revealed in the stakeholder interviews (see Chapter Six).

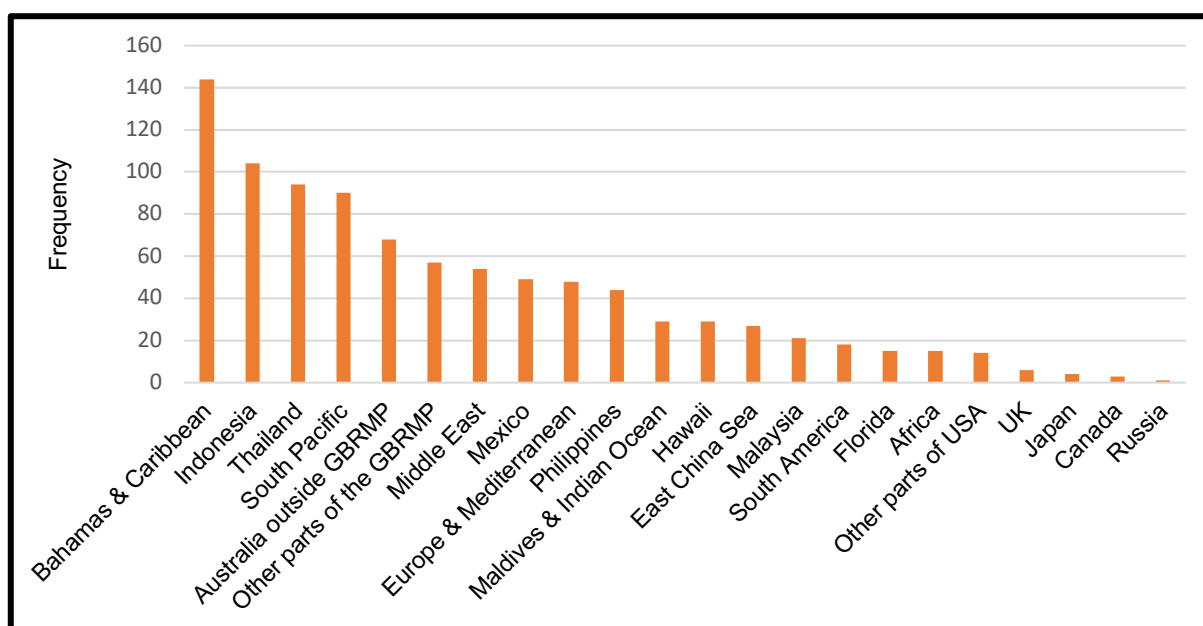


Figure 7.4. Country/region considered when comparing dive experiences

To gain a clearer understanding of the overall satisfaction level with diving in the Cairns section of the GBRMP, DTs were asked two further questions. The first asked whether they would return to dive again. Of the DTs, 82.9% said they would, while only 3.9% said they would not. A Chi-Square test ( $X^2(10, N = 533) = 11.23, p > .05$ ) showed no significant difference between the diver experience categories. A Kruskal-Wallis test ( $X^2(2, N = 533) = .4.25, p > .05$ ) supported these findings.

The second question asked whether they would recommend RSDT in the Cairns section of the GBRMP to others. This resulted in 86.7% indicating they would and only 1.9% saying they would not. However, a Chi-Square test ( $X^2(10, N = 533) = 31.47, p < .05$ ) showed a significant difference between the experience categories with the experienced diver category more likely to recommend Cairns as a RSDT destination. Cramer's V (.172) showed a small association. A Kruskal-Wallis test ( $X^2(2, N = 533) = .11.43, p < .05$ ) supported these findings.

## 7.7. Summary of the key findings from the DT questionnaire

The sociocultural and demographic profiles of DT gained from the DT questionnaire matched other studies of divers visiting the GBR (Pabel & Coghlan, 2011) and the profile of

PADI certified divers (PADI, 2017a, 2018). Participants came from 41 countries with the European, USA and Australian domestic markets being the most prominent. Backpackers also made up a significant number of the DT questionnaire respondents. Many of the DTs had relatively low commitment levels to diving and their projected expenditure within the next 12 months on RSDT excursions was relatively small. Similarly, given the level of importance to revenue streams RSDT stakeholders placed on dive courses and equipment sales, it was surprising to find relatively low levels of engagement in either.

Most DTs arrived by plane as individuals or with a partner or friend, many utilised relatively low-cost styles of accommodation including backpacker hostels and stayed in Cairns for an average of just six days. The internet was the main method of finding and booking a dive excursion with relatively little booking activity resulting from travel kiosks, or through dive magazines or dive expos.

DTs showed relatively high levels of experience with diving on coral reefs at other RSDT destinations, including other parts of the GBRMP. The importance of healthy coral, marine life abundance and diving conditions emerged as significant attributes of DTs' dive experience and satisfaction levels. Additionally, the DTs' decision processes were significantly influenced by the environmental practices promoted on RSDT stakeholder marketing collateral with DTs confirming the existence of these practices during their dive excursion.

Although the statistical analysis revealed some difference existed between DTs with varying diving experience levels, most DTs displayed high levels of satisfaction with the quality of the RSDT experience and found it better than other places they had dived. This included the quality of the dive vessel, crew, food and beverages, onboard service levels, dive briefings and their dive parameters being set by the divemaster. Similarly, most DTs felt the experience was worth the money, would recommend the operator to others and would return in the future.

One of the most significant findings that resulted from the scanning process for the administration of the DT questionnaire was the discovery of six new RSDT cohorts not

previously identified in the literature. The characteristic and potential importance of these cohorts to RSDT is discussed in detail in Chapter Ten.

## **CHAPTER EIGHT: FIELD OBSERVATIONS**

### **8.1. Introduction**

This chapter presents the findings from field observations collected and recorded in the researcher's field notebook during the four-steps data collection process presented in Chapter Four and shown in Figure 4.1. Observations reported in this research originates from a qualitative, autoethnography method approach (Adams et al., 2017) since it draws on the researcher's field observations, and experience, expertise and insider knowledge of the diving community (Brannick et al., 2007; Costley et al., 2010; Greene, 2014; Taylor, 2011; Unluer, 2012).

The field observations are reported by their association with these four major impacts that previous studies had found impacted the LTS of a tourism destination (i.e. sociocultural, environmental, economic and governance factors). They are used to produce a narrative which provides an additional understanding of the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP to those derived from the qualitative and quantitative research instruments used in the study.

### **8.2. Field observations during the stakeholder interviews**

During the stakeholder interviews reported in Chapter Six, two major observations were made. Firstly, several of the supply-side interviewees displayed facial expressions and voice tones reflecting high levels of anger, frustration and dissatisfaction with the level of support they received from all three levels of government and NGOs in promoting Cairns as a RSDT destination. Similar reactions were observed when discussing the number of different government taxes and commissions needed to be paid to travel kiosks (see Chapter Six). In some cases, expletives and specific references to organisations needed to be edited from the text. Smith (2018) illustrated in a video the type of reactions that was also experienced by the researcher when interviewing RSDT supply-side stakeholders regarding the impact of booking agents' fees.

### **8.3. Field observations and the dive tourist questionnaire**

Several field observations were made during the administration of the DTs questionnaires reported in Chapter Seven. The researcher attempted to create empathy with the DTs by engaging in discussion, to increase the response rate to the questionnaire and to gather additional information regarding their diving experiences that may not necessarily have been captured by the questionnaire.

#### **8.3.1. Sociocultural observations during the administration of the dive tourist questionnaire**

Discussions with DTs revealed it was a common undertaking for some to complete multiple day trips to the reef rather than take on a live-aboard experience. One DT said: “I can dive during the day and experience Cairns at night, or I can spend a day or two around Cairns between dives.” Discussions with passengers on the day vessels also identified what the researcher considered to be a new cohort of dive enthusiasts not reported in the literature. That is, several passengers undertaking the introductory dives (Discover Scuba Diving) revealed they had completed multiple dives at various dive destinations around the world. For example, one passenger said: “I am very happy to just do introductory dives with an instructor than to waste my time, effort and money on my vacation to get certified. I still get to see the Reef.”

It was also observed that some fully certified divers chose to undertake supervised or introductory dives rather than dive with another certified diver (or “Buddy”). One DT commented: “I find introductory dives are good even though I can dive with another certified diver, because the instructor knows the area so well and knows where to take us.” It was also observed certified divers who had not dived in a while were either encouraged or required to dive with a diving professional by the diver operator. Similarly, discussions with passengers revealed some certified divers choose to just snorkel, especially if travelling with a non-scuba diving partner. These cohorts have not been identified before in the literature; however, they have implications for the LTS of RSDT globally and deserve further research.



Although the questionnaire yielded considerable data regarding the DTs' impression of their experiences, it was observed the divers on the day boats undertake between two to three dives per day while those on a live-aboard may complete as many as five dives per day which may include a night dive. It was also observed on several occasions that DTs expressed dissatisfaction with the number of snorkellers onboard. One DT was heard saying: "There are too many snorkellers on board and they are getting in our way."

In most cases, staff announcements, departure and dive briefings included attempts at humour. It was observed passengers laughed, smiled and appeared to enjoy the humour which may have also contributed to their recall of the messages and briefings (Pabel & Pearce, 2015). For example, in one of the safety briefings a crew member said: "If you are ordered by the captain to abandon ship and jump overboard and immediately hear a loud bang, you have not jumped far enough."

### **8.3.2. Environmental observations during the administration of the dive tourist questionnaire**

The importance of a healthy ecosystem to RSDT, including biodiversity and coral, was identified in the literature (Barker & Roberts, 2004; Dimmock & Musa, 2015; Pabel & Coghlan, 2011) and ratified by the DT questionnaire findings. Additionally, the following quotes overheard from divers were recorded in the field notebook: "I am glad I saw a turtle" and "I am really happy I saw a shark". In terms of the condition of the coral, the following quotes were recorded: "I was glad to see all the live coral. I was told it was all dead"; "I am amazed by the condition of the coral. I expected it to be really damaged"; "I was pleasantly surprised by the condition of the coral." In contrast, some divers expressed disappointment and the following quotes were overheard: "I am sorry I did not see a turtle"; "I really wanted to see a shark"; "There seems to be a lack of big fish."

Of the 10 vessels used to collect the DT questionnaires, all were observed to have environmental policies in place. These included departure briefings referencing GBRMP rules regarding interaction with the Reef and the need to keep off the coral. One vessel briefing included the phrase: "take only pictures and leave only bubbles".

Additionally, several of the vessels provided onboard recycling bins while on others crew were observed on the return journey to Cairns sorting rubbish for recycling. Unfortunately, and where provided, the use of the recycle bins was neither policed by the vessel's crew nor observed by all passengers.

One of the most concerning observations was that vessels are permitted under the Queensland Government's *Transport Operations (Marine Pollution) Act 1995* and Transport Operations (Marine Pollution) Regulation 2018 to discharge untreated sewage as close as one nautical mile from the Reef (Queensland Government, 2020b). More research is required to establish any impact this may have on the GBRMP ecosystem.

### **8.3.3. Economic observation during the administration of the dive tourist questionnaire**

It was observed that operators attempt to derive additional revenue streams apart from those resulting from passage and diving. While most day vessels supplied lunch, coffee and tea, pursers/stewards were busy promoting the sale of soft and alcoholic drinks, snacks and souvenirs on the return journey to Cairns. One day vessel offered a free cheese plate, and another had a VIP lounge complete with a dedicated staff member. Except for soft and alcoholic drinks, live-aboard food and other beverages were all-inclusive.

Observations indicated operators strongly cater for underwater photography. This took various forms and combinations of services including providing special storage for the underwater cameras of the DTs. A high usage of their own GoPro style aquatic cameras was observed amongst DTs. Additionally, operators were observed deriving income by having underwater cameras onboard or from a land-based supplier available for hire (e.g. local dive store). In some cases, additional revenue was derived by having staff photographers take photographs and/or video of DTs. All the dive operators encouraged passengers over the vessels' public address system when returning to Cairns to post their photographs on the companies' Facebook and/or Instagram sites.

#### **8.3.4. Governance observation during the administration of the dive tourist questionnaire**

Dive operators throughout Queensland are subject to a Code of Practice (Queensland Government, 2018a). During the DT data collection process, the researcher was often defined as crew and required to arrive early for crew briefings. It was observed all the dive vessels conducted passenger briefings which included aspects of customer service, safety and any potential problems that could be detected from the passenger and cargo manifest.

Crew were observed to be constantly under training with the researcher witnessing several emergency drills and one real-life rescue during this part of the research. The captain on one of the vessels said to the researcher: “We are constantly orientating, training and assessing the performance of the crew.” The owner of one of the vessels said: “We don’t just turn a vessel over to a new skipper, regardless of their qualifications, without a lengthy orientation and training on the vessel.” It was also observed that during most of the journey to the GBRMP, the crew were focused on administering, completing and checking paperwork for those undertaking diving as required by the Code. This resulted in little direct interaction between crew and DTs except for vessel safety and dive briefings.

On arrival in Cairns, crew were required to line up on shore, shake hands and thank passengers for their patronage. Like the morning briefings, the researcher witnessed debriefings of the crew once passengers had departed. These debriefings often included attendance by the vessel owner regardless of whether they were on the vessel for the excursion. These debriefings included addressing any issues that may have occurred and measures to improve future trips.

#### **8.4. Researcher’s attendance at dive exhibitions**

During 2018 the researcher attended the Asian Dive Expo (ADEX) in Singapore and the Malaysian International Dive Expo (MIDE) in Kuala Lumpur where he staffed, managed and/or assisted with a booth partnership between Dive Queensland Inc., and the GBRMPA. In 2019, the Australian International Dive Expo (AIDE) in Sydney, Australia, the Marine

Diving Fair in Tokyo, Japan, and the Dive Equipment and Marketing Association (DEMA) Show in Orlando, Florida, USA, were added and resulted in an expansion of the researcher's role. TEQ also joined and provided financial assistance to the booth partnership in 2019.

These shows are three- to four-day events and consist of a combination of dive trade and consumer attendees, exhibitors from global dive travel destinations, dive retailers, wholesalers and equipment manufacturers. Additionally, formal presentations are made by invited speakers. At the 2018 and 2019 shows the researcher gave presentations at the ADEX and MIDE Expos on RSDT in Queensland. At the 2019 DEMA and 2020 ADEX Shows the researcher gave presentations on RSDT in the Cairns section of the GBRMP.

While the researcher visited and made recorded observations at the 2019 Advanced Dive Conference and Exhibition (OZTeK), the Queensland partnership did not exhibit. However, two Cairns-based liveaboard dive vessels did. In 2020 the researcher again attended ADEX with roles like those in 2018 and 2019.

Attendance, the opportunity to deliver presentations, and interaction with show attendees at these events enabled the researcher to make observations and present written reports to the Queensland show partners on the success or otherwise of promoting diving in Queensland, including in the Cairns section of the GBRMP (Cummins, 2018; Cummins 2019a,b,c).

#### **8.4.1. Dive exhibition overview**

ADEX is the largest and the longest-running dive show in Asia (i.e. 25 years) and attracts 62,000 visitors and 225 exhibitors. MIDE attracts approximately 12,600 visitors and 140 exhibitors. AIDE attracts approximately 70 exhibitors and as a result of being conducted as part of the Sydney International Boat Show, attracted more than 60,150 visitors in 2019. The 2019 Marine Diving Fair attracted 51,989 visitors and 200 exhibitors from 50 countries. The DEMA Show is arguably the biggest "trade only" dive show in the world and attracts approximately 9,500 dive professionals and 620 exhibitors. OZTek is a biennial event attracting approximately 1,100 visitors and 80 exhibitors. All the expos have a relatively large RSDT component.

#### 8.4.2. Dive exhibition observations

The following is a summary of the common observations made at dive expos that the researcher recorded in the field notebook that are relevant to RSDT in the Cairns section of the GBRMP. From these observations, it can be concluded that Australian-based dive destinations are poorly represented in the international dive show arena. From 2017 to 2019 only Cairns-based RSDT operators were represented by staff present on the Dive Queensland Inc. booth and/or they exhibited independently. No other Australian-based RSDT operators were represented.

Thailand, Philippines and Indonesia were identified in the stakeholder interviews and DT questionnaires as major competitive destinations of Cairns-based RSDT. Due to financial constraints in 2017 and 2018, Dive Queensland Inc. was restricted to a 3 m x 3 m booth at the dive expos they attended. Booths were constructed on a basic shelf scheme and attended by two staff. In contrast, their competitors had sizeable, architecturally designed, professionally furnished booths with a large staff contingent. For example, Figure 8.1 shows the Dive Queensland Inc. booth and that of several of their competitors at the 2018 ADEX dive expo.

On further investigation, by discussion with booth managers, it was revealed several RSDT destinations were provided with significant financial support from their government, a tourism NGO and/or destination marketing organisation (DMO). In some cases, the entire expo was sponsored by a country's tourism board. For example, ADEX 2019 in Singapore was sponsored by "Wonderful Indonesia" and MIDE in Kuala Lumpur was sponsored by Tourism Malaysia. In contrast, during the period of this study (2016 to 2020), no individual Cairns-based RSDT operator received government or NGO financial support to attend dive exhibitions nor did the Australian, Queensland or Tourism Australia (i.e. core tourism organisations) exhibit at these expos. However, in 2019 TEQ did provide funding for Queensland RSDT to be represented at ADEX, MIDE, AIDE, Marine Diving Fair and DEMA shows as part of a State Government grant to promote the sinking of the ex-HMAS *Tobruk* in Hervey Bay, as an artificial reef, 1,560 km south of Cairns.



Figure 8.1. RSDT exhibits at the 2018 ADEX dive expo (Photographs: Author)

The DEMA 2019 Show provided further observational evidence that Cairns-based dive operators are poorly represented in the US Market. Only two Cairns-based operators exhibited. In contrast, the Philippines, Indonesia, Thailand and Malaysia were again represented with large co-op style booths similar to those shown in Figure 8.1 and Fiji had 14 individual exhibitors.

The Cairns-based stakeholder interviewees voiced concern over the lack of support they gain from government and tourism NGOs (see Chapter Six). From the observations obtained by attending dive exhibitions over the duration of this research, it is concluded the level of support other RSDT destinations gain from their governments and NGOs at dive exhibitions has implications in respect to maintaining Cairns as an iconic dive destination within a highly competitive market and will be discussed further in Chapter Ten. Meanwhile, the World Travel Awards named the Philippines as the “Leading Dive Destination” (Stacy, 2020; World Travel Awards, 2019).

Although it was observed from conversations the researcher had with DTs visiting the booths he staffed that Cairns-based RSDT is still on their bucket list, there appeared to be on-going challenges to increasing visitation numbers associated with negative publicity regarding the condition of GBR. For example, show attendees, including those from Australia, commonly asked questions about the GBRMP's condition, some even thinking it was dead. It was observed when booth visitors demonstrated such perceptions that having a representative of the GBRMPA available to present facts about the condition of the GBR seemed to help dispel possible negative discernments.

At the ADEX and MIDE shows in 2018 and 2019 it was noted from conversations with booth attendees they thought diving in GBRMP was no better than other places they had dived. Attendees were also concerned with the fact that Cairns was an expensive place to visit and dive. Additionally, booth visitors at the non-Australian dive shows generally had very little knowledge regarding RSDT, airline flights and accommodation options in Cairns.

#### **8.4.3. Marine Diving Fair and reader survey**

The Marine Diving Fair expo is owned by the *Marine Diving Magazine* discussed in Chapter Five. At the Marine Diving Fair, banners were displayed to give show attendees the results of a reader survey in which they asked what Japanese divers considered to be their favourite dive destinations and operators. These were ranked from one to 30 of which only one category included a Cairns-based operator. That is, in the "Best Liveaboard" category, a Cairns-based vessel ranked eleventh with just 1.4% of the 1,451 total votes.

The survey also revealed Australia ranked eighth with 2.6% of the 6,253 votes in the "Best Diving Area - Overseas" category behind Palau (1,429 votes), Philippines (1,132 votes), Maldives (1,071 votes), Saipan (773 votes), Thailand (339 votes), Indonesia (298 votes) and Mexico (173 votes). In the "Dreaming Area" category (i.e. where the readership dreamed of going), Australia ranked twelfth with 1.9 % of the 5,493 total votes, behind Maldives (978 votes), Palau (561 votes), Mexico (536 votes), Tahiti (398 votes), Galapagos Islands (259 votes), Indonesia (205 votes), New Caledonia (160 votes), Chuuk (155 votes), Philippines (152 votes), Ogasawara Islands (143 votes) and Thailand (107 votes).

Australian RSDT operators did not obtain any votes in the “Favourite Dive Operator Overseas”, “Favourite Dive Overseas” or “Favourite Dive Guide” categories. Although this *Marine Diving* reader survey is secondary data, and it may not have been conducted under academically accepted protocols, the findings have valuable implications to the LTS of RSDT in the Cairns section of the GBRMP, given the importance of the Japanese RSDT market identified in the literature.

## **8.6. Summary of the observations**

This chapter presents the findings from field observations collected and recorded in the researcher’s field notebook during the four-step data collection process presented in Chapter Four and shown in Figure 4.1. These field observations provided additional information about the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP to those derived from the qualitative and quantitative research instruments. The chapter also reported on observations made as a result of the researcher’s attendance at dive exhibitions and provided insider information.



## **CHAPTER NINE: FINDINGS FROM THE FOCUS GROUP MEETING**

### **9.1. Introduction**

This chapter presents the findings from the fourth step in the four-step data collection process presented in Chapter Four and illustrated in Figure 4.1. A focus group meeting of eight RSDT stakeholders added another qualitative element to the research. Using the findings from the first three steps of the data collection process to develop the prompts also provided an opportunity for participants to clarify, confirm or refute those earlier findings.

The focus group also provided an opportunity to investigate an extended range of opinions, perceptions, multiple realities (Ivanoff & Hultberg, 2006) and ideas expressed within the group (Krueger & Casey, 2015; Liamputtong, 2011). This is consistent with the single case study's mixed method research strategy and triangulation design. The resulting narrative is important as it provides additional understanding of the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.

### **9.2. Focus group participant demographics profiles and business history**

The short optional questionnaire administered at the beginning of the meeting revealed the mean age of participants was 47 years and ranged from 33 to 58. It was considered these individuals significantly enriched the data, given their breadth of experience and knowledge. Participants collectively represented the "4 Es" of the dive industry as described by Dimmock and Cummins (2013). Table 9.1 shows the participants' activity area and management function. Eight RSDT stakeholders participated in the focus group meeting. Six (75%) of the participants worked in multiple roles. For example, they owned a charter vessel and/or ran a dive school and/or had a retail outlet and/or served on an NGO committee on the governance side.

Five participants were male and three were female. The mean business history (i.e. number of years in business) was 16 years and ranged from two to 35 years. The mean length of experience working in RSDT ranged from six to 30 years with a mean of 15 years.

All participants were currently certified scuba divers and seven were already divers when entering RSDT. Five (63%) had scuba diving instructor credentials.

Table 9.1. Focus group participants activity area, management function and identification number

Number of participants	Activity	Participant identification number	Function	Location
2	Scuba diving charter vessel operator	1	Owner	Cairns
		2	Manager	
1	RSDT wholesaler located outside of Cairns	3	Owner	International
1	National Equipment Wholesaler	4	Manager	National
1	Dive retailer	5		Cairns
1	Diver training agency	6	Director	International
1	Tourism NGO	7	Manager	Cairns
1	Queensland State Government	8	Department Manager	State
Total participants N = 8				

The number of employees in the participants' entities was captured but is not reported in detail due to the potential to compromise confidentiality. However, not including the number of employees on the governance side, the number of individuals employed by the other participants ranged between one to 150. The mean number of employees was 37. Apart from the Government representative and one sole trader, the remaining six participants were employees of a private company.

### 9.3. Manual analysis of the focus group text file

The meeting was audio-recorded and converted to a 7,742 word text file. The text was analysed manually to collect participant responses to the prompt questions created to clarify, confirm, or refute the findings of the first three steps in the data collection process described in Chapter Four. Table 9.2 shows the theme and prompt used in addressing major findings from the content analysis of the six major dive magazines reported in Chapter Five. The full list of prompts is shown in Appendix G.

Table 9.2. Theme and prompt one

Theme	Prompt
# 1 Major dive publication findings	Why do you think Cairns recreational scuba diving tourism operators in the Cairns section of the Great Barrier Reef Park (GBRMP) have less exposure in dive publications in terms of advertising and editorial, than other dive destinations (i.e. both online and hard copy)?

Focus group participants agreed with the findings from both the stakeholder interviewees (see Chapter Six) and the DT questionnaire (see Chapter Seven) that social media platforms and websites play a greater role in destination promotion than dive magazines whether they are in print or digital format. For example, Participant 5 said: “I think that social media has taken away from print media and a lot of people feel that print media is old and that everyone is centring on social media, and therefore its importance has decreased.”

Participant 1 referred to the information gained by reading TripAdvisor comments: We have our highs and lows, but what is it that makes somebody happy when they go on holiday and interestingly enough, if you look at TripAdvisor, you never really get a comment about the Reef. Thousands on TripAdvisor talk about the spa, the lunch, the toilets, whether they were booked in ok in the morning, what the bus trip was like, etc., there is so much that makes up a holiday that gets reported, not just the diving.

There was also agreement that dive publications tended to feature more exotic and adventurous places and therefore were not as likely to feature established dive destinations like that experienced in the Cairns section of the GBRMP. For example, participant two said: “With a lot of dive publications, there is a focus on the more exotic and adventurous places.”

Table 9.3 shows the theme and prompt used in addressing major findings from the content analysis of the stakeholder brochures reported in Chapter Five.

Table 9.3. Theme and prompt two

Theme	Prompt
# 2 Major stakeholder brochures findings	Why do you think Cairns recreational scuba diving tourism operators seem to place so much emphasis in their brochures on administrative material rather than an emphasis on selling “the sizzle”?

There was general agreement regarding the reason why Cairns-based RSdT operators seem to place so much emphasis in their brochures on administrative material (e.g. vessel departure times, medical and fitness to dive requirements) rather than an emphasis on selling “the sizzle” which was the result of the high level of governance they are required to operate under. For example, Participant 1 said: “Here in Queensland we take the whole diving thing seriously by all parties that are affected by it. All the way from marketing managers through to operators through to government” and “Pretty much anywhere else in the world, you wake, you want to go for a dive and ok, I’ll take you for a dive. It’s not considered an activity that is on the scoreboard [referring to the need to do diver screenings and keep detailed records].”

Additionally, there was a perception that issues for dive vessel operators originated out of a perceived reduction in the general level of fitness of divers across all age ranges. Participant 8 said: “There is a general decline in the physical healthiness from young to old, across the age groups.” Participants also talked about the operational and customer service issues following the potential refusal to allow a client to dive based on medical or fitness issues not picked up by tour desk agents and land-based staff. This included the need for brochures to have a high content of administrative items since ground staff and particularly tour desk agents, were unable, or did not attempt, to screen customers regarding their ability to dive under the requirements of the Queensland Government’s Code of Practice.

Participants felt that tour desk agents were driven predominantly by selling a space on the dive vessel and receiving commissions rather than screening for medical and fitness issues. For example, Participant 7 stated:

As a skipper, the intensity every morning of getting through these legislative requirements, while providing customer service is getting more intense every year and that pressure is translated through to the land-based staff. The ground staff are getting yelled at every single day from multiple people knocked back under the legislation. That is one of the messages that is getting through and coming out of Europe, Cairns is the Dive Nazi area of the world.

In agreement, participant one commented: “It’s basically driven by commission and so people are not getting the professional information they should be getting when they are choosing their activity.”

Some participants offered solutions to the amount of governance-related brochure content. For example, Participant 3 suggested: “The Galapagos does it very well. From the moment someone makes contact, there are messages dropped in an appropriate place in time, not all at once. We are still pen and paper style, although there is a move to be more online, more streamlined.” Participant 1 suggested:

There needs to be a little more investment in how we do the initial contact to when they get on the boat, because one of the biggest complaints I hear is they wouldn’t have booked if they knew that before (referring to governance requirements). There is too much material on our websites and our brochures for everyone to read it.

Table 9.4 shows the theme and prompt used in addressing major findings from the stakeholder interviews regarding the Chinese dive market reported in Chapter Five. Focus group participants were in general agreement with the findings from the stakeholder interviews regarding the challenges faced in addressing the Chinese dive market.

Table 9.4. Theme and prompt three

Theme	Prompt
# 3 Sociocultural findings	Why do you think recreational scuba diving tourism operators in the Cairns section of the GBRMP are not getting more Chinese divers when Chinese tourists are Australia’s biggest inbound tourism sector?

The focus group participants highlighted several aspects in their responses: immigration issues; language and operational difficulties in training and familiarising Chinese staff about diving in the GBRMP, the general lack of Chinese divers, and issues with flights coming directly from China through Cairns. For example, Participant 7 said:

It is logistically quite difficult to communicate (i.e. with Chinese staff), train, evaluate and maintain their quality and our standards to provide the customer service because there is a big gap in the languages and cultures. We can't actually facilitate it on a broader scale, although some companies concentrate on it, but overall, if we had the numbers, I think there would be more investment in it, but the numbers are not there.

Participant 1 commented: "There is no direct Chinese flights (to Cairns). Chinese have been dropping off at all levels for the last three years."

Table 9.5 shows the theme and prompt used in addressing a major finding from the dive tourist questionnaires where DTs returning from a day's diving in the GBRMP generally reported they have had a great day although there was a lot of negative publicity on the current condition, and potential future, of the GBR.

Table 9.5. Theme and prompt four

Theme	Prompt
# 4 Major diver impression of the GBR findings	Why do you think divers returning from a day's diving in the GBRMP have generally reported they have had a great day when there is obviously a lot of bad publicity out there (i.e. domestically and internationally) on the current condition, and potential future, of the GBR?

Focus group participants agreed there was negative publicity circulating both domestically and internationally regarding the condition of the GBR and climate change. Participant 7 said: "There are going to be more bleaching events, there is no doubt about it, there are going to be more cyclones, there is going to be change of water quality. It's inevitable."

Participants also agreed the quality of the day experienced by DTs was not only about the quality of the diving and condition of the reef. For example, Participant 5 stated:

“Because the staff were friendly, the gear was good, the mask didn’t leak, lunch was good, etc., there was more than just the world is facing Reef quality issues.” Participant 8 said in agreement: “It’s all those little things around the day that really sell the day when it can’t sell itself. A good crew, good equipment, keeping the day running well, things on time, deliver what you say you are going to deliver in your brochure”.

