

**“Market profile of scuba divers and service quality of diving centers:
A case study of Phuket, Thailand”**

Andrea Ibanez

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master in
Business Administration in Hospitality and Tourism Management (International Program)**

Prince of Songkla University

T

2010
G155.A1 A52 2010
846360
12 P.R. 2554

C.2

ชื่อวิทยานิพนธ์ โครงสร้างตลาดของอุตสาหกรรมการท่องเที่ยวเชิงดำน้ำและคุณภาพบริการของ
ธุรกิจดำน้ำ: กรณีศึกษา จังหวัดภูเก็ต อันดามัน
ผู้เขียน นางสาวAndrea Ibanez
สาขาวิชา การจัดการการบริการและการท่องเที่ยว (หลักสูตรนานาชาติ)
ปีการศึกษา 2553

บทคัดย่อ

การท่องเที่ยวเชิงดำน้ำ ได้มีการเติบโตและพัฒนาอย่างรวดเร็วไม่น้อยไปกว่าการเล่นสกี (WTO, 2001.p.38) จะเห็นได้ว่าปัจจุบันมีนักดำน้ำประมาณ 7-5 ล้านคนในโลกและนักดำน้ำใหม่ที่ได้รับบัตรดำน้ำ 600,000คน ในแต่ละปี (Professional Association of Diving Instructors PAI, 2007 in Garrod & Gossling, 2008)

ภูเก็ตเป็นที่รู้จักในนาม “ไข่มุกอันดามัน” ถูกจัดเป็นแหล่งดำน้ำอันดับต้นๆ ของประเทศไทยและของโลก เนื่องจากทะเลอันดามันเป็นแหล่งท่องเที่ยวที่สะดวกสามารถเดินทางเข้าถึงได้ง่าย รวดเร็ว แหล่งดำน้ำที่มีชื่อเสียงในเขตอันดามัน เช่น เกาะสิมิลัน Richelieu Rock เกาะราชาใหญ่ เกาะพีพี จากข้อมูลสถิติพบว่าในแต่ละปีนักดำน้ำมากกว่า 300,000คน ทั่วโลกมาดำน้ำที่ภูเก็ต (ททท (2007, ซึ่งก่อให้เกิดรายได้กับประเทศไทยไม่น้อยกว่า 20พันล้านบาทต่อปี (TEDX 2009)

สืบเนื่องจากการพัฒนาและการเติบโตอย่างต่อเนื่องของอุตสาหกรรมการท่องเที่ยวเชิงดำน้ำ โดยเฉพาะในจังหวัดภูเก็ตซึ่งถือเป็นแหล่งท่องเที่ยวที่สำคัญ แต่กลับพบว่างานวิจัยเกี่ยวกับตลาดการท่องเที่ยวเชิงดำน้ำยังมีน้อย ทั้งในแง่ของประสบการณ์ในการดำน้ำของตัวนักท่องเที่ยวเองและคุณภาพการบริการของธุรกิจดำน้ำ

การศึกษาค้นคว้าครั้งนี้ได้ทำขึ้นเพื่อประเมินความคาดหวังและการยอมรับในส่วนของคุณภาพบริการธุรกิจดำน้ำในภูเก็ต เพื่อวิเคราะห์หาช่องว่างและความไม่เหมาะสม เพื่อเป็นข้อเสนอแนะทางเลือกในการพัฒนาตลาดธุรกิจดำน้ำให้เป็นที่พึงพอใจและประทับใจกับนักท่องเที่ยว

การศึกษาค้นคว้านี้ศึกษาทั้งเชิงคุณภาพและเชิงปริมาณการศึกษาเชิงคุณภาพใช้วิธีการสัมภาษณ์ ผู้จัดการธุรกิจและผู้มีประสบการณ์ในอุตสาหกรรมการศึกษาเชิงประมาณ ใช้แบบสอบถามเก็บข้อมูลจากนักท่องเที่ยวที่มาดำน้ำในช่วงเดือน กุมภาพันธ์ ถึงเดือน เมษายน 2010 ซึ่งเป็นฤดูกาลท่องเที่ยวของจังหวัดภูเก็ตแบบสอบถามมีวัตถุประสงค์เพื่อศึกษาลักษณะของตลาด

ลูกค้าที่มาดำนํ้าและเพื่อประเมินคุณภาพบริการของธุรกิจดำนํ้าโดยใช้เครื่องมือ SERVQUAL ซึ่งสร้างขึ้นโดยParasuraman et al's (1985)

ผลการศึกษาพบว่านักท่องเที่ยวดำนํ้าที่มาก่อเกิดส่วนใหญ่จะมีการศึกษาสูง เป็นชาวยุโรป มาอายุระหว่าง 45-25ปี นักดำนํ้าได้เคยดำนํ้ามาหลายที่รวมทั้งมีกิจกรรมดำนํ้าที่หลากหลาย นักท่องเที่ยวดำนํ้ากลุ่มตัวอย่างส่วนใหญ่มีประสบการณ์การดำนํ้าในชั้นกลาง จากผลการศึกษา มีข้อเสนอแนะว่าอุตสาหกรรมการท่องเที่ยวเชิงดำนํ้าไม่ได้ขึ้นอยู่กับนักท่องเที่ยวแบบสะพายเป้ แต่ขึ้นอยู่กับนักท่องเที่ยวที่มีประสบการณ์การดำนํ้าและมีรายได้สูง

แรงดึงดูดใจที่สำคัญในการดำนํ้า คือ (1ชีวิตใต้ท้องทะเล 2) การผจญภัยและความตื่นเต้น และ (3การค้นพบ ส่วนประกอบสำคัญของประสบการณ์การดำนํ้า คือ สิ่งแวดล้อมความหลากหลายของชีวิตสัตว์น้ำใต้ท้องทะเล นอกจากนี้ผู้ตอบแบบสอบถามยังให้ความสำคัญกับการพัฒนาที่ยั่งยืนของแหล่งดำนํ้าประมาณ 42.2% คิดว่าแหล่งดำนํ้าในภูเก็ต มีผู้คนมากเกินไป

การศึกษาโดยใช้เครื่องมือ SERVQUAL พบว่าธุรกิจดำนํ้าประสบความสำเร็จเมื่อประเมินทางด้านคุณภาพการบริการ พบว่า 4ใน 5ปัจจัยของนักท่องเที่ยวกลุ่มตัวอย่างพอใจ มีเพียง 1ปัจจัยคือ ความเชื่อมั่น (assurance) ที่ยังมีช่องว่างการบริการติดลบ ดังนั้นธุรกิจดำนํ้าจึงควรที่จะเน้นทางด้านความปลอดภัย การควบคุมและแนะนำนักดำนํ้าเมื่ออยู่ใต้นํ้า เพื่อที่จะเพิ่มความมั่นใจคุณภาพการบริการและผลกระทบที่เกิดกับสิ่งแวดล้อม

การศึกษานี้เป็นเพียงก้าวแรกที่จะสำรวจถึงตลาดธุรกิจดำนํ้าในจังหวัดภูเก็ต ประเทศไทย อย่างไรก็ตามสภาพแวดล้อมได้มีการเปลี่ยนแปลงอยู่เสมอ ดังนั้นจะต้องมีการศึกษาและสำรวจอยู่เรื่อยๆ เพื่อที่จะทราบถึงกระแสใหม่ๆ ที่อาจจะเกิดขึ้น ผลการศึกษานี้มีข้อเสนอแนะในการศึกษาถึงหัวข้ออื่นๆ ที่เกี่ยวข้องกับการธุรกิจดำนํ้า เนื่องจากผลการศึกษาในเรื่องนี้ยังคงมีจำกัด

คำสำคัญ : ภูเก็ต, ธุรกิจดำนํ้า, คุณภาพบริการ

Thesis title: Market Profile of Scuba Divers and Service Quality of Diving Centers: A Case Study of Phuket, Andaman

Author: Miss Andrea Ibanez

Major program: Master in Business Administration in Hospitality Management

Academic Year: 2010

Abstract

With an estimate of 5-7 million active divers in the world and 600,000 new divers certified each year (Professional Association of Diving Instructors PADI, 2007 in Garrod & Gössling, 2008), diving tourism has become one of the fastest growing sectors of the tourism industry and is predicted to become a popular activity as important as ski. (WTO, 2001, p.38).

Known as the Pearl of the Andaman, Phuket is a primary dive base in Thailand and the world, as it makes the Andaman region easily, quickly and conveniently accessible to divers, with world-famous sites such as the Similan Islands, Richelieu Rock, Racha Yai and Koh Phi Phi.

Today, statistics show that over 300,000 divers over the world arrive in Phuket each year (TAT, 2007), while the industry itself generates revenue of no less than 20 billion Baht per year (TDEX, 2009) in Thailand.

Despite the development and dynamic growth of diving tourism and its particular importance for a tropical destination such as Phuket, little has been researched on this specific market and on the consumptions aspects of the dive experience and the provision of service quality by dive centers.

This paper gives an insight of the market profile of divers visiting Phuket and measures divers' expectations and perceptions of dive centers' service quality performance, as to analyze the existing gaps and inconsistencies and consequently, develop implications and suggestions to an alternative approach to the scuba divers market development and satisfaction.

Qualitative and quantitative data were collected. Interviews were carried with dive center managers and industry professionals. A questionnaire for scuba diving tourists was distributed between February and April 2010, during Phuket's high season for diving. The questionnaire aimed at obtaining information to create a market profile of scuba diving tourists and to assess

dive centers' service quality as perceived by divers, using Parasuraman et al's. (1985) SERVQUAL instrument.

Results revealed that the diver population visiting Phuket is composed of highly-educated Europeans aged 25-45. Scuba divers visited several dive sites and carried a diverse range of diving activities during their stay. Furthermore, the sample size proved to be comprised of skilled divers at an 'intermediate' or 'enthusiast' level of experience, suggesting that Phuket's dive industry does not rely on the backpacker traveler but on a more experienced, high-expenditure diving tourist.

The most important motivational factors for diving included components such as (1) marine life, (2) adventure and excitement and (3) discovery. The most important elements of the dive experience were related to marine environment diversity and condition, strongly reinforcing the importance to preserve and protect marine resources. Furthermore, respondents expressed concern in regards of the sustainability of dive sites in the area and 42.2% considered the sites to be overcrowded.

The SERVQUAL results suggested that dive companies are succeeding at performing exceeding levels of quality in the service delivery, as four out of the five dimensions assessed revealed satisfactory outcomes. However, the 'assurance' dimension showed a negative gap which urges dive industry professionals to focus on issues related to safety, underwater codes of conduct and instructors/guides' performance, in order to ensure quality diving experiences with low risks and minimal impact on the environment.

This research was a first attempt to explore the scuba dive market in Phuket, Thailand. However, the constantly changing environments and market fluctuations require industry professionals and local authorities to continually investigate the new market trends. Furthermore, other topics related to the dive industry should be studied, as the diving tourism literature is still limited.

Key words: Phuket, scuba diving tourism, service quality

ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the cooperation and contribution of several people. First of all, I would like to express my gratitude to the Thailand International Cooperation Agency (TICA) for granting me a scholarship which has given me the opportunity to enrich my professional knowledge and field experience during this academic year.

Secondly, I would like to thank my advisor, Dr. Kullada Phetvaroon for her help and support throughout the stages of this research and to my co-advisor, Dr. Prateep Wetprasit, for his kind advice.

Furthermore, I want to express my appreciation to the Faculty of Hospitality and Tourism of the Prince of Songkla University. A special 'thank you' to Dr. Ilhan Assenov, for his constant eagerness to teach and his perpetual assistance and encouragement during this whole year.

I would also like to extend my sincere gratitude to all the dive center managers, dive masters and dive instructors who supported this study and were benevolent contributors to it. This research could have never been undertaken and concluded without you.

Finally, I would like to thank all the scuba divers who participated in this research and all those, whose names are not listed here, for their valuable assistance and cooperation.

Andrea Ibanez

CONTENTS

	Page
หน้าอำนวยการ	ii
บทคัดย่อภาษาไทย	iii
Abstract	v
Acknowledgements	viii
Contents	viii
List of Tables	xii
List of Figures	xiv
List of Abbreviations and Symbols	xv
CHAPTER	
1. Introduction	1
1.1 Problem Statement	1
1.2 Literature Review	3
1.2.1 Diving Tourism: Expanding the Horizons of Tourism	3
1.2.1.1 History of Diving	3
1.2.1.2 Concepts and Definition of Scuba Diving Tourism	5
1.2.1.3 The Development of Diving Tourism	7
1.2.1.4 Scuba Dive Education Industry: The Case of PADI	10
1.2.1.5 The Dive Tourism Experience	14
1.2.2 The Dive Industry in The Local Context	16
1.2.2.1 Diving Tourism in Thailand	16
1.2.2.2 The Andaman: World's Top Diving Destination Area	18
1.2.2.3 The Dive Industry in Phuket	20
1.2.2.4 Marine National Parks	22
1.2.3 The Scuba Diver Population	23
1.2.3.1 Scuba Divers' Motivations	27
1.2.3.2 Market Segmentation of Scuba Divers	39
1.2.3.3 Typology of Scuba Divers	43
	viii

CONTENTS (Continue)

	Page
1.2.3.4 Segmentation on the Basis of Involvement or Specialization	45
1.2.3.5 Segmentation on the Basis of Travel Career	46
1.2.3.6 Benefits Segmentation	47
1.2.4 Service Quality: Definitions and Concepts	49
1.2.4.1 Definition of Service	49
1.2.4.2 Characteristics of Services	52
1.2.4.3 Conceptualization of Service Quality	53
1.2.4.4 The Dimensions of Service Quality (SQ)	54
1.2.4.5 Service Quality (SQ) and Customer Satisfaction (CS)	59
1.2.5 Understanding Service Quality in Leisure and Tourism: Linking SQ to the Scuba Diving Industry	61
1.2.6 Measuring Service Quality: The SERVQUAL Instrument	63
1.2.7 Sustainable Diving Tourism: A Management Challenge	70
1.3 Aims and Objectives of the Study	71
1.4 Significance of the Study	71
1.5 Scope of the Study	72
1.6 Definition of Key Terms	73
2. Methodology	74
2.1 Population, Sample Size and Selection	74
2.1.1 Population	74
2.1.2 Sample Size	74
2.1.3 Selection of Dive Centers in Phuket	75
2.2 Research Instruments	75
2.2.1 Questionnaire	75
2.2.2 SERVQUAL	77
2.2.3 Experience Level Categorization	77
2.3 Data Collection	78
2.3.1 Methods for Data Collection	78
	ix

CONTENTS (Continue)

	Page
2.4 Data Analysis	79
3. Results	81
3.1 Demographic Profile of Scuba Diving Tourists	81
3.2 Dive History	84
3.2.1 Certification Status and Level	84
3.2.2 Years of Certification	84
3.2.3 Number of Logged Dives (Level of Experience)	85
3.3 Motivations to Dive	91
3.4 Diving in Phuket/Andaman	96
3.5 Travel Behavior	107
3.6 Ecological Issues	111
3.7 Dive Centers' Service Quality (SERVQUAL)	114
3.8 Interview Results	119
4. Summary	129
4.1 Conclusion	130
4.2 Discussion	132
4.2.1 Objective 1: Market Profile of Scuba Diving Tourists Visiting Phuket/ Andaman	132
4.2.2 Objective 2: Dive Centers' Service Quality: Importance and Performance	139
4.3 Recommendations	141
4.4 Limitations and Suggestions for Further Research	152
4.4.1 Limitations	152
4.4.2 Suggestions for Further Research	153
Bibliography	154

CONTENTS (Continue)

	Page
Appendices	168
Appendix A: Questionnaire for Scuba Diving Tourists	168
Appendix B: Interview Questions for Dive Center Managers	173
Appendix C: Interview Questions for Phuket Marine Biological Center	175
Appendix D: Interview Questions for Green Fins Thailand Coordinator	177
Vitae	178