Table 9.6 shows the theme and prompt used in addressing the cost of operation experienced by RSDT operators in the Cairns section of the GBRMP compared to other destinations. Participants were in total agreement with the findings from the stakeholder interviewees that Cairns-based RSDT operators could not compete on price with international destinations, especially in Asia.

Table 9.6. Theme and prompt five

Theme	Prompt
# 5 Major cost of operation findings	Do you think Cairns recreational scuba diving tourism struggles to off-set the cost of generally doing business in comparison to other dive destinations around the world, especially those within the Coral Triangle?

Participants identified the cost of the two-hour journey to get to the reef, cost of wages in Australia and the relatively low cost of catering to introductory divers and snorkellers compared to certified divers. For example, Participant 3 said: “There is obviously a lot of overseas destinations that prove cheaper than coming to Cairns.” Price was also a key consideration for Participant 8: “I think price is a point for people. If theirs is four of them, it’s \$1,000 to go there (the Reef) for a day.”

Participants were also in agreement with the findings from the stakeholder interviewees that conforming to governance regulations had added considerably to the cost of operation and the price they were required to charge. For example, Participant 6 said: “We are so much more expensive because we meet requirements [Code of Practice].” Like several in the stakeholder interviewees, focus group participants cited the impact on the price of their product caused by high commissions charged by agents and travel kiosks. For example, Participant 1 noted: “We have to go two hours to get to the Reef, so we need big

boats, lots of crew, lots of Workplace Health and Safety issues etc., and then a huge commission structure.” Participant 1 also felt that agents contributed to the lack of Chinese undertaking diving-related activities in Cairns and said: “They get more money to sell helicopter flights and it’s easy to drop off four in a helicopter at \$250 in their back pocket than selling a “Discover Scuba” or an Openwater course.”

Table 9.7 shows the theme and prompt used in addressing negative stories about the possible impact on the GBRMP from climate change and the GBRMPA’s recent report on its future has had, and will have, on RSDT businesses.

Table 9.7. Theme and prompt six

Theme	Prompt
# 6 Major stakeholder interview findings	Do you think negative stories about the possible impact on the GBRMP from climate change and the GBRMPA’s recent report on its future has had, or will have, an adverse impact on your business?  Why do you think recreational dive tourism operators in the Cairns section of the GBRMP do not seem to have a “plan B” if the Great Barrier Reef’s potential decline was to be realised?

There was general agreement amongst the participants that climate change and the GBRMPA’s Outlook Report 2019 (GBRMPA, 2019a) has had, and will have, an adverse impact on their businesses. However, there were mixed responses as to how the possible decline of the GBR would impact them, including suggestions the Reef will not disappear but may require a change in business emphasis and marketing strategies. For example, Participant 7 said: “The science does not support that the Reef will disappear, it’s going to change in composition.” Likewise, Participant 4 responded: “The story of the degradation was the result of huge media campaign run by someone who wanted climate change action. The response from dive tourism to the media was, there was no response. You need more cooperation to get that broad story out.”

RSDT operators were asked why they do not seem to have a “plan B” in response to a potential decline in the GBR as identified in the stakeholder interviews and presented by Cummins et al. (2019). Participant 1 questioned the assertion there was no plan B and said:



There is no plan B, there is a plan A, B and C, we have to provide people with an all-round holiday. We could have a degraded reef; we have had degraded reefs before. I have taken people to the reefs that have been completely munched out by Crown of Thorns, but all those people had a really good time.

#### **9.4. Additional findings from the manual analysis of the focus group text file**

The manual analysis of the focus group text file revealed opinions like those of the stakeholder interviewees that were not solicited by the prompts. The focus group participants were in total agreement that the RSDT market was switching to introductory dives (Discover Scuba) as opposed to catering for certified divers. Reasons offered for this shift included changes in consumer demand and increased profitability in running introductory dives compared to training and catering to certified divers. Participants were equally divided regarding whether Cairns-based RSDT had fallen off the wish list of serious scuba divers. Participant 1 said: “We are changing our direction to Discovery Scuba [another term for introductory dives].” Participant 5 commented: “When you come to Cairns, most divers are looking for that intro experience.”

Participant five added:

That is what the market is demanding. Our clientele is mainly the 18 to 35 year-olds, but I think their dream is sold to them differently now. It's not about doing a dive course; it's about doing introductory dives. I think they are shorter and shorter on time. Whereas in past years they used to come for a couple of weeks, and they could fit in a four day course, now they are only here for five days. They are not going to do a four day dive course in that time, because they have bungee jumping, Whitewater rafting, a lot of other things they want to do.

Participant 3 stated in agreement: “I had some experience with [international operator name removed to protect confidentiality], and they switched from promoting Openwater to Discover Scuba because it was more profitable. They tripled their profits”. Participant 4 added introductory dives overseas contained more product features than those conducted in Queensland: “Fiji is where you can do a Discover Scuba with shark feeding.”

There was also total agreement supporting the findings from the stakeholder interviews that tourism and other organisations were not doing enough to support RSDT in Cairns. For example, Participant 2 said: “Our tourism groups have not done much to promote the region.” Likewise, Participant 3 said: “There has not been a lot of focus on branding and not just from tourism organisations up here. There doesn’t seem to be a lot of activity. They’re misguided at the moment.” Participant 7 agreed with the group by stating: “No support from RTOs [Regional Tourism Organisations].”

There was also a general perception amongst the group that Cairns was not exotic enough anymore for the experienced diver and a major concern was that Cairns-based RSDT may be falling off the “bucket list” of the experienced diver. For example, Participant 3 said: “They are going somewhere more exotic and difficult.” Participant 2 said: “They can do Cairns when they are old and grey.” Additionally, several participants cited the reduction in the number of live-aboard dive vessels and the impact that may have on the attractiveness of Cairns-based RSDT to experienced divers. For example, Participant 5 said: “Serious divers want more than one day on the Reef.”

Other concerns regarding their LTS identified in the manual analysis of the focus groups word file echoed those of the stakeholder group interviewees. These included the impact of agent and dive consumers’ perceptions regarding the inconvenience of having large numbers of passengers on vessels. Other concerns included possible changes in the Australian dollar, the impact of payroll tax and managing the challenges of shifting to online business. There was full agreement regarding increased competition from low-cost RSDT destinations in Southeast Asia.

## **9.5. NVivo analysis of the focus group text file**

The NVivo was applied to the word text file. NVivo was used to identify any new themes emerging from the focus group that were not directly related to the prompts or those previously identified in other parts of the data collection processes (content analysis, stakeholder interviews and DT questionnaires). Insignificant words (e.g. conjunctions and prepositions) and those under four letters in length were removed from the analysis. Words

that may have compromised the individual's confidentiality were also removed. The NVivo word frequency score function was then used to identify keywords that would contribute to the identification of new themes.

Within the top 100 key words, the word frequency scores ranged from 59 ("people") to six ("crew"). Percentage weight scores ranged from 1.69% ("people") down to multiple words with a percentage weight score of 0.02%. A similar pattern emerged to those found in other parts of the research. Themes identified included "people", "Cairns", "reef" and "dive". Although there were some minor differences in ranking importance compared to the themes identified elsewhere in the research, no new themes were detected. Therefore, no further NVivo analysis of the focus group text file was conducted.

## 9.6. Concluding statement of the focus group participants

Table 9.8 shows the closing prompt used to summarise what individual participants saw as the single major factor impacting their LTS. There was some replication of opinion and no detectable disagreement regarding opinions expressed by individuals within the group.

Table 9.8. Closing prompt

Theme	Prompt
Closing question	Quickly around the room, and in one word or sentence, what do you see as the single major factor impacting your long-term sustainability as a recreational scuba diving tourism operator in the Cairns section of the GBRMP?

Responses to the prompt can be summarised by the following: the sustainability and maintenance of the quality of the reef and its marine life; greater cooperation between entities in messaging and more effective branding, marketing and educating DTs on the RSDT experiences possible in the Cairns section of the GBRMP. For example, Participant 3 said: "It's the experience, and part of that is the story telling, so it is education, experience, and collaboration to make sure that story gets out and it's the same across the board."

There was little indication from the group of how this would be achieved. However, Participant 5 suggested: “Going to dive expos overseas and being present as a whole of the GBR not just one small operator, but the spreading of the word collectively.”

### **9.7. Summary of the focus group meeting**

The focus group meeting represented the final step in the four-step data collection process and the third qualitative element of the research to address the research objectives. It provided an opportunity for clarification, confirmation, or refutation of the major findings of the first three steps of the data gathering process shown in Figure 4.1. Although there were some minor differences in the ranking of importance, overall, the analysis of the focus group participants’ responses to the prompts supported the findings from the content analysis, stakeholder interviewees and the DT questionnaire. While no new themes emerged, the focus group was able to add some clarification to the major factors impacting the LTS of RSDT in the Cairns section of the GBRMP.

## CHAPTER TEN: DISCUSSION AND IMPLICATIONS

### 10.1. Introduction

This chapter discusses the implications of the findings of the research. This is achieved by drawing upon the literature review (see Chapter Two); the characteristics of Cairns and Cairns-based RSDT (see Chapter Three); the qualitative and quantitative findings of the four-step approach to data collection (see Chapters Five to Eight); and field observations (see Chapter Nine). This approach is consistent with the research design of the study (see Chapter Four).

Prior research identified four major factors that impact the LTS of a tourism destination (sociocultural, environmental, economic and governance). Additionally, the literature revealed the growing importance of innovation and technology as major factors impacting the LTS of a tourism destination and associated businesses (Buhalis & Amaranggana, 2013, 2015; Buhalis & O'Connor, 2005; Buhalis, 2008; De Bruin, 2016; Policy, 2018). The characteristics of stakeholders also emerged as a major factor since the presence of multiple stakeholders, with diverse needs and abilities, exerts a different array of influences and commitment level to a tourism destination (Elkington, 2004). These factors were used throughout this research to help guide an investigation into the major factors that impact the LTS of RSDT in the Cairns section of the GBRMP. They are used again in this chapter to guide a discussion of the implications of the research findings.

Additionally, the barriers, drivers and opportunities facing the LTS of Cairns-based RSDT revealed in this research are summarised in tables in the following sections. It is important to note that barriers share characteristics with drivers since barriers are often caused by the lack of, or the presence of, ineffective drivers. Therefore, insights into how barriers can be overcome in the form of opportunities are also presented. That is, barriers can be viewed as impacting the LTS of Cairns-based RSDT at one point in time and identified opportunities have potential implications as to how the barrier can be removed or made less dynamic. This can involve the emergence of new drivers or existing ones

becoming more effective. Similarly, drivers can be viewed as impacting the LTS at one point in time and may become less effective and eventually disappear.

Finally, to address the research objectives presented in Chapter One, this chapter utilises tables, photographs, diagrams and models to explain and illustrate the major factors that impact the LTS of a RSDT in the Cairns section of the GBRMP. The theoretical, conceptional and process models presented may be applied in a broader context to other RSDT destinations as part of the original contribution to knowledge this research offers.

## **10.2. The sociocultural and demographic findings and the research questions**

The following section discusses the implications of the sociocultural and demographic findings derived from the DT questionnaire. A review of the DT profiles gained from the self-completed questionnaire helped to define the sociocultural and demographic characteristics of those visiting the Cairns section of the GBRMP (research objective one) and how these characteristics impact LTS (objective two). The DT questionnaire also contributed to an understanding of barriers (research objective three) and drivers and opportunities impacting Cairns-based RSDT LTS (research objective four). The sociocultural and demographic characteristics of the DTs can also be incorporated into models to represent and explain the major factors that impact the LTS of RSDT on a tourism destination and in the Cairns section of the GBRMP (research objective five).

### **10.2.1. The major sociocultural and demographics implications derived from the dive tourist questionnaire findings**

Table 7.1 presented the sociocultural and demographic data derived from the self-completed DT questionnaire. The data validates the demographic findings of the Pabel and Coghlan (2011) study of DTs visiting the Great Barrier Reef. The gender data parallels the gender profile issued by PADI (2017a, 2018). This may be attributed to 82.4% of the questionnaire respondents holding a PADI diver credential (see Table 7.3, Chapter Seven). Given PADI claims to be the world's largest and leading diver organisation (PADI, 2020), it can be assumed the DT population surveyed in this research also approximates the broader diving community and therefore adds strength to the findings.

The data implies that a strong dependence on divers certified by one dive training agency can herald a future barrier to Cairns-based RSDT if that agency was to lose momentum or was to encourage DTs to seek another destination(s). This also illustrates an opportunity to have marketing efforts developed to attract divers from other diver training agencies.

The demographic data revealed the strength and importance of the long-haul European and US markets. The importance of the Australian domestic markets was also revealed. Collectively, 65.4% of the DT respondents came from these three markets and are therefore identified as the key drivers of RSDT in the Cairns section of the GBRMP. The implication of these findings is that RSDT stakeholders need to support and maintain these markets as a major barrier may develop to LTS if they were to decline. The data also revealed the Japanese and Korean markets, with just 5.1 % and 2.1% respectively of the DT respondents to the questionnaire, needs to be addressed by stakeholders and is discussed in more detail later in the chapter.

While 33.2% of the DTs held professional qualifications, 22.1% described themselves as backpackers. The most preferred mode of accommodation was a backpacker hostel (36.6%). These are important findings since the supply-side stakeholder interviewees located outside of Cairns expressed little interest in exploring this visitor group. Consequently, the lack of interest by a major supply chain component is a significant barrier to LTS. The full implications of this finding will be discussed later in the chapter.

The data revealed 90.5% of the DTs travelled alone or with a partner or friend(s). The remainder arrived as organised travel groups (5.3%) and families, including those with children (4.3%). This exposes the potential to further develop and promote family and group travel opportunities. This may be especially valuable by effectively partnering with dive stores and dive travel wholesalers located outside of Cairns who already promote live-aboard group travel packages to their associated dive clubs and broader customer bases.

Most DTs (78%) travel to Cairns by plane (see Table 7.1). Cairns-based operators may benefit from exploring marketing opportunities by promoting RSDT in the Cairns section

of the GBRMP to the captive audience who read in-flight magazines. Additionally, stakeholders should maintain existing, and undertake new, impulse sale and other promotions at both the domestic and international airport terminals, especially for daily dive excursions.

### **10.2.2. Implications of the low dive tourist commitment level**

By identifying the scuba diving experience level of the DTs, it was possible to ascertain their ability to make value judgements about their Cairns-based dive experience. Furthermore, it was possible to ascertain whether there are any variations between DTs with different levels of diving experience and their perceptions of the major factors that impact the LTS.

A significant finding of this research was the overall low commitment level of DTs to RSDT. Cairns-based RSDT mainly attracts inexperienced divers who are unlikely to spend more than \$3,000 in the next 12 months on dive travel which is less than the cost of a five-day liveaboard trip in the Cairns section of the GBRMP. After removing any outliers from the dataset, DTs stayed in Cairns an average of six days. These combined findings indicate a barrier to LTS since DTs are likely to do few dive vacations and invest relatively little time and money. In contrast, most DTs are likely to return and will recommend Cairns-based RSDT to others.

Collectively, these findings indicate an opportunity exists for RSDT stakeholders to develop strategies to have DTs visit more often, increase expenditure and the length of stay in Cairns. For example, the researcher has observed in other parts of the world RSDT destinations offering discounts and other incentives to increase destination loyalty, repeat visits and increase the length of stay in the host region by cross-marketing with local non-diving activities. The potential for cross-marketing is significant with at least 95 activities offered to tourists in the Cairns region apart from RSDT (see Appendix B).

### **10.2.3. Implications of dive tourist satisfaction levels**

Dimmock (2003) concluded that experiences at dive sites are critical elements which influence satisfaction. This contention is supported by O'Neil et al. (2000) and MacCarthy et



al. (2006). The findings of this research indicate that DTs have high levels of satisfaction with diving conditions in the Cairns section of the GBRMP with the implication that this is a significant driver to maintain LTS (given other factors remain equal). That is, 85.3% of DTs were satisfied or extremely satisfied with their overall dive experience and features such as underwater visibility (78.8%), coral abundance (71.9%) and marine life encounters (75.5%) (see Chapter Seven). Similarly, most DTs were either satisfied or extremely satisfied with the dive crew, with 84.6% feeling they gave good dive briefings.

Observations by the researcher recorded in the field notebook confirmed that the crews delivered inspiring briefings which included the use of humour to increase retention and understanding, as suggested by Pabel and Pearce (2015). The crews were also observed providing a warm greeting on arrival and a thank you gesture on departure. Crews were observed constantly catering for the special needs of underwater photographers, gaining training in the operation of the dive vessel and performing rescue drills.

Most (82%) of DTs felt they received value for money which would support the high percentages who indicated they would visit again and recommend Cairns-based RSDT to others. The DT questionnaire revealed that DTs had high levels of satisfaction and Cairns-based RSDT display high levels of professionalism. When this was presented to the focus group, they were not surprised and related this finding to the effort stakeholders place on customer satisfaction.

In contrast, the findings also indicate that RSDT stakeholders need to address customer service levels in the broader context. Stakeholder interviewees and focus group members generally agreed Cairns-based RSDT cannot compete with other destinations on price, especially in the Asia Pacific region, so they must compete on service levels. However, there was a suggestion by some stakeholder interviewees that Cairns as a tourism destination offers three-star service at a five-star price. This contention is supported in part by only 60.4% of DTs agreeing or strongly agreeing service levels were satisfactory.

Customer satisfaction and service levels are key drivers of LTS and should be reflected in practice (McCarthy et al., 2001; O'Neil et al., 2000) and in marketing collateral.

However, the content analysis of the RSDT stakeholder promotional brochures and the stakeholder interviews revealed an emphasis on administrative procedures and the quality of their dive vessels rather than visitor satisfaction and service level guarantees supported by past customer testimonials (see Chapter Five). Ironically, only 61.7% of DTs agreed or strongly agreed the dive vessels were better than those they had found elsewhere. The implication is stakeholders should place more focus on promoting their wider virtues and employ a broader definition of a satisfactory experience and customer service than a focus on administration items and the quality of their vessels. The implications of this missed opportunity are discussed in more detail later in the chapter.

#### **10.2.4. The discovery and implications of six new RSDT cohorts**

Observations recorded in the researcher's field notebook, made while administering the DT questionnaire, talking to tourists on dive vessels and subsequent analysis of the questionnaire data, revealed six RSDT cohorts previously not identified in the literature. The identification of these new cohorts represents an original contribution to knowledge in the field of RSDT. They are described in the following section.

Although this research has a focus on certified DTs, it became obvious that some tourists undertake multiple introductory dives when they travel. This results in them becoming relatively skilled in scuba diving although they do not hold a divers certification card. Researcher discussions with this cohort indicated they do not see the value in completing what they described as a time-consuming dive course to experience RSDT. They also see more value in being guided by an experienced local dive professional "who knows where to go to have a great dive". Some certified divers pay the additional fees to undertake a guided introductory dive rather than undertake an unguided dive with another certified diver they may not know. They do this to have a guide for similar reasons to the experienced introductory divers. Some certified divers pay the additional fees to dive with a non-certified friend/spouse undertaking a guided introductory dive rather than undertake an unguided dive with another certified diver they may not know. Some certified divers pay the additional fees to do introductory dives to increase confidence and up-grade skills when they have not dived

in a while. These new cohorts represent an impact on underwater guide staffing levels with associated costs to both the RSDT operator and the diver. Nevertheless, these cohorts represent a new opportunity with associated revenue streams for RSDT stakeholders if marketed effectively.

Furthermore, during the administration of the DT questionnaire it was discovered that some certified divers preferred to just snorkel. In some cases, these individuals revealed to the researcher they were not scuba diving because they were travelling with a non-diving partner. The dive industry has used anecdotal evidence to suggest that a barrier to growth has been the inability to convert non-diving partners and friends to divers. Cairns-based RSDT stakeholders need to identify this barrier to customers taking higher revenue activities such as introductory courses, diver training and dive excursions whilst vacationing. In the case of diver training, even with Cairns' reputation for training large numbers of divers, only 18.9% of those responding to the DT questionnaire did a dive course while in Cairns. Therefore, this research indicates that stakeholders have an opportunity to expand revenue earning training opportunities amongst their existing customers as well as promote training more widely to medically fit non-divers, such as those travelling with a certified partner or friend.

There are two major types of dive excursions for certified divers: day trips and live-aboard experiences (see Chapter Three). While these offerings are distinctly different there is an apparent cohort of certified divers that prefer day vessels to do multiple day-trips while vacationing in Cairns. The researcher ascertained through conversations with several DTs that this practice potentially gives them a break from repetitive diving experienced on live-aboards, provides an opportunity to dive with different Cairns-based RSDT operators at different dive sites, take time-out to experience other Cairns activities (see Appendix B) and the option to participate in the local night life. This new cohort also supports the potential opportunity for RSDT to explore cross-marketing initiatives with non-RSDT operators discussed elsewhere in the chapter.

Prior to these findings, these six cohorts were hidden amongst the snorkelling, introductory diver and certified diver markets as subsets of cohorts previously identified by researchers. This researcher envisages that these cohorts may need special consideration since they represent a departure from traditional RSDT marketing strategies. Further research is required to ascertain how these potentially new market segments impact the LTS of RSDT, not only in the Cairns section of the GBRMP, but globally.

#### **10.2.5. Summary of the major sociocultural and demographic factors impacting the LTS of RSDT in the Cairns section of the GBRMP**

Table 10.1 contents are derived from the DT questionnaire and supported by the literature review and researcher observations to address research objective one and provide a summary of the major DT sociocultural and demographic factors impacting the LTS of RSDT in the Cairns section of the GBRMP. How these factors relate to the barriers, drivers and opportunities identified in this research is also shown, along with the research instruments utilised. Additionally, Table 10.1 shows that the sociocultural and demographic characteristics of DTs has implications to all five research objectives investigated in this research and supports the notion that factors impacting LTS do not occur in isolation of each other. This assertion helps to contribute to theory by systematically illustrating the factors impacting the LTS of RSDT are interrelated and helps to create propositions that define and predict phenomena (Cooper & Shindler, 2014; Dann, Nash, & Pearce, 1988) while accounting for how and why things are as they are (Stewart et al., 2011).

Since the current RSDT literature focuses mainly on gender, age and income sociodemographic details of DTs, the discovery of six new cohorts also helps to contribute to theory by adding a whole new psychographic perspective on who the DT is or is likely to become in the future. This has further ramifications for RSDT that may be path dependent or locked into marketing efforts towards the traditional DT and therefore may need to broaden their reach.

Table 10.1. A summary of the major dive tourist sociocultural and demographic factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Sociocultural & demographic characteristic	Barriers	Drivers	Opportunities	Research instrument(s) utilised	Relevant research objective
Gender	Slightly male dominated  General decline in DT interest in Cairns based RSDT	Relatively equal representation of males & females	Expand interest with female DTs	DT questionnaire	Research Objective #1
Age	Penetration outside of the 21 to 40 age range  Cairns being perceived as a grey market	DTs represented by those from 18 to 80 plus	Expand market penetration across wider age range	Researcher observations	Also addresses research objectives #2, #3, #4 & #5.
Place of origin (home)	Penetration of Chinese, Japanese & Korean DTs  Dependence on European & USA markets  International and domestic DT markets preferring non-Cairns RSDT destinations especially if long-haul travel becomes a factor	European, USA & Australian domestic markets.  Mainly affluent countries	Expand the Chinese & reinvigorate the Japanese and Korean markets  Expand penetration into long-haul markets		
Mode of travel	Penetration with visitors arriving by non-air options  Impact of decline in air travel to Cairns	Long-haul air travellers	Expand market penetration into visitors arriving by non-air options		
Travel pattern	Penetration into group travel market	Penetration into single & partner/friend travel market	Encourage group travel		

	Decline in the interest of Cairns with single & partner/friend travel market				
Accommodation	Accommodation options becoming less desirable to DT needs  Penetration into other forms of accommodation	Utilisation of backpacker hostels & hotels	Expansion of other forms of accommodation		
Time in Cairns	General decline in DT interest in Cairns-based RSDT & other activities  Low length of stay (mean is six days)	Some DTs stay for a year or more	Expand DT stay in Cairns, time spent on diving & other activities		
Employment	International & domestic DTs preferring non-Cairns RSDT destinations  Penetration into other employment categories	Penetration into professional status with high incomes & expenditure potentials	Expansion of penetration into other forms of employment		
Backpackers	Decline of attractiveness of Cairns to the backpacker  Supply-side located outside of Cairns not realising the importance of the backpacker market	Penetration to backpacker DTs & hostel accommodation option	Reinvigorate backpacker interest		
Diving qualifications	Dependence on PADI-certified DTs  Decline in the interest of PADI-certified DTs	PADI-certified DT penetration	Appeal to DTs from all diver training agencies		
Diving experience	Application to multiple DT cohorts	The existence of a variety of DT cohorts	Appeal to a wider range of DT cohorts		

	General decline in DT interest in Cairns-based RSDT by experienced divers	Interest by inexperienced divers	Generate greater interest within all levels of experience		
Experience with coral diving	General decline in DT interest in the corals found in the GBRMP Risk of coral depletion	DT experience with coral diving  Most DTs came to dive the GBR	Generate greater interest in the quality & abundance of coral		
Commitment level	Dependence on inexperienced DT market with low commitment to future expenditure on RSDT vacations  Further fall in DT commitment levels	Experienced divers have high commitment levels	Increase commitment to future expenditure on RSDT vacations in Cairns		
Satisfaction levels	Decline in DT satisfaction levels resulting from a fall in quality dive quality  Competition from low-cost RSDT destinations	Value for money  Dive quality satisfaction levels  Quality dive vessels, crew & diving quality	Increase DT perceived satisfaction levels & product expansion  Promote broader virtues & definition of a satisfactory experience and customer service		
Value for money	Decline in value for money  Perception Cairns offers a three-star service at five-star price		Increase DT perceived satisfaction levels		

### **10.3. Implications of the environmental impact findings**

The literature review indicated that environmental factors have a major impact on the LTS of a tourism destination (Hall, 2007). Some researchers have identified how environmental factors interact with other factors and form a corner stone of sustainability (Elkington, 2004). The implications of the environmental findings from this research is discussed in the following sections. It is important to note that economic sustainability, discussed later in the chapter is closely associated with environmental sustainability in tourism (Elkington, 1994, 2004).

For example, while Cairns-based RSDTs' LTS relies heavily on the monitoring and management quality undertaken by the GBRMPA, Kragt, Roebeling, and Ruijs (2009) found that a degradation of the Cairns management area of GBRMP due to the impact of runoff, could lead to a decrease in tourism expenditure by divers and snorkellers on full-day reef trips in the order of \$103 million per year. The literature also supports the view that a nature-based tourism sector, without a sustainable environment, has little in the way of LTS for stakeholder businesses (Elkington, 1994, 2004; Hall, 2007). This is especially true in the case of RSDT (Dimmock & Musa, 2015) where the environment is one of the 4 Es of the dive industry (Dimmock & Cummins, 2013).

#### **10.3.1. Implications of climate change to dive features**

From Chapter Two it was established that The Great Barrier Reef Outlook Report 2019 (GBRMPA, 2019a) cited climate change as the greatest threat to the GBR by causing rising sea temperatures and extreme weather conditions. Both these have a direct impact on dive features such as the abundance and biodiversity of coral, marine life, water quality and favourable diving conditions (e.g. fine weather and calm seas).

As revealed earlier in this chapter, DTs had high levels of satisfaction with their diving experience. In terms of the abundance of coral, most DTs (85.3%) had considerable experience with diving on coral reefs prior to visiting the Cairns section of the GBRMP. It can be assumed this experience qualified them to be good judges of the abundance of coral leading to their high levels of satisfaction reported in Chapter Seven. Meanwhile, the



literature indicates the long-term future of communities dependent on coral reef tourism such as Cairns, is in doubt due to climate change and associated increases in sea temperatures (Prideaux et al., 2017; Prideaux et al., 2018). Similarly, the aridification management programs by the GBRMPA described in the literature to reduce the impact of anthropogenic stresses and crown-of-thorns starfish (COTS) on coral abundance are important.

While underwater visibility, marine life encounters and abundance of coral are major drivers of RSDT, a major finding of this research is the lack of emphasis RSDT stakeholders placed on the importance of coral and presence of marine life during their interviews. That is, Chapter Six revealed “coral” scored low amongst the stakeholders’ themes generated by both the NVivo and Leximancer software analyses (see Chapter Six). The Leximancer software also showed none or little connectivity between coral and high-ranking themes such as “business” and “product” across all three stakeholder groups. In addition, the NVivo analysis of the RSDT stakeholder promotional brochures revealed “environment” scored 11th amongst the themes detected.

Of more significance to long-term environmental and economic sustainability of Cairns-based RSDT is that stakeholders have no plan B to address the impact of climate change and/or marine life depletion either in their interview dialogue or in strategic plans shared with the researcher. That is, there was no evidence of strategies to address changes in the GBRMP’s dive features and associated attractiveness to DTs requiring a switch to alternative and new pathways through strategies that include developing new features of existing products to increase their appeal (Grabher, 1993). In contrast, RSDT stakeholders exhibited high degrees of path dependence and lock-in (Hassink, 2010; Martin & Sunley, 2006). Meanwhile, in early December 2020, UNESCO and the International Union for Conservation of Nature (IUCN) elevated the condition of the GBR from “significant concern” to “critical” (Dasey, 2020).

This is a major finding of this research since the literature indicates climate change impacts will lead to more coral bleaching events (Hoegh-Guldberg, Pendleton, & Kaup, 2019; Prideaux et al., 2018). This in turn is likely to impact local communities and RSDT

stakeholders located in Cairns because of a corresponding decline in attractiveness of coral reef tourism. For example, in the Uyarra et al. (2005) study of two Caribbean islands, they identified that 99% of all tourists do at least one scuba dive and 76% of these indicated they would not return if there was significant coral bleaching or decline.

Coral abundance is just one of the important dive features and drivers of reef-based RSDT. As stated earlier, and cited throughout the literature review, water quality (e.g. underwater visibility) and marine life encounters are also important. In particular, the DT questionnaire and field observations by the researcher (see Chapters Seven and Eight) and supported by the literature (Cater, 2007; Dimmock & Cummins, 2013; Dobson, 2008) revealed the importance DTs place on encountering marine life such as turtles, stingrays and sharks. The potential loss of these important drivers of RSDT cannot be over-estimated. However, the promotion of marine life encounters and life experiences only ranked fourth and fifth respectively by the NVivo analysis of the RSDT stakeholder brochures while administrative themes ranked first.

A reasonable conclusion that can be drawn from these findings is that RSDT stakeholders need to place more emphasis on the importance of coral abundance, marine life encounters, water quality and their conservation as part of their onboard practices to meet LTS criteria. Additionally, these drivers of RSDT LTS should be major features of marketing collateral.

### **10.3.2. RSDT stakeholders' environmental strategy and climate change**

The stakeholder interview findings revealed that the major focus of RSDT operators was their daily economic viability rather than their LTS. This may account for their focus on day-to-day operations and the lack of long-term planning, especially if the dive environment was to deteriorate in the future due to a rise in global temperatures of 1.5 degrees Celsius (IPCC, 2018) leading to a softening in RSDT demand. This finding is an original contribution to knowledge this research has to offer. That is, RSDT in the Cairns section of the GBRMP do not have any apparent plans to address reef deterioration from anthropogenic stresses and climate change impacts (no plan B).

Meanwhile, climate change is likely to have both long-term environmental (see previous section) and economic sustainability impacts. Falling DT interest in the GBRMP is a likely consequence of reef deterioration with the roll-on effect of creating distressed assets for RSDT stakeholders (e.g. dive vessels, in-ground pool and teaching facilities).

The experience and qualifications of stakeholder interviewees was revealed in Chapter Six, while the value of RSDT assets stakeholders manage in the Cairns section of the GBRMP was demonstrated in Chapter Three. It is important to note that it is unlikely that stakeholders are ignorant or uneducated regarding the environmental and economic consequences of climate change and anthropogenic impacts on their businesses. Possibly, stakeholders feel there is little they can do individually to off-set these impacts, while economic and daily issues are more within their potential to address. Further research is required to determine the magnitude of climate change and anthropogenic-generated flow-on impacts to LTS. This is necessary to identify why there is this lack of focus amongst Cairns-based RSDT stakeholders who are dependent on the health of the GBRMP for their LTS. Such research may shed light on what additional initiatives stakeholders can do to contribute long-term reef health.

Sterman (2011) suggests that few policymakers are trained in science, and public understanding of basic facts about climate change is poor. Therefore, more emphasis should be placed on the kind of communication strategies chosen to illustrate the potential impact of climate change on stakeholder endeavours and assets. RSDT stakeholders will need to explore new opportunities and develop innovative strategies to market and maintain existing products. This may include exploring opportunities for the development of new products and the use of existing RSDT resources following a possible decline in the attractiveness of the GBRMP as a destination.

### **10.3.3. Implications of negative media**

During the literature review and stakeholder interviews (see Chapter Six), it was revealed the GBR received negative publicity regarding coral bleaching, cyclone impacts and COTS infestations. The DT questionnaire analysis identified only 13.9% agreed they

had heard media reports about the condition of the GBR before arriving in Cairns and only 11.1% of DTs said they were very dissatisfied with abundance of coral. In the meantime, some academics and media reports were accused of over-exaggerating the impact of climate change and anthropogenic stresses on the GBR (Allen, 2019; O'Connor, 2020; Spilsbury, 2019b). Ironically, due to its iconic global image, World Heritage listing, and monitoring, management and public reporting by the GBRMPA, this researcher has concluded that the GBRMP receives more global media attention than competitor destinations which are exposed to similar anthropogenic stresses and climate change impacts.

Regardless of the position taken, it is reasonable to assume that potential DTs and supply-side stakeholders external to Cairns believe what they read on communication channels. This can generate a negative impact on visitations. For example, the RSDT interviews revealed that supply-side stakeholders in Melbourne and Sydney (i.e. dive retailers who sell RSDT) think the “GBR is dead” and it is perception that impacts their decision to send DTs to Cairns and/or inhibits plans to expand current Cairns-based RSDT offerings.

Negative media can have a long-term impact on the sustainability of RSDT in the Cairns section of the GBRMP (Pabel & Croy, 2018; Spilsbury, 2019b). These collective findings herald the need for stakeholders to explore opportunities to develop well-positioned collaborative counter-media strategies, educational programs and better promotion of diving conditions in the Cairns section of the GBRMP, such as those suggested by *Cairns Post* journalists Spilsbury (2019b), Nally (2019a), Calcino (2019b) and Mason (2019b).

Furthermore, these strategies need to be destination specific since negative media has often treated coral bleaching events as impacting the entire GBRMP. That is, the GBRMP covers 344,400 square kilometres and is 2,300km long with potential impacts varying considerably over its enormous mass. For example, while the media reported a “mass” bleaching event in 2019/2020, the Cairns section experienced minimal impact and many of the corals that were bleached recovered in the months following the bleaching event

(Bateman, 2020a). RSDT stakeholders called for a scale to be introduced to help the public better understand degrees of bleaching severity (Bateman, 2020b) and that bleached coral can recover. Figure 10.1 shows an example of sequential and full recovery of coral from March 2020 to September 2020 at Hastings Reef, a popular dive site in the Cairns section of the GBRMP.

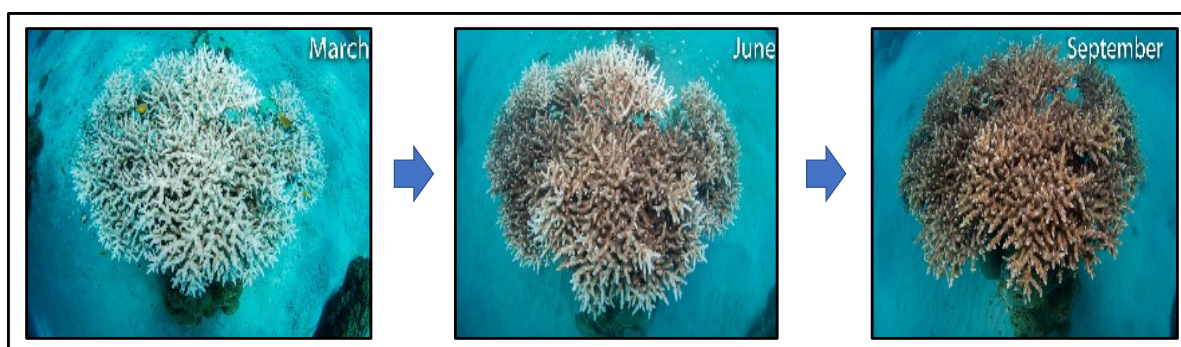


Figure 10.1. Sequential recovery of coral from March 2020 to September 2020 at Hastings Reef (Photograph: Alan Wallish)

#### **10.3.4. Dive tourists as influencers of ecofriendly practices and sustainability**

This research indicates that DTs can be influencers, and have the potential to be drivers, of ecofriendly practices. While it is acknowledged that associations between socially desirable responding and self-reported values exist in tourism surveys (Doran & Hanss, 2019), researchers need to take into account that self-reports of personal values to some extent could be distorted by tendencies for self-deception, 85% of the DTs indicated that ecofriendly policies highlighted in RSDT stakeholder promotional brochures and other marketing collateral influenced their decision to choose an operator. Most DTs (74.1%) generally found the dive vessel had practiced eco-friendly policies and practices during their dive excursion (see Chapter Seven). The questionnaire analysis also revealed that DTs are happy to pay the GBRMPA-imposed EMC. The implications of this finding will be discussed later in the chapter.

These findings suggest RSDT stakeholders should take the opportunity to promote more effectively their Eco Certification from Ecotourism Australia, coral restoration programs

undertaken, the use of certified Master Reef Guides (GBRMPA, 2019c) as staff, and their support of programs such as those promoted by GBRMPA (Eye on the Reef and Reef Guardians) and Citizen of the GBR. RSDT stakeholders must also address the cost of registration and compliance of these programs and the consequences of DTs identifying any greenwashing that may occur (Rahman, Park, & Chi, 2015).

#### **10.3.5. Summary of the major environmental factors impacting the LTS of RSDT in the Cairns section of the GBRMP**

Table 10.2 presents a summary of the major environmental factors impacting the LTS of RSDT in the Cairns section of the GBRMP. It includes how these factors relate to the barriers, drivers and opportunities identified in this research, the research instruments utilised and the research objectives investigated.

Table 10.2. A summary of the major environmental factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Environmental characteristics	Barriers	Drivers	Opportunities	Research Instruments utilised	Research objectives
Climate change	<p>Impact on major RSDT environmental attributes</p> <p>Rising sea temperatures and extreme weather conditions</p> <p>Anthropogenic stresses, coral bleaching &amp; COTS</p> <p>Decline in RSDT due to a fall in the quality of diving</p> <p>Stakeholders having no “plan B”</p> <p>Distressed assets</p>	Divers as ambassadors of the ocean & GBR	RSDT to address factors that can counter climate change impacts & intrusive species	<p>Content analysis of marketing collateral</p> <p>Stakeholder interviews</p> <p>Dive tourist questionnaire</p> <p>Focus group meeting</p> <p>Researcher observations</p>	Addresses research objectives #2, #3, #4 & #5
Dive features	Decline in RSDT due to fall in the quality of diving	<p>Coral abundance</p> <p>Good quality underwater visibility &amp; marine life encounters</p> <p>Large marine animal encounters and coral spawning</p>	Reverse adverse environment impacts		
Media	Continuation and frequent global negative media on the condition of the GBR	Positive media promoting ecofriendly practices by RSDT operators	Develop well-positioned collaborative counter-media strategies, educational programs & better promotion of diving conditions		

#### **10.4. Implications of the economic impact findings**

The literature review indicated that economic factors have a major impact on the LTS of a tourism destination (Dwyer et al., 2010; Fletcher, 2013). The following sections discuss the implication of the economic impact findings from this research on the LTS of RSDT in the Cairns section of the GBRMP.

##### **10.4.1. Implications of the macroeconomic impact findings**

In this research, macroeconomic impacts relate to the large-scale economic factors that influence the LTS of RSDT in the Cairns section of the GBRMP. These include many of the factors that were identified in the literature review and Cairns case study chapters (see Chapter Two and Three respectively) such as currency fluctuations, and contributions to the national, state and local productivity and employment. The following sections discuss the implications of the findings from this research in relation to these factors.

###### **10.4.1.1. Economic and political stability as a driver**

Chapters Two and Three established that tourism to Australia, Queensland and Cairns is a major contributor to “key performance parameters” (KPPs) such as “balance of payments”, value added to Gross Domestic Product (GDP), infrastructure builds and employment. The importance of a stable economic and political destination resulting in a safe and stable place to visit emerged as an important driver of LTS of RSDT in the Cairns section of the GBRMP. For example, most DTs (88.3%) agreed or strongly agreed Cairns’ reputation as a safe vacation destination, free of terrorism or civil unrest, had influenced their decision to visit.

###### **10.4.1.2. Implications of Australian currency impact findings**

The literature revealed that a rise in the AUD has the potential to lessen competitiveness against other international destinations with a “better bang for the buck”. All three groups of RSDT stakeholder interviewees were focused on the impact fluctuations in the AUD against the currencies of their major markets in Europe and the USA had on their businesses in the past. However, a review of economic data (Macrotrends, 2019, 2020) shows an AUD value of more than 80 cents against the USD has not occurred since 2013



(i.e. seven years). From 2013 the AUD has generally fallen and hovered around 72 to 75 cents during the period of this research. This translates into favourable currency exchange rates for international DTs, especially those visiting from important markets such as Europe and the USA. A lower AUD makes overseas RSDT destinations less attractive for Australian divers. Meanwhile, only half (49.7%) of all the DT respondents to the questionnaire indicated the value of the AUD influenced their decision to visit Cairns.

While it is acknowledged unfavourable fluctuations in the AUD is a potential barrier to competitiveness, given the amount of time stakeholder interviewees spent talking about this threat represents a possibly unjustified concern from a past impact. Alternatively, there was no evidence that stakeholders explored opportunities to avoid future unfavourable fluctuations in the AUD such as currency hedging, that is, locking in currency exchange rates with international agents and DTs booking direct.

#### **10.4.2. Implications of microeconomic impact findings**

In this research, microeconomic impacts relate to the small-scale economic factors that impact the LTS of RSDT in the Cairns section of the GBRMP. These include many of the factors that were identified in the literature review and Cairns case study chapters (see Chapter Two and Three respectively) such as Cairns-based RSDT economic health and condition of the RSDT market. The following sections discuss the implication of the findings from this research in relation to these factors.

##### **10.4.2.1. Cairns-based RSDT economic health status**

A major finding of this research was the low level of confidence stakeholders had in the future of RSDT. Nine out of the 13 Cairns-based RSDT stakeholder interviewees and eight of the nine governance interviewees thought Cairns-based RSDT was in decline (i.e. 51.5% of all stakeholder interviewees). In addition, several of the RSDT governance interviewees said dive operations were overcrowded and others felt that the diving was not as good as it used to be.

The focus group participants generally agreed Cairns was becoming an “old and grey” market, characterised by easy diving and not adventurous or exotic enough for the

experienced DT. However, contrary to these RSDT stakeholder perceptions, and given the mean age of DT respondents to the questionnaire (33.7 years), 82.5% said they would return and 86.7% said they would recommend Cairns-based RSDT to others with the experienced diver category more likely to do so. Additionally, the content analysis of the Cairns tourism brochures revealed there are at least 95 other activities DTs can do apart from scuba diving. Many of these are nature- and adventure-based (see Appendix B).

Although three of the governance interviewees emphasised the need for fresh innovations and initiatives to reinvigorate Cairns-based RSDT, there was no evidence of a formalised strategy to develop new drivers or take advantage of emerging opportunities. This is likely to contribute to stakeholders becoming path dependent and locked-in to existing business strategies which in turn can lead to an old and tired RSDT sector. This will be discussed later in this chapter. However, the difficulties of developing new strategies may be the result of confusion about what the Cairns-based marine tourism market really is and the high proportion of RSDT stakeholders who described themselves in retirement mode.

Stakeholders also need to gain some clarity about what they are attempting to market both at a cooperative and individual level. Only with such clarity can marketing efforts be time and cost effective.

#### **10.4.2.2. RSDT market in transition**

This research revealed that Cairns-based RSDT is in a state of transition and subjected to the influences of product life cycle impacts. The stakeholder focus group generally agreed the RSDT market is shifting towards introductory dive experiences and snorkellers rather than conducting dive courses and catering for certified divers (see Chapter Nine). However, this transition, if it were to occur, may neglect the established training and certified diver markets and associated revenue streams. For example, the questionnaire indicated that over 80% of DTs were satisfied or extremely satisfied with their diving experience and the value they received for their money (see Chapter Seven). Additionally, as discussed earlier, DT displayed high levels of desire to return with the experienced diver category more likely to recommend RSDT in Cairns to others (see Chapter Seven). With

such high levels of loyalty, these findings indicate Cairns-based RSDT operators would lose a major driver of LTS if they were to fully transition away from the certified diver sector of the RSDT market.

However, this transition may be driven by Cairns-based RSDT operators able to gain greater profitability from conducting introductory dives and revenues from the much larger snorkelling market. A review of entry level dive courses revealed an Openwater Course (i.e. entry level certification) costs \$1,050 with one of Cairns leading training facilities. The diver needs to allocate between 4 to 5 days to complete online theory. PADI charge between \$220 and \$130 for the online training and certification package. The course involves 31 hours of recommended training involving five pool sessions, four open water dives and an optional snorkel dive (PADI Standards and Procedures, 2020). The training facility costs also include on-reef accommodation, instructor fees, providing equipment for students and infrastructure costs (e.g. vessels, classrooms, pools and student transfers). The stakeholder interviews revealed significant concerns regarding the additional impact on income revenues incurred from commissions paid to travel kiosks for customer referrals. This position is supported by a confidential report to AMPTO conducted by Prideaux & Thompson (2017).

In contrast, an introductory dive does not include costs to the RSDT operator associated with classroom and pool infrastructure. Costs to operators only include instructor fees and costs associated with the use of equipment since these programs are conducted on the dive vessel. Additionally, since many introductory dive programs are sold on the way to the reef, commissions are not paid to travel kiosks for add-on sales once a referred customer is onboard.

One instructor can do as many as four individual dive experiences with a total of 16 tourists participating per trip. Introductory dives can also be promoted to non-divers and sold while transiting to and while out on the GBR when excitement is at its highest. These programs cost tourists approximately \$70 and require a pre-dive briefing and culminate in a 20 to 25 minutes underwater experience led by a diving professional. A further experience the same day incurs an additional \$45. As opposed to the cost of certification packages,

PADI charges \$4.35, while SSI does not charge any registration fees. Pre-booking an introductory experience with the trip component can reduce the cost to the tourist further.

Given the cost of running an open water course, these introductory programs appear to be more cost and time effective for the RSDT operator. This may account for the dive industry quoting there are 120,000 introductory courses conducted in Cairns annually. Introductory and snorkelling programs also appear to be more appealing to a much larger Reef tourist market and the new cohorts identified earlier in the chapter. Similarly, some focus group participants indicated tourists may not be able to justify the time and cost associated with a diver certification training course (see Chapter Nine). This observation is supported by only 18.9% of DTs responding to the questionnaire indicating they undertook diver training while visiting Cairns (see Chapter Seven).

This research also found such a transition can cause conflicts and pit-falls as some RSDT operators attempt to be all things to all Reef tourists (Hall, 2007). For example, 11 of the 13 Cairns-based interviewees indicated that, apart from RSDT programs, they derived income from at least one other source. These included equipment servicing, first aid courses, sales tuition, commercial diver training and other tourism activities. Furthermore, when asked whether they preferred a vessel that only catered for certified scuba divers, with no swimmers or snorkellers aboard, only 20.6% of DTs were happy to share the vessel. The statistical analysis also showed the desire to have a dedicated vessel for certified divers (36.6%) was strongest amongst the more experienced DTs (arguably RSDT's "alpha" customer). Clearly, these findings indicate Cairns has an established RSDT market with high levels of DT satisfaction and loyalty which should not be ignored during any transition to other forms of marine tourism.

#### **10.4.2.3. RSDT in transition**

The focus group indicated a need to focus on the demands of a new type of reef tourist. This may be in the form of a transfer from a focus on the volume of DTs currently employed by most of the Cairns-based RSDT stakeholders (e.g. large capacity vessels with swimmers, snorkellers and scuba divers aboard) to a business model which would return

greater revenues for less investment. Such an approach may include higher DT satisfaction, less exposure to issues that come with a dependence on volume (i.e. impact of airline strikes, route closures, and pandemics) and greater long-term economic sustainability. Researchers have begun to identify the high volumes of tourists in some destinations negatively impact key assets and reduce visitor experience and revenue returns for stakeholders (Lansky, 2019). Similarly, from 2019 TEQ began to address their nature-based tourism strategy. The aim of this strategy is to provide a roadmap that will deliver sustainable growth rather than a focus on tourist numbers. Such a transition to a “less volume for greater return” business model may also address destination carrying capacity issues and make RSDT stakeholders less vulnerable to the negative impacts of externalities on tourism presented within the literature and more recently by COVID-19.

The focus group meeting indicated that Cairns and other RSDT destinations may also be transiting away from a focus on training and catering for certified divers to a model that has a stronger focus on introductory dives. Additionally, some anecdotal evidence exists that this transition in Cairns has been occurring for some time since there is significant opinion amongst RSDT leaders that introductory scuba divers largely outnumber certified divers on Cairns day boats (G. Phillips, CEO AMPTO, personal communication, February 22, 2021; A Wallish, Vice President of Dive Queensland Inc. & charter operator, personal communication, February 24, 2021).

Several of these new cohorts may represent evidence of a possible trend in the evolution of some areas of adventure tourism where participants are not likely to ever become dedicated enthusiasts of the activity or able to undertake the activity without direct professional support. More likely these individuals undertake the adventure as a means of expressing their human capacity to challenge personal limitations, to “tick the box” of experiences and share selfies on social media platforms for reasons identified by Senft and Baym (2015). Some examples of this trend are already found in bare boating, white water rafting, tandem ski diving and hang gliding, and even climbs to the summit of Mount Everest.

#### **10.4.2.4. Implication of market and marketing impact findings**

The literature review reflected the importance effective market penetration and marketing initiatives are to economic LTS, and the related competitiveness, of a tourism destination (Fletcher et al., 2013; Hall, 2007; Hudson, 2008; Neto et al., 2017; Neto et al., 2019; Pike, 2018; Ritchie & Crouch, 2003), protected areas (Wearing et al., 2016) and RSDT (Dimmock et al., 2013).

The characteristics of Cairns-based RSDT existing markets identified from the DT questionnaire and reported in Chapter Seven indicate:

1. DTs are drawn from at least 41 diverse countries.
2. DTs are from reasonably affluent countries.
3. Most DTs require long-haul access to Cairns.

The following sections look at the market and marketing barriers, drivers and opportunities identified within this research that impact the LTS of RSDT in the Cairns section of the GBRMP.

#### **10.4.2.5. Implications of the domestic market findings**

The DT questionnaire analysis revealed 104 (19.5%) of the DT questionnaire respondents came from the Australian domestic market and this was identified as the third most important market to Cairns-based RSDT. Further analysis revealed that these DTs came from every state and territory of Australia. However, most of the dive centre decision-maker interviewees on the supply-side are in the capital cities as shown in Table 6.1 (Sydney, Brisbane, Melbourne and Adelaide,) and indicated they would rather send their clients overseas. One reasonable explanation for this position derived from the RSDT stakeholder interviews is supply-side stakeholders outside of Cairns seem to be focused on price comparisons or value for money criteria in their decision process. However, if value for money is their main concern, they need to realise that 76.5% of the DTs felt the value for money was better from their Cairns-based dive experience than from other dive destinations they had visited and only 5.4% said it was not.

This existing contrast in supply-side stakeholders located outside of Cairns and the DT's position represents a barrier and a lost opportunity for supply-side entities. It calls for Cairns-based RSDT stakeholders to develop better communications within their supply chains on value for money criteria they offer. This could include relating DT satisfaction levels identified in this research and discussed earlier in this chapter. Additionally, further research may be required to gain a deeper knowledge of why, on one hand, satisfied domestic DTs make up such an important part of the current mix for Cairns-based RSDT while, on the other hand, supply-side RSDT stakeholders outside of Cairns would rather send their clients overseas.

#### **10.4.2.6. Implications of the international market findings**

The findings from Chapter Seven illustrated the importance of the European (23.8%) and USA (22.1%) RSDT markets. These two markets make up 45.9% of all the DT questionnaire respondents. While it is obvious that these markets are critical to the LTS of Cairns-based RSDT, there was little evidence RSDT stakeholders have a coordinated strategy to maintain and further develop these markets. Furthermore, Chapter Seven illustrated there is very little market penetration into UK (8.8%), Scandinavian (6.8%), Canadian (6.2%) and Asia Pacific (3.0%) and Chinese (0.38%) RSDT markets.

Chapter Seven also supported the perceptions of some stakeholders that the Japanese (5.1%) and Korean (2.1%) markets are currently in decline. These findings represent both a current barrier to growth and an opportunity to be explored to support LTS.

#### **10.4.2.7. Forgotten markets**

Given Cairns has catered for Japanese DTs since the late 1980s and significant Japanese investment in tourism infrastructure has occurred since 1991 (see Chapter Three), it was a surprising finding of this research that Japanese divers represented such a small percentage (5.1%) of the DT respondents to the questionnaire. A reasonable explanation for this low level of market penetration could be found in the content analysis of the Japan-based *Marine Diving Magazine*. Over the two-year period of analysis this research found no advertising or editorial content regarding Cairns-based RSDT (see Chapter Five) was

published. Similarly, the Marine Diving Fair Awards acknowledgements indicated Australia ranked eighth with just 2.6% of the 6,253 total votes by Japanese divers who considered Australia as the best overseas dive destination and country they were dreaming about visiting.

The only Cairns-based RSDT operator featured across multiple categories was in the Best Liveaboard category, where they ranked eleventh with just 1.4% of the 1,451 total votes in the category (see Chapter Five). In contrast, researcher observations indicate Cairns has a pool of Japanese-speaking diving instructors who are underutilised and Tourism Australia (2018) reported the Japanese tourism market for Australia has continued to grow.

South Korea is acknowledged within the dive industry as having a large domestic scuba market. However, only 2.1% of respondents to the DT questionnaire were Korean. This indicates a lost opportunity for Cairns-based RSDT stakeholders to convert this potential market into a driver of LTS.

According to Tourism Australia visitor data (2018), Singapore and Malaysia have a combined total of 848,900 visitors to Australia annually and collectively. This places them above the longer-haul visitors from both the USA (789,100 visitors) and the UK (733,400 visitors). However, there were only two Malaysian (0.38%) and no Singaporean DTs amongst the 533 questionnaire respondents. One reasonable explanation for this low number of DTs is that apart from Dive Queensland Inc. exhibiting in dive expos in both these countries from 2017 to 2019 (Cummins, 2018a, 2019), there has been very little other effort observed that addresses these RSDT markets.

The literature review also found that New Zealand is Australia's second largest inbound tourism market with New Zealanders spending \$563 million in Queensland (Tourism Australia, 2018; TEQ, 2019a). The importance of New Zealand to tourism in Cairns is illustrated by the existence of direct flights from Auckland. However, the results from the DT questionnaire identified only six respondents (1.1%) came from New Zealand. The combined findings of this research imply RSDT stakeholders need to reinvigorate the Japanese market



with coordinated, destination specific marketing strategies. Similarly, the Korean, South-East Asian and New Zealand RSDT markets need to be further explored.

#### **10.4.2.8. Implications of backpacker market impact findings**

The literature review indicated the importance of the backpacker market to tourism and Cairns (Hudson, 2008; Moscardo et al., 2003; Nally, 2016c; Pearce & Moscardo, 2001; Pearce et al., 2009; Richard & Wilson, 2004; Rodrigues, 2013; Sakata & Prideaux, 2013; Scheyvens, 2002). DT backpackers in this research were of domestic and international origins. A significant finding of this research is the varying impressions stakeholders have of the importance of this market. For example, 10 of the 11 supply-side RSDT stakeholder interviewees located outside of Cairns and two of the 13 supply-side RSDT stakeholder interviewees in Cairns, did not see this as an important market. Meanwhile, 22.1% of the DT questionnaire respondents were backpackers and the most preferred mode of accommodation of all DTs was a backpacker hostel (36.6%). Stakeholders need to maintain and develop this market as a major driver of long-term economic sustainability. Additionally, they need to address the gap in knowledge that supply-side RSDT stakeholder interviewees located outside of Cairns have of the potential opportunities of this market. That is, given the importance of this market, not only to RSDT, but to the broader Cairns tourism sector, supply-side entities need to have a clear knowledge of its role as a driver of LTS.

#### **10.4.2.9. Implications of the emerging market findings**

Based on Tourism Australia data (2018), there are emerging market opportunities for Cairns-based RSDT including India (up 18%), Hong Kong (up 10%), Indonesia (up 8%), and Singapore (up 3%). There is also evidence that Far North Queensland and Cairns could also see growth from the Middle East and Thailand (Dalton, 2017a; Kinsella, 2017; Pham, 2017; Vlasik, 2016d).

Cairns is seeing an increase in tourists from India (Tourism Research Australia, 2015), possibly the result of TEQs Queensland on Stage – India initiative of 2014, and interest from the Middle East market with Emirates Airlines showing interest in Cairns (Smith 2016e). From Chapter Six, stakeholder interviewees indicated they had a capacity to

address multiple inbound markets such as Spanish, German, French, Chinese, and Japanese visitor segments. At least one interviewee indicated a desire to become more proactive addressing the China, India, and Middle East markets. However, there was no evidence revealed to the researcher that stakeholders had a strategic plan to either re-engage or penetrate these markets.

Unfortunately, accurate dive industry data are not available to assist in the development of RSDT strategic plans, which created a call for further research and the release of resulting data so that they may have it (Cummins et al., 2019b). In the meantime, the combined findings from the research instruments utilised in this research indicate a disconnect between Cairns-based RSDT and several existing and potential markets. Those markets hold a key to help drive long-term economic sustainability requiring RSDT stakeholders to readdress their short to long-term marketing strategies to overcome existing barriers and develop new opportunities.

#### **10.4.2.10. Distance decay and the emergence of Cuba as a RSDT destination**

McKercher and Mak (2019) described the effect of distance decay on tourism where arrival volumes and departure share declines with distance. Although McKercher and Prideaux (2020) acknowledged not all market access is limited to the impact of distance decay, it is reasonable to assume distance from existing and potential markets significantly impacts a RSDT destination's attractiveness and LTS. This is especially the case for destinations that require access through long-haul flights with associated high costs and time. Meanwhile, this research revealed that 64% of DTs felt the cost of travelling to Cairns was expensive.

The researcher also has developed the perception whilst reviewing the literature and collecting data that a significant barrier to accessing the US RSDT market is looming for Cairns-based RSDT. Although the presence of objective criteria is unclear, Lew (2013a) listed Cuba as one of the 10 best dive sites in the world. Nevertheless, dive industry publications, documentaries and the literature have been reporting for some time Cuba's clear waters, marine megafauna, caves and shipwrecks (Hettermann, 2016; Wight, 1995).

The DTs' questionnaire indicated the USA is the second largest market for Cairns-based RSDT. The emergence of a more accessible dive destination for US-based divers could also have a broad impact on RSDT destinations globally as the USA is generally agreed within the global dive industry to be the largest base of scuba divers that undertake dive vacations (Cline, 2020). Cuba can already be accessed from major ports in Europe (Cairns-based RSDT biggest market) in under 10 hours and multiple ports through the USA and Canada within five hours.

Furthermore, the stakeholder interviewees and members of the focus group acknowledged that DTs look for something exotic and Cuba seems to be well-poised to tick many boxes that researchers have indicated influence the choice of a RSDT destination. It is reasonable to assume that Cuba is potentially a highly attractive and competitive destination for US-based DTs if the current US Government travel restrictions were more flexible or fully lifted. More research is required to assess this threat to not only Cairns-based RSDT but to the broader economic sustainability of Cairns as a tourism destination with many of the DTs respondents to the questionnaire (76.7%) indicating they visited Cairns to dive the GBR.