LIST OF TABLE

Table	Page
1.1 Popular Dive Sites Located In the Andaman	19
1.2 Literature of Motivations in Tourism and Leisure	28
1.3 Possible Continuums of Diving Tourists	33
1.4 Motivational Attributes of Scuba Diving	34
1.5 Special Interest Tourist (Sit) Typologies	44
1.6 Definitions of Service	51
1.7 Dimensions of Service Quality	55
1.8 Application of the SERVQUAL Instrument and Model's Adaptations within the Tourism and Leisure Industry	68
3.1 Scuba Divers' Demographic	82
3.2 Respondents' Scuba Dive History	85
3.3 Certification Level of Scuba Divers and Chi Square Test on Gender Differences	87
3.4 Scuba Certification Ranges by Level of Experience and Mean Score	87
3.5 Years of Certification of Divers by Level of Experience	87
3.6 Years of Certification by Gender and Chi Square Test on Gender Differences	88
3.7 Total Number of Logged Dives	88
3.8 Total Number of Logged Dives by Certification Level	89
3.9 Total Number of Logged Dives by Level of Experience	90
3.10 Total Number of Dives by Level of Experience and Chi Square Test on Gender Differences	90
3.11 Total Number of Dives in the Last 12 Months and Chi Square Test on Gender Differences	91
3.12 Motivations to Dive (All Respondents)	92
3.13 One-Way ANOVA and LSD Post Hoc Test of Mean Score Differences for Motivations to Dive among Divers' Levels of Experience	93
3.14 Divers' Responses on Diving Experience during Trip to Phuket/Andaman	96

LIST OF TABLE

Table	Page
3.15 One-Way ANOVA Test and Post Hoc on the Importance of Scuba Diving in Respondents' Decision Making Process of Holiday Destination Choice	101
3.16 Specialty Diving Activities Undertaken by Respondents during Trip to Phuket and Chi Square Test on Gender Differences	102
3.17 Average Depth of Dives by Level of Experience	103
3.18 Pearson Correlation Test on the Total Number of Dives (Level of Experience) and the Certification Level of Respondents	103
3.19 Important Elements of the Dive Experience in Phuket/Andaman	104
3.20 Elements of the Dive Experience in Phuket/Andaman: Mean Scores by Level of Experience, One-Way ANOVA and Post Hoc Test	105
3.21 Frequencies of the Overall Satisfaction with the Dive Experience in Phuket	107
3.22 One-Way ANOVA Test and Post Hoc on the Overall Satisfaction of Divers by Level of Experience	107
3.23 Respondents' Travel Behavior: Frequencies	108
3.24 Frequencies of Responses to the Statements of Ecological Issues, Based on a 5-Point Likert Scale	111
3.25 Mean Scores for Ecological Issues Statements, as Perceived by Divers	114
3.26 Servqual Results: Mean Scores for Importance (I)/Performance (P) and Gaps Found Between P-I	116
3.27 Customer Satisfaction with the Dive Center Services	118
3.28 Intention to Recommend the Dive Center to Others and Intention to Return	118
3.29 Interviews Carried with Dive Center Managers (DCMs)	120
3.30 Interview Carried with Phuket Marine Biological Center	123
3.31 Interview Carried with Green Fins Thailand Coordinator	126

LIST OF FIGURES

Figure		Page
1.1	PADI Certification Courses	12
1.2	SERVQUAL Dimensions by Parasuraman, Zeithaml and Berry	58
1.3	SERVQUAL Gap Analysis Model by Parasuraman, Zeithaml and Berry	65

List of Abbreviations and Symbols

BSAC	British Sub Aqua Club
CMAS	Confédération Mondiale des Activités Subaquatiques
CRM	Customer Relationship Management
CS	Customer Satisfaction
DACHR	Diving and Coral Reef History Index
DCM	Dive Center Manager
DNP	National Park, Wildlife and Plant Conservation Department of Thailand
DOTC	Dive Operators Club of Thailand
DTSI	Diving Tourism Specialization Index
ETC	Ecotourism Training Center
GAISF	General Association of Sport Federation
GBR	Great Barrier Reef
GF	Green Fins
IOC	International Olympic Committee
IUCN	World Conservation Union
MNP	Marine National Park
NACD	National Association for Cave Diving
NAUI	National Association of Underwater Instructors
NGO	Non-Governmental Organization
OTD	Office of Tourism Development
PADI	Professional Association of Diving Instructors
PMBC	Phuket Marine Biological Center
PZB	Parasuraman, Zeithaml and Berry
SERVPERF	Service Performance
SERVQUAL	Service Quality
SCOTSAC	Scottish Sub Aqua Club
SIT	Special Interest Tourism
SDI	Scuba Diving International

List of Abbreviations and Symbols (Continue)

SSI	Scuba Schools International
SQ	Service Quality
TAT	Tourism Authority of Thailand
TDA	Thailand Diving Association
TDEX	Thailand Dive Expo
TDI	Technical Diving International
UNESCO	United Nations Educational, Scientific and Cultural Organization
WTO	World Tourism Organization

CHAPTER 1

INTRODUCTION

1.1 Problem Statement

Thailand is a world's famous touristic destination which attracts millions of visitors each year. Tourism plays a major role in the country's economic growth and development. Corresponding to 14,149,841 international tourist arrivals in 2009 (Ministry of Tourism and Sports, 2010), Thailand is one of the leading destinations in Asia today.

The country's cultural and natural diversity, consisting of mountains and forests, vast rice fields, semi-arid farm lands, tropical islands and long coastlines, is what makes Thailand a unique place for diverse forms of tourism and for a wide range of activities to choose from such as: cultural activities, river and canal trips, marine activities, spa activities, golf, eco-tourism, adventure activities, cooking, meditation and diving (Tourist Authority of Thailand-TAT, 2009)

Although Thailand possesses a vast geography, it is undoubtedly acknowledged for its extensive coastlines, palm-fringed beaches and above all, its coral reefs and underwater wonders, which have situated the country among the world's class dive destinations (Scuba Travel 2008) and have made it the most popular destination for diving in Asia (TAT, 2009)

With over 2000 km of coastline and 582 islands surrounded by crystal clear water and corals, there is a great choice of exhilarating sites for divers, regardless of the experience or qualifications they possess (Lees, 1995) Furthermore, Thailand is considered one of the safest destinations for diving and snorkeling in the world (TAT, 2009) and also provides skilled divers with quality experiences, warm water and outstanding visibility, which are major attracting factors for divers (Garrod & Gössling, 2008)

With the new changing trends and profiles of market segments, the demand for water-based sports and nature-based tourism has increased throughout the years and diving has become a global activity, occurring in the tropical, temperate and even arctic latitudes (Garrod & Gössling, 2008) and with 5-7 million active certified divers in the world (World Tourism

Organization 2001; Jennings, 2007) it will soon become a mass tourism activity, as important as ski (WTO,2001) due to its fast growth.

Snorkeling and scuba diving are now among the most popular activities for tourists travelling to tropical sites (Tabata,1992) since contemporary consumers tend to travel with a purpose and favor experiential travel that includes activities that are rewarding, enriching, adventurous and involve learning (Hospitality, Leisure, Sports and Tourism Network,2005)

Despite the development and dynamic growth of diving tourism and its particular importance for a tropical destination such as Thailand, little has been researched on this particular topic and market.

Various indicators and predictions make it necessary for the tourism industry to understand the current and future trends that will lead to a continuous expansion of diving tourism:

1. Resorts, marinas, coastal and urban development are indicators of humans desire to live, work and play in and by the sea (Jennings,2007)
2. Higher incomes, purchasing power and the existence of quality diver education available at attractive locations
3. Technological improvements in diving equipment and devices are making it possible to go deeper and reach more unique diving sites, while using less air and staying longer time underwater (Jennings,2007)
4. Demand for adventure-tourism, sport tourism and special-interest tourism have increased in popularity especially within the European and American market. Demand for adventure-based holidays has risen approximately five percent per year since 2001 in the UK (Hospitality, Leisure, Sport and Tourism Network, 2005) and is expected to continue growing at a ten to fifteen percent rate per year (Neirotti, 2003)
5. Cheaper and easily accessible tourism destinations offering diving opportunities, particularly in the tropic and subtropics (Garrod & Gössling,2008)
6. One out of four active scuba divers is constantly seeking to visit a new diving destination and one out of three will plan to go on an international diving holiday every year (WTO,2001)

The dive industry seems to be of great value and represents an opportunity for entrepreneurs, professionals and the local government, not only to obtain increased benefits and incomes but to promote and develop a form of tourism that is highly linked to nature and can therefore be guided towards a sustainable and responsible future, through ecosystem preservation, as it will be discussed further. Obtaining clear, detailed information of the market profile of scuba divers and the perceptions of service quality performed by dive centers in Phuket seems pertinent and necessary to better understand this segment and to acknowledge the gaps in service quality that may exist. Such information is valuable for the industry as it could contribute to the effective planning and management of operations, and to an improvement in service quality and consequently of divers' satisfaction, while reinforcing the destination image of Phuket/Andaman as a world diving destination.

1.2 Literature Review

1.2.1 Diving Tourism: Expanding the Horizons of Tourism

1.2.1.1 History of Diving

Diving has been a recreational activity for more than 75 years (Garrod and Gössling, 2008), although human involvement in the underwater environment has taken place since pre-historic times, mainly by individuals who relied on breath holding to earn a living (Cherry, 1976 in Dimmock, 2007) The Australian aborigine was probably one of the first to use a hollow reed as a breathing tube (Stone, 1999) or snorkel. In the 1930's, free diving was introduced in the Mediterranean as a way to hunt for fish while holding one's breath. It is evident that such activities were quite precarious, as early equipment consisted only of goggles and fins, these last ones being considered as "Lifesaving and Swimming Propelling Devices" (Cherry, 1976 in Dimmock, 2007) at that time.

Consequently, the world was revolutionized with Jacques Costeau's and Emile Gagnan's introduction of a Self-Contained Underwater Breathing Apparatus (SCUBA) in 1942, which made it possible for diving to develop as a recreational activity, as this new equipment "reduced fatigue and consequently air consumption, allowing divers to move about more quickly and for a longer time" (The Cousteau Society, 2010) This archaic prototype of

scuba dive equipment known as the aqua-lung, “consisted of a diving cylinder containing high pressure air and a regulator supplying the diver with it at ambient (i.e reduced) pressure” (Garrod & Gössling, 2008), and is currently the most frequently used device in recreational scuba diving.

When referring to the recreational activity of diving, three basic forms must be distinguished: (1) free diving, (2) snorkeling and (3) scuba diving. Although these forms of diving have similarities in the use of equipment (fins, goggles, mask and snorkel), the main differences between the first two forms, is that free diving involves descending to water depths while holding one’s breath for several minutes, while snorkelers mainly remain on the water surface and breath with the aid of a snorkel. In contrast, scuba diving involves breathing with the aid of portable air supplier.

New technologies which enable breathing and swimming underwater have been created as a derivate of the previously mentioned forms of diving , which differ technically from the aqua-lung, such as ‘rebreathers’, which involve rebreathing the exhaled air or recycling it, rather than releasing it into the surroundings as bubbles (Orams,1999)

Diving is also possible through the use of ‘snuba’, a patented shallow water diving system, bridging the gap between snorkeling and scuba diving (Snuba International Inc., 2010), in which tanks that are attached to the water surface provide air supply to participants, while discharging them of swimming with a tank strapped on the back. Another new technology used in diving is the Diver Propulsion Vehicle (DPV) or ‘scooter’, which enable divers to move faster and further underwater (Garrod & Gössling, 2008)

At present, diving has taken a totally different perspective and drive, becoming an activity that is no longer exclusive, but that has emerged as a popular activity worldwide and has derived into specialisms (e.g. underwater photography), which may include various forms of technical diving (diving in challenging environments such as cave diving, wreck diving, ice diving) (Garrod & Gössling, 2008)

Today, an activity once used entirely for fishing/survival purposes and scientific/governmental use has evolved and developed greatly, especially in the last half of the twentieth century and the early years of the twenty first century, as scuba diving and snorkeling

continue to be some of the most popular water-based experiences (Digman,1990; Tabata,1992; Hamdi,1995; Davis, Banks and Daveys,1996; Orams,1999) in leisure and sport tourism.

Historic factors leading to the growth of water based experiences such as scuba diving, snorkeling and free diving are:

- The access to aquatic environment which was stimulated by the advancements in technology (Jennings, 2007), particularly by the apparition of the first reliable equipment, the aqua-lung (Stone,1999)
- Advanced marine crafts which have enabled long-distance travelling in shorter period of times, making several locations accessible to divers (e.g. ferries, speedboats)
- Television and films: Popularity and interest in underwater activities have been influenced by television and movies (West, 1990), with major contributions of Cousteau's work (Garrod & Gössling, 2008) through documentaries and underwater films
- Communication and media: Specialized magazines such as Skin Diver magazine's first publication in 1951, aimed at promoting underwater photography and travel, which led to an accrued marine interest (Dimmocks,2007 in Jennings, 2007)
- The creation of the Professional Association of Diving Instructors (PADI) in 1966 in the United States, which marked the future of commercial scuba diving and its education organization

1.2.1.2 Concepts and Definition of Scuba Diving Tourism

The term of 'diving tourist' can be quite complex. Many terms such as water-based tourism, sport tourism, nature-based tourism, adventure tourism and special interest tourism have been previously studied and established. But the whole concept of diving tourism is quite new.

Tourism Queensland (2004) defines dive tourism as "travel where at least one scuba diving expedition is included". While the WTO's definition of diving tourists –source of debate- defines them as: "persons travelling to destinations with the main purpose of their trip

to partake in scuba diving. The attraction of the destination is almost exclusively related to its dive quality rather than any other factor such as the quality of accommodation or land-based attractions” (WTO, 2001, p.85)

Surprisingly, both definitions fail to comprise the different formats of diving such as free diving, snuba diving and snorkeling. Garrod and Gössling (2008) argue that the WTO’s definition fails to identify and distinguish between the different groups of individuals that exist in the case of diving tourism in general such as: diving tourists, tourists who are not divers (e.g. will dive for the first time), divers who are not tourists and neither tourists nor divers.

The WTO definition of diving tourists clearly lacks consistency in its definition, as it should be able “to distinguish effectively between individuals who can be said to count as diving tourists and those who cannot” (Garrod & Gössling, 2008, p.5)

Another misled factor in this definition of diving tourism is motivation. While keen experienced divers might chose a holiday destination and timing primarily based on the opportunity to have a high quality dive experience in a determined location during a particular period of the year (Garrod & Gössling,2008; WTO,2001; Tabata,1992), occasional divers or “resort divers” (Davis & Tisdell, 1996) will mind little about the diving opportunities offered by a particular destination during the decision-making stage of the destination choice, yet they will still participate in diving activities during a holiday. Nevertheless, based on the WTO definition, these casual divers could not be considered or counted as part of the diving tourist group since the main motivation for choosing the holiday destination and timing is not scuba diving exclusively.

As the definition of tourism states that “tourism comprises the activities of people travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes” (WTO,1991 in WTO, 2001) , and an international tourist is defined as “an international visitor who stays at least one night in a collective or private accommodation in the country visited” (WTO,1993 in WTO, 2001), it seems that an appropriate definition of scuba diving tourism should not fall under the misconceptions of the previously mentioned definitions of diving tourism, but be more precise and adapted specifically to the scuba diving activity. Therefore, in the view of the foregoing discussion, the following conceptual definition of scuba diving tourism is proposed:

“Scuba diving tourism involves individuals travelling from their usual place of residence, for no more than one year and staying at least one night away, and actively participating in scuba diving activities”

In contrast to the WTO definition given above, the proposed definition does not require diving to be the main and sole motivation for the trip, but it does require divers to participate specifically -but not exclusively- in scuba diving. Thus, the definition offered does distinguish among tourists and non-tourists, as travelers need to spend at least one night away from home, thus ensuring that they are genuinely tourists rather than day visitors. In addition, this definition does not segregate the domestic diving tourism demand of travelers.