#### **10.4.2.11. The implications of competitive market findings**

The analysis of the DT questionnaire indicated many had dived on coral before visiting Cairns and that the Bahamas, Caribbean, Thailand, Indonesia and the Philippines are significant competitors to Cairns-based RSDT (see Chapter Seven). The supply-side stakeholder interviewees located within Australia, but outside of Cairns, also indicated they preferred to send clients to Thailand, Indonesia, the Philippines and Pacific islands than Cairns. The Pacific Islands RSDT destinations also ranked fifth according to the DTs questionnaire respondents.

The findings also indicated the DT respondents have visited other parts of the GBRMP with implications to the growing competitiveness of other GBRMP RSDT destinations. Alternatively, the DTs' experience with other parts of the GBRMP may indicate a transient market made up of backpacker DTs who do multiple dive vacations to the

GBRMP. Since other parts of the GBRMP ranked fourth highest in other RSDT locations visited by the DT respondents, more research is required to ascertain the size and implications of this market to the LTS and competitiveness of Cairns-based RSDT.

Furthermore, it was revealed earlier in the chapter that DTs visiting the Cairns section of the GBRMP are likely to do few dive vacations per year or spend more than \$3,000 in the next 12 months on RSDT. These two factors and those discussed earlier are likely to lead to high levels of competition between the proliferation of RSDT destinations and further indicates that Cairns-based RSDT is in a highly competitive market.

#### **10.4.3. Cross-marketing implications**

Cross-marketing between tourism activities can be a driver of long-term economic sustainability by providing additional revenue-earning potential through linkages created by formal and informal partnerships. The findings of the content analysis of tourism brochures presented in Chapter Five indicates that there are at least 90 nature- and adventure-based activities visitors to Cairns can do apart from scuba diving (see Appendix B). The availability of these activities is seen by most of the RSDT stakeholder interviewees and DTs questionnaire respondents as increasing the desirability of Cairns as a tourism destination. Although 76.7% of the DTs stated they primarily came to Cairns to dive the GBR, a few of the stakeholders did not like the competition the presence of other activities created.

While further research is required to gain a clearer understanding of the reasons behind these varying opinions, it is reasonable to assume from the findings of this research that RSDT stakeholders could benefit more from the development of cross-marketing strategies with other tourism sectors. Given the number of activities already established in Cairns, there is a high degree of potential success, especially since Van der Merwe et al. (2011) concluded marine tourists tend to do a variety of activities more than any other type of tourist. Additionally, the barrier created by the no-flying-immediately-after-diving restrictions described in the literature review can be turned into an opportunity. That is, to increase the potential for DTs to undertake other tourism activities whilst allocating time for dissolved gas to be eliminated from their tissues before flying to altitude.

#### **10.4.4. Implications of current marketing strategies**

The lack of scale and breadth of destination-specific marketing of Cairns-based RSDT to international and domestic markets was found to be evident throughout this research. While stakeholders seem to prefer their own websites, online booking systems and social media platforms, they have an obvious lack of marketing penetration at dive events, in dive publications and the effective use of other potential avenues (e.g. creative signage, billboards, newspaper, radio and TV). Five RSDT supply-side interviewees located outside of Cairns admitted they did not promote sending any divers to Cairns by direct contact or in their marketing collateral (print or internet-based).

Marketers stress effective marketing must employ a marketing plan which should include a variety of media to gain width and breadth in product promotion (Bennett, 1997; Castronovo & Huang, 2012; Dwyer et al., 2010; Hudson, 2008; Kotler et al., 2001; Pike, 2007; Pike, 2018). However, the stakeholder interviews revealed only seven of the 13 (53.8%) Cairns-based supply-side stakeholders had formal business plans in place (see Chapter Two).

Except for the dive show marketing conducted by Dive Queensland Inc. (Cummins, 2018, 2019a,b), TEQ and the presence of two of the Cairns-based live-aboards dive vessel operators, there was no evidence of any significant destination marketing as described by Pike (2012). Furthermore, there was no evidence stakeholders intended to adopt a position on marketing that reflected the same financial instruments that companies use to measure the success of any asset they acquire (Zyman, Leonard-Barton, & Sway, 1999) or adopt a marketing metrics approach as described by Farris (2010). Stakeholders cited the lack of individual company marketing capital to expand on any current efforts and reverted to relatively low cost online promotions. Meanwhile, the focus group participants collectively called for destination storytelling and a destination marketing strategy.

#### **10.4.4.1. Lack of exposure in dive media implications**

Effective media exposure is a major factor impacting the LTS and competitiveness of tourism destinations. Given Cairns' reputation as an iconic and globally renowned dive destination, and claiming to be the gateway to the GBR, it is a significant finding of this research that Cairns-based RSDT operators had very little marketing penetration in dive magazines (see Chapter Five). The content analysis of the dive publications revealed Cairns-based RSDT operators had no advertising or editorial content in the Japanese-based Marine Diving magazine, one of the most important markets revealed in the DT questionnaire (rank seventh) and was poorly represented in the Australian dive publication (ranked third). Furthermore, despite Cairns being one of PADI's largest diver and training areas in the world, Cairns-based RSDT only had a 0.3% total destination media exposure against page numbers in PADI's *The Undersea Journal* during the analysis period.

Overall, the findings of this research are that Cairns-based RSDT is out-performed by the cumulative efforts of overseas and other RSDT destinations in Australia in respect to advertising and editorial content. Unless this major barrier to LTS is addressed, it is likely that Cairns-based RSDT will attract less global interest and suffer from a fall in destination competitiveness. Such media strategies would need to address penetration into the existing major markets of Europe, USA and Australia, while exploring opportunities in the emerging RSDT markets revealed in the academic and grey literature.

One reasonable explanation for the lack of advertising and editorial by Cairns-based RSDT is related to the common practice of magazine editors favouring paid advertisers with associated editorials. RSDT stakeholder interviews revealed they had little interest in advertising in dive publications, preferring to market through their own websites and social media platforms. Similarly, the focus group participants generally agreed that dive publications tended to feature exotic destinations. However, the content analysis of the dive publications revealed this may not be a global opinion with numerous RSDT destinations displaying both editorial and advertising content in all six publications analysed.

As a possible consequence, the DT questionnaire supported the lack of marketing as a driver in dive publications, with only 0.9% of respondents finding out about a Cairns-based RSDT supply-side operator through a dive magazine (see Figure 7.1). While avoiding the potential pit-falls of co-branding (Aujla & Kaur, 2017), stakeholders need to explore the driver potential of collaborative/multi-branding and advertising as described by researchers (Can et al., 2020; Riaz & Ahmed, 2016; Wang, Japutra, & Molinillo, 2020) since there was no evidence of this practice displayed in the content analysis of stakeholder brochures or the dive publications (see Chapter Five).

In addition, RSDT stakeholders might consider new and innovative ways to market through print media. Anecdotally, magazines in print form available at airport lounges are popular with long-haul passengers. In-flight magazines provided by most airlines are another form of print media stakeholders should consider as a possible driver of impulse interest in Cairns-based RSDT.

#### **10.4.4.2. Dive expo participation implications**

The findings from Chapters Five (content analysis) and Eight (researcher observations) identified that current marketing strategies of Cairns-based RSDT lack penetration at dive shows and events. Post-expo reports reflected a high degree of interest by show participants in RSDT destinations. Observations by this researcher (Cummins, 2018, 2019a,b,c) at eight international dive expos from 2017 to 2019 indicated other RSDT destinations were far better represented than Cairns-based RSDT. In only two of these shows was an individual Cairns-based RSDT entity presented as an exhibitor while Dive Queensland Inc. represented all RSDT member entities in Queensland on a smaller scale.

A possible consequence of the poor expo exposure is that only 0.9% of DTs found out about the tour operator they utilised in Cairns at dive expos. Similarly, it is reasonable to assume the lack of presence and/or the quality of their exhibit resulted in just 0.6% of DTs booking a Cairns-based RSDT operator at a dive expo (see Figure 7.2). These findings imply Cairns-based RSDT stakeholders need to expand dive expo activity, especially given the coverage other destinations are receiving.

#### **10.4.4.3. Summary of the dive media and expo implications**

The collective findings of this research indicate Cairns-based RSDT stakeholders need to acknowledge the role of dive magazines and dive expos in their marketing mix. These are recognised drivers for generating product interest. They also collectively provide an opportunity to dispel the impacts of the barriers such as negative media and provide accurate details of RSDT products being offered that are not necessarily well presented by agents. Additionally, these joint findings indicate that supply-side RSDT stakeholders collectively need to re-evaluate the effectiveness of destination marketing.

Such marketing strategies can address the financial concerns of individual stakeholders regarding participation in magazine advertising and dive expos and possibly increase the level of long-term support from tourism NGOs, governments and the GBRMPA. The sharing of these findings by the researcher with RSDT stakeholders has led to some of the game changes (see Chapter 11).

#### **10.4.5. Implications of the lack of government marketing support**

Apart from the support discussed in the previous section, there was no other evidence of any government- or NGO-financed marketing of Cairns-based RSDT found during this research. The researcher's observations, including displayed facial expressions and voice tones by RSDT stakeholder interviewees and focus group members, reflected high levels of anger, frustration and dissatisfaction regarding the marketing support they receive from governments and/or NGOs (see Chapters Six, Eight and Nine). The grey literature indicated that tourism stakeholders felt they had been abandoned by government and were questioning who should carry the burden of marketing (Dalton, 2014).

In contrast, dive show reports by the researcher (Cummins, 2018, 2019a,b,c) indicate several coral reef RSDT destinations (e.g. Philippines, Indonesia, Thailand, Malaysia and Fiji) gain significant financial support from their governments and tourism NGOs, resulting in large exhibitions and highly visible sponsorship branding of dive expos. Several RSDT stakeholder interviewees also indicated they could not individually match the marketing efforts of other RSDT destinations or those of the large multinational RSDT operators found



in Cairns. These findings support the expansion of cooperative and destination marketing initiatives discussed below in the chapter and highlight the need for government and NGO support as critical drivers behind marketing efforts that will impact the LTS and competitiveness of Cairns-based RSDT.

#### **10.4.6. Lost sales opportunities**

One of the most surprising findings of this research is the magnitude of lost sale opportunities RSDT stakeholders experience in the Cairns section of the GBRMP. These include lost retail sales, souvenir sales, diver training, the wider use of nitrox (i.e. enriched air) and penetration into niche markets. These findings are discussed in the following section.

##### **10.4.6.1. Lost retail sales**

The DT questionnaire analysis found only 18.2% had purchased any dive equipment. This was primarily in the form of expenditure on dive masks, snorkels and fins or 54.2% of the total purchases identified. Only 16 DTs (3%) purchased a full kit of scuba gear (see Chapter Seven). One reasonable explanation of the relatively low interest in equipment purchases is the price. That is, very little diving equipment is manufactured in Australia. For example, all three of the RSDT stakeholder interviewees representing scuba equipment wholesalers were agents for foreign-owned manufacturers. Cairns' reputation and importance for equipment sales revealed by the wholesale equipment interviewees seems to be attributed to the large amount of equipment operators purchase to provide to DTs on their charter vessels. That is, the volume of equipment sales in Cairns is the result of a "business to business" (B2B) function, and not a "business to consumer" (B2C) function.

Another reasonable explanation of the relatively low interest in equipment purchases by the DT is the high percentage of backpackers found within the DT respondents to the questionnaire (22.1%). That is, a backpacker is unlikely to want to purchase high-end, bulky and heavy equipment which is incompatible with a travelling lifestyle. Another reasonable explanation is backpackers may not want to invest in diving equipment, but rather spend their money on other activities, accommodation, food and other living expenses.

Meanwhile, several of the RSDT stakeholder interviewees felt online sales had seriously impacted their retail business. However, at least one of the Cairns-based dive retailer interviewees pointed out the backpacker can be a good retail customer for basic dive equipment such as masks, snorkels and fins and that these sales are rarely impacted by online entities. This was due to DTs not having the time to order and gain delivery between the time of registering on a dive course and needing the equipment.

Successful retailing is a complex process and includes generating excitement (Falk, 2003) along with employing visual merchandising techniques (Bell & Ternus, 2009; Hefer & Nell, 2015; King, 2008). Observations by the researcher found that only two of the five dive retailers are well placed to take advantage of sales generated from positioning in high traffic areas such as the Cairns CBD and/or marina. The others are located off the main consumer vehicle and foot-traffic areas outside of the CBD.

Apart from the hire of cameras and the sale of photographs of DTs taken by the onboard professional photographer staff, observations by the researcher identified little promotion of souvenir sales commonly found at tourism destinations (e.g. branded clothing, towels, coffee cups and drink coolers). This was particularly the case observed on the day-vessels. T-shirts that were offered for sale were dominated by the company's brand and lacked creativity that might reflect the importance to DTs of marine life encounters and "life-experiences" identified in this research; for example, a T-shirt with marine animal graphic and slogan: "I dived with a shark with [RSDT operator]."

The opportunity to gain revenue streams from these add-on sales is presented over the two, two-hour journeys to and from the GBRMP. However, during most of the journey to the GBRMP, observations by the researcher presented in Chapter Eight and the focus group findings confirmed the crew are focused on administering, completing and checking paperwork for those undertaking diving and there is little interaction between crew and DTs except for vessel safety and dive briefings.

#### **10.4.6.2. Loss of potential diver training sales**

It was revealed in Chapter Three that Cairns has an international reputation for being one of the world's largest producers of diver certifications and one of PADI's largest global markets (D. Dwyer, Vice President PADI Asia Pacific, personal communication, February 12, 2020). Most of the RSDT stakeholder interviewees talked about importance of diver training revenue to their businesses. The content analysis of RSDT stakeholder brochures also revealed multiple training options being offered to DTs. However, one of the most surprising findings of this research is the relatively low penetration RSDT stakeholders have into the selling of dive courses to tourists and what the dive industry calls continuing education courses to those already certified (i.e. by offering courses beyond the entry level).

The findings from the DT questionnaire analysis revealed only 18.9% of the DTs indicated they undertook dive training whilst in Cairns. Of all 157 courses undertaken, 40.76% were at the entry level. It is also noted there is the strong possibility that double-counting may have occurred as a single DT may have completed more than one of the courses identified (Cummins et al., 2019).

Chapter Three revealed some Cairns-based stakeholders have centres which are well placed to provide training with classrooms, training pools and dive vessels to complete the required open water dives in the GBRMP. However, as previously discussed in this chapter, tourists (i.e. potential new divers) and DT (i.e. those already trained and certified) are likely to be somewhat time poor and possibly reluctant to commit to the time it takes to undergo initial or further training. This suggests a need for Cairns-based diver training providers to address the changing consumer needs discussed earlier in the chapter and highlight the life experiences that can come within a training regime. These include placing more emphasis in dive promotional brochures on the virtues of spending days at sea, the potential for marine life encounters and the abundance of coral.

Barriers to training growth also identified in this research can be attributed at least in part to the disconnect between what RSDT Cairns-based supply-side stakeholders can provide and what those located outside of Cairns perceive is available. For example, several

of the RSDT supply-side stakeholder interviewees located outside of Cairns felt that nitrox (enriched air) was generally unavailable in Cairns while this research found nine of the 13 RSDT (69.2%) of supply-side stakeholders located in Cairns did offer nitrox as a breathing gas and/or offer training in its use and another was in the process of introducing it.

Similarly, most of RSDT supply-side stakeholders located outside of Cairns also felt that Cairns does not offer technical diving and/or that the Queensland Government's Code of Practice inhibited it as a RSDT product offering. Nine of the 11 (81.8%) of these RSDT supply-side stakeholder interviewees felt offering technical diving would be a means of increasing the attractiveness and competitiveness of Cairns-based RSDT. However, like the disconnect between RSDT supply-side stakeholders regarding nitrox availability, this research found at least two Cairns-based operators offer technical diving including the training and use of rebreathers.

A reasonable explanation for the disconnect between stakeholders is technical diving in Cairns is not generally promoted since most RSDT supply-side stakeholders located in Cairns feel technical diving is too difficult to set up and income streams are disproportionate to costs. The position of the Cairns-based RSDT stakeholders seems to be supported by the DTs. When asked whether they would have done some technical diving if offered, they were divided with 29.4% indicating an interest (i.e. comprised mainly by those in the experienced diver category), 27.8% indicating no interest and the remainder (42.8%) had no preference for a technical diving experience.

However, this research generally found stakeholders are locked-in and path dependent in relation to their business activities resulting in a reluctance to try other endeavours. The lack of technical diving represents a missed opportunity since anecdotal claims within the dive industry indicate technical divers are alpha customers (high-end equipment purchasers). Without these barriers being addressed, Cairns may develop or continue to be viewed, as a destination for the relatively inexperienced DTs.

It is reasonable to assume that interest in technical diving could be increased and current barriers overcome if stakeholders:

1. Effectively utilised the steep/deep wall dives found on the outer GBR and in the Coral Sea.
2. Addressed the Queensland Government's Code of Practice requirements for recreational technical diving.
3. Gained revenue streams by overcoming cost barriers.
4. Employed effective marketing.

#### **10.4.7. Marketing opportunities**

The collective findings of this research indicate Cairns-based RSDT stakeholders need to investigate future marketing opportunities not previously utilised. The RSDT stakeholder interviews revealed several opportunities not explored or fully utilised.

##### **10.4.7.1. Disabled diver marketing opportunities**

Although the literature indicated that RSDT has an opportunity to engage with the disabled diver global community (Khoo & Walsh 2013; Pearson, 2016), there was no evidence this market segment is pursued. Although this is a niche market, Tourism Research Australia (2018) estimated the spend for the travel party (including the person with a disability) was \$1.9 billion (approximately 10% of total domestic spend in Queensland). Explanations by several of the RSDT stakeholder interviewees why this market is not explored included the cost of specialised staff and infrastructure to properly cater for divers with disabilities. However, observations by the researcher made on several of the vessels that were utilised to collect the DT data, revealed the necessary facilities were available.

##### **10.4.7.2. Need to develop marketing opportunities across all training agencies**

The DT questionnaire analysis revealed a heavy dependence on divers certified by PADI. As mentioned earlier in the chapter, PADI claims to be the world's largest and leading diver organisation (PADI, 2020). However, dependence on staff and divers from one training agency heralds a threat if the agency were to lose momentum. The content analysis of PADI's *The Undersea Journal* also revealed that Cairns-based RSDT operators had a total page exposure against other destinations of just 3% over the analysis period. An opportunity

therefore exists for Cairns-based RSDT stakeholders to broaden their reach and utilise drivers that can be provided by other diver training agencies.

#### **10.4.7.3. Mass coral spawning marketing opportunities**

The annual mass coral spawning event on the GBR has been described by Glud, Eyre and Patten (2008). This event has attracted divers for some time although only occurring over a few nights. The RSDT stakeholder interviews and observations by the researcher indicates that only one of the Cairns-based dive operators actively promote diving around this annual event. Apart from the attraction of the coral spawning, the event creates the opportunity to engage DTs in night diver specialty courses and other forms of environmental programs developed by the training agencies. Further investigation found not all Cairns-based dive vessels are certified to carry out night excursions to the GBRMP.

#### **10.4.7.4. Whale season marketing opportunities**

The annual humpback whale migration on the GBR has been described by Smith et al., (2012). The opportunity to directly interact with Dwarf Minke whales during their seasonal presence has been described by Birtles et al. (2002). Observations by the researcher indicated that no Cairns-based RSDT operator actively pursued humpback whale watching and only three cater for the Dwarf Minke whales market. Further investigation exposed a barrier to whale encounter opportunities with most vessels not having whale encounter government permits. These whales provide an opportunity for Cairns-based vessels to expand their tourism offering and warrants further investigation.

#### **10.4.7.5. Coral Sea marketing opportunities**

The Coral Sea Marine Park accessed by three Cairns-based live-aboard dive vessels (see Figure 3.13) can be regarded as one of RSDT greatest assets with world-renowned scuba diving (Lew, 2013). The Marine Diving Fair secondary data referenced in Chapter Eight ranked one of the live-aboards servicing the Coral Sea eleventh out of the top 30 “Best Liveaboards” favoured by survey participants. However, the park is underutilised and presents an opportunity for Cairns-based RSDT stakeholders, with the right resources (e.g. long range vessels), to expand operations.

#### **10.4.7.6. Junior diver market opportunities**

For some time, the dive industry has identified the drop-out rate or time-out by divers as having a negative impact on industry growth. One aspect of the time-out seems to be during child-rearing years (Cummins et al., 2019; Davidson, 2007). However, this research has not detected the widespread use by Cairns-based RSDT stakeholders of family-orientated programs or the expansion into the student and youth markets (Cummins, 2007).

The stakeholder brochures saw family and children themes ranked 23 and 24 respectively while there was no evidence of assistance with child minding. However, Vue (2020) revealed one Cairns-based RSDT stakeholder had adopted an active approach to the programs developed by the diver training agencies for children from 10 to 12 years old. These programs are permitted under the Queensland Government's Code of Practice and are promoted under the names of Bubble Maker, Seal Team, Scuba Rangers and a variety of Junior Diver courses. More RSDT stakeholders should consider utilising these programs to gain access to a wider age range for RSDT activities, more fully utilising existing swimming pool infrastructure, whilst at the same time helping to address one of the dive industry's greatest barriers to growth and LTS.

#### **10.4.7.7. Expanding WOM marketing opportunities**

The literature review indicated the importance of word of mouth (WOM) in communicating information about diving opportunities (Dimmock, Cummins, & Musa, 2013, p. 168). Researchers have attempted to identify the impact of WOM across several disciplines and multiple social media channels (Barreto, 2014; Prasad, Gupta, & Totala, 2017; Tham, Croy, & Mair, 2013; Zhang, Li, & Chen, 2012). This has some researchers considering social media platforms are the new WOM, and Chu and Kim (2011) using the term eWOM.

The RSDT stakeholder interviews, focus group meeting and observations by the researcher indicates that this is an underutilised resource by dive tour operators in the Cairns section of the GBRMP. In contrast, Figure 7.1 shows the most common method DTs used to find a dive operator was by an internet search, followed by assistance from either

family or friends (WOM). Therefore, RSDT stakeholders should consider creative ways to increase current WOM and eWOM about their products. This cannot be restricted to end-of-trip requests to DTs to post their photographs of the excursion to social media platforms without incentives.

#### **10.4.7.8. Expanding non-English market opportunities**

The content analysis of the RSDT stakeholder brochures reported in Chapter Five revealed multiple language capabilities had a ranking of 12. Although some RSDT stakeholders had brochures in multiple languages, this was not common across all the 23 RSDT stakeholders from whom brochures were collected for analysis. Given the relatively small market penetration into Japanese, Korean and Chinese markets discussed elsewhere in this chapter, stakeholders need to address this situation.

#### **10.4.8. The implication of product pricing**

The combined findings of this research indicate the impact of the price of RSDT products on long-term economic sustainability. Earlier in the chapter the quality of service levels in relation to the price of the product was discussed. Often this was linked to complex issues between supply-side stakeholders and a general feeling Cairns is an expensive place to visit. For example, 64% of the DTs felt the cost of travelling to Cairns was important in their decision to visit and 46.4% felt Cairns is an expensive place to visit. However, Prideaux (2013a) argues that uniqueness can provide tourists with a rewarding experience and that the additional cost of travel may be offset by an enhanced level of enjoyment. It is therefore reasonable to assume that RSDT stakeholders should promote the uniqueness of Cairns-based RSDT to lessen the impact of perceptions that DTs may form in relation to price.

Most stakeholder interviewees and focus group members acknowledged Cairns-based RSDT could not compete on price with those destinations located in Southeast Asia (e.g. Indonesia and Malaysia) where overheads were observed to be considerably less. Cairns-based RSDT stakeholder interviewees also talked about the impact of high commissions paid to travel kiosks and other agents on their sustainability. Three of the 13 Cairns-based stakeholder interviewees – and it was generally agreed by the focus group



members – thought that high commissions paid to agents and local tour kiosks negatively impacted their profit margins while the agents provided little marketing support or guidance to customers of RSDT product details (see Chapter Six). Strategies need to be developed to identify opportunities to counter these price-related barriers.

#### **10.4.9. Summary of the major economic factors impacting the LTS of RSDT in the Cairns section of the GBRMP**

Table 10.3 presents a summary of the major economic factors impacting the LTS of RSDT in the Cairns section of the GBRMP. It includes how these factors relate to the barriers, drivers and opportunities identified in this research, the research instruments utilised and the research objectives investigated.

Table 10.3. A summary of the major economic factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Economic characteristic	Barriers	Drivers	Opportunities	Research instrument utilised	Research objective
Economic & political environment	Long-term threat of decline in economic & political stability	Economic & politically stable destination	Promotion of economic & politically stable destination	Content analysis of marketing collateral and dive publications	Addresses research objectives #2, #3, #4 & #5
Value of the AUD	Future increase in the AUD	Seven-year favourable exchange rate against other major currencies	Promotion of favourable exchange rate against other major currencies		
Cairns-based RSDT economic health	Long-term decline  Over half of Cairns-based stakeholders perceive Cairns-based RSDT to be in decline  Some stakeholders feel Cairns is moving towards a grey market	Over 80% of DTs indicate they will return and recommend Cairns-based RSDT to others  Large proportion of DTs fall in the age range from 21 to 40	Development of new strategies to maintain health of RSDT	Stakeholder interviews  Dive tourist questionnaire  Focus group meeting	
Scuba diving training	Lost revenue from a decline in diver certifications  Poor DT response to diver training options  Relatively high impact on DT vacation cost & time	Stakeholder revenue providers	Development of new strategies to increase dive training at all levels  Increase appeal to niche markets  Introduce family & children programs  Explore the benefits of having a local shipwreck	Researcher observations	
Equipment sales	Lost revenue  Poor DT response to equipment sales		Development of new strategies to increase equipment sales		

Introductory scuba experiences	<p>Decline in certified diver RSDT</p> <p>Experienced certified DTs prefer a dive vessel without introductory divers present</p> <p>Does not include diver certification.</p> <p>Requires DT to dive with a diving professional</p>	<p>High penetration into the RSDT introductory diving market</p> <p>Relatively low operational cost</p> <p>Time and cost effective for DTs</p>	Market development of newly identified RSDT cohorts		
RSDT markets	<p>Decline of global interest in Cairns-based RSDT</p> <p>Cairns distance from most markets</p> <p>The emergence of Cuba and other RSDT destinations as preferred destinations</p> <p>Poor penetration into Chinese market</p> <p>Decline in some international markets (e.g. Japanese)</p> <p>External domestic supply-side stakeholders' reluctance to send clients to Cairns</p> <p>Some supply-side stakeholders not recognising importance of the backpacker market</p>	<p>Drawing DTs from over 40 diverse and affluent countries</p> <p>Penetration into European &amp; US markets</p> <p>Emergence of new international markets</p> <p>Penetration into the domestic market</p> <p>Penetration into backpacker market</p>	<p>Reinvigorate international and domestic marketing strategies</p> <p>Develop multilingual marketing collateral &amp; strategies</p>		
Marketing	Decline of global interest in Cairns-based RSDT	Large number of tourism activities in Cairns	Develop cross-marketing strategies		

	<p>Declining support from NGOs &amp; diver training agencies</p> <p>Few cross-marketing strategies</p> <p>Loss of DT value for money perception</p> <p>Poor representation in dive publications &amp; at dive expos</p> <p>Lack of collaborative destination marketing strategies</p>	<p>Availability of large marine animal encounters and coral spawning</p>	<p>Increase government &amp; NGO marketing support</p> <p>Develop collaborative destination marketing strategies</p> <p>Counter negative media</p> <p>Increase WOM strategies</p> <p>Develop strategies to counter high price perceptions</p>		
Agents & kiosks	<p>Decline in interest with loss of supply-chain entities</p> <p>Relatively high commission structure</p>	<p>Part of supply-chain drivers</p>	<p>Reduce dependence of agents &amp; kiosks</p>		

## **10.5. Implications of governance impacts**

The literature identified governance was a major factor impacting the LTS and competitiveness of a tourism destination. The literature also indicated that governance over tourism takes several forms including at a federal, state and local government level, as well as through an “alphabet soup” of NGOs (Coles, 2008; Hall, 2007). In RSDT, privately owned diver training agencies also exert governance over scuba diving protocols and practices. Derived from this research, the implications of these various forms of governance to the LTS of RSDT in the Cairns section of the GBRMP are discussed in the following sections.

### **10.5.1. Federal government impact findings**

The Australian Federal Government’s most direct impact on RSDT is through the GBRMPA. The GBRMPA regulates, monitors, and publicly reports on all tourism activities within the Park through various documents and publications. This involves the issue of mooring permits, and the size and carrying capacity of vessels used by RSDT operators. Additionally, the Federal Government appointed Cairns Member of Parliament Warren Entsch as the GBR Special Envoy indicating the importance the federal government places on the GBR.

#### **10.5.1.1. Implications of the Environmental Management Charge**

The EMC, introduced in 1983 on visitors to the GBRMP via tourism operators, was presented as a governance factor influencing the LTS in Chapters Two and Three. However, this research indicates that most RSDT supply-side stakeholders did not see the EMC having a negative impact on LTS, especially if it did not lead to a fall in destination competitiveness. Supply-side stakeholders located outside of Cairns related similar access charges on DT entering MPAs in other areas to be much higher than those imposed by the GBRMPA. Similarly, the questionnaire revealed most DTs (66.4%) were happy to pay the EMC and 59.9% would be happy to pay more if they knew for what the EMC is used. There was no statistical difference in opinion between the diving experience levels of the DTs. Other DTs indicated they had never heard of the EMC.

There are several implications of these findings. Firstly, RSDT stakeholders facing price competitive issues discussed elsewhere in the chapter need to clearly inform DTs the EMC is a component of their trip price along with a brief explanation of what it is used for to justify the charge. Secondly, if DTs are unaware of the EMC, it follows they are also unaware of the positive implications of such a charge being levied and RSDT stakeholders have missed an opportunity to promote further positive environmental initiatives in the GBRMP discussed earlier in the chapter. Lastly, these findings also have implications for the GBRMPA when contemplating any increase in the EMC. That is, if DTs are informed what the EMC is used for, this research indicates that it is less likely there will be a backlash and loss of competitiveness for RSDT stakeholders from an increase in the charge.

### **10.5.2. State government impact findings**

The Queensland State Government impacts RSDT in the Cairns section of the GBRMP in two major ways. They are state charges and the Code of Practice (Queensland Government, 2018a). The implications of these impacts are discussed in the following sections.