1.2.1.3 The Development of Diving Tourism

Tourism has played a major role in the development of diving tourism. Both industries grew simultaneously after World War II, and there is no doubt that both reached an increased popularity during the second half of the twentieth century (Garrod & Gössling, 2008)

Tourism contributed to the dive industry development by making it possible for divers to reach locations that were once unknown and untouched by the human being; as a consequence of tourism, a wide range of diving sites became accessible to underwater adventurers (Garrod & Gössling, 2008) It can be said, therefore, that just as tourism has grown due to globalization, which has made it cheaper and easier to travel abroad and reach destinations more comfortably and in shorter periods of time, diving tourism has grown alongside, due to many other reasons that contribute to tourism and travelling respectively, and that consequently increase the participation of recreational diving abroad whilst on a travel holiday.

Orams (1999) argues that scuba diving and snorkeling are the most popular diving activities in the world, although Garrod and Gössling (2008) add that snorkeling seems to appeal more people since it is more accessible to participants, as it involves lower demands of skills and equipment, as well as lower perceptions of risk. It is also argued that participating in snorkeling generates interest in marine life and therefore it might contribute to the intention to obtain a scuba diver certification (Lindgren, Palmund & Gössling, 2008)

Diving tourism has been characterized by a rapid growth over the past 35 years (Ditton & Baker, 1999), and the market of active divers worldwide is estimated to enclose several millions of participants (WTO, 2001; PADI, 2010) as the World Tourism Organization suggests that scuba diving is now second only to winter sports, with an estimation of the dive market's worth of \$4-6 billion in 2000 (WTO, 2001)

Reliable data on the exact number of divers in the world is an issue of debate, but official statistical information from the Professional Association of Diving Instructors (PADI) -which claims to be responsible for 60% of all divers certification worldwide- has indicated a cumulative number of certifications from 1967 to 2000, resulting in more than 10 million divers in the world (Garrod & Gössling, 2008) This number however, might not be representative of the actual population of active divers in the world, which is estimated to be significantly different in size. For instance, Scuba School International (SSI), estimates there are only 2.5 million active scuba divers and 67 million snorkelers in the world (SSI, 2010 in Garrod & Gössling, 2008)

Other statistics can provide a more accurate idea on the actual market of certified divers: Smith (2004) sustains that there are 120,000 active divers in the United Kingdom only, while Asia holds 740,000 qualified divers.

Tourism Queensland (2004) estimates, however, that the number of divers in the UK reaches only 100,000 while diver population in Asia reaches 760,000. On the other hand, while Australia's Great Reef Barrier welcomes 1,8 million visitors per year, amounting a total of 740,000 divers, it is home to only 34,600 certified divers.

In tourism literature, diving often falls under the concepts of ecotourism/ nature-based tourism, adventure tourism and sport tourism. Therefore, it can be argued that diving tourism is part of the emerging trends in international tourism.

Scenic, untouched beauty and diversity in wildlife in a relatively undisturbed environment are the basic ingredients for individuals seeking for an "ecotourism" experience (Davies,1990; Orams,2002; Wallace,1993 in Hawkins et al., 2005), and there is clearly a growing trend in tourism demand, that involves education and interpretation of the natural environment and its ecologically sustainable management whilst travelling (Coccia & Cohen, 2008)

“Scuba diving is also an adventurous holiday activity due to the strong danger element attached to its pursuit” (Ewert,1989 in Musa, 2006 p.3) Indeed, literature on adventure tourism supports the idea that the demand for new, adventurous leisure activities is growing strong (Swarbrooke, Beard, Leckie & Promfret, 2003), as individuals now seek activities that are rewarding, enriching, adventurous and involve learning (Smith,2004), such as scuba diving. According to Muller and Cleaver (200 in Swarbrooke et al., 2003)), adventure tourism is characterized by the ability to provide tourists with relatively high levels of sensory stimulation that are usually achieved by including physically challenging experimental components with the tourist experience.

Diving tourism is also considered as a form of special tourism as many divers take a holiday primarily for scuba diving (Tabata ,1992), requiring specialized services adapted to specific needs. At present, scuba diving has become one of the fastest growing sports as well as one of the fastest growing markets for special interest tourism in the world and it is estimated that up to one million people become certified divers each year (Bennett, 2003 in Musa,2006; Smith, 2004)

In understanding the development of diving tourism, it is interesting to highlight the role that the film industry has played. Indeed, Cousteau’s Oscar-winning educational documentaries on marine life, and movies such as *The Big Blue* (1989), *Deep Blue* (2004) and *Finding Nemo* (2003), have contributed to a shift in people’s negative or fearful perception of the underwater world, and have arisen the interest in marine environments and experiences (Garrod and Gössling, 2008) Concurrently, although Steven Spielberg’s *Jaws* (1975) did not positively favor the ocean’s image, it did raise awareness on the open sea nature, and contributed to a particular understanding of the dangers there might exist in it, while simultaneously reinforcing the idea of diving as an adventurous activity (Garrod & Gössling, 2008)

Scuba dive books, travel guide books, specialized magazines, journals and internet websites have also contributed to the fast development of diving tourism, as there are several lists of world dive site rankings, provided by companies such as Scuba Travel UK, the Lonely Planet Guide, Scuba Diving Magazine, National Geographic, among others. Especially popular countries for diving include Egypt, Australia, South Africa and Thailand (Garrod & Gössling, 2008; Scuba Travel,2007; Santella,2008) In addition, it is now possible for scuba divers

to plan a diving trip without leaving home, and having a virtual experience is accessible, with videos, photographs and many other items available online.

Scuba diving, as exposed below, is an important and significant component of the international travel scene around the world, with divers now travelling extensively to view wrecks, coral reefs and caves (Tabata, 1992)

1.2.1.4 Scuba Dive Education Industry: The Case of PADI

At present, the global diving industry is structured through a diverse umbrella of international organizations such as the Professional Association of Diving Instructors (PADI), Scuba Schools International (SSI), the National Association of Underwater Instructors (NAUI), the Confédération Mondiale des Activités Subaquatiques (CMAS), Technical Diving International (TDI) and Scuba Diving International (SDI), among others.

In addition, different national diving organizations exist, including, for example, the British Sub Aqua Club (BSAC), the Scottish Sub Aqua Club (SCOTSAC) and the National Association for Cave Diving (NACD, USA)

Both national and international associations provide individuals with an educational system which consists of recreational, professional and/or technical certifications which can be accessed progressively, as the systems have been created as a 'career ladder' composed of different modules from beginner to professional levels.

Although there are several dive organizations in the world, PADI is undoubtedly the largest diver training organization today (Garrod & Gössling, 2008; PADI, 2008) With more than 130,000 PADI Instructors, Assistant Instructors and Dive Masters teaching divers and offering dive services in more than 183 countries (PADI, 2008), PADI establishes training programs, materials and standards, monitors quality, certifies instructors and provides support services for PADI professional members.

The educational system of PADI is composed of about 40 different modules (see Figure 1.1) which correspond to: (1) discovery programs, (2) recreational diving certifications, (3) professional diving certifications and (4) specialty courses. PADI courses apply the concept of *performance based learning*, in which progress is based on meeting specific

performance requirements under an instructor's guidance (PADI, 2008) Once certified, divers may continue to participate in scuba diving activities without the supervision of a diving instructor, as participants will be allowed to dive independently, although, however, a 'buddy system' is highly recommended, as divers are not encouraged to dive solo, for safety reasons. Furthermore, throughout a 'diving career', divers will keep a detailed record of each dive in a *log* which can be either a book or software. These records, kept for safety and personal records, contain information such as date, time, location, the profile of the dive, equipment used, depth, bottom time, water conditions, verification of 'buddy' and/or instructor, among others.

In regards to PADI's educational system, discovery programs include limited certifications for individuals who are new to the diving activity and who wish to participate in it in a short period of time (1-2 days), under the supervision and guidance of an instructor. These programs target children (8+ years) and adults, who wish to experience the underwater world by scuba diving without having to go through the whole training process which involves several days and hours of theory and practice.

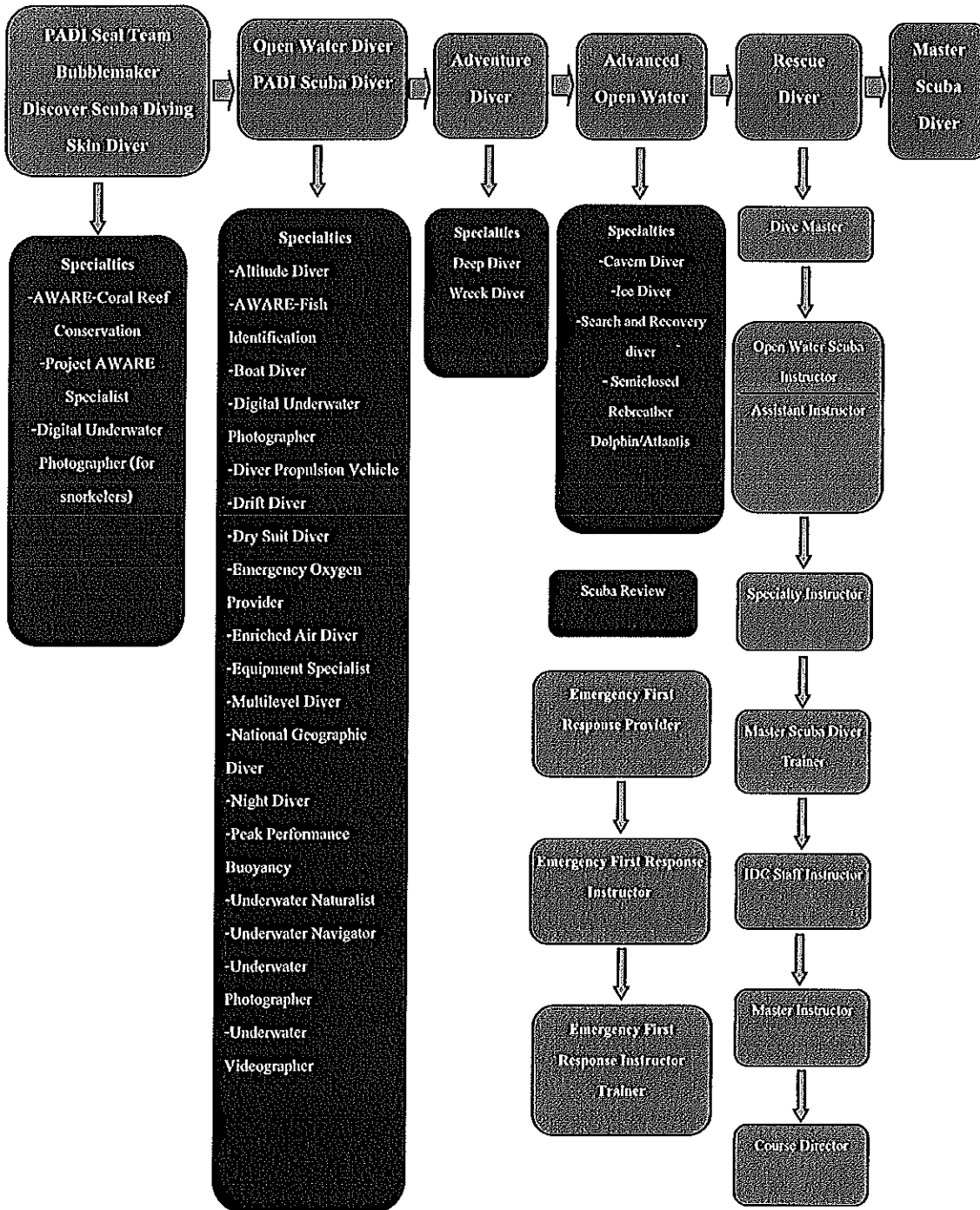
Recreational diving certifications include three hierarchical modules: (1) Open Water Diver Course, (2) Advanced Open Water Course, and (3) Rescue Diver Course. These three courses are non-professional and can be complemented with a total of 24 courses.

Novice divers will begin the training with an Open Water Course. Once an individual is certified as an Open Water Diver, he/she will be allowed to dive independently from a dive instructor, and will be able to move on the educational hierarchy. Open Water certificate holders are trained to the basic diving skills, with a maximum depth of 18m.

Advanced Open Water divers are required to hold the Open Water certification and to complete, in addition, 2 compulsory specialty dives -deep dive and navigator dive-, as well as 3 other specialty dives of free choice (e.g. wreck diving, search and recovery) This certificate enables divers to dive up to 40m in depth.

Divers holding both an Open Water and Advanced Open Water certification can continue with the Rescue Diver module, which will train them to assist divers in distress and to manage situations of emergency during the dive experience.

Figure 1.1 PADI Certification Courses



Source: PADI (2010 :?????)

With a minimum of 50 logged dives and 5 specialty diver certificates, a diver can achieve the rank of Master Scuba Diver, the highest non-professional rating in recreational diving (PADI, 2008)

The professional diving levels, on the other side, start with the Dive Master Course, which can be accessed once the diver has logged a minimum of 20 dives. Such certification enables the holder to assist in education and underwater guidance of recreational divers. Finally, to enter the Open Water Scuba Instructor Program, a diver is required to have a minimum of 60 logged dives to begin the course and at least 100 logged dives to obtain the certification. Dive instructors are both trained and examined by Course Directors, which possess the highest professional rank in the PADI hierarchy.

Additionally, scuba diving has evolved into a more complex and challenging form of diving, known as 'technical diving' or 'tec diving'. Technical scuba diving is defined as "diving other than conventional commercial or research diving that takes divers beyond recreational scuba diving limits" (PADI, 2008) Tec diving activities usually involve: (1) diving beyond 40 meters deep, (2) required stages of decompression, and (3) the use of special gas mixtures during the dive (e.g. Trimix: breathing gas containing Helium)

Technical divers require advanced training, extensive experience, and specialized equipment and knowledge, as gases other than air or standard Nitrox (i.e. gas mixture composed of nitrogen and higher than normal levels of oxygen) are used for breathing. Today, many tec diving training organizations have emerged, providing specialized training to these 'hard core' divers.

It is important to draw attention to the fact that once a course has been completed and successfully achieved, the certifications granted are valid for life and do not require to be renewed, in contrast to, for example, a pilot license, which must be renewed every two years.

Furthermore, although courses have requirements of a minimum number of logged dives in order to be accessed, the certification level of divers (e.g. Open Water Diver) does not solely represent individual's implication in the activity.

For instance, an Advanced Open Water Diver might decide not to upgrade his/her diving certification; however, the diver can participate actively and constantly in the activity, and have an extensive number of logged dives. Additionally, the diver also has the opportunity to complement his/her diving skills with the many specialty courses offered by PADI and become a specialized diver in activities such as: cave diving, ice diving, wreck diving, underwater videography and so forth.

1.2.1.5 The Dive Tourism Experience

The scuba diving experience involves an immersion in a strange and alien environment in which “perceptions and interactions with the marine environment are heightened by minimal communication underwater and the highly physical and sensory nature of the engagement” (Cater, 2008 : 49)

Considered an adventure experience, the nature of risk is inherently seductive in scuba diving as it provides a form of escapism from the day to day life and from established social constructs (Lyng, 2005, in Morgan, 2008) As Morgan (2008) suggests, adventure-programs are concerned with the management of *perceived* and *actual* risks. Actual risks (i.e. risks that have the potential to cause injury) are easier to manage as such risks are more concrete. However, perceived risks (i.e. fear that exists in the mind of an individual) varies from person to person and may arise due to several factors such as: previous experiences, personality, socialization, among others (Morgan, 2008) Nevertheless, although adventure tourists may seek adventurous experiences to be thrilled, participants do not want to be actually endangered (Cater, 2005 in Buckley, 2006)

As a person gains experience, the perceptions of risk evolve, and such perceptions will determine whether an experience results in an adventure, boredom or disaster (Priest & Gass, 1997 in Morgan, 2008)

In the literature of adventure tourism, the adventure experience paradigm involves five stages. The first stage, *exploration and experimentation* occur when a competent individual engages in an adventure activity (e.g. scuba diving) with little risk. The second stage, *adventure*, takes place when the individual achieves a state of eustress by successfully completing the task. The third stage, *peak adventure*, occurs when competency and risk are balanced, thus creating an optimal experience. *Misadventure* results when an individual’s skill or

competence is exceeded by the risk involved. If the level of risk increases, then *devastation and disaster* may occur (Martin & Priest, 1986 in Morgan, 2008)

Furthermore, scuba diving involves participating in an activity that requires some sort of discomfort throughout the experience, as divers need to lift and carry heavy equipment, in addition to the potentiality of facing other uncomfortable situations involving seasickness, water temperature discomfort, pressure problems that may cause headache or pain, among others.

Furthermore, the need to maintain proper buoyancy (i.e. the capacity to remain afloat) can be quite frustrating for novices in addition to the strange sensation of breathing underwater.

As Cater (2008) suggests, scuba diving put emphasis on hedonism, desire and enjoyment, and there is clearly a desire of obtaining a 'status' by having ultimate diving experiences that may include seeing big fish (e.g. shark tourism), for example, and going to 'must go' places around the world. Divers seek experiences that are 'world class' and wish to visit new places and encounter species that are rare or distinctive during the dive career being develop (Cater, 2008)

Factors such as interactions with marine life, other divers, dive operators and certifying agencies are all important to the success of a dive experience. The social interaction of diving is fundamental to the activity and its attractiveness (Cater, 2008), especially due to the implementation of a 'buddy format' where divers should dive in pairs. Such interactions could be positive and negative, as divers, for instance, may be deceived when damage caused by other divers is witnessed.

Furthermore, the element of trust is very important in the activity of scuba diving, as it involves some potential hazards. Therefore, the success of the experience will also rely on a satisfactory relationship between (a) 'buddies' and between (b) customers and the dive operator's staff, for example.

As Aho (2001 in Ritchie & Hudson, 2009) indicated, individuals vary in the ability and resources to enjoy experiences. Such resources may be classified as: time, money, knowledge, skills, attitudes and social factor. In the case of diving tourism, this is also true, as

resources and perceptions may vary greatly among divers according to the level of experience and the participation in the activity. In addition, attributes of the dive site (e.g. crowding, bleached and broken corals) may be more or less perceived by each diver, and therefore either cause satisfaction or dissatisfaction among them.

In 2005, Miller's research on wildlife experiences for scuba divers carried in Australia's Great Barrier Reef concluded that high-valued attributes of the dive experience included: (1) sharks and manta rays, (2) fish and (3) corals, although the physical attributes of (1) landscapes, (2) topography and (3) good visibility were rated among the most important elements of the experience.

Furthermore, the researchers also studied the social and environmental impacts which work as a detracting factor during the dive experience. Results showed that the most powerful social impact was 'too many divers'. Seeing other divers break/damage corals or any component of the underwater environment also proved to be a significant detracting experience for scuba divers.

Such findings provide strong support for carrying further studies in the different attributes that have an influence in scuba diving experiences. Understanding these factors is important, and managers and dive industry-related organizations should keep this in mind when managing dive operations.

1.2.2 The Dive Industry in the Local Context

1.2.2.1 Diving Tourism in Thailand

Diving in Thailand has become a popular activity quite recently. The phenomenon was introduced by the American U.S Navy during the Vietnam War and in 1977 the first diving center was created in Pattaya. It was not long until diving's popularity spread among the Thai tourism market and diving centers proliferated in other places such as Phuket and the Similan Islands (TAT, 2009) Today, statistics show that over 500,000 divers over the world arrive in Thailand's southern provinces each year (Ministry of Tourism and Sports, 2008), generating a revenue of not less than 20 billion Baht per year (Thailand Dive Expo, 2009)

In addition, Thailand has been appointed as one of the world's best diving spots by several books, magazines and websites. In 2008, four Thai diving spots were mentioned

among the “Top 100 Diving Spots in the World”, ranked by divers on the website of a U.K web-based travel agency, Scuba Travel. Richelieu Rock, the Similan Islands, Hin Muang, and Koh Tao were amid the most popular dive sites in the world. This participative response of scuba divers shows that Thailand is indeed a major destination for diving tourism and that it is well known among the dive market.

According to the Tourism Authority of Thailand (TAT, 2009), diving has become a phenomenal success in Thailand due to:

- Good locations for every diver of every skill
- High quality standards of diving centers
- The possibility to dive all year around
- Reasonable cost of diving
- Dive operators’ affiliation to PADI or other recognizable dive institutions
- Courses held in different languages
- Latest amenities and excellent boats
- Huge range of sites
- Two unique distinct oceanic zones: The Andaman and the Gulf of Thailand

A year round diving is one of Thailand’s advantages and opportunities, as both the Andaman Sea and the Gulf of Thailand share alternate good season (Fang, 1994) The tropical climate keeps the sea relatively warm and in optimal conditions for diving while enjoying great visibility, which are one of the most important factors of the dive experience.

Thailand’s marine ecosystems offer a variety of unique species of flora and fauna and diverse types of diving opportunities such as snorkeling, free diving, scuba diving, eco diving, wreck diving, night diving, rescue diving, cave diving and diving with disabilities (TAT, 2009)

According to N.C.C. Organizer (NEO) -in charge of the organization of the International Travel and Dive Expo held in Bangkok each year -, in 2008, the Thai dive industry grew between 10 to 15 %, with an increasing number of visiting divers purchasing dive trips, diving gear and other accessories. Divers also spent more time diving, as shown by the total

number of diving trips purchased in the past year, the majority being trips in the medium price range. Most consumers remained loyal to Thailand's famous dive sites such as the Similan Islands on the Andaman and Ko Tao in the Chumphon Province in the Gulf of Thailand (TAT, 2007)

1.2.2.2 The Andaman: World's Top Diving Destination Area

Located in the Andaman Sea, Phuket is the gateway to a wide range of unique diving sites that benefit from international popularity among the scuba diver population and that are reachable in a short period of time. The two main reasons why the Andaman cluster is a primary diving destination are the beautiful underwater scenery and the eclectic reef-dwelling marine life (TAT, 2007) In addition, the area encloses some of the few sites in the world where whale sharks and manta rays can be found (TAT, 2007) The Andaman Sea is part of the Indian Ocean and it extends from north of Surin Islands, close to the Myanmar border and the Mergui Archipelago, down along the west coast of Thailand to beyond the Tarutao Archipelago near the Malaysian border. The area encloses diverse sites ranging from extensive fringing reefs to deep drop-offs, granite walls, caves, tunnels, coral-covered pinnacles and open seamounts (TAT, 2007) The best time for diving is between October and May, as the air temperature is 28°C with a water temperature ranging between 28°C and 30°C.

Diving sites such as the Similan Islands and Surin Islands have a considerable reputation within the diving community thanks to a breathtaking underwater scenery and great marine life diversity. These are the most popular destinations for liveaboard trips.

Phuket's coastline has little opportunities to offer challenging diving experiences for experienced divers, though several sites are used for training. However, two sites stand out in terms of abundance in marine life: Shark Point and Anemone Reef. Offshore Krabi, the Phi Phi Islands are also very popular among diving tourists thanks to a good visibility and a variety of corals and fish.

Hin Muang features the deepest drop-off in Thailand with depths exceeding 70m, while Hin Daeng is a rare site where divers can encounter both manta rays and whale sharks.

The Tarutao Marine National Park, located north of the Malaysian border, is one of the new dive destinations in the area, still in its infancy (TAT, 2007) A description of the most popular dive sites located in the Andaman cluster are presented in table 1.1.

Table 1.1 Popular Dive Sites Located in the Andaman

	Dive sites	Depth	Characteristics	Types of diving
1	Kata Reef	12 mt	Hard corals, brain corals, pore corals. Shore diving, easy access, all levels of expertise	Night diving
2	Anemone Reef	25mt	Submerged pinnacle, dense populations of sea anemone dwells, soft corals, sea fans	Naturalist courses, underwater photography
3	King Cruiser Wreck	22mt	Car and passenger ferry, which sank in 1997	Wreck diving
4	Koh Doc Mai	28mt	Limestone wall, cracks, crevices, caves	Cave diving
5	Koh Racha Noi	40mt	Granite boulders, soft corals, sea fans, fire coral	Night dives, photography, videographer, naturalist courses
6	Koh Racha Yai	24mt	Five bays running from north to south, reef slope, staghorn coral, pore coral, pinnacles, hard corals	Night dives, photography, videography, naturalist courses
7	Koh Phi Phi MNP	28mt	Abundant hard and soft corals, tropical marine life, coral blocks, sea anemones, caves. Several dive spots: Maya Bay, Hin Dot, Nui Bay, Hin Pae, Koh Bida Nok	Macro photography, wall diving, cave diving, underwater photography, videography
8	Shark Point	24mt	Named for the frequent sightings of Leopard Sharks. Composed of 3 pinnacles, covering a great variety of corals such as soft corals, sea fans, horn corals and coral head	Underwater photography, naturalist courses
9	Hin Daeng	45mt	Best site of Southern Andaman. Various pinnacles, rocky walls, soft corals, sea fans and black coral. Good for snorkeling	Underwater photography, naturalist courses, videography

Table 1.1 Popular Dive Sites Located in the Andaman (Cont'd)

Dive sites	Depth	Characteristics	Types of diving
10 Hin Muang	40mt	Purple soft coral, several pinnacles, rich marine life, sea fans, black corals	Underwater photography, naturalist courses, videography
11 Surin Islands	45mt	Small group of islands. Shark species, barracudas and manta rays are often seen	Underwater photography, naturalist courses, videography
12 Richelieu Rock	35mt	Surin MNP's most popular site. Famous for whale shark sightings and safari trips. Rich marine life, sheer walls, rock walls and small caves	Underwater photography, naturalist courses, videography
13 Similan Islands	40mt	Composed of nine granitic islands. Rich marine life, caves, caverns, tunnels. Soft coral, gorgonians, feather sea stars and sea fans. Famous for encounters with pelagic species.	Underwater photography, videography, naturalist courses, deep dives

1.2.3 The Dive Industry in Phuket

Contributing to approximately one-third of the country's tourism revenue (TAT, 2006 in Main, 2007), the island of Phuket is Thailand's main center for diving. With an initial number of four small dive companies, a few fishing boats and a single air compressor in 1979 (Bennett, 2002 in Main, 2007), the dive industry was expanded over the next 20 years, due to tourism growth and coastal development (Main, 2007)

At present, Phuket hosts the highest density of dive shops in Thailand (TAT, 2007), offering three core products: (1) diving courses, (2) day trips and (3) liveaboard trips. Diving courses are provided by operators that are affiliated to training organizations like PADI, SSI or CMAS; the courses offered may include certification courses, specialty courses or professional training courses.

Day trips correspond to day-packages generally composed of hotel transfer, boat trip, meals, equipment, air blends and a number of dives. In Phuket, the most popular sites

for daytrips include: Phi Phi Islands, Racha Yai/Noi, Shark Point, among others. Such packages cost between USD\$90- USD\$120.

Live aboard trips, however, are more specialized and generally involve long-distance travel to pristine areas, where scuba divers effectuate a great number of dives over several days, in various dive sites. These dive products and services tend to cater for the more experienced scuba divers, as such divers enjoy visiting remote sites and focusing on key wildlife (Dearden et al., 2007) During a live aboard trip, both dive masters/instructors and customers live on-board of a vessel which also serves as a 'dive base' for going from place to place and stopping in different dive spots.

The Similan Islands, Surin Islands and Hin Muang/Hin Daeng are the most popular sites for liveaboard trips and may cost approximately USD\$800-USD\$2500, prices varying greatly according to the itinerary, dates, number of days/nights and cabin type corresponding to the trip. In both daytrips and liveaboard trips, scuba divers can go on-board with friends or family who have not being certified as divers, and may join the trip as 'non divers' while paying only a portion of the price.

In Phuket, four types of dive operators exist in the market: (1) operators that run daytrips, (2) operators than run liveaboard trips, (3) operators than run both daytrips and liveaboard trips, and (4) booking agents (Main, 2007) Companies may own or charter boats in order to cater for customers, and depending on the company size and time of the year, may hire staff on a permanent or free-lancer basis.

Today, the industry is conformed of 105 registered dive operators (TAT, 2008), the Thailand Diving Association (TDA) –an internationally recognized NGO which aims at guaranteeing and improving high standards in diving education and safety-, together with certification agencies that provide affiliation to dive centers such as PADI, CMAS or SSI, and one decompression chamber.

1.2.2.4 Marine National Parks

The presence of Marine National Parks (MNP) in the Andaman cluster is one of the industry's strengths, as the existence of these marine protected areas makes participation in diving more appealing to consumers (Davis and Tisdell, 1996). Past research has established that diving tourists are attracted to a specific location because of the existence of marine flora and fauna (Davis & Harriott, 1996).

Marine Parks in general can be defined as "any area of coastal zone or ocean conferred at a level of protection for the purpose of managing the use of resources and ocean space, or protection of vulnerable or threatened habitats and species" (Dinmook, 2007, p. 134).

There are 26 MNP in Thailand of which 17 are situated on the Andaman Sea coast and include areas located in Krabi, Phang Nga, Phuket, Mu Ko Phi Phi, Trang, Satun and Ranong. The creation of Marine National Parks (MNP) in Thailand intends to sustain and preserve coral reefs, mangrove forests, sea grass beds, evergreen forest and scenery and beaches (National Park, Wildlife and Plant Conservation Department of Thailand- DNP, 2009). However, as Main & Dearden (2007) denounced, the degree of protection offered by this designation varies widely. Although restrictions exist, regulations are rarely enforced, and there is a lack of active management for conservation.

Nevertheless, each diving season, Thailand's MNPs are hosts to visitors from all over the world and the economic benefit resulting from scuba diving in such areas is quite significant. The economic value of the Similan Islands, for example, was found to be of USD\$54.96 millions in a study carried by Tapsuwan and Asafu-Adjaye (2008), with an estimated consumer surplus per visit of USD\$3.233, showing that coral reefs have a significant value and should therefore, be properly managed and maintained in order to ensure the continuity of diving tourism.

Furthermore, the Similan Islands generate the highest revenue of marine national parks in Thailand (DNP, 2003 in Tapsuwan & Asafu-Adjaye, 2008), resulting primarily from the revenue obtained from scuba diving, as the park has experienced a remarkable increase in the number of visitors in the last decade, from 10,921 visitors in 1999 to 50,000 in 2003.

(Tapsuwan and Asafu-Adjaye, 2008) In 2009, the Similan Islands reached a number of 169,000 visitors (DNP, 2010)

The increasing popularity of ecotourism and nature-based tourism has become a leading trend of the contemporary international tourism market which has influenced tourists' motivations and may have also contributed to the popularity of scuba diving activities today, as the sport/activity focuses heavily on the environment.

As the Tourism Authority of Thailand denotes, "of all the types of diving available in Thailand, snorkeling and scuba diving are the most popular. Since people are becoming more and more aware of man-made destruction of natural environments, the popularity of eco-diving has been soaring over the past few years" (TAT, 2009) Hence, it is clear that MNP's play a key role in attracting diving tourists who visit the Andaman coast each year and who are seeking first hand interactions with the marine environment.

Therefore, as the demand of eco-diving seems to be latent, and while the marine environment is still in good condition and there is a high concentration of charismatic species in the area, such indicators suggest that MNPs might represent a substantial opportunity to be further developed and promoted, both domestically and internationally.

1.2.3 The Scuba Diver Population

The World Tourism Organization has stated that one out of three divers takes a diving holiday each year and has a tendency to visit new destinations (WTO, 2001) Although dive organizations keep records of demographic and statistical data from individuals who obtain a certification within the company, this information is only a snapshot of divers at a particular time, as there is no follow-up or track of divers that could provide a precise conclusion on the characteristics of active divers today.

Traditionally a male-dominated sport, scuba diving has been often linked to a tough, macho image of the sport (Garrod & Gössling, 2008), probably because of the physical demands required by the activity and the use of heavy equipment.

The high proportion of male divers has been exposed in other researches and studies (Mundet & Ribera, 2001; O'Neill et al., 2000; Meisel & Cottrell, 2003; Thapa, Graefe &

Meyer, 2005; Oh, Ditton & Stoll, 2008) Tabata (1992) for example, quoted a survey conducted by the US magazine *Skin Diver* in 1989, which showed that 65% of scuba divers were male.

Todd (2004), for instance, gives a higher percentage of male participation in the activity. His study, carried among people living and diving in New York, U.S, suggested that 80% of divers were male. The author attributed this predominance to the tough image and harsh rigors involved in cold water diving. Meanwhile, in 1999, Ditton and Baker conducted a survey among scuba divers in Texas, U.S, and found that 75% were male, aged between 21 and 39 years.