#### **10.5.2.1. The implications of taxes and fees**

During the RSDT stakeholder interviews it was revealed that the State Government's payroll tax has a significant impact on the operational costs and profitability (see Chapter Six). This tax is based directly on the wage bill (payroll sum) of all Queensland-based companies and is not related to profit or earning capacity. The implication of this tax is that companies need to carefully consider the number of employees they have and the total wage bill. This is a barrier to further employment wages and salary increases.

In Chapter Three the grey literature identified a dispute between vessel owners and the state-owned Cairns Marina. The dispute centred around the Port Authority charging higher fees for berths compared to charges elsewhere in Queensland. In addition to the berthing charges some Cairns-based RSDT stakeholder interviewees talked about, Cairns marina is the only Port in Queensland where a passenger levy is imposed (see Chapter Six).

This is an example of the periphery (Cairns RSDT stakeholders) feeling that the core (State Government) does not fully understand the impacts their decisions have on operational costs, destination competitiveness and LTS. It is reasonable to assume these state government taxes and charges, and how they are shared, has a direct impact on operational cost and destination competitiveness of Cairns-based RSDT operators. Given the positive contribution these charges make to state revenues on one hand and a negative impact on RSDT stakeholders on the other, the economic long-term impact is yet to be fully determined and may require further research.

#### **10.5.2.2. Implications of the Diving Code of Practice**

A significant finding of this research is the opposing views of the RSDT stakeholder interviewees identified in Chapter Six and the DTs questionnaire respondents reported in Chapter Seven regarding the impact on LTS of the Queensland Government's Code of Practice on Cairns-based RSDT. For example, most of the interviewees across all three RSDT stakeholder groups talked about the impact of the Code on the attractiveness of Cairns as a RSDT destination. Observations by the researcher included dive vessels conducting mandatory safety briefings, and constantly needing to orientate, train and assess the performance of the crew to conform to the Code (see Chapter Eight).

Several of the supply-side interviewees located outside of Cairns also felt the Code added to the cost of operation and dictated unrealistic restrictions on DTs, especially their ability to monitor and control their own dive parameters (i.e. depth and time of dives). They claimed this made Cairns less attractive as a destination for their clients (see Chapter Six). Meanwhile, the focus group participants generally agreed the Code added to the cost of operation and that it contributed to the emphasis on administrative items in RSDT stakeholder brochures as opposed to including more on selling the quality of the diving (see Chapter Nine). It is reasonable to assume that the Code adds elements of safety to RSDT across Queensland; however, five of the 11 supply-side stakeholders located outside of Cairns perceive the Code as a barrier and have no plans to expand their current Cairns-based RSDT offerings. This is a further example of the periphery (Cairns RSDT

stakeholders) feeling that the core (State Government) does not fully understand the impacts of their decisions.

In contrast, and while the less experienced divers were more likely to be happy having their depth and time submerged regulated by the vessels' divemaster, 76.6% of all DTs respondents agreed or strongly agreed they were happy to have this happen. Additionally, 88.3% agreed or strongly agreed Cairns is a safe place to dive because of the dive regulations and 84.6% were either satisfied or extremely satisfied with the quality of the dive briefings with no significant statistical difference between levels of diving experience. Also, 76.5% of DTs found Cairns-based RSDT was better than other dive destinations they had visited while only 5.4% said it was not.

The focus group participants agreed there was a need to educate local tour kiosks on diving protocols and the Code requirements. For example, a lack of understanding of the need to adhere to the Code results in tourists with medical conditions that prevent them diving being booked on vessels. This in turn results in customer and dive crew conflicts when these medical conditions are discovered either just before departure or whilst transiting to the GBRMP.

Cairns-based RSDT stakeholders need to address these barriers to LTS. This may require the education of supply-chains regarding the suitability of tourists to undertake scuba diving activities, develop more effective administrative scanning systems, and create an opportunity to gain more support from supply-side entities located outside of Cairns; that is, support from Australian dive stores selling dive travel who currently prefer to send their clients overseas. In addition, as suggested by several of the Cairns-based stakeholder interview respondents, and generally agreed by the focus group members, develop an effective and innovative online booking platform and website to reduce dependence on external entities.

It is reasonable to assume the Code may reduce Cairns-based RSDT's competitiveness by increasing operating costs, against RSDT destinations where such Codes do not exist. However, this research indicates it is more a matter of striking a balance



between diver safety as a driver of LTS and the barriers that develop from over-governance. Given the DT responses to the Code's impact, an opportunity exists to promote the Code as contributing to DTs having fewer accidents and a marketing theme that Cairns is a safe place to dive.

Supply-side stakeholders located outside of Cairns also need to be educated on the virtues of Code and its general acceptance by DTs, since it was revealed from the interviews they commonly have the perception that the Code makes Cairns-based RSDT unattractive to their customers. Furthermore, all stakeholders need to realise the Code does not set restrictions on diving parameters (e.g. depth and time) outside of those established by global diving protocols and international standards for recreational scuba diving. Therefore, if Cairns-based RSDT stakeholders wish to attract the more experienced DTs, they need to acknowledge that setting dive parameters is the result of their own operational requirements (e.g. site selection and time spent on the reef) and not a requirement of the Code. Addressing this issue effectively may make Cairns-based RSDT more attractive to the more experienced diver who this research shows has a greater concern regarding the setting of dive parameters than the two less experienced DT categories.

### **10.5.3. Implications of local government impact findings**

Earlier in this chapter the implications of a lack of government support for Cairns-based RSDT was discussed. Several game changes have occurred as the initial findings of this research were shared with Cairns Regional Council (CRC). These include a grant to Dive Queensland Inc. to promote Cairns-based RSDT being awarded in late 2019 (see Chapter 11).

### **10.5.4. Disconnects between governance organisations**

The Great Barrier Reef Intergovernmental Agreement of 2009 provides a framework for the Australian and Queensland Governments to work together to protect the Great Barrier Reef (see Chapter Two). In broader terms, this research indicates that a disconnect can exist between the federal and state governments regarding policy that directly impacts the LTS of RSDT in the Cairns section of the GBRMP.

One such disconnect exists between the Federal Government's immigration laws and the Queensland State Government's Code. While the Federal Government's immigration policies restrict migration to Australia, the Code requires non-English speaking DTs to have the services of a diving professional fluent in their language. This research helped demonstrate the need for a Far North Queensland Designated Area Migration Agreement (DAMA, 2019) from the Australian Federal Government (see Chapter Eight). While the potential exists for Cairns-based RSDT stakeholders to utilise a DAMA to gain dive professionals fluent in non-English languages, the difficulty in finding suitable candidates and the administrative costs associated with gaining an approved DAMA represent a significant barrier for RSDT operators to penetrate non-English speaking markets.

#### **10.5.5. Implications of NGO impact findings**

In Chapter Three and earlier in this chapter, various initiatives by TEQ were discussed. The implications of these initiatives, especially the 2019 funding of promotions for the Queensland dive tourism sector, supports the implication in the previous section that NGOs may also be moving towards addressing the concerns RSDT stakeholder interviewees and focus group members had regarding marketing support. A further implication of the findings of this research is that NGOs need to realise the importance of RSDT in the broader marketing mix offered to tourists in Cairns. The findings from Chapter Five imply that the diver training agencies and dive publications also need to acknowledge the importance of Cairns-based RSDT by providing mutually beneficial support initiatives since they represent a significant part of the core (decision makers located outside of the Cairns periphery).

#### **10.5.6. RSDT issue relating to the concepts of core and periphery**

The concepts of core and periphery have been used by researchers to explain how the actions and policies of the core can impact the periphery, especially in case study research (Chaperon & Bramwell, 2013; Harrison, 2015; McKercher & Prideaux, 2020; Thompson, 2015; Thompson & Prideaux, 2019; Wall, 2015). Central to understanding these concepts are that the decisions and policies generated at the core (decision-making centres)

can directly impact the periphery (elements within the destination). Moreover, the lack of empowerment in the periphery is sometimes accentuated by the limited understanding that centralised policy makers have for, or fail to react to, specific issues in the periphery. In Figure 10.2 the core is largely Australian-based (national). However, Figure 10.2 also illustrates how the concepts of core-periphery can be applied to Cairns-based RSDT on an international scale since significant elements of the core exist internationally. For example, UNESCO ultimately decides on the World Heritage listing of the GBR and several of the Cairns-based RSDT businesses and NGOs (e.g. diver training agencies) are foreign-owned. There are also internal decision centres within both Australia Government in applying for UNESCO listing and within the UNESCO approval processes. Multiple scales of core-periphery impacts may exist internationally and can be both core based in decision making and peripheral in markets. Therefore, the model could be developed further to include the impact on Cairns-based RSDT by a broader range of decision makers such as international airlines, global travel companies (e.g. The Travel Corporation and Peter Pan), TripAdvisor and large hotel chains (e.g. Accor), especially post-2021 when the status of the GBR again comes up for review by UNESCO.

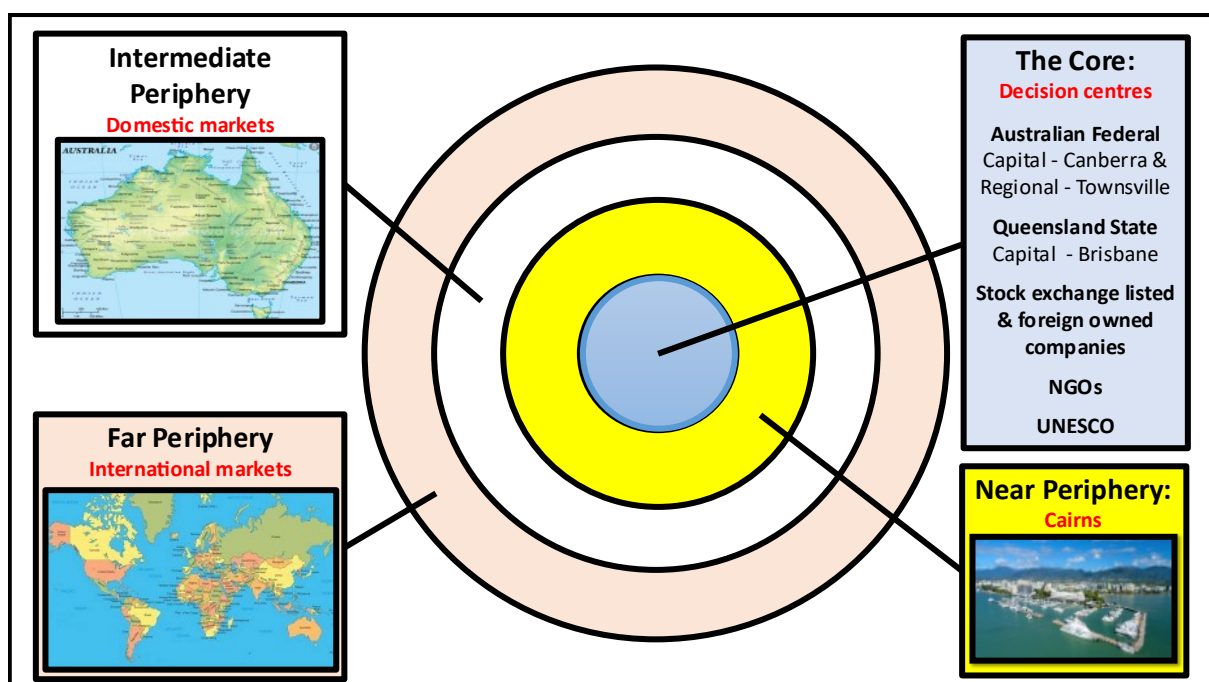


Figure 10.2. An illustration of how the concepts of core and periphery can be applied to Cairns-based RSDT (Source: Author)

The findings of the stakeholder interviews (see Chapter Six), the focus group meeting and grey literature indicated that elements within the near periphery (RSDT stakeholders) at times view the actions, decisions and policies of the core (e.g. governments) as significantly impacting their endeavours and becoming contrary to their LTS. This can at times lead to conflict and power struggles between the respective elements.

For example, in the context of this research, decisions made by the Federal Government relating to a broad range of issues including response to the impact of climate change, formulation of maritime safety regulations and immigration policies are developed in the Australian national capital (Canberra) located over 2,500 kilometres away. Similarly, those decisions and policies relating to GBRMP (e.g. EMC fees, reef permits and park regulations) are largely developed in Canberra and/or at the GBRMPA's head office in Townsville located over 350 kilometres away. Meanwhile, decisions and policies relating to payroll tax, sale of state-owned infrastructure to private enterprise (e.g. Cairns International Airport), control of the Cairns Port and marina, and regulations contained in the Diving Code of Practice are ultimately made by decision makers located in the Queensland state capital of Brisbane (1,700 kilometres away), but have significant implications for Cairns (near periphery) as a tourism and RSDT destination.

The literature also indicated that leakage of benefits from the near periphery (local residents and RSDT stakeholders) and other impacts can occur from decisions and policies made by foreign-owned companies and NGOs located outside the tourism destination (Dwyer et al., 2010; Elkington, 2004; Fletcher, 2008b; Hall, 2007; Lansing & De Vries, 2007; Townsend, 2008). Moreover, Dimmock and Musa (2015) concluded the host community is often overlooked as a key stakeholder in the management and sustainability of RSDT.

The findings of the stakeholder interviews (see Chapter Six), the focus group meeting and grey literature also indicated that Cairns-based RSDT stakeholders (located the near periphery) felt that there was a general lack of marketing support across all levels of government and via NGOs. Meanwhile, the degree of peripherality is also a function of accessibility. From a spatial perspective and location relative to source markets, marketing,

communications and destination resources constitute an important element in the ability of a region to attract tourists. The results from the RSDT interviews and the DT questionnaire gave a clear indication that the intermediate (RSDT domestic market) and the far peripheries (RSDT international markets) are closely related to the LTS of Cairns-based RSDT through the efficiency of demand and supply-side networks.

#### **10.5.7. Summary of the major governance factors impacting the LTS of RSDT in the Cairns section of the GBRMP**

Table 10.4 presents a summary of the major governance factors impacting the LTS of RSDT in the Cairns section of the GBRMP. It includes how these factors relate to the barriers, drivers and opportunities identified in this research, the research instruments utilised and the research objectives investigated.

Table 10.4. A summary of the major governance factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Governance characteristic	Barriers	Drivers	Opportunities	Research instrument utilised	Research objective
Australian Federal Government				Content analysis of stakeholder marketing collateral	Addresses research objectives #2, #3, #4 & #5
Grants & general support	Poor history of direct support No future support	GBRMPA support of RSDT	Increase support		
EMC	Increase in operational costs	GBRMPA revenue generation	Develop DT awareness of the existence & benefits		
Migration policy	Decline in ability to attract & service non-English speaking markets Migration policy	Availability of non-English speaking staff to address international markets	Wider use of a DAMA	Stakeholder interviews Dive tourist questionnaire	
Queensland State Government				Focus group meeting Research observations	
Marketing funding	Poor long-term record of direct support for Cairns-based RSDT	Support of RSDT	Increase support		
Payroll tax	Increase in operational costs Barrier to increasing the number of employees	State Government revenue generation	Negotiate concessions		
Marina berthing fees	Increase in operational costs for Cairns-based RSDT operators	Port Authority revenue generation	Negotiate reduction in fees		
Passenger levy			Negotiate the removal or reduction in fees		
Code of Practice	Increase in Code restrictions Increase in operational costs Decline in attractiveness for DTs	Diver safety	Develop DT targeted marketing strategies to illustrate the benefits		

	Less attractive to experienced divers				
Cairns Regional Council					
Funding	Poor long-term record of direct support of Cairns-based RSDT  No future support	Provider of funding for 2019/2020 Dive Queensland Inc., marketing initiative	Maintain current & increase future support		
NGOs					
Tourism NGOs	Poor long-term record of direct marketing support of Cairns-based RSDT	Drivers of tourism	Increase support from tourism NGOs		
Training agencies		Training agency revenue generation	Increase support from all diver training agencies		

## **10.6. Implications of the innovation and technology impact findings**

The findings of this research support the range of influences previously identified in the literature that illustrate the importance of innovation and technology impacting the LTS of a tourism destination. Smart tourism (Buhalis & Amaranggana, 2013; Buhalis & Amaranggana, 2015; Gretzel, Sigala, Xiang, & Koo, 2015) requires destinations to be able to use and enable technologies including information and communications technology (ICT), high speed internet, social media, cloud storage and access to Big Data (Del Vecchio, Passiante, Vitulano, & Zampetti, 2014).

The impact of innovation and technology on RSDT also has broad implications from the development of easier to use diving equipment (Dimmock & Cummins, 2015) to technology-based business solutions to innovating marketing initiatives. The implication of the impact of technology on LTS of RSDT in the Cairns section of the GBRMP is discussed in the following sections.

### **10.6.1. Innovation and technology as drivers of RSDT**

The collective findings of this research indicate RSDT stakeholders should place more focus on innovation in respect to developing a broader definition of a satisfactory experience and customer service. For example, several stakeholder interviewees suggested Cairns-based RSDT currently lacks innovation or is focused on the components which lead to their past successes. The implication is Cairns-based RSDT supply-side stakeholders are path dependent and negative lock-in (Hassink, 2010; Mahoney, 2000; Martin & Sunley, 2006). That is, they continue to employ established business strategies and do not see the need for innovation or engaging different or new technologies. When this occurs, it can lead to the loss of dynamism as tourism stakeholders become locked into established practices, ideas and networks, and drivers that worked in the past may no longer yield increasing returns. This may also induce negative externalities (Martin & Sunley, 2006) and ultimately impact LTS.

While several Cairns-based RSDT stakeholders were early product innovators, those innovations are now largely saturated throughout the RSDT market. For example, previously



only a few RSDT operators offered services for photographers and promoted those services as a point of difference from competitors. Today it is rare to find a RSDT operator not catering for photographers. Without innovation, RSDT operators find themselves in a proliferation of competing destinations offering the same and/or newer innovations. This development can be closely linked to product lifecycle concepts and the diffusion of innovation models presented in the literature (Hovinen, 2002; Rogers, 1995; Tooman, 1997).

Figure 10.3 shows an adaption of the diffusion of innovations theoretical model proposed by Rogers (1995). It conceptualises how successive groups of RSDT operators may introduce or adopt an innovation or new technology at varying times with the blue bell curve broken into sections of “adopters”.

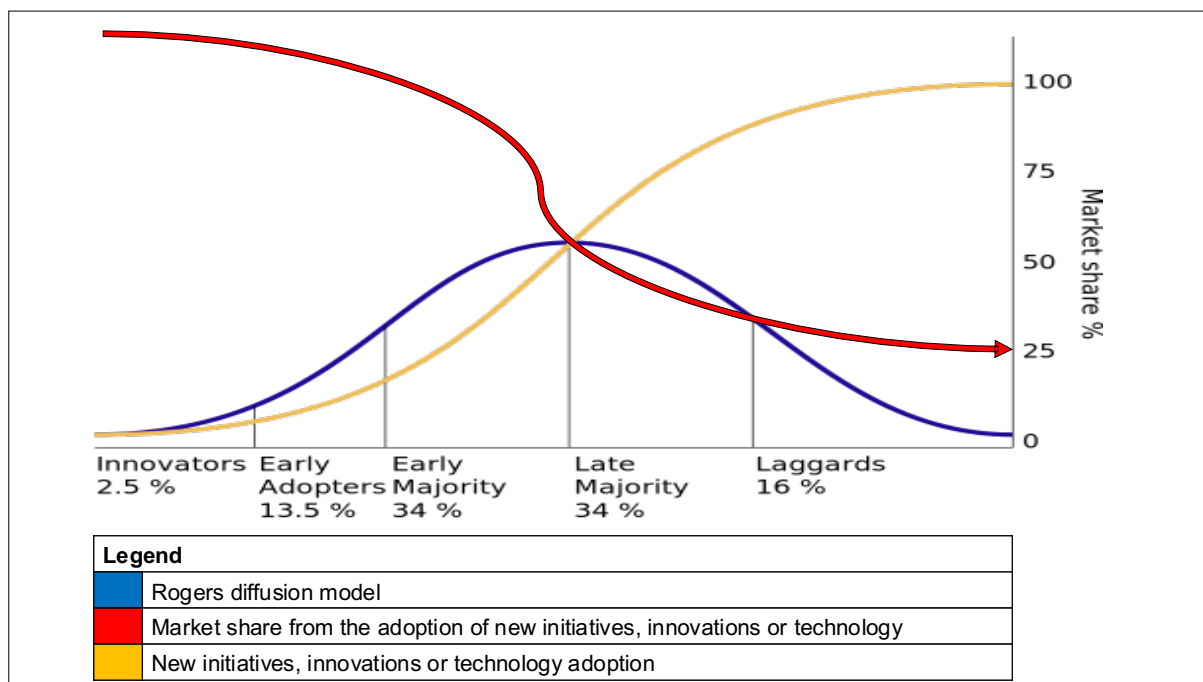


Figure 10.3. A diffusion of innovations theoretical model (Source: After Rogers by author)

The red curve represents the market share RSDT “innovators” and “early adapters” may gain by the adoption of new initiatives, innovations or technology. Eventually, that market share declines, as the “early majority”, “later majority” and “laggards” also adopt the new initiatives. The red curve also shows market share gains are likely to decline sharply as

the “early majority” also adopt. This decline is likely to continue, as the initiative becomes widely adopted. This may remain the case if suppliers are unable to find additional new initiatives and/or display locked in characteristics. The yellow curve shows how the initiative is adopted over time and eventually utilised throughout the entire market.

The adaption and diffusion of innovations is best illustrated by observation in 1989 when the first commercial dial-up access to the internet was established, and innovators started to utilise it to communicate product information. Today, it would be reasonable to state that almost all tourism companies in the Western world have a website and social media platforms. That is, having a website and social media platform may no longer increase competitiveness. The implication for Cairns-based RSDT operators is that to ensure LTS and destination competitiveness stakeholders must look for new innovations and technologies to establish a point of difference between themselves and the abundance of other RSDT businesses found locally and globally.

When their own, and any competitor’s, initiatives are widely adopted, stakeholders must consider finding new initiatives to keep “ahead of the curve” (Morrison, 1996) and acknowledge this is a never-ending process to remain competitive. Escaping path dependence and lock-in (Hassink, 2010; Martin & Sunley, 2006) also requires a switch to alternative and new pathways through strategies that include developing new features of existing products to increase their appeal (Grabher, 1993).

#### **10.6.2. Implications of the web-based technology drivers**

The literature review and the analysis of the findings illustrated the importance of web-based communication tools. All the governance interviewees indicated they used websites and social media platforms to promote their products and activities. Similarly, all 13 Cairns-based supply-side RSDT stakeholder interviewees talked about how social media was their primary method of communicating with potential customers. However, content analysis of the Cairns-based supply-side RSDT stakeholder promotional brochures revealed the “internet” theme had a rank of just 25 amongst the 27 major themes identified. The DT questionnaire also revealed that only 46.2% of the DTs listed the internet as how they found

the Cairns tour operator they utilised and only 49% of DTs either booked their tour operator through the dive operator's, or the dive operator's agent's internet booking system.

The implication of these combined findings is that Cairns-based supply-side RSDT stakeholders need to address the relative success of their internet platforms and the low rank of the "internet" theme on their brochures since they place so much emphasis on them as communication and marketing tools. This may include the opportunity to follow the focus group's suggestion that the stakeholders' administrative themes (ranked one) should be placed on website and social media channels to create more room to promote life experiences themes and "selling the sizzle" on promotional collateral.

It was observed whilst administering the DT questionnaire, that staff on several vessels used the public address system to request that passengers upload their photographs to the operators' Facebook and/or Instagram social media platforms. While the DT questionnaire results indicated Facebook (75.8% usage by DTs) and Instagram (55% usage by DTs) were the two most popular social media platforms (Table 7.1), stakeholders need to broaden their digital reach. For example, 10.1% of the DTs indicated they used a different social media platform to the five options listed in the questionnaire (Facebook, Twitter, Instagram, YouTube and WeChat). The implication from these findings is stakeholders need to explore the opportunities provided on other social media sites and create their own social media mix aimed at specific target audiences.

A reasonable explanation for the relatively low use of WeChat by DTs (3.8%) shown in Table 7.1, is because just two Chinese DTs were amongst the 533 DT questionnaire respondents. If stakeholders wish to penetrate the Chinese market as suggested earlier in this chapter, they must overcome the challenges of China's internet and social media restrictions (Canaves, 2011) and employ Chinese social media platforms such as WeChat, TikTok and Sina Weibo (DeGennaro, 2020) to reach Chinese DTs.

RSDT stakeholder interviewees and focus group members revealed a desire to use technology to move away from dependence on external supply-side entities, such as tour kiosks and booking agents, to avoid high commission structures and issues caused by a lack

of product knowledge. They saw their websites and development of their own booking platforms mentioned earlier to remove dependence on kiosks and booking agents.

Observations by the researcher indicated that few stakeholders have a high-traffic presence in the Cairns CBD like that of kiosks and booking agents that generates considerable DT interest in RSDT products. Therefore, a total move away from the opportunities created by B2B relationships could reduce overall RSDT product sales.

To address such an eventuality, stakeholders would need to acquire a street presence of their own in the Cairns CBD. However, Interviewee 14 stated his research showed that prime ground floor retail property rents/leases in the Cairns CBD rivalled those in Australian capital cities and cost between \$880 to \$2,000 per square metre per annum. Interviewee 6 confirmed his Sydney CBD ground floor rent cost just a little higher at \$2,200 per square metre per annum. Additionally, Calcino (2020b) reported the findings from a study commissioned by Cairns Regional Council that revealed premium grade property was higher than Newcastle which has a population of 450,360 people and almost three times that of Cairns<sup>1</sup>. Therefore, acquiring a high-traffic street presence may incur costs which may be in excess to commissions paid to kiosks and agents. Interviewee 12, while acknowledging the impact of commissions on profitability, said: “if you work closely with some [kiosks] and build relationships, they will support your products.”

The implication of this finding is that stakeholders need to maintain, and develop, multiple forms of attracting and booking DTs than to purely rely on websites and a single social media platform. Stakeholders also need to exercise caution when contemplating a reduction in supply chain entities. This finding echoes the implication earlier in the chapter where it was suggested stakeholders should utilise a combination of B2B and B2C relationships and marketing strategies, as well as internet-based opportunities, to maintain LTS. A reasonable conclusion from these combined findings is that just having a website and a single social media platform no longer reflects that stakeholders are creating points of

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<sup>1</sup> The data were collected before the COVID-19 impact, however it is likely that the cost of retail space in the Cairns CBD will be relevant for some time.

difference compared to competitors or new innovations and technology to market their business, since most other RSDT stakeholders also have them (and possibly more).

Table 10.5 presents a summary of the major innovation and technology factors impacting the LTS of RSDT in the Cairns section of the GBRMP. It includes the research instruments utilised and the research objectives investigated.

Table 10.5. A summary of the major innovation and technology factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Technology and innovation characteristics	Barriers	Drivers	Opportunities	Research instrument utilised	Research objective
Innovation	Lack of innovation  Lack of use of existing & new technology  Competitors gaining a comparative advantage by the greater use of innovation & technology  Competitors having similar products	Market driver	Innovate & develop initiatives to increase DT appeal	Content analysis of marketing collateral and dive publications  Stakeholder interviews  Dive tourist questionnaire  Focus group meeting  Research observations	Addresses research objectives #1, #2, #3, #4 & #5
Websites	Dated sites	Marketing drivers	Develop modern websites & booking platforms		
Social media platforms	Lack of regular content		Increase content		

## 10.7. Implication of the stakeholder needs and influences

Researchers often integrate stakeholder needs and influences within the four major factors impacting LTS of a tourism destination (i.e. sociocultural, environmental, economics and governance). However, from analysis of the findings from this research it emerged that stakeholder needs and influences warrants inclusion as a separate major factor that impacts

a tourism destination. This identification of stakeholder impacts extends the range of major factors which should be considered when studying LTS impacts on tourism.

### **10.7.1. Implications of stakeholder major sociocultural and demographics findings**

Although developing profiles of the RSDT stakeholders was not part of this research's objectives, additional findings emerged which may have an impact on the LTS of RSDT in the Cairns section of the GBRMP. Chapters Six (stakeholder interviews) and Nine (i.e. focus group meeting) included data gathering which gave a demographic profile of the RSDT stakeholder interviewees and focus group members.

Collectively, 41 stakeholders participated in this research (33 interviewees and eight in the focus group). An analysis indicated some similarities in the characteristics between the stakeholder interviewees and focus group members. For example, members from both groups had similar levels of experience in RSDT, most were qualified diving professionals and 35 of the 41 stakeholders were males (85.4%). The latter has implications to the role of gender in the decision-making processes and signals a gap in the literature beyond the scope of this research. That is, tourism and entrepreneurial researchers need to build on the study by Hallak, Assaker and Lee (2015) to determine the entrepreneurial role across genders and whether this has an impact on the sustainable development of tourism destinations.

It was also found that 10 of the 33 (30.3%) stakeholder interviewees, with an average age of 54, described themselves in retirement mode. In contrast, none of the focus group members, with an average age of 47 had immediate retirement plans. These findings have implications to the loss of institutional knowledge occurring from retirement of key employees, as described by Högnelid and Dahlström (2017). According to Redlitz (2013) knowledge retention and transfer have not traditionally been areas in which emphasis is placed. Therefore, RSDT companies need to develop strategies to address impacts from the aging and retirement of the top to middle management component of their workforce

(Tishman, Van Looy, & Bruyère, 2012; Vilet, 2015) and/or avoid using early retirement schemes to address a business crisis (Lawyer, 2020).

### **10.7.2. Implication of the stakeholder needs and influences**

Stakeholder needs and influences can lead to leakages of revenues, and other benefits which could otherwise be afforded to residents. This can occur when foreign ownership and/or heavy utilisation of local tourism resources from outside the host area occur (Dimmock & Musa, 2015; Dwyer et al., 2010; Elkington, 2004; Fletcher, 2008b; Hall 2007; Kragt et al., 2009; Scholtz & Saayman, 2018; Townsend, 2008; Wivell, 2017; Wongthong & Harvey, 2014). Dimmock and Musa (2015) concluded the host community is often overlooked as a key stakeholder in the management and sustainability of RSDT.