However, Musa, Kadir and Lee (2006) argue that this gender dominance is changing, as some recent studies have reflected the growing proportion of females who participate in scuba diving. The authors found a more equilibrated proportion of genders in a research conducted in Layang Layang, Malaysia, in which 53.1% of divers were males and 46.9% were female. Likewise, Miller (2005) found the diver population visiting the Australian Great Barrier Reef (GBR) to be composed of 58.2% males and 41.8% females. This is supported by Tourism Queensland (2004), which suggests that the dive market of people visiting the Australians coral reefs is equally proportional and composed of 50% males and 50% females.

This evidence suggests, therefore, that the gender balance of diving tourists is becoming more even. Although such fluctuation of the market has yet to be explained, it could be associated with the increasing opportunities to learn to dive in a short period of time (Garrod & Gössling, 2008), the new global tourism trends which foster participation in activities involving nature, adventure and education, as well as an increased societal interest in marine tourism in general (Smith, 2004; Garrod & Gössling, 2008)

Literature in diving tourism has suggested that scuba diving is a sport dominated most commonly by people who are in aged among the 30's and 40's (Garrod & Gössling, 2008) Mundet and Ribera (2001) agreed with this suggestion and linked this result to the requirement of purchasing power inherent in the activity of scuba diving, as it is considered an expensive hobby due to the training requirements and the equipment it involves. Secondly, the authors indicated that physical fitness can be another issue for explaining the age predominance, as the physical demands could prevent older people from participating in the activity.

Other studies of scuba divers also confirm the median age range of participants (Ditton et al., 1998; O'Neill et al., 2000; Mundet & Ribera, 2001; Musa, 2002; De Melo, 2003; Meisel & Cottrell, 2003; Miller, 2005; Thapa, Graefe & Meyer, 2005; Musa, 2006; Oh, Ditton & Stoll, 2008; Miller, Timbirica, Birtles, & Valentine, 2009)

Garrod and Gössling (2008) stipulate that what is true of diving tourists is not necessarily true of divers in general. The authors quote Tourism Queensland (2006), which states that 60% of all scuba divers certified by PADI are aged between 15-34 years, and imply that such matter is related to the previously mentioned need for spending power in order to remain an active diver, hence, it is expected that divers might begin a diving career at an early age rather than taking diving holidays.

Scuba diving also tends to attract participants who are more highly educated than the average tourist (Garrod & Gössling, 2008) In 1989, the Skin Diver magazine survey quoted by Tabata (1992), suggested that 84.2% of American divers attended college or beyond. It is important to remark that at this time only 35% of the American population had received a college education.

Such finding is confirmed by most researches on diving tourism. Todd (2004), reports that 75% of scuba divers living in New York had attended college. Similarly, Musa (2003) found 71% of scuba diving tourists in Sipadan, Malaysia, to have at least some years of college education while in 2006, Musa et al. found that 66.3% of diving tourists had either a university or post-graduate degree. Miller et al. (2009) found that 84.1% of scuba divers in Mozambique possessed at least a university degree, while Miller (2005) suggested an even higher percentage of 88.9% attending higher education.

Studies also tend to confirm that divers have a higher-than-average-income, which can be related to the relatively high costs that involve participating in the activity. The WTO (2001) suggests that 78% of international diving tourists are full-time employees in contrast to 55% of international tourists in general. Thapa, Graefe and Meyer (2005) for example, found that 37% of scuba divers in Florida, U.S earned between \$45,000 -\$75,000, while 25% earned more than \$70,000. Furthermore, Oh, Ditton and Stoll (2008) found the median income range to be \$70,000- \$79,000.

Once more, such information is consistent with the idea that scuba diving is indeed, an expensive activity, which may involve high expenses in travelling, training and equipment. Smith (2004) suggests that British scuba diving tourists spend approximately £500 to £2500 on diving holidays, whilst keen divers might spend over £3500 in a trip.

Basic scuba dive training costs approximately US\$200-\$400, while a day-trip which includes 2-3 dives, is likely to cost approximately US\$100-\$120. Other diving experiences such as 'shark diving' in Australia, will cost around \$200 for one trip (Garrod & Gössling, 2008)

Diving tourists are also expected to be relatively more experienced than certified divers in general. Mundet and Ribera's (2001) sample population consisted mainly of advanced divers (57%) and intermediate divers (23.4%) Only around a quarter of divers were participating in the activity for the first time. O'Neill, Williams, MacCarthy and Groves (2002) found that 68% of the certified scuba divers in Western Australia were experienced divers, with at least 25 logged dives each. Likewise, De Melo (2003) observed that 58% of scuba divers in southern Mozambique had an average of 50 logged dives. In accordance with this finding, Miller et al. (2009) found that 51.50% of scuba divers in Tofo Beach, Mozambique, had logged more than 50 dives, and the level of experience was composed mainly of intermediate (33.8%), enthusiastic (30%) and specialist divers (15.4%)

Although it may seem that the scuba diver population might have a clearly defined socio-demographic profile that may require some minor modifications and adaptations based on the geographical area of study, "it would be entirely wrong to conclude that divers are all the same" (Garrod & Gössling, 2008, p.19)

As Cater (2008) suggests, divers' motivations vary considerably. Diving tourism may involve motivational factors for both participating in scuba diving and travelling abroad. As diving offers an education system that allows divers to develop skills in terms of certification and specialism, the particular interests and factors that motivate divers to upgrade both knowledge and skills will also differ from other divers, and so on.

It appears that divers constitute a tourism segment which seems to have particular characteristics in terms of socio-demographics, motivations and expectations, whilst, it is suggested that various types of divers can be distinguished within this segment (Garrod &

Gössling, 2008) Understanding such diversity is important and necessary, hence, the subject will be further developed in the next subtopics.

1.2.3.1 Scuba Divers' Motivations

“Motivations are measured in order to identify and segment types of tourists for the purpose of product development and promotion” (Smith & Costello, 2009, p.45)

According to Murray (1964 in Smith & Costello, 2009), psychologists generally agree in defining a motive as an “internal factor that arouses, directs and integrates an individual’s behavior” (Iso-Ahola, 1982, p.258 in Jennings, 2007)

Motivation has also been denoted as the “need that drives and individual to act in a certain way to achieve to the desired satisfaction” (Beerli & Martin, 2004, p.626) Kotler (1982 in Correia et al., 2010) suggests that motivations result from internal and external stimuli. Internal stimuli emerge from personal needs that can be physiological, social, egocentric, safety and self-actualization. External stimuli result from communication and marketing strategies such as advertising and promotion.

Push and pull factors have been studied in literature and have been identified as motivators, by authors such as Dann (1981) and Crompton (1979) Push factors involve socio-psychological motivations which prompt individual’s desires while pull factors enclose the attributes perceived by an individual.

Crompton and MacKay (1997) have highlighted three main reasons for putting efforts in understanding motivations: (1) it is considered a key tool for designing products and offerings for customers, (2) it is directly linked to customer satisfaction and (3) it helps to better understand the decision making process of customers.

Individuals clearly have a wide range of motivations for undertaking diving activities. While the literature is quite scarce in the particular context of scuba diving holidays, academics have long studied the basic motivational forces in tourism and leisure behavior which have contributed to the better understanding of the scuba diving market.

The literature on travel and tourism behavior has proven that tourism patterns change constantly for several reasons, and that travelers are not heterogeneous (Turnbull & Uysal,

1995 in Smith & Costello, 2009) The same is true of diving tourists, as the population seems to have specific characteristics in terms of its motivations (Garrod & Gössling, 2008)

Motivations can be explained by the expectancy theory (Todd et al., 2002) which states that motivation is determined by the attractiveness and expectations that participation will result in desired outcomes. This belief fosters the intention to perform a specific activity (Fishbein & Ajzen, 1995 in Todd et al., 2002) Furthermore, this expectancy theory suggests that individuals may have different motives to participate in an activity, as participants may seek totally different outcomes.

Some theories of motivation (see table 1.2) for understanding leisure and tourism behavior are Murray's (1938) Theory of Psychogenic Needs and Maslow's (1943) Hierarchical Theory of Needs which could also be applied to understanding diver's behavior.

Table 1.2 Literatures of Motivations in Tourism and Leisure

Yr.	Author	Research topic	Attributes of motivation
1954	Maslow	Hierarchy of needs	Physiological needs, safety needs, belongingness and love needs, self-esteem needs, self-actualization needs
1979	Crompton	Motivations for pleasure vacations (social psychological theory, push/pull factors)	Socio-Psychological motives (Escape from a perceived mundane environment, Exploration and evaluation of self, relaxation, prestige, regression, enhancement of kinship, relationships, facilitation of social interaction)
1982	Iso-Ahola	Motivation theory in the tourism context (social psychological theory)	Personal escape, personal seeking, interpersonal escape, and interpersonal seeking
1983	Beard and Raghob	Leisure Motivation Scale	Intellectual component, social component, competence-mastery, stimulus-avoidance
1992	Witt & Wright	Expectancy theory on motivation	Valence (attractiveness), instrumentality, expectancy

Table 1.2 Literatures of Motivations in Tourism and Leisure (Continue)

Yr.	Author	Research topic	Attributes of motivation
1995	Tinsley & Eldredge	Psychological benefits of leisure participation	Novelty, sensual enjoyment ,cognitive, stimulation, self-expression, creativity, competition, relaxation, agency, belongingness Service
1997	Ewert	Motivations for adventure tourism	Challenge ,risk, flow experience
1998	Ryan & Glendon	Application of leisure motivation scale to tourism	Relax mentally, discover new places and things, avoid the hustle and bustle of daily life, relax physically, be in a calm atmosphere, increase my knowledge, have a good time with friends, be with others, use my imagination, gain a feeling of belonging, challenge my abilities, use my physical abilities/skills in sport, develop friendships
1998	Ryan & Glendon	Application of leisure motivation scale to tourism	Relax mentally, discover new places and things, avoid the hustle and bustle of daily life, relax physically, be in a calm atmosphere, increase my knowledge, have a good time with friends, be with others, use my imagination, gain a feeling of belonging, challenge my abilities, use my physical abilities/skills in sport, develop close friendships
1998	Hall	Motivation for leisure and tourism consumption	Social interaction, escapism, relaxation
2004	Thapa Confer & Mendelsohn	Trip motivations among water-based recreationists	For relaxation, to do things with other people, to get away from the everyday routine of life, opportunities for solitude, to tell others about it at home, help keep me in shape, to be in a natural setting, opportunities to challenge myself, to see wildlife

Table 1.2 Literatures of Motivations in Tourism and Leisure (Continue)

Yr.	Author	Research topic	Attributes of motivation
2007	Chan & Baum	Motivation factors of ecotourists in ecolodge accommodation: The push and pull factors	Destination attributes/pull factors Escape/push factors Self-fulfillment/push factors
2009	Correia, Oliveira, Silva	Bridging perceived destination image and market segmentation – An application to golf tourism	To stimulate emotions ,to be adventurous, to meet people with similar interests, to make friends, to visit place where my friends have never been, to talk about the trip with my friends, to take some risky ,to stay and enjoy a natural area, to alleviate the stress ,to avoid the routine, to relax the mind and the body, to expand my knowledge, to know new and different cultures, to sport and develop my golf skills, to play a competitive sport, to attend to tournaments
2009	Alexandris, Kouthouris, Funk & Giovani	Segmenting Winter Sport Tourists by Motivation: The Case of Recreational Skiers	Escape, social recognition, enjoying nature, excitement/risk, socialization, skill development, achievement

Maslow (1943) and Murray (1938) sustain that an individual's behavior is driven by both physiological and socio-psychological needs. Maslow's theory of needs implies that humans must satisfy four needs -physiological, safety, love, belongingness and self-esteem- before reaching the top need of the hierarchy, which is self-actualization, in which individuals have a sense of personal fulfillment.

Murray (1938), on the other hand, identifies two types of needs which are (1) primary needs such as the need of oxygen and (2) secondary needs which consist mainly of psychological needs such as independence or achievement. Murray (1938) also listed twenty-seven psychogenic needs which correspond to five dimensions of needs: (1) ambition needs, (2) materialistic needs, (3) power needs, (4) affection needs and (5) information needs.

In relation to divers' motivational factors, it can be implied that "the need for challenge and adventure can be deconstructed as a need for self-actualization" (Goldstein, 1939; Maslow 1970; Csikszentmihalyi, 1974/1975; Iso-Ahola, 1980 in Jennings, 2007, p.13), as individuals "tend to pursue their water-based experiences for their 'intrinsic reward', that is, an [experience] engaged in for its own sake" (Iso-Ahola 1980, p. 231, cited in Jennings, p.14)

It is also possible for other motivation theory to be applied to diving tourists, using Beard and Ragheb's (1983) Leisure Motivation Scale in which motivators are divided into four components:

a) The intellectual component- which engages individuals in activities that involve learning, exploring and discovery (e.g. the exploration of the marine ecosystem)

b) The social component- which leads to the engagement of activities for social reasons, in order to satisfy two basic needs of friendship and inter-personal relations, and the esteem of others (e.g. "adventurer" recognition, admiration among family, friends and divers)

c) Competence-mastery- engaging individuals to pursue activities that will lead them to achieve, master, challenge and compete (e.g. certification, specialty courses, technical diving)

d) Stimulus-avoidance- the desire to escape and get away from over-stimulating life situations

In sport and tourism literature, it was posited that sport tourism consumers could be categorized based on primary and secondary reasons for travel (Gammon & Robinson, 1997 in Robinson & Gammon, 2004) It was also suggested that secondary motives could influence primary motives; therefore, these motives should not be perceived as inferior or second rate (Gammon & Robinson, 2004; Calder & Staw, 1974)

For instance, whilst the primary motive may be to scuba dive in Phuket, the experience of diving will be affected by a number of contextual indicators that the environment produces, such as climate, scenery, the water quality, social elements or other indicators which add to the overall experience of diving.

Robinson and Gammon (2004), established a framework to understand two different concepts -sport tourism and tourism sport- which differ in individuals' level of

motivation to participate in a competitive or recreational sport whilst travelling to and/or staying in places outside his/her usual environment. The authors gave a hard and soft definition to each concept, to differentiate the individuals or groups of people who participate in sports.

According to the authors, in 'sport tourism' an individual's prime motivation to travel is sport; the hard definition includes those individuals who actively or passively participate at a competitive sporting event. These individuals travel to places outside the usual environment for either passive or active involvement in competitive sport. Hence, the activity is the prime motivator for travel. The distinguishing factor of these events is competitiveness.

The soft definition, however, corresponds to those who travel for primarily active recreational participation in a chosen sport. The active recreational element is the distinguishing factor. Correspondingly, 'tourism sport' comprises persons who travel and/or stay away from a usual environment and who participate actively or passively in either a competitive or recreational sport as a secondary activity.

The hard definition of tourism sport denotes travelers who use sport as a secondary enrichment to a holiday (passive or active), hence the holiday is the primary motivation to travel, but sport acts as a secondary reinforcement to the trip. Subsequently, the soft definition refers to visitors who engage in some form of sport on a minor part of the trip, on a purely incidental basis, as a result of certain factors that appear once the visitor has reached the destination. For example, many travelers may come to Phuket for different motivations other than participating in scuba diving, nonetheless, pull factors engendered by dive companies or TAT such as promotions or pool dives try-outs can attract tourists to this activity, therefore participation is purely incidental.

It is also suggested that destination brand contributes to affecting travelers' decision making, as it is grounded in the perceived image about the potential quality of experience at the destination (Correia, Oliveira & Silva, 2010) This idea is supported by Beerli and Martin (2004) who state that there is a strong influence of image on tourist behavior.

There has been little research done in regards of scuba divers' motivations to participate in the activity. Most studies have focused on the environmental impacts of scuba diving, but little attention has been given to the motivational factors affecting divers' behavior. As

Cater (2008) suggested, divers differ considerably in motivations both to participate in scuba diving and to go on a diving-based holiday as divers may have particular interests, specialism (recreational or technical) and differ in terms of the centrality of diving in the lifestyle of individuals, among other factors.