Impacts may also develop when there is a loss of local identity when supply-side stakeholders have a disproportionate say in what development takes place (Dwyer et al., 2010; Elkington, 2004; Hall, 2007). Chapter Three revealed the heavy foreign investment in Cairns-based RSDT infrastructure and resources. Of the total 41 interviewees and focus group participants, 15 (36.6%) represented an international company or a stakeholder located outside of Cairns.

During the period of this research, several smaller RSDT entities were purchased by a foreign entity and merged. This may account for the researcher observing on one of the dive vessels used to administer the DT questionnaire, a plea over the vessel's public address system for support as one of the few remaining locally owned reef operators. Most evident of the foreign-owned NGOs are the diver training agencies (e.g. PADI, SSI & RAID). These display significant governance over the activities of their members globally as identified in Chapters One to Seven.

More research is required to develop a deeper understanding of the role of non-local stakeholder needs and influences and how this impacts the LTS of RSDT in the Cairns section of the GBRMP. Consideration needs to be given to how these companies will act in addressing Elkington's (2004) "Triple Bottom Line" in the long-term (see Chapter Two).

Table 10.7 presents a summary of the major stakeholder factors impacting the LTS of RSDT in the Cairns section of the GBRMP discovered during this research. It includes the research instruments utilised, and the research objectives investigated. Since developing sociocultural and demographic profiles of stakeholders was not a research objective, not all stakeholder sociocultural and demographic characteristics that could impact LTS were investigated. This accounts for the gaps in Table 10.7 and indicates the need for additional investigation to gain further stakeholder sociocultural and demographic characteristics that could impact LTS.

### **10.7.3. Implications of Cairns having an easily accessible shipwreck**

Divers' attraction to historical and scuttled shipwrecks has been researched by Edney (2011a, 2011b, 2012, 2018) and Stolk, Markwell & Jennings (2005, 2007). Since 1980, Cairns-based RSDT stakeholders have collectively called for a scuttled shipwreck site to be established in the Cairns section of the GBRMP.

Similarly, during the stakeholder interviews a shipwreck theme emerged which had a rank of 8 with the supply-side stakeholder groups (see Tables 6.2 and 6.4). Additionally, the NVivo analysis of the major themes of the combined stakeholder interview groups ranked shipwrecks tenth. This developed out of several interviewees expressing the opinion that if Cairns had an accessible shipwreck it would significantly increase the appeal of Cairns to 'wreck divers' and provide a site that scuba instructors could utilise to conduct the wreck diver training courses developed by the diver training agencies.

In contrast, the DT questionnaire analysis identified most of the DTs visited Cairns to dive the GBR (76.7%). When asked whether they wished Cairns had a shipwreck they could have dived, half of the DTs (50.8%) indicated an interest. Furthermore, 14.3% indicated no interest in wreck diving and the remainder were uncommitted.

To respond to this stakeholder desire, a suitable vessel would need to be attained, research undertaken on where it should be scuttled to meet favourable marine conditions and those of Cairns-based RSDT stakeholders. This would also include a long application process to gain permission from the GBRMPA and the necessity to meet the conditions set



down by Australian Governments Sea Dumping Act (1981). This would come at a significant cost with the question needing to be asked: “who pays?” Cole and Abbs (2011) indicate the sinking of the ex-HMAS *Adelaide* in NSW required over \$6 million in Federal and State Government Grants and additional funding from other entities along with ongoing maintenance charges. Similarly, Gordon’s Bay Scuba Diving Club Inc. in preparing a business case for the sinking of an ex-naval vessel off Sydney estimated the cost to be between \$6 million and \$10 million with additional ongoing maintenance charges (Gordon’s Bay Scuba Diving Club Inc, 2020). Similarly, Denholm (2018) reported it would cost between \$6 million and \$10 million to strip, clean and scuttle the HMAS *Darwin*.

Collectively, these factors represent significant barriers to the fulfilment of the RSDT stakeholders’ desire to have an accessible local shipwreck. Consequently, a feasibility study is required to justify the cost of scuttling a shipwreck in the Cairns section of the GBRMP and whether it would contribute another driver to the LTS of RSDT. Two Cairns-based live-aboard operators already have access to the wreck of the *Emily*, in the Ribbon Reefs north of Cairns, and the SS *Atlas* and MV *Antonio Tarabocchia* in the Coral Sea (see Figure 3.13). Nevertheless, to cater for the perceived interest, they intend to add visits to the wreck of the *Yongala*, located 347 km south of Cairns, to their 2020/2021 trip itineraries.

#### **10.7.4. Summary of the major stakeholder factors impacting the LTS of RSDT in the Cairns section of the GBRMP**

Table 10.6 presents a summary of the major stakeholder factors impacting the LTS of RSDT in the Cairns section of the GBRMP. It includes how these factors relate to the barriers, drivers and opportunities identified in this research, the research instruments utilised and the research objectives investigated.

Table 10.6. A summary of the major stakeholder factors impacting the LTS of RSDT in the Cairns section of the GBRMP

Stakeholder sociocultural & demographic characteristic, needs and influences	Barriers	Drivers	Opportunities	Research instrument(s) utilised	Relevant research objective
Gender	Male dominated  Loss of female perspectives in decision-making	RSDT is not gender or age specific	Increase female stakeholder involvement in the decision-making processes	Stakeholder interviews  Focus group meeting	Additional research finding  Addresses research objectives #2, #3, #4 & #5
Age	Aging decision-makers  Average age over 47		Develop strategies to address aging workforce	Researcher observations	
Company ownership	Proportion of foreign ownership  Leakage		Provides investment in RSDT	Increase investment in RSDT	
Employment & employee movements	Proportion of decision-makers in retirement mode  Loss of “brain trust”  Challenges in replacing retiring decision-makers	High level of qualifications and time in the company  Long-term experience in the RSDT business  Professional diving qualifications	Introduction of new management ideas & expansion of the role of qualified women		
Local stakeholders	Lack of investment capital  Lack of revenue generation	Investment providers Revenue generation	Broadly promote local ownership benefits		

	Disappearance of locally owned RSDT operators				
Foreign stakeholders	Leakage of revenue & other benefits which could be afforded to residents  Market withdrawal  Possible reduction in the importance of resident needs & influence		Further investment		
Shipwreck	Cost of scuttling  Suitable location to meet the needs of individual stakeholders and authorities	Product expansion and increase competitiveness			

## 10.8. Theory, concept and model development

Models are generally created to explain complex problems (Getz, 1986) and help us to better understand real world systems by presenting a simplified set of relationships (Bricker et al., 2015). In discussing the types and benefits of models, Bricker et al. (2015) argues that a model is useful to simplify theory. McKercher and Prideaux (2020) observe that there are almost as many theories about theory as there are definitions, but conclude it can be envisaged that theory, concepts and models exist in a nested manner as shown in Figure 10.4.

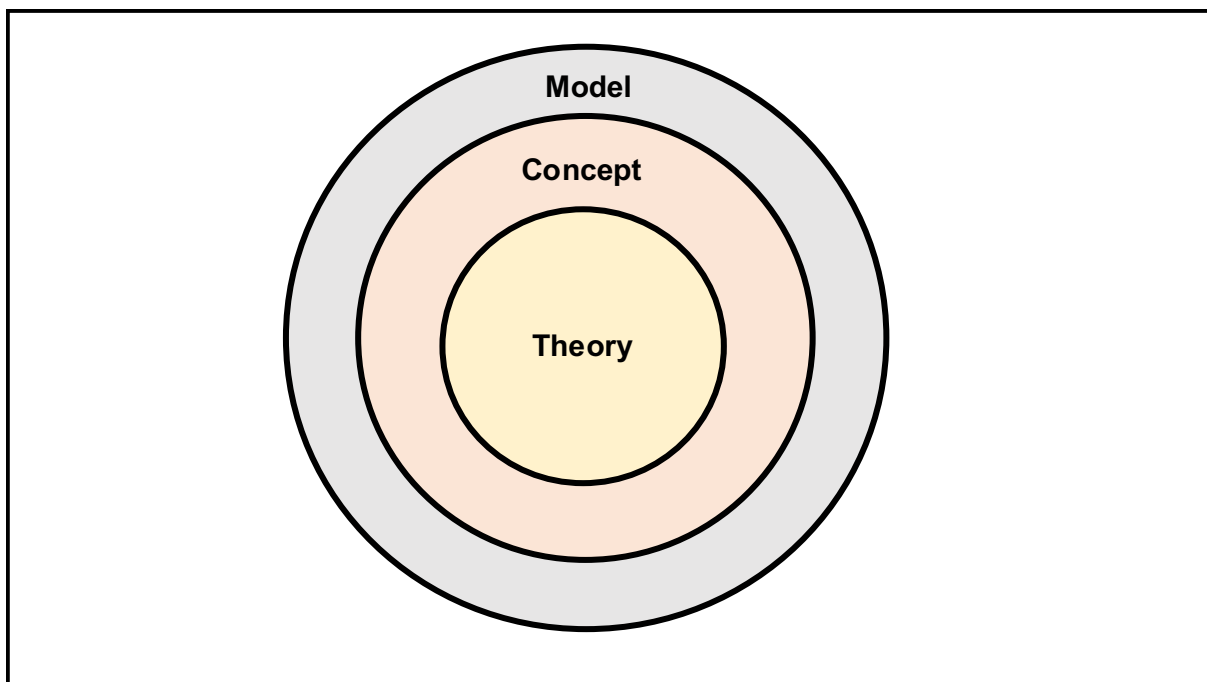


Figure 10.4. Nesting of theory, concept and model (Source: McKercher and Prideaux, 2020)

Theories can represent a simplification and operationalisation of a concept while a concept can represent an abstract of a theory. Theory also represents a broad logical set of interconnected propositions that provide a basis for understanding a phenomenon. A model is a useful tool to simplify theory and demonstrate (and illustrate) its relevance and applicability to the real world (Bricker et al., 2015). Within a tourism context, Getz (1986) identified two types of models based on their nature and purpose. Models derived from theory and concepts illustrate aspects of the tourism system, while a process model illustrates sequences aimed at achieving particular outcomes. Leiper (2004) concluded a

conceptual model is a qualitative model that helps highlight important connections in real world systems and processes. Meanwhile, Prideaux (2013a) contends a model helps to identify key tourism drivers.

Research objective five was to develop models that can be used to explain the major factors of LTS impacting RSDT in the Cairns section of GBRMP. In Chapters Two and Three respectively, diagrams were developed to illustrate and summarise the major factors prior research had identified that impact the LTS of a tourism destination and RSDT in the Cairns section of GBRMP. In Chapter Six, NVivo and Leximancer software was utilised to present word clouds and concept maps. These assisted in representing the findings from interviews with RSDT stakeholders regarding their perceptions and strategies in addressing those major factors they saw impacting the LTS of RSDT in the Cairns section of the GBRMP. This allowed this research to add additional factors presented in Chapters Two and Three. Earlier in this chapter, a theoretical model of diffusion of innovations was used to illustrate how Cairns-based RSDT may be impacted by product life-cycle factors and the up-take of innovation and technologies (See Figure 10.3).

These diagrams and models go a long way towards demonstrating the major factors impacting the LTS of a tourism destination and Cairns-based RSDT. However, greater insight is required to gain a deeper understanding of how the factors that impact LTS interact. The following section builds on the previous diagrams and models presented in this research by presenting a holistic and systematic framework of the major factors impacting LTS. Firstly, a theoretical model is presented to demonstrate the major factors impacting the LTS of a RSDT destination. Secondly, a conceptional model is presented that demonstrates the major factors impacting the LTS of a RSDT in the Cairns section of the GBRMP. Thirdly, a process model is presented to illustrate how models can be operationalised to predict future impacts (Kercher & Prideaux, 2020). Such an approach supports the call by Dimmock and Musa (2015) to highlight the central elements of RSDT and increase the potential for the development of holistic strategies proposed by Butler (1993).

### **10.8.1. A theoretical model illustrating how the six major factors of LTS impact a RSDT destination**

The findings of this research reveal that there are six major factors that impact the LTS of a RSDT destination. These are represented in Figure 10.5 by a theoretical model which can be tested at other RSDT destinations. The major factors are illustrated in six individual cells and are shown in blue. The elements that make up the major cells are colour coded to assist interpretation. In some cases, and for simplicity, the model could not name all the components imbedded in each cell. For example, the influence of tourism cohorts such as backpackers can be assumed to be contained within the market and sociocultural cells.

The linkage and interaction between the major factors and their components are also shown. The linkages between cells have no inferred direction since it is assumed that interaction between connecting cells can involve two-way impacts. Some elements of the model also display complex relationships resulting in multiple linkages. For example, DT needs have linkages with market origins, service levels, social media and environmental influences.

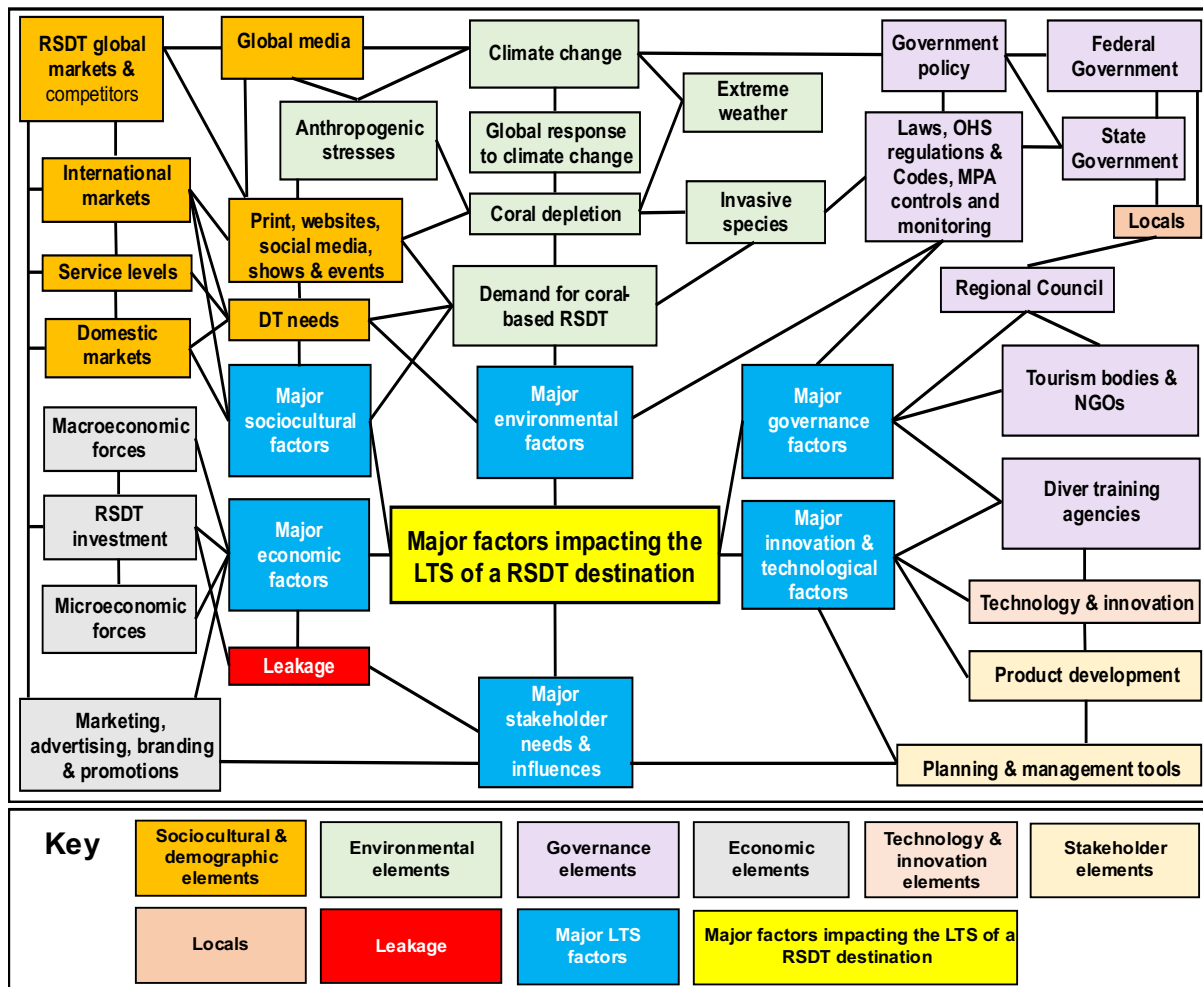


Figure 10.5. A theoretical model that can be used to explain how the major factors of LTS impact a RSDT destination (Source: Author)

### 10.8.2. A conceptional model illustrating how the six major factors of LTS impact RSDT in the Cairns section of the GBRMP

Building on the research findings and the theoretical model presented in Figure 10.5, Figure 10.6 presents a conceptional model that illustrates how the six major factors impact the LTS of RSDT in the Cairns section of the GBRMP. The creation of this model addresses the concerns of some researchers that many theoretical models lack the ability to be operationalised (Getz, 1986; McKercher, 1999) and that the level of scale is often neglected when attempting to gain an understanding of things (Hall, 2008).

The same colour coding is used as in Figure 10.4. Where appropriate, specific elements of the major LTS factors impacting Cairns-based RSDT are provided. For example, the governance cell in Figure 10.5 has been expanded in Figure 10.6 to specifically include

GBRMPA controls and monitoring, the Queensland Diving Code of Practice and the Cairns Port Authority impacts. Similarly, the invasive species cell of Figure 10.6 specifically references the impact of COTS.

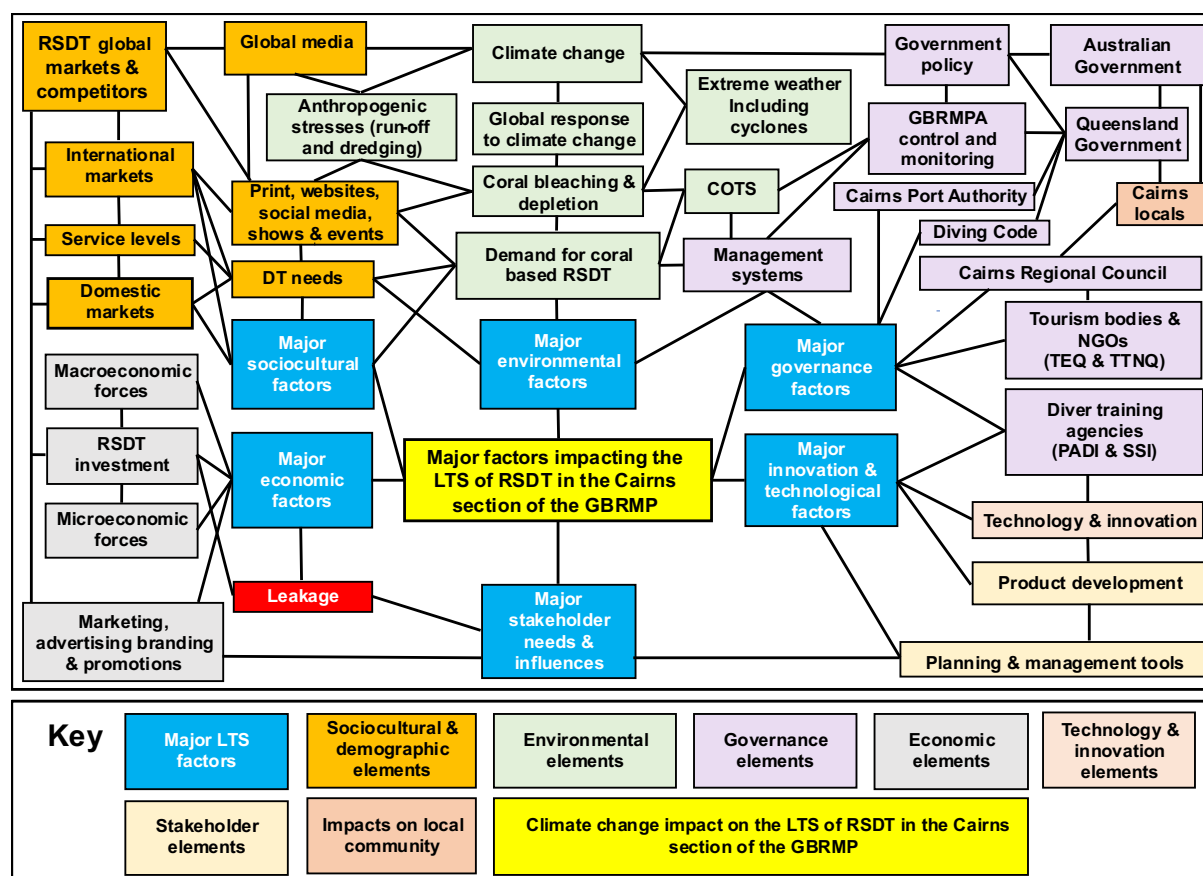


Figure 10.6. A conceptual model that can be used to explain how the major factors of LTS impact RSDT in the Cairns section of GBRMP (Source: Author)

### 10.8.3. Modelling future events

Predicting events, when supported by convincing experimental and/or observational evidence and robust explanatory power, can be of great value in research (McKercher & Prideaux, 2020; Sarokin, 2017). By modelling and simplifying complex processes, researchers can identify important elements that underlie the causes of a specific event (McKercher & Prideaux, 2020). This is especially the case if a model can be operationalised and applied to a specific tourism destination (Prideaux, 2013a).

The process model presented in Figure 10.7 utilises the environment as one of the six major factors impacting the LTS of a RSDT destination to illustrate how the negative



impact of climate change may systematically spiral-down through RSDT in the Cairns section of the GBRMP and impact various sectors. While any of the six major factors could have been chosen, the environmental factor is a reasonably justifiable choice. Without an attractive diving environment, there is little chance that an iconic, globally renowned and economically important reef-dependent RSDT sector, like that currently found on such a scale in the Cairns section of the GBRMP, will survive in the long-term.

As in Figures 10.5 and 10.6, in Figure 10.7 the elements that contribute to LTS are colour coded. This is to assist interpretation and highlight the interconnection a major environmental factor such as climate change has with other major factors impacting the LTS of a RSDT destination. In contrast to the models presented in Figures 10.5 and 10.6, linkages and interactions between the elements of LTS in Figure 10.7 involve a one-way relationship. This is to illustrate that, if not mitigated, the impact of climate change (rising sea temperatures) on RSDT in the Cairns section of the GBRMP and on Cairns as a reef-dependent community may be permanent (represented by one-way black arrows). There is one noted exception in the model which is the relationship between the DT's coral-based needs not being met and a decline in coral abundance and biodiversity. This is a two way relationship (represented by a two-way red arrow) since the potential exists for a snow-balling affect to occur as coral abundance and biodiversity decline leads to fewer and fewer of DT's needs being met.

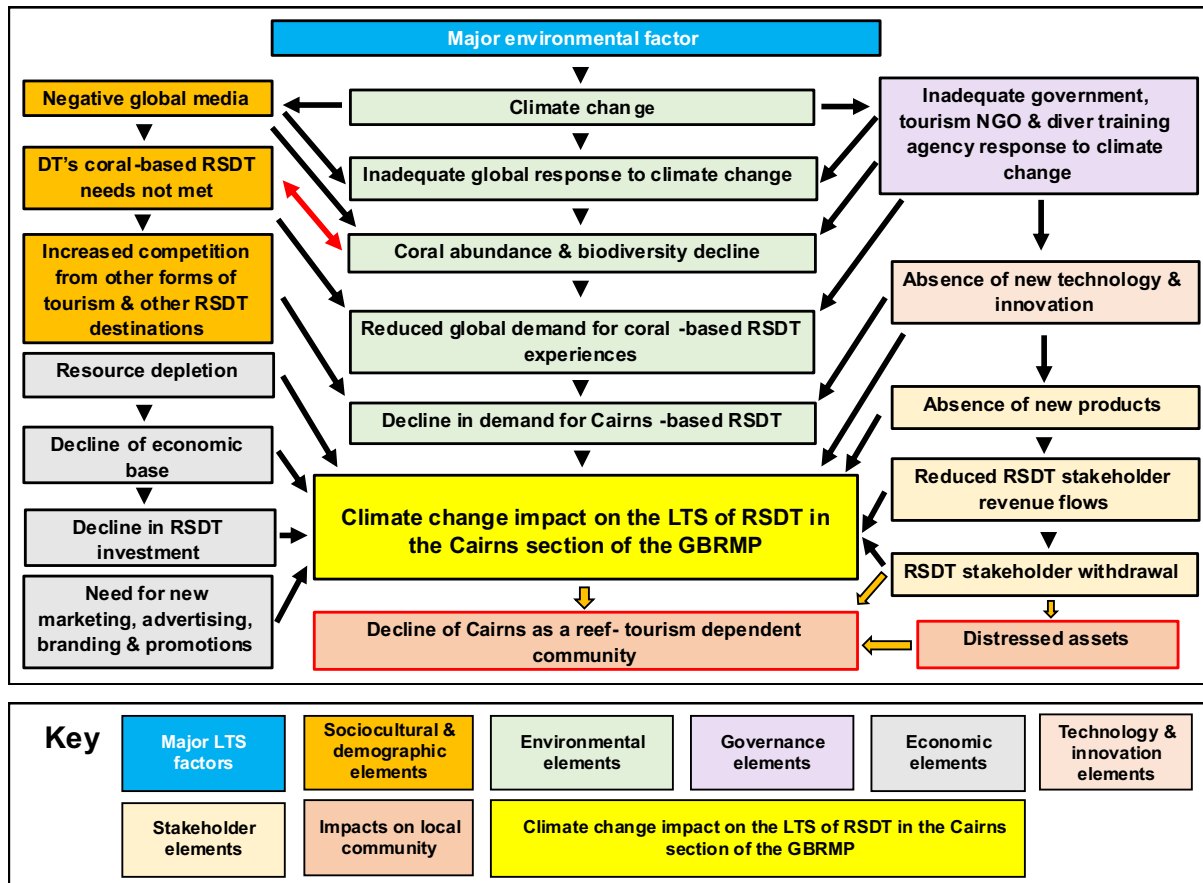


Figure 10.7. A process model that can be used to explain how climate change may impact the LTS of RSDT in the Cairns section of GBRMP (Source: Author)

The model also reflects a major finding of this research in that RSDT stakeholders need to address the long-term impact of climate change on their endeavours and develop a plan B to address the consequences of an inadequate response.

The model could be applied using another environmental factor that has the potential to impact the LTS of Cairns-based RSDT, such as the potential impact of COTS. The model could also be modified and tested at other RSDT destinations using environmental criteria or other major factors that could impact the LTS of a RSDT destination. For example, the model could be modified and applied to the environmental impact on a RSDT destination caused by invasion of Pacific red lionfish in the Bahamas described by Albins (2013), a significant increase in stakeholder operational costs or over-governance.

## **10.9. Summary of the discussion and implications of the research**

This chapter discussed the implications of the findings of the research. This was achieved by drawing upon the literature review (see Chapter Two); the characteristics of Cairns and Cairns-based RSDT (see Chapter Three); the qualitative and quantitative findings of the four-step approach to data collection (see Chapters Five to Eight) and field observations (see Chapter Nine). This approach is consistent with the location based and mixed method methodology of the study (see Chapter Four).

Prior research identified four major factors impact the LTS of a tourism destination (sociocultural; environmental; economic and governance). Additionally, the literature revealed the growing importance of innovation and technology (Buhalis & O'Connor, 2005; Buhalis, 2008; De Bruin, 2016; Policy, 2018) and stakeholder needs and influences (Elkington, 2004) as major factors impacting LTS of a tourism destination. These six factors were used again in this chapter to guide a discussion of the implications of the research findings with a focus on addressing the research objectives presented in Chapter One.

Focusing on addressing the research objectives presented in Chapter One, the chapter utilised tables, photographs, diagrams and models to identify the barriers, drivers and potential opportunities that impact the LTS of RSDT in the Cairns section of the GBRMP. Models were also used to illustrate and support the development of theoretical and practical contributions of this research. These models may be applied and tested at other RSDT destinations.

## **CHAPTER ELEVEN: CONCLUSION**

### **11.1. Introduction**

The aim of this research was to investigate the major factors that impact the LTS of RSDT in the Cairns section of the GBRMP. The literature revealed Cairns-based RSDT is of significant economic importance to the Queensland and Cairns economies by playing a key role within the tourism sector and contributing to revenue streams, employment and infrastructure. Additionally, this research shows that the Cairns section of the GBRMP is an iconic destination for DTs.

A review of the academic literature helped guide this research, while the grey literature helped recognise contemporary issues of LTS that also needed exploring. Building on Elkington's Triple Bottom Line (2004), the academic literature revealed previous research had established the LTS of a tourism destination is impacted by four major factors: sociocultural, environmental, economic and governance (Doiron & Weissenberger, 2014; Dwyer et al., 2010; Elkington, 2004; Hall, 2007; Hammerton & Bucher, 2015; Jennings, 2007; Teodorescu, 2015) or the Quadruple Bottom Line. This research supports that contention and proposes that an additional two factors emerged from the literature and the findings of this research that impact the LTS of RSDT destinations and RSDT in the Cairns section of the GBRMP. That is, innovation and technology (Buhalis & O'Connor, 2005; Buhalis, 2008; De Bruin, 2016; Policy, 2018) and stakeholder needs and influences are equally important factors that impact the LTS of a RSDT destination.

### **11.2. Research gaps**

In Chapters One, Two and Three, the gaps in the literature were summarised (see Tables 1.1 and 3.5). Collectively the gaps reflect that there has been little research conducted into the major factors impacting the LTS of iconic and economically important RSDT destinations (Dimmock et al., 2013) or research that compares the views of multiple RSDT stakeholder groups perspectives in a holistic or systematic way (Dimmock & Musa, 2015). The literature also revealed that the LTS of a tourism destination is established by a

complex relationship between marketing efficiency, destination attributes, elements of destination competitiveness, and the DTs' experiences. However, there are few studies that identify the barriers, drivers and opportunities that contribute to the major factors impacting the LTS of iconic, globally renowned and economically important RSDT destinations such as that found in the Cairns section of the GBRMP.

To address that gap this research developed a holistic and systematic approach to identifying the major factors that impact the LTS of RSDT in the Cairns section of the GBRMP. The relationship between RSDT stakeholder value statements and the satisfaction levels of DTs with different levels of diving experience were also explored, and how these translate into destination loyalty, competitiveness and LTS.