In addition, there are a great number of scales or continuums under which scuba divers could be distributed (see table 1.3) As suggested by Cater (2008) and Garrod & Gössling (2008), it could also be possible to categorize divers according to the principal motivation for travelling: 'Mainliners' are those for whom the prime motivation for travelling is diving, while 'sideliners' are primarily going on a holiday for other reasons, but might eventually participate in diving if the opportunity is presented (Cater, 2008; WTO, 2001)

Table 1.3 Possible Continuums of Diving Tourists

Continuums of Diving Tourists	
Mainliners- Sideliners	i.e. those for whom the travel motivation is primarily diving vs. those for whom tourism is the main motivation
Fanatics- Dabblers	i.e. those for whom diving is central to the lifestyle they have vs. those for whom it is peripheral
Experienced- Novices	i.e. those who have made many dives vs. those who are new to diving
Highly qualified- 'Try divers'	i.e. those who are highly trained vs. those who are completely untrained
Specialists- Generalists	i.e. those who specialize in one diving activity (e.g. underwater photography) vs. those who like to participate across the full range of diving specialties
Mariners- Socializers	i.e. those primarily interested in marine encounters and experiences vs. those putting high value on social contacts and interaction
Independents- Group divers	i.e. those diving by themselves or with a partner vs. those preferring to dive in organized groups
Learners- Enjoyers	i.e. those trying to expand the knowledge of marine environment vs. those who are primarily interested in the dive experience itself
Homies- Remoties	i.e. those regularly and mostly diving at home vs. those diving abroad, often in remote areas

Source: Garrod & Gössling, 2008, p. 20

In the literature of diving tourism, some academics have tried to measure scuba divers' motivation using different attributes that correspond to this particular activity and experience (see table 1.4) Tabata (1992) suggested there were two main motivation factors (1) adventure and (2) education, as divers want to learn about the marine environment and also seek exciting experiences. PADI revealed that 81% of divers were seeking adventure, while 71% were motivated by interactions with nature (Richardson, 1995 in Musa, 2006)

Thapa et al.'s (2002) study on scuba divers attending university in northern Florida, identified that the four main motivations for diving were: (1) to look at underwater animal and plant life, (2) because it is stimulating and exciting (3) to explore things, and (4) for the adventure of it.

Table 1.4 Motivational Attributes of Scuba Diving

Year	Author	Research topic	Motivation attributes
1992	Tabata	SCUBA diving holidays	Adventure, education
2002	Thapa, Meyer and Pennington-Gray	An exploration of motivations among scuba divers in north central Florida	To look at underwater animal and plant life, because it is stimulating and exciting, to explore things, for the adventure of it, to develop my diving skills and abilities, to learn more about the underwater environment, to gain an experience I can look back on, for a change from everyday life, for relaxation, to experience peace and tranquility, so I could do things with my friends and/or family, to do something creative such as take pictures or videos, because I thought it would be a challenge, to see historically significant shipwrecks, to give me a feeling of confidence in myself, to prove to myself that I could do it, to help keep me physically fit, to meet new people, it's sort of an impressive thing to do, to share my skill and knowledge with others, to study underwater geological formations, to use my equipment, because of the risk, to collect interesting artifacts

Table 1.4 Motivation Attributes of Scuba Diving (Continue)

Year	Author	Research topic	Motivation attributes
2002	Ditton, Osburn, Baker and Thailing	Demographics, attitudes and reef management preferences of sport divers in offshore Texas waters	Family recreation, learn about the environment, experience surroundings, look at fish, to be outdoors, relaxation, experience adventure, get away from demands, experience tranquility, to be with friends, for the exercise, develop skills and abilities, get away from routine, new and different things, spearing fish to eat
2002	Todd, Graefe & Mann	Differences in scuba diver motivations based on level of development	To look at underwater animal and plant life ,to explore things, for the adventure of it, because it is stimulating and exciting, to learn more about the underwater environment, to develop my diving skills and abilities, for relaxation, to experience peace and tranquility, for a change from everyday life, to gain an experience I can look back on, to see historically significant shipwrecks, because I thought it would be a challenge, so I could do things with my friends and/or family, to give me a feeling of confidence in myself, to help keep me physically fit, to meet new people, to share my skill and knowledge with others, to do something creative, such as taking pictures or videos, to show myself that I can do it, to study underwater geological formations, to use my equipment, to collect interesting artifacts, it's sort of an impressive thing to do, because of the risk involved

Table 1.4 Motivation Attributes of Scuba Diving (Continue)

Year	Author	Research topic	Motivation attributes
2003	De Melo	Recreational scuba diving and reef conservation in southern Mozambique	To look at fish and other marine life, experience unpolluted surroundings, experience tranquility underwater, for relaxation, to learn about the marine environment, to be outdoors, to experience adventure, to experience new and different things, to get away from regular routine, to get away from demands of others, developing diving skills and abilities, to be with friends, for family recreation, for the exercise
2004	Meisel and Cottrell	Differences in motivations and expectations of divers in the Florida Keys	For fun , to look at underwater animal and plant life, to explore things , because its stimulating and exciting, to create an experience I can look back on, for the adventure of it , for a change from everyday life, because of the sense of discovery involved, to experience the tranquility here, to learn more about the underwater environment, to be with similar people , to forget the pressures of my daily work, to develop my diving skills and knowledge , to be with my friends/family, for relaxation , to see shipwrecks, because I think there is a lot of action here, to take pictures, to keep fit, to meet new people, because I think it will be a challenge , to study underwater geological formations, to share my diving skills and knowledge, to use my equipment, to show myself that I can do it, for a chance to control things, because it is sort of an impressive thing to do, because of the risk involved
2008	Cater	Perceptions of and interactions with marine environments: Diving attractions from great whites to pygmy seahorses	Escape, esteem, expertise, education

Todd et al. (2002), used a motivator scale consisting of: (1) adventure, (2) learn, (3) escape, (4) social interaction, (5) stature and (6) personal challenge to identify scuba divers' motivations. The results of the study indicated that divers with higher levels of development are motivated to pursue the activity for several reasons, but not always as expected. 'Adventure', 'learning' and 'social interaction' followed the predicted curvilinear pattern of increasing importance from beginners to experts and decreasing for post-experts. However, unexpectedly, 'personal challenge' decreased in contrast to 'stature' and 'escape' which increased with development. Theory suggests that participants with more experience and skill will continue to seek new challenges and have and accrued interest and commitment.

This idea is supported by Dimmock, 2007, who adds that high-skilled, technical divers might seek more challenging and adventurous environments while leisure and recreational diving (involved in more managed situations) is becoming a mass activity which supports the contemporary dive tourism industry.

In Ditton et al.'s (2002) study of scuba divers in offshore Texas, "more than 50% of the divers rated 12 out of 15 experience motivations for diving either as very or as extremely important reasons for sport diving on their last trip to the Texas coast. Motivations that are specific to diving included "to look at fish and other aquatic life" (94%) and "to experience tranquility underwater" (85%), while those generic to many outdoor recreation activities included "to experience adventure and excitement" (85%), "to experience unpolluted natural surroundings" (82%), and "for relaxation" (79%) "For the experience of spearing fish to eat" was rated by 68% as not at all important. Whereas a plurality (30%) indicated that "for family recreation" was not at all important to them, there was a wide diversity of opinion on this item as evidenced by a higher standard deviation than for other items" (Ditton et al.2002,p. 188-189)

Accordingly, De Melo's (2003) survey results showed that the majority of divers (65.1%) considered scuba diving to be the most important or second most important outdoor activity to them. Simultaneously, the majority (91.65%) of them rated 'look at fish and other marine life' as the most important motivational attribute to them. Another important motivation was 'to experience unpolluted surroundings'. The least important factor was 'for the exercise'.

Meisel and Cottrell (2004), however, indicated that divers' most important motivations for scuba diving were: (1) 'for the fun', (2) 'to look at underwater animal and plant life' and (3) 'to explore things'. In contrast, the variables with the lowest scores were: (1) 'because it is sort of an impressive thing to do', (2) 'for a chance to control things', and (3) 'to show myself I can do it'.

Finally, Cater (2008) supports Beard and Ragheb's (1983) division of motivations in leisure activities, which he translates as diver's needs for (1) escape, (2) esteem, (3) expertise and (4) education.

In sum, it seems that diving is a unique type of leisure activity in terms of motivation. Beginners may initially be drawn to the activity as part of novelty or to challenge themselves; however, once the skills and abilities are developed, divers' motivations seem to change and differ.

Understanding the motives behind individual's participation in scuba diving can provide useful information to resource managers, tourism professionals, and community developers, in order to facilitate planning and promotion of various dive sites, for instance. Subsequently, dive centers, clubs, and instructors could better facilitate participants' needs and experiences (Todd et al., 2002)

A. Determinants of divers' travel behavior

Determinants are elements which identify or determine the nature of something that fixes or conditions an outcome (Merriam Webster Dictionary, 2010) There are two types of determinants in the tourism context (Swarbrooke and Horner, 2007):

~~Factors which determine whether or not someone will take a~~
 holiday or not

~~Factors which determine the type of trip, products or packages, if~~
 the first set of determinants allows a holiday to be taken

Choosing a type of trip can enclose a wide range of variables including:

The destination

When the trip will be taken

Mode of travel to be used

Duration of the trip

- Who will comprise the holiday party or group
- Type of accommodation
- Activities undertaken during the holiday
- Budget

Determinants can be subdivided in (1) personal determinants and (2) external determinants. Determinants will affect tourists in a different way as elements vary from person to person. Personal determinants of tourist behavior constitute (1) experience (e.g. of destination, products), (2) knowledge (e.g. prices), (3) circumstances, (4) attitudes and (5) perceptions (Swarbrooke and Horner, 2007)

“Individuals will perceive some determinants to be more important than others, based on their attitudes, personalities, fears and past experiences” (Swarbrooke and Horner, 2007, p.63) The dive market, for instance, has some limits for individuals. Snorkeling, for example, is something that anyone can do, while scuba diving is restricted to participants who cannot obtain medical clearance to dive due to health hazards (e.g. asthma) Snorkeling and free diving also require a smaller budget since complex devices and equipment are not required, in contrast to scuba diving. All these elements will determine an individual’s decision of participating or not in diving activities. Fear can also be a determinant affecting potential diver’s behavior (Swarbrooke and Horner, 2007), such as fearing shark attacks, or risks related to the nature of scuba diving practices (e.g. depressurization) These determinants clearly reduce the potential market of divers.

External determinants of tourist behavior include word of mouth, marketing activities of the industry, influences of the media (e.g. National Geographic articles on diving sites), national/international political, economical, social and technological factors (Swarbrooke and Horner, 2007) These determinants can influence divers’ behavior in the decision making process in regards of travelling and diving.

1.3.2 Market Segmentation of Scuba Divers

Market segmentation has been defined, from a marketing perspective, as “the process of dividing a total market into groups of people with relatively similar product needs” (Dibb 2001, cited in Swarbrooke and Horner, 2007, p.91-92), as well as “preferences or reactions

to specific elements of the marketing mix (i.e. product, price, distribution and promotion) or according to their characteristics” (Kotler 1988, cited in Buhalis, 2001, p.88)

Palacio and McCool (1997, p. 236 in Garrod & Gössling, 2008), defined it as “a process by which a large potentially heterogeneous market is divided into smaller, more homogeneous components or segments”

The benefits of segmentation are widely recognized and appreciated, in terms of the contribution it can make to tourism marketing (Fyall & Garrod 2005, in Garrod & Gössling, 2008) . It enables tourism professionals to successfully design promotional campaigns by selecting and accurate, appropriate message to deliver, and also contributes to the effective planning and management of tourism operations.

Although the concept of segmentation is well established and understood among academics, researchers have not agreed on which are the best variables to adopt in attempting to achieve a proper segmentation.

According to Swarbrooke and Horner (2007) segmentation can be created on the basis of four different criteria: geographic, socioeconomic, demographic and behaviouristic. Most often, a combination of these criteria is found to generate the most incisive and serviceable market segmentation (Garrod & Gössling, 2008)

Behaviouristic segmentation will group consumers according to the relationship that exists with a particular product, based on purchase occasions, loyalty to the product, benefits sought, user stage (e.g. first time user, regular user), and attitude to product (Swarbrooke and Horner, 2007)

However, Swarbrooke and Horner’s (2007) system of classification is not generally accepted. Palacio and McCool (1997 in Garrod & Gössling, 2008) combined the demographics and socio-economic categories and added psychographics (based on attitudes and values)

Seaton (1996 in Williams & Buswell, 2003 p.9), suggested that “psychographics and lifestyle segmentation, based on personality traits, attitudes, motivations and activities are relevant, particularly if they are product related rather than generic to the population”.

With the fast growing demand for environmentally responsible tourism and the search of more authentic experiences in which travelers seek to have interactions with people and nature, while learning something new or discovering places (Smith, 2005), the dive market could also target people who are adventurous travelers, nature tourists, eco-tourists, among others.

Based on socioeconomic and demographic criteria, segmentation can be quite diverse depending on the destination. Mundet and Ribera (2001) found the diver population in Costa Brava, Spain to be employed in middle to high level professional activities and aged between 31-45 years, while divers who visit Julian Rocks Aquatic Reserve in Australia, are basically 20 to 30 year-old males (Doyle 1996, cited by Swarbrooke and Horner, 2007) In contrast, in the Great Barrier Reef, divers' age ranged mainly between 20-49 years, with 50.8% being females (Shafer, Inglis, Johnson, and Marshall, cited in Dimmock, 2007, p. 131)

Hence, in obtaining a pertinent market segmentation of scuba divers, a categorization based on one or two criteria only, does not seem to be the best option. In literature, there is great support in using a combination of variables to attain a more precise and effective segmentation.

Diving tourism has long been considered as a niche market, since a 'niche' or specific segment has been defined as a special interest, culture and/or activity-based form of tourism, which involves a small number of tourists in authentic settings, while in contrast, mass tourism involves large numbers of people in a same setting (Robinson & Novelli, 2005)

In the past, scuba diving was an activity that took place at a scientific or governmental level and then grew to become a male-dominant activity for those who had the skills and the intrepidity to do it, although authors agree that it seems to be evolving as a mass activity, due to its fast growth (Garrod & Gössling, 2008; Tabata, 1992; Bennett et al., 2004)

In the marketing literature, niche tourism is seen as 'specialization' (Kotler, 1994 in Coccia & Cohen, 2008), generating a great opportunity for destinations to develop. In this sense, niche tourism, as suggested by Robinson and Novelli (2005), represents diversity and a chance to mark a difference, as it involves tourism that is more sustainable, less damaging and potentially attractive to high-spending tourists. In addition, tourists obtain a meaningful experience, as wants and needs are met.

“Niche tourism products can cater to the needs and interests of individual market segments”, as mentioned by Mr. Weerasak Kowsurat -former Thai Minister of Tourism and Sports- during a speech in Berlin (TAT, 2008)

As Cooper et al. (1993 in Williams & Buswell, 2003) suggested, the future of tourism will not lie in the mass standardized and packaged industry of recent decades but will become much more customized and integrated with emphasis on meeting individual needs, expectations as well as responsiveness and reliability.

Diving tourism, considered also as part of special interest tourism (SIT), could be further developed in Thailand as the destination is quite known to divers, since its underwater resources are still abundant and well preserved (Fang, 1994)

Special interest tourism (SIT) has been derived from the concept of niche tourism (Coccia & Cohen, 2008) This type of holiday is inspired by specific motivations and the satisfaction level is determined by the experience pursued (Kotler, 1994 in Coccia & Cohen, 2008)

This form of tourism consumption is part of the late-modern leisure society patterns, which have emerged with new values which are marked by a great importance of outdoors activities, ecological awareness, educational advances, aesthetic judgment and improvement of both the self and society (Trauer, 2006) SIT occurs when individual's motivations and decision making is based on a particular interest, with a focus in activities and/or destinations and settings (Trauer, 2006)

All these reasons draw attention to the importance and challenging need of tourism authorities and dive industry operators to properly develop the market of scuba divers by differentiating the needs, wants and expectations, in order to take managerial action, and simultaneously, mediate the evolving nature of scuba diving, from a niche activity to a mass activity.