It was also noted in Chapters One, Two and Three, not all these gaps were able to be addressed in this research to their fullest extent and/or were part of the delimitations of this research. Therefore, they are recommended as topics for further research later in this chapter.

### **11.3. Research Objectives**

To achieve the overall aim of this research, five research objectives were investigated and were presented in Chapter One. The research adopted pragmatism as its paradigm, a location-based research strategy and a mixed method methodology. Several research instruments were used in a four-step data collection process. They were content analysis of public documents, semi-structured interviews with stakeholders, a self-completed questionnaire administered to DTs and a stakeholder focus group meeting. Field observations were also recorded.

In Chapter Ten the implications of the findings of this research and relevance to the five research objectives were presented. Barriers, drivers and opportunities emerging from the six major factors that impact LTS Cairns-based RSDT were also presented and summarised in Tables 10.1 through to Table 10.6. The following sections represent a summary of the five research objectives findings.

### **11.3.1. Research objective one**

Research objective one was to develop sociocultural and demographic profiles of DTs who visit the Cairns section of the GBRMP. To achieve this, a self-completed questionnaire was administered to 533 DTs returning to Cairns from diving excursions in the Cairns section of the GBRMP. The analysis provided important insights into the gender, age, occupation, country of origin, travel patterns and accommodation and social media preferences of DTs. This research validates and supports the sociocultural and demographic profiles of DTs visiting the Great Barrier Reef (GBR) by Pabel and Coghlan (2011), while the gender data parallels that of PADI's (2018) certified divers. Additionally, statistical analysis was utilised to discover any variation in DT responses to the questionnaire that could be attributed to diver experience levels.

This research also established DT commitment levels to future RSDT vacations and expected expenditure, satisfaction levels, value for money criteria and destination loyalty which are key components of LTS. The analysis provided an understanding of the importance of current and new markets. The analysis also exposed destination competitors and the need for stakeholders to develop cooperative strategies to maintain competitiveness and broaden market reach.

While research objective one was to develop sociocultural and demographic profiles of DTs who visit the Cairns section of the GBRMP, additional insights regarding research objectives two, three, four and five were gained from the administration of the DT questionnaire (see Table 10.1).

One of the most important original contributions to knowledge this research offers is the discovery of six new RSDT cohorts. Four of these are closely linked to introductory dive experiences (see Chapter 10) and are as follows:

1. Some tourists undertake multiple introductory dives when they travel and as a result are relatively skilled scuba divers although they do not hold a certification card.

2. Some certified divers pay the additional fees to do a guided introductory dive rather than undertake an unguided dive with another certified diver.
3. Some certified divers pay the additional fees to accompany a non-certified friend/spouse undertaking an introductory dive.
4. Some certified divers pay the additional fees to do introductory dives to increase confidence and up-grade skills.
5. Some certified divers preferred to just snorkel when travelling with a non-diving partner.
6. Some certified divers prefer day vessels to do flexible multiple day-trips rather than dive continuously from a live-aboard.

Prior to these findings, these cohorts were hidden amongst the snorkelling, introductory diver and certified diver markets as subsets of cohorts previously identified by researchers. The identification of these new cohorts expands the RSDT literature and has implications to future research discussed later in this chapter. By effectively marketing to these cohorts, stakeholders can add to the factors that drive the LTS of RSDT in the Cairns section of the GBRMP and possibly beyond.

### **11.3.2. Research objective two**

Research objective two was to identify stakeholder and DTs' perceptions of the major factors which impact the LTS of RSDT in the Cairns section of the GBRMP. The research instruments employed in this study confirms the tourism literature that there are four major factors that impact the LTS (sociocultural, environmental, economic and governance) although they impact DT and RSDT stakeholders in different ways. Sociocultural and environmental LTS factors' impacts were more prominent with DT while economic and governance LTS factors were the focus of RSDT stakeholders (see Tables 10.3 and 10.4).

It was also revealed that the LTS of RSDT in the Cairns section of the GBRMP is impacted by two additional factors. Stakeholder ability to constantly innovate and introduce new technologies emerged as a fifth key factor that drives LTS (see Figure 10.2 and Table 10.5). In contrast, the reluctance to constantly innovate and introduce new technologies is a

significant barrier to LTS. A sixth key factor emerged from the presence of multiple RSDT stakeholders with diverse needs and abilities to exert a different array of influences (see Table 10.5 and 10.6). While the implication of RSDT stakeholder needs and abilities was partially explored implications to future research is discussed later in this chapter.

One of the key findings of this research was the exposure of the diverse and contradictory perceptions between supply-side stakeholders, governance bodies and DTs of the major factors they saw impacting the LTS. RSDT supply-chain stakeholders located outside of Cairns had poor product knowledge of what supply-side stakeholders located in Cairns offered, such as the availability of nitrox and technical diving and importance of the backpacker market. In addition, it was ascertained both these stakeholder groups and governance bodies had varying perceptions to those of the DTs regarding the impact on LTS from the Code of Practice, pricing structures, value for money criteria, service levels and the quality of diving available. It was also ascertained the combination of these varying perceptions diversified the messaging by the entities through their respective communication channels. Subsequently, this research exposed the need for more effective and collaborative messaging established across multiple communication platforms (see Tables 10.1 to 10.6).

### **11.3.3. Research objective three**

Research objective three was to identify the barriers facing the LTS of dive tourism in the Cairns section of the GBRMP. It was discovered there are significant barriers that impact LTS and that these impact DT and RSDT stakeholders in diverse ways. These barriers are listed in Tables 10.1 through to 10.6.

A surprising finding of this research was an observation by several stakeholders that Cairns-based RSDT was in decline. This research demonstrates that Cairns-based RSDT is reliant on two primary long-haul international markets (Europe and USA) and the Australian domestic market. There is little penetration into Australia's two major international tourism markets of China and New Zealand, while the established international markets of Japan and Korea seem to be in decline or neglected over time. It was also revealed a heavy reliance exists on DTs certified by one training agency (i.e. PADI). A reasonable conclusion



to be drawn from these observations is that Cairns-based RSDT stakeholders need to develop strategies to maintain and protect these markets while at the same time addressing opportunities in markets where there is little penetration.

The research also demonstrated how Cairns-based RSDT stakeholders have poor exposure in dive publications and representation at dive expos where competitive international destinations have high levels of government and NGO support resulting in an elevated presence. It was also found there is little destination marketing of Cairns-based RSDT and/or cross marketing efforts with the multitude of other Cairns-based tourism activities. Meanwhile, stakeholder brochures focused on administrative aspects of dive tours rather than the broader virtues of their product offerings which are more important to DTs.

This research also builds on the view (Dimmock et al., 2013) that the dive industry and RSDT is a complex interaction between 4 Es: education (diver training), equipment (sales and servicing), environment (site quality) and experience (travel/tourism). The dive industry and diver training agencies acknowledge Cairns is a world leader in diver training. However, given the number of DTs visiting Cairns, this research demonstrates training is undertaken by a relatively small number and some niche diving markets such as technical diving and catering for disabled divers are neglected. Similarly, while RSDT supply-side equipment wholesaler interviewees acknowledged the importance of Cairns to their sales volume, this research demonstrates that these sales are of a business to business (B2B) nature (e.g. equipment sold to be used for hire on charter vessels) and sales to DTs (i.e. B2C) are relatively low. The combination of these factors represents a barrier to economic LTS and a missed opportunity.

This research confirms the understanding expressed by some stakeholder interviewees that Cairns-based RSDT is moving away from catering for certified DTs and becoming focused on providing an introductory dive experience to appeal to the broader tourism sector. It is proposed that this transition has far reaching long-term implications for Cairns-based RSDT and has implications for the six new cohorts this research identified.

A major barrier to LTS is the lack of innovation in product development. In the past, Cairns-based RSDT had an international reputation for being innovative in respect to the quality of their product offerings (e.g. world class vessels). However, this research confirms the perception of some stakeholder interviewees that there has been a lack of innovation in recent years which has allowed competitors to catch up, resulting in Cairns-based RSDT finding itself with a multitude of RSDT rival destinations offering a similar product. These include those in other parts of the GBRMP (e.g. Whitsunday Islands and Gladstone) and Ningaloo Reef in Western Australia.

Stakeholders demonstrated an over-dependence on their internet platforms to generate business. This was in part due to a desire by supply-side stakeholders located in Cairns to reduce the impact of commissions paid to agents and local travel kiosks. This research also provides justification and support for stakeholders feeling that there is a lack of marketing support of Cairns-based RSDT from government and NGO bodies. The impact of these factors has resulted in stakeholders having largely neglected using other forms of marketing to capture business such as providing advertising and editorial content in dive publications and displaying a high quality presence at dive expos. Regardless of the reasons, the implication from this research is a narrow marketing strategy will have a minimal DT reach and have flow-on impacts on LTS. The over-dependence on their internet platforms to drive business also illustrates that some drivers can inhibit the use of others.

This research supports and reinforces the view that the major long-term barriers to coral reef tourism are anthropogenic stresses and the impact of climate change. The research demonstrates that Cairns-based RSDT and a large part of the Cairns economy are dependent on the health of the GBRMP as its major driver of tourism. However, one of the most striking and original findings of the research is that Cairns-based RSDT stakeholders are locked into their daily narratives relating to pricing, competitiveness, commissions structures, value of the Australian dollar, taxes and marina charges, lack of government marketing support and the impact of over-governance. Ironically, many have no formal plans to manage their businesses or to address these concerns. More specifically, stakeholders

displayed high levels of path dependence and lock-in when it came to business practices and product offerings. This also illustrates that in the long-term, some drivers of LTS can become ineffective and even impede the introduction of new ones.

Additionally, this research supports Weaver's (2011) contention that the tourism industry is uncommitted to addressing climate change by discovering Cairns-based RSDT stakeholders have no plan B to address a significant deterioration in reef health and subsequent declines in attractiveness for DTs (Cummins et al., 2019a). Meanwhile, the research confirmed negative media regarding the health of the GBR is already exerting a major impact on DT decision-making processes and visitations.

#### **11.3.4. Research objective four**

Research objective four was to identify the drivers and potential opportunities that enhance the LTS of dive tourism in the Cairns section of GBRMP. These drivers and potential opportunities are listed in Tables 10.1 through to 10.6.

This research concludes the major driver of RSDT in the Cairns section of the GBRMP is the global iconic value of the GBR. This generates high levels of attractiveness for DTs and generates opportunities to maintain and develop international and domestic RSDT markets despite other RSDT destinations offering quality diving. This research demonstrates that Cairns has a high level of appeal for various market segments, including catering for a large backpacker sector and those with high levels of discretionary income. This is validated through the presence of a variety of accommodation options, nature/adventure-based activities and RSDT options.

Cairns-based supply-side stakeholders demonstrated high levels of pride in their vessels, the quality of RSDT products offered and the quality of diving available. DTs supported this view by confirming they had high levels of satisfaction regarding the quality of diving including underwater visibility, coral abundance, marine life encounters and their interactions with vessel crews. DTs expressed high levels of desire to return and recommend Cairns-based RSDT to others either by word of mouth (WOM) or via social

media platforms (eWOM). DTs also held the view that Cairns has a stable economy, is free of danger and a safe place to visit.

The research confirmed that DT can be drivers of ecofriendly practices leading to LTS. DTs confirmed that the promotion by stakeholders of ecofriendly practices and the appearance of the “Eco Certified – Advanced Ecotourism” logos on marketing collateral played a driver role in their selection of a RSDT operator. Furthermore, DTs confirmed the RSDT operators that ecofriendly practices did indeed exist with the implication there was no greenwashing.

Some factors of LTS can mean different things to different entities. In the case of this research, it was found that stakeholders and some of the experienced DTs felt the Queensland State Government’s Diving Code of Practice was a barrier to LTS. In contrast, most of the DTs felt the Code contributed to Cairns being a safe place to dive. Similarly, while supply-side stakeholders located outside of Cairns felt Cairns was an expensive dive destination and were reluctant to send customers there, most DTs thought Cairns-based RSDT offered good value for money. Therefore, this research concludes that these two factors can be turned into crucial drivers of LTS if effectively promoted within stakeholder marketing collateral and that all supply-side stakeholders aligned their product knowledge.

#### **11.3.5. Research objective five**

Research objective five was to develop models that can be used to explain how the major factors of LTS impact RSDT in the Cairns section of GBRMP. Models and diagrams were used throughout this research to demonstrate, validate, support and reinforce the view revealed in the literature that there are four major factors that impact the LTS of a tourism destination (i.e. sociocultural, environmental, economic and governance). Therefore, several of these were derived from, and validate, prior research. The literature and the findings of this research also enabled the inclusion of two additional factors to an understanding of major factors impacting the LTS of RSDT in the Cairns section of the GBRMP: that is, by illustrating the importance of innovation and technology, and stakeholder needs and

influences. The discovery of these additional key factors affords further justification for undertaking this research and contributes to the development of RSDT theory.

This research also utilised NVivo and Leximancer software to generate word cloud models and concept maps to illustrate the findings of RSDT stakeholder interviews and to summarise the findings of the content analysis of public documents. An expansion of Rogers (1995) theoretical model of diffusion of innovations was used to illustrate how Cairns-based RSDT may be impacted by product life-cycle factors and the up-take of innovation and technologies.

Theoretical and conceptional models employing a holistic, and systematic framework of the major factors impacting the LTS of a RSDT destination (see Figure 10.5) and the LTS of RSDT in the Cairns section of the GBRMP (Figure 10.6) were developed. Finally, a process model illustrating how the framework is capable of being operationalised (Prideaux, 2013a) in the context of impacts from climate change on RSDT in the Cairns section of the GBRMP was developed (see Figure 10.7).

Models have been widely used by researchers to explain theory and concepts. However, while shapes and arrows can add order and help illustrate a theory or concept by clearly delineating patterns and connections, they rarely explain why the proposed connections will be observed (McKercher & Prideaux, 2020). In contrast, these models enhance the understanding and supports the call by Dimmock and Musa (2015) for researchers to highlight the central elements of RSDT and contribute to theory development by accounting for how and why things are as they are (Stewart et al., 2011).

#### **11.4. Contributions of this research**

This research makes theoretical and practical contributions to knowledge by investigating gaps in the literature and addressing the lack of models that explain the major LTS factors that impact a RSDT destination. This is achieved by a mixed-method methodology that includes the collection of data from multiple players to arrive at a holistic and systematic explanation of the major factors impacting RSDT and RSDT in the Cairns section of the GBRMP.

This research also makes several significant and original contributions to the knowledge of the major factors impacting RSDT and RSDT in the Cairns section of the GBRMP. A review of the literature indicates few studies of iconic, globally renowned and economically important RSDT destinations exist on this scale. That is, collecting data from 21 location-based stakeholder promotional brochures, six diving consumer publications, identification of at least 95 non-RSDT complementary activities (see Addendix B), questionnaire administered to 533 DTs and involving 41 RSDT stakeholders in interviews and a focus group meeting. The research also involved an extensive review of the tourism and RSDT literature.

#### **11.4.1. Theoretical contributions**

This research explores a complex relationship that exists between multiple major factors impacting the LTS of a RSDT destination and builds on prior research of the four major factors that impact the LTS of a tourism destination (Doiron & Weissenberger, 2014; Dwyer et al., 2010; Elkington, 2004; Hall, 2007; Hammerton & Bucher, 2015; Jennings, 2007; Teodorescu, 2015) and RSDT in the Cairns section of the GBRMP. This research provides important theoretical contributions to an understanding of these major factors by moving away from the emphasis some researchers have placed on single factor impacts towards the more holistic and systematic approach called for by Dimmock and Musa (2015). That is, where the major impacts are identified along with the equally important conceptional understanding of the interaction between them is illustrated.

This research adds two additional major factors to these four. Firstly, this research demonstrates the need for ongoing innovation (Buhalis & O'Connor, 2005; Buhalis, 2008) and the employment of state-of-the-art technology (De Bruin, 2016; Policy, 2018) to maintain destination competitiveness and LTS. Secondly, this research builds on the triple bottom line proposed by Elkington (1994, 2004) by illustrating the importance of the needs and influences of stakeholders as a factor and the status of innovation and technology as a factor.

The models developed in this research contribute to an understanding of the major factors impacting the LTS of a tourism destination and Cairns-based RSDT. Figure 10.3 presented an adaption of the diffusion of innovations theoretical model proposed by Rogers (1995). It illustrates how successive groups of RSDT operators may introduce or adopt an innovation or new technology at varying times. It also demonstrates the need for Cairns-based RSDT stakeholders to avoid change hesitancy and escape path dependence and lock-in (Hassink, 2010; Martin & Sunley, 2006) it requires the development of new innovations to create a new version of existing products (Grabher, 1993). Additionally, it requires the adoption of the most recent technologies for stakeholders to keep ahead of the curve (Morrison, 1996) and to maintain a smart tourism approach (Del Vecchio et al., 2014).

Figure 10.5 and 10.6 contributes to theory by presenting holistic and systematic frameworks representing the six major factors impacting the LTS of a RSDT destination and the LTS of a RSDT in the Cairns section of the GBRMP that were identified in this research and can be applied to other RSDT destinations. These models also help highlight the central elements of RSDT (Dimmock & Musa, 2015) and increase the potential for the development of holistic strategies proposed by Butler (1993). By way of an example, the process model in Figure 10.7 operationalises parts of the models shown in Figure 10.6 to illustrate how climate change can impact the LTS of RSDT in the Cairns section of the GBRMP. Other parts of the model shown in Figure 10.6 can be operationalised to develop other process models which could explain future impacts on RSDT in the Cairns section of the GBRMP and elsewhere.

#### **11.4.1.1. The discovery of new RSDT cohorts**

This research discovered six RSDT cohorts not previously identified in the literature. This represents an original contribution to knowledge in the field of RSDT not only in respect to LTS of RSDT in the Cairns section of the GBRMP but RSDT globally. While this research was not able to fully investigate all the implications for the RSDT, any newly discovered RSDT customer segment deserves consideration and further research. This could be especially noteworthy for adventure tourism researchers since it is reasonable to assume

that the discovery of several of these new DT cohorts has implications to the possible trend in the evolution of some areas of adventure tourism discussed in Chapter 10. That is, where participants are not likely to become enthusiasts of the activity or able to undertake the activity without direct professional support but are more likely to undertake the adventure as a means of expressing their human capacity to challenge personal limitations, to “tick the box” and share selfies on social media platforms.

#### **11.4.2. Practical contributions**

The research outlined important practical contributions to understanding the nature of RSDT barriers, drivers and opportunities which can contribute to the potential for developing holistic and systematic strategies (Butler, 1993; Dimmock & Musa, 2015). It is expected that networks and collaborations among RSDT stakeholders within the sector, could benefit considerably from the exchange of knowledge, management and business practices the research demonstrates. This is critical if business dependents are to be protected through the identification of opportunities that can be utilised in developing future-proofing strategies.

A key finding of this research revealed that stakeholders need to address the significant barrier that path dependence and lock-in places on their LTS. It was also revealed that many supply-side stakeholders have no formal business and/or marketing plans. This research confirms such plans must include strategies to address the potential for a decline in reef health due to anthropogenic stresses and climate change (see Figure 10.7). That is, develop a plan B that includes the development of alternative products, less vulnerable to climate change, which have been identified by this, and prior, research (Pabel & Coghlan, 2011; Weaver, 2011).

This research also has important implications for the City of Cairns, as Cairns Regional Council policy making and development planning should have a strong focus on tourism and the LTS of large individual sectors within it, like RSDT. Furthermore, the research findings give guidance and assistance to the planning systems employed by the RSDT stakeholders, including the GBRMPA, tourism NGOs and diver training agencies.



One of the major practical contributions of this research is the confirmation that when there are multiple RSDT stakeholders and variations in the wants and needs of individual DTs (e.g. DTs with varying experience levels), a disconnect that impacts LTS can exist. Therefore, the findings of this research provide justification for supply-side stakeholders located in and external to Cairns to align their understanding of product quality and availability reflected in marketing collateral and strategies. Without this alignment, contrasting messaging will have highly diverse impacts on DT destination selection criteria, both as a barrier and as a driver.

### **11.5. Game changes generated by this research**

This research gained considerable attention from the dive industry, Cairns-based RSDT stakeholders, government and tourism NGOs following periods of industry engagement, especially during the RSDT stakeholder interviews (see Chapter Six) and focus group meeting (see Chapter Nine). Additionally, the researcher shared some of the initial findings with various individuals and organisations with which he had contact in his role as President of Dive Queensland Inc. In several cases, these engagements prompted game changes in the way some RSDT stakeholders conducted their business operations. It also contributed to increased levels of engagement and a variety of stakeholder partnerships being developed.

These game changes are considered by the researcher as some of the most significant and original practical contributions of this research. The following section provides examples of game changes resulting from this research.

#### **11.5.1. Examples of game changes generated by this research**

After the engagement with RSDT stakeholder interviewees and the focus group meeting, some participants shifted away from an administrative bias that dominated their marketing collateral and which was exposed in the content analysis of this research. For example, focus group Participant 3 contacted the researcher and said: “we have changed our brochure after participating in the focus group where it was identified some promotional

brochures contained too much administrative material and not sufficient content relating to DTs having an enjoyable diving experience.”

Interviewee 21 placed a billboard on the major highway leading into Cairns after their interview revealed they had not considered outdoor marketing (Allouch, 2018) to capture visitors arriving in Cairns via road. Meanwhile, Interviewee 22 commenced billboard advertising within the Cairns CBD to gain better access to foot traffic.

The findings from the content analysis of the dive publications (see Chapter Five) and observations made at the dive exhibitions (see Chapter Eight) also encouraged the researcher to formulate a proposal to Cairns Regional Council (CRC) to promote Cairns-based RSDT. This resulted in CRC recognising the need for the region’s RSDT to be more strongly promoted and a \$9,900 grant was made to Dive Queensland Inc. to facilitate a destination-specific marketing campaign. This is the first time a significant grant has been awarded by CRC to promote RSDT in the Cairns section of the GBRMP. The campaign was managed by the researcher using knowledge gained from his research. Information seminars were presented to magazine editors and photojournalists at the 2019 DEMA Dive Show (USA) by the researcher. Subsequently, a magazine editor was sponsored to visit Cairns to collect promotional material. Following the impact of COVID-19, and associated international travel restrictions, the researcher successfully requested that the project take on a stronger domestic market focus. This resulted in destination-specific editorial and advertising in Scuba Diver Magazine Australia and New Zealand throughout 2020. In late 2020, additional promotions will be undertaken in Scuba Diver USA and Scuba Diver UK to stimulate the Cairns RSDT market for 2022 when international border restrictions may be lifted.

The stakeholder interviews revealed that the Queensland Government’s Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice is a major concern to Cairns-based RSDT operators. The insights generated by this research resulted in being invited to dive industry round table discussions with representatives of the Office of Industrial

Relations (OIR) and the Minister for Industrial Relations. Additionally, the researcher was appointed in 2019 to the Working Committee tasked with developing a new Code.

The stakeholder interviews also revealed there was a disconnect between the Australian Federal Government's immigration laws and the Queensland State Government Code (see Chapter Six). This finding led the researcher to provide information to the Cairns Chamber of Commerce (CCC) outlining the need for Cairns-based RSDT operators to have multilingual diving professionals to meet the Code conditions relating to non-catering for non-English speaking divers. This information contributed to the CCC gaining a Far North Queensland Designated Area Migration Agreement (DAMA, 2019) from the Federal Government. The DAMA provides the mechanism by which Cairns-based RSDT operators can assist the migration and subsequent employment of multilingual diving professionals. However, while the potential exists to utilise a DAMA to gain dive professionals fluent in non-English languages, the difficulty in finding suitable candidates and the administrative costs associated with gaining approval still represents a significant barrier for RSDT operators to penetrate non-English speaking markets.

The content analysis of dive magazines reported in Chapter Five and the dive exhibition observations made in 2017, 2018 and 2019 (see Chapter Eight) revealed the relatively low promotional exposure Cairns-based RSDT operators receive. Additionally, the stakeholder interviews and focus group meeting revealed Cairns-based stakeholders felt they receive no financial or promotional support from government or NGOs. These initial findings were released in four reports to AMPTO (Cummins, 2018; Cummins, 2019a,b,c) and led to the adoption of a destination-specific approach to future dive shows. The first, involving a co-op of six Cairns-based RSDT and tourism stakeholders, was to take place in early 2020. However, many dive exhibitions were cancelled globally following the impact of COVID-19. The project is still considered valid and will likely be implemented post-COVID-19.

During 2019, Dive Queensland Inc., TEQ and GBRMPA formed a partnership to exhibit at four international (Japan, Singapore, Malaysia and the USA) and one domestic

(Sydney) dive expo (see Chapter Eight). The researcher acted as manager of the partnership and also as a consultant to TEQ throughout 2019 on the broader promotion of RSDT. The researcher was also appointed to TEQ's Nature-Based Tourism Strategy External Reference Group to provide a RSDT perspective on the development of a new strategy. Additionally, presentations to TTNQ by the author included the presentation of dive expo observations, the content analysis of the dive publications, the need to focus on the domestic market due to COVID-19 restrictions and a demonstration of the CRC project which helped TTNQ to commit to financing six months of promotions in *Scuba Diver Magazine* Australia and New Zealand during 2020.

### **11.6. Future Research**

Given the relatively small amount of research conducted into the LTS of iconic, globally renowned and economically important RSDT destinations, the discovery of gaps within the literature exposed during this research may stimulate and assist the research of other economically important RSDT destinations. For example, it was mentioned earlier in this chapter that one of the most significant and original contributions this research identified is that stakeholders have no plan B to address the impacts from anthropogenic stresses and climate change. Ongoing research will be required to uncover the implications of the sequential decline of coral reefs globally. In the case of Cairns-based RSDT, and other destinations with heavy dependence on coral reef health, such research will be critical to develop counter strategies. This future research must include assessing the potential for RSDT stakeholders to survive and/or develop new products less dependent on coral abundance and other reef attributes that may be impacted by anthropogenic stresses and climate change.

This research found that most stakeholders felt that having a shipwreck would be of substantial benefit to RSDT. However, further investigation highlighted scuttling vessels as dive sites involves years of preparation and millions of dollars of investment. Meanwhile, this research established many of the DTs visited Cairns to dive the GBR. More research is therefore required to establish whether the costs associated with having a vessel scuttled as

a dive site in the Cairns-section of the GBRMP would be out-weighed by the benefits to RSDT and local divers.

Gathering the sociocultural and demographic characteristics of stakeholders was not a research objective of this research. However, valuable insights were discovered which may impact the LTS of RSDT in the Cairns section of the GBRMP. One of the most noteworthy of these insights was the relatively high percentage of stakeholders who described themselves in retirement mode. Additionally, the research found the number of females in decision-making roles was relatively low. Therefore, further research is required to explore the impact of stakeholder sociocultural and demographic characteristics on LTS and how this may impact their decision-making processes.

It was established supply-side RSDT stakeholders outside of Cairns would rather send their clients overseas. Although this research was able to recognise some of the major reasons why they have this preference, the research also ascertained that domestic DTs make up the third largest market for Cairns-based RSDT. Therefore, further research is required to fully understand the factors influencing this phenomenon.

The literature reflects that leakage of revenues and other benefits from the periphery which could facilitate additional local investment and/or be afforded to residents is a barrier to LTS. The grey literature and this research also confirmed that Federal (e.g. EMC) and State Government (e.g. payroll tax and marina charges) revenues derived from Cairns-based RSDT is not necessarily invested locally. Similarly, this research discovered that Cairns-based RSDT has a relatively large proportion of ownership and influences which originate from outside of Cairns.

While the literature did not identify any conflicts existing between Cairns residents and RSDT, the literature did reveal the impact and the opinion of locals is often left out when considering tourism development (Hall, 2007). Further research is required to assess the needs and influences exerted by residents on the LTS of RSDT and what the impact is of leakage on destinations in the Cairns section of the GBRMP and elsewhere.

Although this research has a location-based research strategy, further investigation is required to test the models developed on other RSDT destinations and by incorporating the two additional major factors influencing LTS that emerged from this research. This is especially necessary in the case of iconic, globally renowned and economically significant RSDT destinations located elsewhere.

Throughout this research it was found that there is a general lack of secondary data available from the dive industry that can assist researchers in addressing its various challenges (Cummins et al., 2020b). RSDT stakeholders need to create and release more meaningful data and support research projects that may, in turn, contribute to a clearer understanding of their endeavours. This may assist in creating new RSDT opportunities, develop potential to co-create RSDT experiences, spark degrees of cooperation and collaboration between RSDT stakeholders and generally promote the development of LTS.

The impact of COVID-19 on tourism globally is acknowledged and is yet to be fully realised (Gössling et al., 2020). All the data reflected in this research was collected and analysed by early 2020. Therefore, it was not possible to address the long-term impacts of COVID-19 on Cairns-based RSDT. However, it was observed and reported by mid-March 2020 Cairns-based RSDT had completely closed (Calcino, 2020a; Nally, 2020). Additionally, it was observed that RSDT struggled throughout the majority of 2020 with Australia's international and state boarder closures inhibiting the arrival of international and domestic DTs. Therefore, the impact of COVID-19 on RSDT globally, and individual RSDT destinations, is an area which will require substantial future research.

Finally, this research provides valuable insights into the major factors impacting the LTS of RSDT. It is hoped that this will stimulate other researchers to test and validate the theories, concepts and models at other RSDT destinations and more broadly in other tourism sectors. This may also lead to the further development of theory and stimulate others to create management models that can be used to help future proof MPAs and other important tourism destinations.

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## Appendix A

### Global diver training agencies

Note: This is a list of the most common diver training agencies that appear in the literature.

Other diver training agencies do exist. There are approximately 160 recreational scuba training agencies active across the globe, and a further 18 training agencies that certify divers in technical diving and 17 that certify various levels of cave diving (Cummins et al., 2019b).

American Nitrox Divers International (ANDI).  
American Canadian Underwater Certifications Inc. (ACUC).  
Association of Diving Scuba International (ADSI).  
Australian Underwater Scuba Instructors (AUSI).  
British Sub Aqua Club (BSAC).  
Cave Divers Association Australia (CDAA).  
Confederation Mondiale d'activités Subaquatiques (CMAS).  
Divers Alert Network (DAN).  
Federation of Australian Underwater Instructors (FAUI).  
Global Underwater Explorers (GUE).  
Greek Sport Diver Federation (GSDF).  
Instructor Dive Development (IDD).  
International Association of Nitrox and Technical Divers (IANTD).  
International Diving Educators Association (IDEA).  
International Scuba Educators Association (ISEA).  
Korea Scuba Diving Federation of sports for all (KSDF).  
Korean Underwater Association (KUA).  
Korean Underwater Divers Association (KUDA).  
Multinational Diving Educators Association (MDEA).  
National Association of Cave Divers (NACD).  
National Association Underwater Instructors (NAUI).  
National Academy of Scuba Educators (NASE).  
Professional Scuba Association International (PSA).  
Professional Diving Instructors Corporation (PDIC).  
Rebreather Association of International Divers (RAID).  
Scuba Schools International (SSI).  
Scuba Diving International (SDI) / Technical Divers International (TDI).  
YMCA Scuba.

## Appendix B

### Tourism activities found in Cairns other than scuba diving

Item number	Tourist activity
1	4x4 Driving tours
2	10 pin bowling
3	Aboriginal cultural experiences (includes cultural centre visit {Tjapukai}, indigenous art galleries, etc.)
4	Abseiling
5	Aquarium
6	Aquarobics, Zomba, etc., at Cairns pool
7	Army Duck tours
8	Art galleries (multiple)
9	ATV tours
10	Basketball (home of the Taipans NBL Team)
11	Beach volleyball
12	Beach walks
13	Big game fishing
14	Bird watching
15	Boating (including boat hire)
16	Botanical Gardens
17	Bungy jumping
18	Bushwalking
19	Canoeing
20	Canyoning
21	Cairns Casino Zoom and Wildlife Dome
22	Casino (gambling)
23	Cinema
24	Cliff jumping
25	Crocodile tours
26	Cycling (tours and hire)
27	Dining (includes tours)
28	E-Bike Foodie tours
29	Events (Iron Man, Masters Games, Concerts, Conventions and Festivals)
30	Fishing (coastal and by charter)
31	Fly boarding
32	Float Studio
33	Glass bottom boat tours
34	Go-carting
35	Golf
36	Guided and unguided walks
37	Hang gliding
38	Harbour (inlet) cruises
39	Helicopter tours
40	Hiking
41	Hinterland tours and attractions (e.g. Kuranda: Bird World, Butterfly sanctuary, Koala Gardens, markets and cheese/chocolate factory)
42	Horse racing
43	Horse riding
44	Hot air ballooning
45	Island experiences (Green, Fitzroy and Franklin Islands)

46	Jet boat rides
47	Kite surfing
48	Kymera boarding
49	Lawn bowls
50	Laser tag
51	Macro photography garden tours
52	Micro lighting (Tandem)
53	Mini golf
54	Mopeds/Segway tours
55	Mountain bike riding (includes hosting World Championships)
56	Motor bike tours (Choppers and motor scooters)
57	Museum
58	Night & day markets
59	Night Hummer tours
60	Ocean kayaking
61	Paddle boarding
62	Paintball
63	Parasailing
64	Personal watercraft hire
65	Photography classes and tours
66	Push bike tours
67	Quad bike riding and tours
68	Rapids boarding
69	Red Dragon & Hemingway's Brewery Tours
70	River cruises
71	River snorkelling including platypus viewing
72	River tubing
73	Rock sliding
74	Sailing
75	Scenic flights (Plane)
76	Scooter hire
77	Seabob hire
78	Shooting (2 indoor galleries)
79	Sky diving
80	Skyrail
81	Snorkelling
82	Spearfishing (three dedicated stores)
83	Submarine tours
84	Super yacht cruising
85	Swimming (coastal and Tobruk Pool – includes wave machine)
86	Swing lining
87	Sugar World theme park
88	Tennis (includes tournaments)
89	Train tours (Kuranda and Savanna Way)
90	Wake boarding
91	Water skiing (including water skiing park)
92	Whale watching (Humpback and Minke Whales)
93	White water rafting
94	Zip lining
95	Zoom: Reef Casino roof and high ropes adventure

(Source: Author)

## Appendix C

### Dive publication content analysis data

Dive Log: Cairns operators							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
June	80	1.50	1.88 %	0.50	0.06 %	2.00	2.50 %
July	80	0.97	1.21 %	0.00	0.00 %	0.97	1.21 %
August	80	1.38	1.70 %	0.50	0.06 %	1.88	2.30 %
September	80	1.13	1.40 %	0.50	0.06 %	1.63	2.00 %
October	80	1.63	2.00 %	2.00	2.50 %	3.63	4.50 %
November	80	1.76	2.20 %	0.00	0.00 %	1.76	2.20 %
December	80	1.98	2.40 %	2.39	2.99 %	4.37	5.40 %
<b>2018</b>							
January	80	3.17	3.96 %	0.00	0.00 %	3.17	3.90 %
February	80	1.81	2.20 %	2.50	3.10 %	4.31	5.30 %
March	80	2.30	2.80 %	0.50	0.06 %	2.80	3.50 %
April	80	2.23	2.80 %	0.50	0.06 %	2.73	3.40 %
May	80	0.61	0.08 %	0.50	0.06 %	1.11	1.30 %
June	80	1.14	1.40 %	0.75	0.09 %	1.89	2.30 %
July	80	1.21	1.50 %	0.50	0.06 %	1.71	2.10 %
August	80	1.08	1.35 %	0.30	0.04 %	1.38	1.70 %
September	80	1.60	2.00 %	0.00	0.00 %	1.60	2.00 %
October	80	1.10	1.40 %	0.00	0.00 %	1.10	1.40 %
November	80	0.92	1.15 %	0.00	0.00 %	0.92	1.15 %
December	80	1.17	1.46 %	0.00	0.00 %	1.17	1.46 %
<b>Totals</b>	<b>1520</b>	<b>28.69</b>	<b>1.80 %</b>	<b>11.44</b>	<b>0.75 %</b>	<b>40.13</b>	<b>2.64 %</b>
Dive Log: Non-Cairns Australian operators							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
June	80	1.70	2.10 %	6.00	7.50 %	7.70	9.60 %
July	80	1.00	1.30 %	3.00	3.80 %	4.00	5.00 %
August	80	3.03	3.70 %	6.50	8.10 %	9.53	11.90 %
September	80	1.70	2.10 %	5.50	6.80 %	7.20	9.00 %
October	80	1.58	1.90 %	7.25	9.10 %	8.83	11.00 %
November	80	2.00	2.50 %	4.75	5.80 %	6.75	8.40 %
December	80	1.71	2.10 %	1.00	1.30 %	2.71	3.40 %
<b>2018</b>							
January	80	2.21	2.70 %	4.00	5.00 %	6.21	7.80 %
February	80	1.71	2.10 %	5.00	6.30 %	6.71	8.30 %
March	80	1.71	2.10 %	2.00	2.50 %	3.71	4.60 %
April	80	2.21	2.70 %	6.00	7.50 %	8.21	10.20 %
May	80	1.71	2.10 %	5.00	5.30 %	6.71	8.40 %
June	80	1.71	2.10 %	4.50	5.60 %	6.21	7.80 %
July	80	1.71	2.10 %	2.50	3.10 %	4.21	5.30 %
August	80	1.24	1.50 %	10.50	13.10 %	11.74	14.67 %
September	80	2.90	3.60 %	2.08	2.60 %	4.98	6.23 %
October	80	1.66	2.08 %	12.75	15.94 %	13.41	16.76 %
November	80	1.50	1.88 %	2.38	2.98 %	3.88	4.85 %
December	80	2.25	2.81 %	4.00	5.00 %	6.25	7.81 %
<b>Totals</b>	<b>1520</b>	<b>35.24</b>	<b>2.32 %</b>	<b>94.71</b>	<b>6.23 %</b>	<b>128.95</b>	<b>8.48 %</b>
Dive Log: International operators							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
June	80	6.75	8.40 %	6.00	7.50 %	12.75	15.90 %
July	80	11.68	14.60 %	4.50	5.60 %	16.18	20.20 %
August	80	6.75	8.40 %	11.50	14.40 %	18.25	22.80 %



September	80	8.25	10.30 %	9.00	11.30 %	17.25	21.60 %
October	80	4.50	5.60 %	18.00	22.50 %	22.50	28.10 %
November	80	8.25	10.30 %	11.50	14.4 %	19.75	24.70 %
December	80	7.50	9.30 %	7.50	9.30 %	15.00	18.75 %
<b>2018</b>							
January	80	6.00	7.50 %	6.50	8.10 %	12.50	15.60 %
February	80	5.25	6.50 %	7.00	8.70 %	12.25	15.30 %
March	80	6.42	8.00 %	14.00	17.50 %	16.42	21.00 %
April	80	5.28	6.60 %	5.50	6.90 %	16.56	21.00 %
May	80	5.78	7.20 %	12.00	15.00 %	17.78	22.00 %
June	80	5.78	7.20 %	18.00	22.50 %	23.78	29.70 %
July	80	6.91	8.60 %	21.25	26.60 %	28.16	35.20 %
August	80	4.38	5.40 %	6.50	8.10 %	10.88	13.60 %
September	80	7.28	9.10 %	5.75	7.09 %	13.03	16.29 %
October	80	14.53	18.16 %	2.50	3.10 %	17.03	21.29 %
November	80	9.75	12.19 %	8.42	10.53 %	18.17	22.71 %
December	80	13.50	16.88 %	4.50	5.7 %	18.00	22.50 %
<b>Totals</b>	<b>1520</b>	<b>144.54</b>	<b>9.51 %</b>	<b>179.92</b>	<b>11.84 %</b>	<b>326.24</b>	<b>21.46 %</b>
<b>Undersea Journal: Cairns operators</b>							
Quarter	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
Q3	76	0.00	0.00 %	0.10	0.13 %	0.10	0.13 %
Q4	76	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>2018</b>							
Q1	76	0.00	0.00 %	0.11	0.14 %	0.11	0.14 %
Q2	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
Q3	76	0.15	0.20 %	1.00	1.32 %	1.15	1.51 %
Q4	76	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>Totals</b>	<b>480</b>	<b>0.15</b>	<b>0.03 %</b>	<b>1.21</b>	<b>0.25 %</b>	<b>1.36</b>	<b>0.28 %</b>
<b>Undersea Journal: Non-Cairns Australian operators</b>							
Quarter	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
Q3	76	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
Q4	76	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>2018</b>							
Q1	76	0.00	0.00 %	0.11	0.14 %	0.11	0.14 %
Q2	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
Q3	76	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
Q4	76	0.00	0.00 %	0.10	0.13 %	0.10	0.13 %
<b>Totals</b>	<b>480</b>	<b>0.00</b>	<b>0.00 %</b>	<b>0.21</b>	<b>0.04 %</b>	<b>0.21</b>	<b>0.04 %</b>
<b>Undersea Journal: International operators</b>							
Quarter	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2017</b>							
Q3	76	2.65	3.89 %	4.90	6.45 %	7.55	9.93 %
Q4	76	3.00	3.95 %	1.50	1.97 %	4.50	5.92 %
<b>2018</b>							
Q1	76	3.55	4.67 %	4.90	6.45 %	8.45	11.12 %
Q2	100	3.66	3.66 %	2.90	2.90 %	6.56	6.56 %
Q3	76	2.80	3.68 %	9.00	11.84 %	11.80	15.53 %
Q4	76	1.96	3.58 %	3.82	5.03 %	5.78	7.60 %
<b>Totals</b>	<b>480</b>	<b>17.62</b>	<b>3.67 %</b>	<b>27.02</b>	<b>5.63 %</b>	<b>44.64</b>	<b>9.30 %</b>
<b>UK Scuba Diver Magazine: Cairns operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>April 2017</b>							
	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %

<b>January 2018</b>							
	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>April 2018</b>							
	108	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>Totals</b>	308	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>UK Scuba Diver Magazine: Non-Cairns Australian operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>April 2017</b>							
	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>Jan 2018</b>							
	100	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>April 2018</b>							
	108	0.00	0.00 %	0.00	0.00 %	0.00	0.00 %
<b>Totals</b>	308	0.00	0.00 %	0.00	0.00 %	0.00 %	0.00 %
<b>UK Scuba Diver Magazine: International operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>April 2017</b>							
	100	16.75	16.75 %	19.00	19.00%	35.75	35.75 %
<b>January 2018</b>							
	100	12.00	12.00 %	27.00	27.00%	39.00	39.00 %
<b>April 2018</b>							
	108	16.50	15.28 %	25.00	23.15 %	41.50	38.43 %
<b>Totals</b>	308	45.25	14.69 %	71.00	23.05 %	116.25	37.74 %
<b>Scuba Diver Asia Pacific: Cairns operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2018</b>							
April / May	84	0.83	0.99%	0.00	0.00%	0.83	0.99%
June	84	0.50	0.60%	0.00	0.00%	0.50	0.60%
July/August	68	0.75	1.10%	0.00	0.00%	0.75	1.10%
Issue 4	68	0.50	0.74%	0.00	0.00%	0.50	0.74%
Issue 5	68	0.75	1.10%	0.00	0.00%	0.75	1.10%
Issue 6	68	0.50	0.74%	0.00	0.00%	0.50	0.74%
Issue 7	68	0.25	0.38%	0.00	0.00%	0.25	0.38%
<b>Totals</b>	508	4.08	0.80%	0.00	0.00%	4.08	0.80%
<b>Scuba Diver Asia Pacific: Non-Cairns Australian operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2018</b>							
April / May	84	1.00	1.19%	8.00	9.52%	9.00	10.71%
June	84	0.00	0.00%	4.00	5.88%	4.00	5.88%
July/August	68	0.25	0.37%	3.00	4.41%	3.25	4.78%
Issue 4	68	0.00	0.00%	5.00	7.35%	5.00	7.35%
Issue 5	68	0.33	4.90%	5.00	7.35%	5.33	7.84%
Issue 6	68	0.00	0.00%	4.00	5.88%	4.00	5.88%
Issue 7	68	0.00	0.00%	0.00	0.00%	0.00	0.00%
<b>Totals</b>	508	1.58	0.31%	29.00	5.71%	30.58	6.02%
<b>Scuba Diver Asia Pacific: International operators</b>							
Month	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2018</b>							
April / May	84	10.00	11.20%	8.00	9.52%	18.00	21.43
June	84	11.85	14.11%	13.00	16.48%	24.85	29.60
July/August	68	4.30	6.32%	12.75	18.75%	17.07	25.10

Issue 4	68	9.00	13.24%	8.00	11.76%	17.00	25.00
Issue 5	68	6.25	9.19%	12.75	18.75%	19.00	27.94
Issue 6	68	10.85	16.00%	14.00	20.60%	24.85	36.54
Issue 7	68	17.60	25.88%	9.00	12.24%	26.60	39.18
<b>Totals</b>	508	69.85	13.75%	77.50	15.26%	147.37	29.00
<b>Action Diver Holiday Planner: Cairns operators</b>							
Year	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2016 / 2017</b>							
	106	1.00	0.94 %	0.09	0.85 %	1.09	1.03%
<b>2017 / 2018</b>							
	86	1.00	1.16 %	4.59	5.37 %	5.59	6.5 %
<b>2018 / 2019</b>							
	86	1.00	1.16 %	0.00	0.00 %	1.00	1.16 %
<b>Totals</b>	278	3.00	1.08 %	4.68	1.68 %	7.68	2.76 %
<b>Action Diver Holiday Planner: Australian Operators</b>							
Year	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2016 / 2017</b>							
	106	2.00	2.33 %	0.09	0.85 %	2.09	1.97 %
<b>2017 / 2018</b>							
	86	0.00	0.00 %	3.40	3.95 %	3.40	3.95 %
<b>2018 / 2019</b>							
	86	1.0	1.16 %	3.00	3.49 %	4.00	4.65 %
<b>Totals</b>	278	3.0	1.08 %	6.49	2.33 %	9.49	3.41 %
<b>Action Diver Holiday Planner: Overseas Operators</b>							
Year	Total page number	Total advertising page content	Total % of advertising content against total page number	Total editorial page content	Total % of editorial content against total page number	Total page exposure against total page number	Total % of exposure against total page number
<b>2016 / 2017</b>							
	106	35.00	33.02 %	13.00	12.26 %	48.00	45.28 %
<b>2017 / 2018</b>							
	86	31.00	36.05 %	14.50	16.86 %	45.50	52.91 %
<b>2018 / 2019</b>							
	86	12.75	13.95 %	24.00	27.90 %	36.75	42.73 %
<b>Totals</b>	278	78.75	28.33 %	51.50	18.25 %	130.25	46.85 %
<b>Marine Diver (Japan): Cairns, non-Cairns Australian, and International Operators</b>							
Editions (N=31)		Total RSDT Cairns Operators advertising (pages)			Total RSDT Cairns operators editorial content (pages)		
<b>June 2017 to December 2019</b>		0			0		
		Total RSDT Australian non-Cairns Operators advertising (pages)			Total RSDT Australian non-Cairns operators editorial content (pages)		
		0			0		
		Total overseas RSDT Operators advertising (pages)			Total overseas RSDT operators editorial content (pages)		
		Multiple			Multiple		

## Appendix D

### Stakeholder interviewee prompts

This part of the research has been approved by the CQUniversity Human Research Ethics Committee, approval number: 0000020939.

Tell me about your involvement and your company's role in recreational scuba diving tourism in the Cairns section of the GBRMP.

Prompts: How long has the business been in existence? How long have you been in your current role? Does your company have a formal business and / or strategic plan? Who do you see as your major competitors (e.g. no names – just other local operators and / or other dive destinations)? Do you promote your company overseas and / or domestically?

What do you think are the major factors impacting your company's long-term sustainability in the Cairns section of the GBRMP?

Prompts: Do you think the Cairns recreational scuba diving tourism industry in the Cairns section of the GBRMP is experiencing growth or decline? Are there things we should be doing collectively to increase the long-term sustainability of recreational scuba diving tourism in the Cairns section of the GBRMP?

What socio-cultural factors impact your company's long-term sustainability?

Prompts: What is your customer base? How does your business address the non-English speaking market? How important are back-packers to your business? Have you made any plans to expand your customer reach? Do you have an active social media platform?

What kind of environment factors impact your company's long-term sustainability?

Prompts: What has been the impact of cyclones and climate change on your business? Have you identified any impact on your business from publicity about the condition of the GBR? Is your company Eco Certified? Do you communicate with your customers regarding environmental protection of the reef while diving?

What kind of governance factors impact your company's long-term sustainability?

Prompts: Tell me about how Federal, State and Local Government impact your business. Do you get any Government support for your business initiatives? How do you feel that the Recreational Diving Code of Practice has impacted your business? What has been the impact of the EMC (reef visitor tax) on your business? Do immigration policies impact your business and your ability to hire non-English speaking staff? What is the impact of NGOs on your business? Which NGOs do you belong to?

What kind of economic factors impact your company's long-term sustainability?

Prompts: How do you see the cost of operating (e.g. factors of production) in Cairns impacts your long-term sustainability? How do changes in the value of the AUD impact your business? What is your relationship with booking agents and consumer kiosks?

Is there anything you feel that we did not share today and should have regarding your company's long-term sustainability in the Cairns section of the GBRMP?

Prompts: How do you see the future of recreational dive tourism in the Cairns section of the GBRMPA panning out?

## Appendix E

### Dive tourist questionnaire

This part of the research has been approved by the CQUniversity Human Research Ethics Committee, approval number: 0000020943.

### RECREATIONAL SCUBA DIVING TOURIST QUESTIONNAIRE



Q 1 Age: \_\_\_\_\_ (in years)

Q 2 Gender: Male ☐ Female ☐ Indeterminate/intersex/unspecified ☐ I would rather not say ☐

Q 3 What is your home country? \_\_\_\_\_ If Australia, insert Post Code \_\_\_\_\_

Q 4 What is your expected length of stay?

In Cairns: \_\_\_\_\_ days. **Also, if an international visitor,** insert expected stay in Australia: \_\_\_\_\_ days

Q 5 What best describes your occupation?

Not employed	Domestic duties	Backpacker	Office / Clerical	Trades person	Sales / Retailing	Manager	Government	Professional (Degree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 6 How did you arrive into the Cairns region?

Plane	Car / Van	Bus	Train	Cruise ship	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 7 What best describes your travel party?

Travelling alone	Travelling with friends	Travelling with spouse / partner	Family with kids	Travelling in organised group
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 8 What best describes your accommodation while in the Cairns region?

Resort	Hotels	Backpacker / Hostel	Camping	Staying with friends	Cruise Ship
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 9 How did you find out about this Cairns dive operator?

Through friends / family	Internet search	Dive magazine	Dive show exhibit	My dive store at home	Cairns dive store visit	Travel agent at home	Cairns travel kiosks	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 10 How did you book this diving trip to the Great Barrier Reef?

Through friends / family	Internet through an agent of the dive operator	The dive operator's internet booking system	Travel kiosks / agent in Cairns	Through a Cairns dive shop visit	Through a travel agent at home	At a dive show exhibition	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 11 What Training Agency are you certified by? \_\_\_\_\_ (e.g. PADI, SSI, SDI)

Q 12 What is your highest level of diver certification? \_\_\_\_\_

Q 13 Have you completed any diver training courses whilst in Cairns? No ☐ Yes ☐

If yes, what course(s) did you do? \_\_\_\_\_

Q 14 Did you purchase any diving equipment whilst in Cairns? No ☐ Yes ☐

If yes, what did you purchase? \_\_\_\_\_

Q 15 Insert the approximate total number of scuba dives you have completed: \_\_\_\_\_

Q 16 What best describes your interest in scuba diving?

I am a newly certified diver	I am not overly committed	Dive only when on vacation	Dive only when in the tropics	Dive only in good dive locations	I am a totally committed diver	I am a dive professional
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 17 How many dive trips would you do in an average year? \_\_\_\_\_

Q 18 What best describes the amount of money you are prepared to spend over the next 12 months on a scuba diving vacation?

I am unlikely to spend any money	Less than \$1,000 AUD	Between \$1,001 and \$2,000 AUD	Between \$2,001 and \$3,500 AUD	Between \$3,501 and \$5,000 AUD	Over \$5,000 AUD
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 19 What social media platforms do you use? (Please tick all that apply)

Facebook	Twitter	Instagram	You Tube	WeChat	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 20 Have you dived coral reefs before today? No ☐ Yes ☐

If yes, where (list as many as possible) \_\_\_\_\_

Q 21 Please tell us if you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Not applicable to me
Cairns is an expensive destination to visit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today's diving was worth the money I spent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before coming to Cairns, I heard bad media reports about the condition of the Reef	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 22 Please tell us if you agree or disagree with the following statements regarding the Great Barrier Reef 'Environmental Management Charge' (EMC) you paid to visit the reef today:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I have never heard of the EMC
I was happy to pay the \$6.50 AUD EMC charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was clearly explained to me what the EMC is and how it is used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be happy to pay a larger EMC fee if it benefited the reef more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 23 How important were the following attributes when making a decision to dive on the GBR off Cairns?

	Very important	Important	Somewhat important	Rather unimportant	Not important	Not applicable to me
The cost of travelling to Cairns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cairns' reputation as a safe vacation destination free of terrorism or civil unrest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of other activities I can do in Cairns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The operator displayed ecofriendly practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The value of my currency against the Australian dollar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 24 Please tell us if you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Not applicable to me
I mainly came to Cairns to dive the Reef	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The travel time to the Reef from Cairns was acceptable to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of all the dive regulations, I feel Cairns is a very safe place to dive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was happy to have my depth and time regulated by the divemaster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to dive on nitrox/enriched air when it is available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have done some technical diving if offered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish Cairns had a shipwreck I could have dived	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would prefer a dive vessel that just caters for certified scuba divers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found that the dive vessel had eco-friendly policies and practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 25 Compared to other places you have dived; how would you rate the scuba diving today:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Not applicable to me
The diving experience today was better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The customer service was better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the crew was better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the food was better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the vessel was better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would definitely dive off Cairns again	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would definitely recommend diving off Cairns to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 26 Compared to other places you have dived, please tell us how you would rate your overall scuba diving excursion today:

	Very dissatisfied	Somewhat dissatisfied	Neutral	Mildly satisfied	Extremely satisfied
General quality of the diving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of underwater visibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality and abundance of coral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality and abundance of marine life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of the dive vessel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of food / refreshments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of the dive briefings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Level of customer service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value for money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 27 Please tell us what scuba diving destination(s) you had in mind when responding to the statements in Q 25 and 26.

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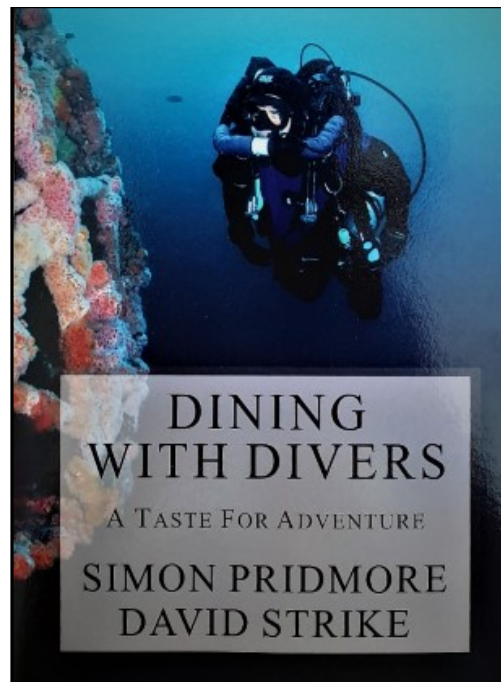
Thank you for participating in the questionnaire and happy diving.





## Appendix F

### RSDT stakeholder focus group participant gifts



#### Diver tourist questionnaire respondent gift

(Concept and design: Author. Photograph: Libby Sterling)



## Appendix G

### Stakeholder focus group prompt codes

This part of the research has been approved by the CQUniversity Human Research Ethics Committee, approval number: 0000022006.

Theme	Prompts
# 1 Major dive publication findings	<p><u>Major prompt:</u> Why do you think Cairns recreational scuba diving tourism operators in the Cairns section of the Great Barrier Reef Park (GBRMP) have less exposure in dive publications in terms of advertising and editorial, than other dive destinations (i.e. both online and hard copy)?</p> <p><u>Possible follow-up prompts:</u> Why do you think you get less coverage in the only Australian-based dive publication than those dive destinations found both internationally and in Australia? Do you think the Australian dive market is not worth chasing or your potential customers do not read the local dive publication either online or hard copy? Do you think your website and social media platforms do your marketing effectively and you do not need magazine advertising (print or digital versions)?</p>
# 2 Major stakeholder brochures findings	<p><u>Major prompt:</u> Why do you think Cairns recreational scuba diving tourism operators seem to place so much emphasis in their brochures on administrative material rather than an emphasis on selling 'the sizzle'?</p> <p><u>Note for moderator:</u> Administration items theme ranks # 1 and far above the next theme out of the 28 major themes identified in the 21 stakeholder brochures analysed.</p> <p><u>Possible follow-up prompt:</u> How do you feel, and what are your comments, when I tell you the Cairns dive brochure analysis revealed administration items by far outranks selling 'the sizzle'?</p> <p><u>Note for moderator:</u> Fun, excitement and animal encounters ranked # 4 and # 5 respectively, and the non-English languages catered for by operators ranked # 28 out of 28 major themes of the 21 stakeholder brochures analysed?</p>
# 3 Socio-cultural findings	<p><u>Major prompt:</u> Why do you think recreational scuba diving tourism operators in the Cairns section of the GBRMP are not getting more Chinese divers when Chinese tourists are Australia's biggest in-bound tourism sector?</p> <p><u>Possible follow-up prompts:</u> Have you changed your attitude to the importance of the 'back-packer' market over recent years? How important are they currently? Do you think there has been a decline in the number of dive centres in Australia and this has impacted your domestic dive market potentials?</p>
# 4 Major diver impression of the GBR findings	<p><u>Major prompt:</u> Why do you think divers returning from a day's diving in the GBRMP have generally reported they have had a great day when there is obviously a lot of bad publicity out there (i.e. domestically and internationally) on the current condition, and potential future, of the GBR?</p> <p><u>Possible follow-up prompts:</u></p>

	<p>What if I told you Dive Queensland's dive expo attendance reveals many divers think the GBR is dying, dead, or no longer worth visiting.</p> <p>Do you think serious scuba divers have an aversion to being on a vessel with lots of introductory divers and snorkellers?</p> <p>Do you think recreational dive tourism in the Cairns section of the GBRMP has become more about taking large numbers of introductory and snorkellers to the reef rather than catering for the serious diver?</p>
<p># 5</p> <p>Major cost of operation findings</p>	<p><u>Major prompt:</u></p> <p>Do you think Cairns recreational scuba diving tourism struggles to off-set the cost of generally doing business in comparison to other dive destinations around the world, especially those within the 'coral triangle'?</p> <p><u>Possible follow-up prompts:</u></p> <p>Have AUD fluctuations, State payroll taxes and OHS requirements impacted your ability to do business in a cost-effective manner?</p> <p>Do you think Cairns-based operators should pay more attention to promoting concepts like regional safety and the quality of the product and services offered to balance diver cost comparisons with other dive destinations?</p> <p>What do you think is the effectiveness of NGOs such as tourism promotion groups and diver training agencies in marketing the Cairns regional dive opportunities has had on your business?</p>
<p>6</p> <p>Major stakeholder interview findings</p>	<p><u>Major prompts:</u></p> <p>Do you think negative stories about the possible impact on the GBRMP from climate change and the GBRMPA's recent report on its future has had, or will have, an adverse impact on your business?</p> <p>Why do you think recreational dive tourism operators in the Cairns section of the GBRMP do not seem to have a 'Plan B' if the Great Barrier Reef's potential decline was to be realised?</p> <p><u>Possible follow-up prompts:</u></p> <p>Do you generally feel helpless in respect to the possible impact on your business from climate change if a decline in the GBR was to be realised?</p> <p>Do you think there is potential to add new product offerings to counter climate change and other impacts on your business in the GBRMP?</p> <p>To increase revenue potentials, do you think recreational dive tourism operators in the Cairns section of the GBRMP should utilise cross-marketing efforts more with other tourism activities in Cairns?</p>
<p>Closing question</p>	<p>Quickly around the room, and in one word or sentence, what do you see as the single most major factor impacting your long-term sustainability as a recreational scuba diving tourism operator in the Cairns section of the GBRMP?</p>