Given the growing significance and weight of the diving market in the world, it is surprising that no market segmentation study has been done, focusing specifically on diving tourists. Segmentation studies concerning sport tourism, adventure tourism and ecotourism have been undertaken, nonetheless, the lack of conceptual frameworks and empirical support make it

difficult to segment diving tourists, although Garrod and Gössling (2008) have suggested, for the first time, a range of different approaches to segment the diving tourism market, which, as the authors predict, are best applied in combination with one another. These approaches will be presented and discussed hereinafter.

1.2.3.3 Typology of Scuba Divers

While segmentation is a “form of consumer classification designed specifically to serve the marketing function” (Swarbrooke and Horner, 2007, p.92), typologies have been developed specially in relation to tourism, and have a potential role in tourism marketing. The main role of typologies is to contribute to the design of messages directed to potential consumers, in the field of promotion. Furthermore, typologies can contribute to decisions over product development, price and distribution (Swarbrooke and Horner, 2007)

Previous literature implies that in order to better organize the heterogeneous market of scuba divers, individuals can be classified into categories according to the level of participation in the activity, as suggested by authors (Rice, 1987; Brotherton & Himmeglotu, 1997 in Dimmock, 2007)

According to Rice (1987), SCUBA divers can be categorized into three groups: (1) potential, (2) tourist and (3) hard-core. According to the level of participation within the activity, which will in turn, influence the choice of a destination, Rice (1987) stipulated that the demand of diving tourism comes mainly from the “potential” and “tourist” categories.

This categorization was supported by Brotherton and Himmetoglu's (1997) Special Interest Tourist (SIT) Typology (cited in Dimmock, 2007, p.132), which was divided into four categories of tourists shown in table 1.5.

In the SIT Typology chart, Brotherton and Himmeglotu's “dabbling” tourist paralleled Rice's “potential diver”, while the “enthusiast” was equal to the “tourist diver”; the “fanatic tourist” was Rice's “hard-core diver” which had reached an expert stage.

Keeling (2006 in Garrod & Gössling, 2008), presented a typology applied to outdoor recreational activities. Four market typologies were suggested based on the level of interest in the activity and the amount of leisure time the individual devoted to it. The four groups were:

- *Samplers*: first timers or people who participate in the activity on a very occasional basis
- *Learners*: those who are learning the skills or wishing to improve them
- *Dabblers*: those who occasionally participate in the activity as part of leisure time or holiday. Dabblers possess some knowledge and skills in the activity. Holidays are an opportunity for them to participate.
- *Enthusiasts*: those who regularly participate in the activity and will have expert skills and knowledge

Table 1.5 Special Interest Tourist (SIT) Typologies (Brotherton & Himmetoglu, 1997)

Dabbler	Enthusiast	Expert	Fanatic
Comfortable with other inexperienced participants	Progressed from sampling to experience	Extensive knowledge and skill in activity	Extreme levels of involvement with activity
Focus on safety in involvement decisions	Social element is an important component	Activity is central to life and focus of lifestyle	Activity dominates travel choices
Choice depends on attitude to risk, with decision likely to be fashionable or contemporary	Actively likely to be a lifestyle enhancement, not a complete change in behavior	Activity central to self-identification with equipment and challenging environment is vital	Poses a marketing challenge with specialization beyond standard packages
Needs persuasion by marketers to participate	Seeks new but not overly demanding opportunities to practice interest	Ongoing development and learning provide stimulation and challenge	Highly skilled at the activity. Own equipment and technical experience

Source: Water-Based Tourism, Sport, Leisure, and Recreation Experiences 1997, p.132.

1.2.3.4 Segmentation on the Basis of Involvement or Specialization

In the sports and adventure tourism literature, authors have recommended segmenting such markets on the basis of participants' level of involvement or degree of specialization in the activity (Garrod & Gössling, 2008)

The concept of specialization was first introduced by Bryan (1977, 1979 in Garrod & Gössling, 2008); in his work, the author provided a continuum of recreational behavior, which ranged from the general to the highly specialized, based on participants' ownership of equipment and participants' activity-setting preferences, knowledge about the activity, accumulated experience and skill level.

Initially conceived to develop a typology for trout fisherman, this approach has been used ever since in other outdoor activities such as hiking, canoeing, hunting and bird watching. This method seems more appropriate for the context of outdoor activities, as several demographic variables such as gender, income and age have proven to be insignificant in previous studies (Kerstetter, Confer & Graefe, 2001 in Garrod & Gössling, 2008)

Meanwhile, in 2006, Kim, Kim and Ritchie incorporated the specialization concept in a study of golf tourists in Korea. Six variables were used: (1) golfing stroke, (2) number of overseas golfing trips, (3) number of overseas golfing trips since 2000, (4) number of golfing magazines subscriptions, (5) age at which participants started playing golf and (6) expenditure on golf equipment since 2003. Three segments of golf tourists were identified: (1) beginners, (2) intermediate and (3) advanced.

The potential to apply this approach based on involvement/specialization is also supported by Trauer (2006), who focused on SIT market segmentation based on two dimensions: (1) the degree of involvement and (2) the amount of complexity/challenge inherent in the activity. The four segments resulting from this approach were:

- *Collectors (low involvement, with high complexity/challenge):* participants who take part in SIT activities, but do not restrict themselves to one
- *Expert/specialist tourist (high involvement, with high complexity/challenge):* the centrality of the activity is quite high in the lifestyle of these participants

- *Travelling expert/ expert recreationist*(high involvement, with low complexity/challenge): participants who are highly involved in the activity on a day-to-day basis, but who do not travel often to undertake the activity

- *Novice/dabbler* (low involvement, with low complexity/challenge): inexperienced participants who are not familiarized with the activity. The 'novice' notion denotes someone who is dabbling in both tourism and the activity

In 2005, Miller developed a Diving and Coral Reef History (DACRH) index based on Bryan's (1977) conceptual framework on specialization. Survey participants were classified into four recreational specialization groups according to the: (1) years diving, (2) total number of dives, (3) certification level, (4) maximum dive depth and (5) total number of dives in coral reefs. Each group -beginners, intermediates, enthusiasts and specialists- proved to be quite distinct from each other, providing empiric support for the application of such approach to the context of scuba diving.

In 2009, Miller et al. created a Diving Tourist Specialization Index (DTSI) based on the DACHR in a research carried in southern Mozambique. The DTSI was based on five variables: (1) years of diving, (2) total number of dives, (3) highest scuba diving certification, (4) number of countries dived and (5) ownership of book guide, dive gear and/or underwater camera. Once more, the model appeared to be suitable to fit the particular case of diving and was able to successfully categorize the diver population by a specialization level.

In addition, Woranchananant et al. (2008) categorized scuba divers who participated in a research undertaken in Surin Marine National Park in Thailand by level of experience (based on the number of logged dives) and also suggested four groups: beginners, intermediates, enthusiasts and specialists.

Based on the previous empirical support for such categorization approach, this research has adopted a scuba diver categorization based on the experience level of participants, derived from Miller et al.'s (2009) DTSI variable of total number of dives.

1.2.3.5 Segmentation on the Basis of Travel Career

Pearce and Lee (2005) proposed a travel career approach to understanding tourists' motivations, based on the thought that travel motivations tend to fluctuate over tourists'

lifespan and travel experience. Pearce (1988 in Garrod & Gössling, 2008) argues that tourist motivations exist at a number of levels and that such levels relate widely to Maslow's (1970) hierarchy of needs.

The travel career approach has not been empirically tested yet in the diving tourism context, however it holds considerable potential as a conceptual basis for the segmentation of such market (Garrod & Gössling, 2008) It seems that accumulated diving experience will be an important determinant of divers' motivations and needs, as it appears that more experienced divers seek different experiences and require different types of products and trips adapted to specific needs.

The motivations of this market, therefore, are estimated to vary considerably as the individual extends his/her 'scuba diving-career' (Garrod & Gössling, 2008)

1.2.3.6 Benefits Segmentation

Segmentations by the means of benefit sought is based on the premise that consumer decision-making is focused on the benefits or outcomes that a particular product has to offer. Different groups of consumers will be motivated by different combinations of benefits, according to the background and preferences of each (Garrod & Gössling, 2008)

Murphy and Norris (2005, in Garrod & Gössling, 2008) argue that the benefits sought by consumers are the basic reason for the existence of distinct market segments. Thus, benefit segmentation could be expected to play a major role in the planning, management and marketing of tourism, more specifically in the context of scuba diving which takes place in the natural environment.

Even though this approach to segmentation seems very advantageous, there are only a few published studies applying this method to nature-based forms of tourism (Palacio & McCool, 1997 in Garrod & Gössling, 2008)

However, two studies that focused on areas that are related to diving, have been undertaken. The first was a segmentation of the eco-tourist market in Belize by Palacio and McCool (1997 in Garrod & Gössling, 2008), and the second, by Murphy and Norris (2005), which focused on the 'activity tourism' market of Australia's Great Barrier Reef (GBR) Both

studies can be related to this context, as scuba diving is sometimes argued to be an eco-tourism activity, and is also part of 'activity tourism'.

In Palacio and McCool's (1997) study, four main benefit domains were identified: (1) the desire to escape the pressure of everyday life, (2) the desire to learn about nature, (3) the importance of keeping fit and doing healthy activities and (4) the importance of sharing experiences with family/friends. The following segments emerged:

- *Nature escapists (21.5%)*: this segment favored 'learning about nature' and 'escape' domains, and scored lower in the other two

- *Eco-tourists (18%)*: this segment scored relatively high in all domains, with highest scores on 'the desire to learn about nature' and wanting to share experiences with others. Individuals in this group were relatively young and first time visitors

- *Comfortable naturalists (33.3%)*: for this group, the scores for 'learning about nature' and 'escape' were moderate. While this segment sought nature and escape, individuals wanted to keep a certain degree of comfort. This group had the highest levels of previous experience of travel to Belize and the longest period of stay

- *Passive players (26.9%)*: this segment scored low in all benefit domains. This group was less likely to participate in activities than the other groups

Palacio and McCool (1997) concluded by remarking that the 'eco-tourist' ladder only represented 18% of the market, therefore, authors emphasized the danger of taking management and development decisions based on 'the average visitor' who probably does not even exist. Segmentation by benefits sought seems vital in order to understand tourists' diversity of needs.

Murphy and Norris (2005), on the other hand, conducted a benefit-based segmentation in the Australian GBR. Authors concluded that visitors of the GBR were seeking for different experiences. Once again, four segments were identified:

- *Dive learners (24%)*: this group was largely represented by females who wanted to learn to dive. These participants were more likely to involve in water-based activities. The main desires were to dive and learn about the reef.

- *Nature relaxers (19%)*: this group was also likely to participate in scuba diving; however nature relaxers were also motivated by the opportunity to relax and tended to be international visitors and often repeat visitors.

- *Nature family visitors (23%)*: this segment was more likely to be accompanied by children and had higher daily expenditure than the other groups. Nature family visitors emphasized relaxation above involvement in activities.

- *Nature learners (34%)*: this group also comprised largely females. Participants were more likely to visit the underwater observatory and to indicate the semi-submersible was the best experience to them.

It was implicated by the authors that a benefit-based segmentation provides accurate information on the distinctions between segments, and this could help develop, for example, different itineraries, at different prices, for each of the four groups.

As it can be concluded, the diving market is highly suitable for segmentation, since literature has shown that scuba divers differ in both motivations and behavior, suggesting that a market segmentation could be robust and insightful (Garrod & Gössling, 2008)

Four approaches to scuba diving market segmentation have been proposed. Nonetheless, authors suggest that these approaches are not mutually exclusive, meaning that a robust segmentation of the market might be better accomplished by combining elements of the different approaches mentioned before, since “there is no theoretical or practical reason why they could not be” (Garrod & Gössling, 2008, p.21)

1.2.4 Service Quality: Definitions and Concepts

1.2.4.1 Definition of Service

Service quality has been a topic of research and debate among scholars. The definition of ‘service’ needs to be understood to comprehend the concept of service quality.

Different definitions have been proposed by authors (see table 1.6) Ramaswamy (1996, p.3) defined it as “the business that takes place between a donor (service provider) and receiver (customer) in order to provide an outcome that satisfies the customer”, while Zeithaml and Bitner (1996,p.5), described it as “deeds, processes, and performances”.

Grönroos' (1990,p. 27) definition, however, is one of the most recognized within literature, defining service as "an activity or series of activities of a more or less intangible nature that normally, but not necessarily, take place in the interaction between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems".

This definition encloses three core dimensions of service: (1) activities, (2) interactions and (3) solutions to customers.

In 2000, Yong reviewed a series of existing service definitions in literature, and highlighted the following features of service, that are relevant to understanding the concept of service: (1)service is a performance that happens through interactions between the service provider and the customer, (2) there are mediating roles such as physical resources or the environment which take part in the process of service production and consumption and (3) service requires to provide certain functions to customers such as solving problems.

As a conclusion, Yong (2000,p.43) inferred that "a service, combined with goods products is experienced and evaluated by customers who have particular goals and motivations for consuming the service".

The definition of service seems to share similarities among different authors, however, as Edvardsson, Gustafsson and Roos (2005, p.113) argue, "the definitions of service are all at an abstract level and may be operationalized and interpreted in a number of different ways".

Table 1.6 Definitions of Service

Author	Topic of study	Concepts
Rawaswamy (1996)	Design and Management of Service Processes: Keeping Customers for Life.	The business that takes place between a donor(service provider) and receiver (customer) in order to provide an outcome that satisfies the customer
Parasuraman, Zeithaml, and Berry (1985)	A conceptual model of service quality and its implications for future research, Journal of Marketing	The features of service that distinguish it from goods are: intangibility, heterogeneity, inseparability in production and consumption, and perishability
Zeithaml and Bitner (1996)	Service Marketing	Deeds, processes, and performances
Gronroos (2001)	Service Management and Marketing: A Customer Relationship Management Approach(2001)	An activity or series of activities of a more or less intangible nature that normally, but not necessarily, take place in the interaction between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems This definition encloses three core dimensions: activities, interactions and solutions to customer problem
Vargo & Lusch (2004)	The four service marketing myths: Remnants of a goods-based, manufacturing model	The application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself

“Additionally, the definitions of service are changing constantly because of many factors, for example changing competitive situations that affect customer value-in-use. In summary, on a general level the service definition is a perspective. On lower abstraction level, a

general service definition does not exist. It has to be determined at a specific time, in a specific company, for a specific service, from a specific perspective”

1.2.4.2 Characteristics of Services

Among researchers, there is no consensus about the characteristics of services, and the topic still raises debate among scholars.

In 1985, Zeithaml et al. conducted a literature review and found 46 publications by 33 authors on the characteristics of service. The most frequently cited characteristics were (1) intangibility, (2) heterogeneity, (3) inseparability and (4) perishability.

Intangibility denotes the primary characteristic that differentiates a service from a good (MacKay & Crompton, 1988), in the sense that a service cannot be felt, seen, tasted or touched before it is purchased (Edvardsson, Gustafsson & Roos, 2005). Nevertheless, some authors (Bitner, 1992; Bateson, 1979; Gronroos, 1990) have claimed that physical dimensions might take part in the process of providing services, hence, both the tangible and intangible aspects are combined. In regards of this topic, a concept of “servicescape” was developed by Bitner (1992 in Edvardsson, Gustafsson & Roos, 2005) which sets a framework for describing the role of the physical aspects of the environment in which services are produced and experienced by customers. Bitner (1992) also emphasizes the key role of the physical environment (e.g. packaging) as both a facilitator and a differentiator in shaping customer behaviour. Although intangibility has been recognized in literature as an essential characteristic of a service, it is important to recall that the ‘tangibles’ (e.g. equipment, buildings, physical facilities and communication material) have been identified in service-quality research as a key quality dimension (Zeithaml et al., 1990) and have proven to be an important factor in delivering services, together with the other service characteristics (Lovelock, 1992).

Heterogeneity (or non standardization) suggests that the nature of service may vary quite often, as services generally (but not always) involve human interactions, and each customer is different (Klassen, Russell & Chrisman, 1998 in Williams & Buswell, 2003). Lovelock and Gummesson (2004) suggested that heterogeneity can also be referred to as ‘variability’, since the establishment of standards is challenging when behavior and performance vary from time to time. Correspondingly, some criticism has arisen to this matter, since heterogeneity is not

universal to all services and some of them can be standardized (Vargo & Lusch,2004) such as Internet booking systems or ATM machines. Therefore, as Lovelock and Gummesson (2004,p.21) state, heterogeneity “should not be considered as being a distinct characteristic that sets all services apart from goods”

The inseparability characteristic denotes inseparability in production and consumption (Parasuraman, Zeithaml & Berry,1985) This concept requires that “customers to a greater or lesser extent, need to be present when the service is being performed” (Williams & Buswell, 2003,p.85)

Lovelock and Gummesson (2004) however, argue that many services are produced largely or in part, independently of the customer. Some services do not even involve the customer directly (e.g. dry cleaning), meaning that production and consumption do not need to be simultaneous in all services (Wright,1995)

Lastly, perishability in services denotes that services cannot be stored. Grönroos (1988) highlighted the lack of transferable ownership to this characteristic of service, because although the tangible element can be transferred (e.g. a ticket to an opera), the experience cannot be. Edvardsson, Gustafsson and Roos (2005, p.114) add that a “service is produced, delivered, and consumed, but the favorable (or unfavourable) customer experience is stored in the customer’s long-term memory for years, and may direct perceived quality and future behavior”

Edvardsson, Gustafsson and Roos (2005) also suggested that the characteristics of services should not be generalized to all services, and should be used in situations where certain characteristics are relevant, useful and fruitful.

1.2.4.3 Conceptualization of Service Quality

The topic of service quality has long been researched in literature, although there is no general agreement in neither the conceptualization of service quality nor the methods for measuring it (Wisniewski, 2001 in Shanin, 2005; Cronin and Taylor, 1992) in part because scholars have focused on different aspects of service quality.

Authors have previously studied service quality from different perspectives, resulting into the establishment of two major leading schools in literature: (1) the Nordic or Scandinavian School, with Grönroos and Gummesson as the main authors and the (2) North

American School, lead by Zeithaml, Parasuraman and Berry (Williams & Buswell,2003; Chang, Chen & Hsu,2002; Shonk,2006)

In conceptualizing service quality, one definition that is commonly used defines service quality as the extent to which a service meets customers' needs or expectations (Lewis and Mitchell,1990; Dotchin and Oakland,1994; Asubonteng et al.1996; Wisniewski and Donnelly,1996 in Shanin,2005) Grönroos'(1984, p.37) definition of service quality described it as "the outcome of an evaluation process where the consumer compares his expectations with the service he perceived he has received".

Mackay and Crompton (1988) offered a similar definition which denoted service quality as the "relationship between what customers' desire from a service and what they perceive that they receive" (cited in Prabakaran, 2008, p.144) Indeed, the traditional notion of service quality is viewed most commonly as the customer's perception of service excellence (Chang,Chen & Hsu,2002), as Zeithaml (1987 in Parasuraman & Zeithaml,1988) affirms, perceived quality is the consumer's judgment on a company's overall excellence or superiority.

Parasuraman et al. (1985) added that service quality can also be defined as the difference between customer expectations of both service and perceived service. Hence, quality is determined by the customer's impression of the service provided (Berry, Parasuraman, & Zeithaml, 1988; Parasuraman, Zeithaml, & Berry, 1985) If expectations exceed performance, then perceived quality is less satisfactory, resulting in customer dissatisfaction. This definition also suggested that customers form a perception of service quality based on the actual service delivered and personal expectations based on previous experiences, word of mouth and personal needs (Williams & Buswell,2003) This definition has been supported by other scholars such as Bitner and Hubbert (1994, p.77) who defined quality as "the consumer's overall impression of the relative inferiority/superiority of the organization and its services".

1.2.4.4 The Dimensions of Service Quality (SQ)

Service quality is a concept that has aroused considerable interest and debate in the research literature due to the many difficulties in both defining and measuring it, with no overall consensus emerging on either matters (Wisniewski, 2001 in Shanin, 2005) In addition, service quality is generally believed to be a multi-level construct including multiple dimensions which make up each level (Shonk, 2006) One of the main issues of debate lies on which

dimensions to take in count in order to measure service quality. In regards of this matter, many suggestions have been offered (see table 1.7) which will be discussed subsequently.

The Nordic School, for example, is based on a two-dimensional model proposed by Grönroos (1984) The author suggests that perceived service quality is the result of a consumer's view of a bundle of service dimensions, which are either technical or functional in nature. Technical quality refers to *what* the customer actually receives, meaning the outcome of service performance, while functional quality relates to customers' subjective perceptions of *how* the service was delivered.

In 1994, McDougall and Levesque, extended Grönroos model with a third dimension of 'physical environment', proposing an adapted three-factor model of service quality which consisted of (1) service outcome, (2) service process and (3) physical environment.

Table 1.7 Dimensions of Service Quality

Yr.	Author	Research topic	Dimensions of Service Quality
1983	Lehtinen and Lehtinen	Customer Oriented Service System	Process quality, output quality
1984	Gronroos	A service marketing model and its implications	Technical quality, functional quality
1987	Chelladurai, Scott and Haywood-Farmer	Scale of Attributes of Fitness Centers	Primary professional, primary consumer, primary peripheral, primary facilitating goods, secondary services and goods
1988	Parasuraman, Zeithmal and Berry	SERVQUAL – Service Quality measurement instrument	Tangibles, reliability, responsiveness, assurance, empathy
1989	Edvardsson, Gustavsson and Riddle	An Expanded Model of the Service Encounter with Emphasis on Cultural Context, University of Karlstad, Sweden	Technical quality, integrative quality, functional quality, outcome quality

Table 1.7 Dimensions of Service Quality (Continue)

Yr.	Author	Research topic	Dimensions of Service Quality
1990	Mackay and Crompton	REQUAL method to evaluate the quality of recreational services (based on SERVQUAL)	Tangibility dimension, reliability dimension, responsiveness dimension, assurance dimension, service responsibility, service product dimension
1991	Lehtinen and Lehtinen	Two approaches to Service Quality dimensions	Physical, interactive, corporate
1994	Rust & Oliver	Service Quality: New Directions in Theory and Practice Center for Environmental and	Service environment, service delivery, service product
1996	Howat	Recreation Management (CERM) scale- to measure customer quality in sports and leisure centers (15 items)	Core services, staff quality, general facilities, secondary services
2001	Brady and Cronin	Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach	Physical environment quality, interactions quality, outcome quality
2004	Ko and Pastore	Model of service quality in the recreation industry	Program quality, interaction quality, outcome quality, physical environment quality

In 1983, Lehtinen and Lehtinen proposed a two-dimensional approach to SQ, consisting of (1) process quality and (2) output quality. Process quality is the customer's judgment of his/her participation in the process of service production, whereas output quality refers to the consumer's appraisal regarding the result of service (or outcome)

Hereinafter, Lehtinen and Lehtinen (1991) proposed a three-dimensional construct of SQ, consisting of (1) physical quality, (2) interactive quality and (3) corporate quality. The first one refers to the quality of materials and facilities and is representative to Grönroos'(1984) technical and functional quality. The second dimension involves the interactions which take place during the service delivery between (a) the customer and service personnel, (b) the customer and other customers and (c) the customer and equipment (e.g. technology) Lastly,

the corporate quality dimension is related to the company's image in the customer's mind, and is representative of Grönroos (1984) notion of corporate image.

Dabhokar et al. (1996), however, proposed a hierarchical model which describes SQ as a level and as a multidimensional construct, which consists of (1) the overall consumer perception of SQ, (2) a dimension level which includes physical aspects, personal interaction, reliability, policy and problem solving and (3) a subdimension level which recognizes the versatile nature of SQ dimensions.

Furthermore, Brady (1997) developed another model of perceived SQ by combining Dabholkar et al.'s (1996) and McDougall & Levesque's (1994) models. This resulted in a hierarchical, multidimensional model which incorporated three dimensions: (1) interaction quality, (2) physical environment quality and (3) outcome quality. Interaction quality refers to the customer's perception in regards of the interpersonal interactions during the service delivery process, and involves three subdimensions: (a) attitude, (b) behavior and (c) expertise. The physical environment quality puts emphasis on the influence that physical facilities and environment have on customer's perceptions, and comprises (a) ambient conditions, (b) design and (c) social factors. Output quality, on the other hand, involves the customer's perception of the outcome of the service after it has been delivered and consists of (a) waiting time, (b) tangibles and (c) valence.

In the industry of leisure and tourism, service quality dimensions might take a slightly different perspective, as some leisure and tourism products have experiential properties that must not be overlooked (Williams & Buswell, 2003) and that differ from other products in the service industry, in the sense that the provision of service may be an experience altogether.

Previous research on the sport tourism field has suggested a variety of service quality dimensions which have been adapted to each specific case of study. Chelladurai and Chang (2002) for example, suggest three targets of service quality that should be evaluated in sport services: (1) the core service, (2) the physical context and (3) the interpersonal interactions held during the service performance. This approach can be compared to Parasuraman et al.'s (1985) dimensions: the core service notion is similar to the "reliability" dimension, while the physical context can be leveled to the "tangibles" dimension, and lastly, interpersonal interaction

dimension, which refers to employee's behavior, courtesy, care, support, help and attention, is described as similar to the dimensions of "responsiveness, assurance and empathy"

Ko and Pastore (2004) in turn, proposed a four-dimensional model of SQ in the recreation industry, consisting of (1) program quality, (2) interaction quality, (3) outcome quality and (4) physical environment quality.

Kim and Kim (1998) found that, on identifying market segments within sports centers in Seoul, Korea, based on attitudes towards service quality, the most important factors were: (1) ambiance, (2) employee attitude, (3) employee reliability, (4) information, (5) personal consideration, (6) price, (7) privilege, (8) security, (9) stimulation, (10) program and (11) convenience.

The most popularized conceptualization of service quality, however, is Parasuraman, Zeithaml and Berry's (PZB, 1985) SERVQUAL model dimensions. Initially composed of ten dimensions -tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding-, these components were proposed to be used to assess service quality in a variety of service sectors. The model's dimensions were finally reduced to five (three original dimensions and two combined dimensions), which included: (1) reliability, (2) responsiveness, (3) tangibles, (4) assurance and (5) empathy, which have been described by the authors as follows (see figure 1.2):

Figure 1.2 SERVQUAL Dimensions by Parasuraman, Zeithaml and Berry (PZB, 1985)

Tangibles:	Physical facilities, equipment, and appearance of personnel
Reliability:	Ability to perform the promised service dependably and accurately
Responsiveness:	Willingness to help customers and provide prompt service
Assurance:	Knowledge and courtesy of employees and their ability to inspire trust and confidence.
Empathy:	Caring, individualized attention the firm provides its customers

Source: Extract of Parasuraman, Zeithaml & Berry's (1988, p.23)

Although it is evident that SQ dimensions may not be generalized to all service providers, nor to all industries, literature shows there is more or less, a common understanding and agreement in the sense that in general, service dimensions seem to comprise the service itself, the customer-provider interaction and also consider the importance of physical or tangible element whilst performing a service.

1.2.4.5 Service Quality (SQ) And Customer Satisfaction (CS)

Considerable confusion and disagreement exists in regards of the relationship between service quality and customer satisfaction (Burn et al.2003 in Shonk, 2006; Cronin & Taylor,1992; Teas,1993; Parasuraman et al.1988) The lack of a definitive definition of quality gives an indication of the difficulty and complexity of measuring customer satisfaction and therefore setting service standards (William & Buswell, 2003)

The definitions of quality that are considered pertinent to the service industry all place the customer as central in the evaluation of the service or products being delivered (Crosby,1979; Parasuraman et al.,1985, Peters, 1987; Garvin, 1988; Juran, 1988; Feigenbaum,1991; Wyckoff, 1992 in Williams & Buswell,2003)

Crompton and MacKay (1989) stated that satisfaction and service quality are not the same, suggesting that "satisfaction is a psychological outcome emerging from an experience, whereas service quality is concerned with the attributes of the service itself" (cited in Williams & Buswell, p.59)

In the service quality literature, quality is viewed as an attitude, as it is a form of evaluation of a product (Olshavsky,1985 in PZB,1988) Parasuraman's et al. (1985) focus group sessions carried to determine the dimensions of service quality suggested that the notion of service quality is an overall evaluation, similar to an attitude.

As Oliver (1981, p.27) suggested, satisfaction is a "summary psychological state resulting when the emotion surrounding disconfirmed expectation is coupled with the customer's prior feeling about the consumption experience", and it may occur at any point in the purchase process (Giese & Cote, 2000;Oliver 1981)

This definition is supported by other scholars (Howard & Sheth, 1969; Hunt,1979 in PZB,1988) who reinforced the notion of the transaction-specific nature of

satisfaction, which differentiates it from attitude. Oliver (1981,p.42) summarizes this nature as follows: “Attitude is the consumer’s relatively enduring affective orientation for a product, store or process (e.g customer service) while satisfaction is the emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption-specific. Attitude is therefore measured in terms of more general to product or store and is less situational oriented”.

Hence, service quality also differs from satisfaction as perceived service is a global judgment - or attitude- relating to the superiority of service, whereas satisfaction is related to a specific transaction (PZB,1988) From this perspective, Chang,Chen and Hsu (2002) suggested that quality can be viewed as primarily long-term, and satisfaction as primarily short-term.

Previous research (PZB,1985; Randall & Senior,1996) suggest that customers may be satisfied with a specific service, yet feel the company or firm is not of high quality. Hereinafter, the two terms seem to be related and service quality researchers (Parasuraman et al.,1994) have inferred that the direction of causality is from CS to SQ and not the opposite.

Nevertheless, this issue has arised a lot of criticism and debate, as the causality from CS to SQ is questioned by authors (Cronin & Taylor, 1992; Teas,1993; Reidenbach and Sandifer-Smallwood 1990; Woodside, Frey, and Daly 1989; Bitner,1990; Bolton & Drew,1991), as other studies have modeled SQ as an antecedent of CS (PZB, 1994) However, “writers are convinced that there is an interrelation between service quality and customer satisfaction” (Williams & Buswell,2003,p.60) Measuring satisfaction has also been subject of discussion as authors have not agreed on the terms under which customers’ assess satisfaction.

The concept of expectations also differs in both CS and SQ literature. For the first, expectations are interpreted as predictions about what is likely to happen during a transaction (Oliver,1981; PZB,1985), also known as the *will expectations* (Boudling et al.,1993 in Lezhava,2007) which reflect anticipated performance(Shonk,2006) while in SQ literature, expectations represent consumers’ desires or wants –what they feel a service provider should

ideally offer rather than would offer (PZB,1985)- named *should expectation* (Boudling et al.,1993 in Lezhava,2007)

This distinction between CS and perceived SQ is of significant importance for companies, as managers need to know whether the main business objective is to have satisfied customers or to provide the maximum level of perceived service quality.

Much of the interest and attention given to the study of service quality is motivated by the idea that it will increase CS and consequently lead to an improved financial performance (Babikas et al.2004 in Shonk, 2006) As Milbourn et al. (1998) suggested, the economic success of companies relies highly in the quality of service that is offered, and fluctuate alongside. Authors also reported that a dissatisfied customer rarely complains, instead, he/she will not hesitate to look for a new service provider.

Across industries it is well known that service organizations which consistently deliver high standards of service, will receive repeat customers. More importantly, satisfied customers will account for increased profits (Milbourn,1998) and will also contribute to the company's reputation as a consequence of word of mouth.

1.2.5 Understanding Service Quality in Leisure and Tourism: Linking SQ to the Scuba Diving Industry

Backman and Veldkamp (1995 in Prabakaran et al.,2008) state that service quality is an essential factor that involves a service provider's ability to attract more customers.

The leisure and tourism industry is no different from any other industry in that the main strategic issue for all organizations is achieving customer-perceived service quality. The leisure and tourism industry is perceptual in nature and based on human interactions, therefore it differs from other industries and sectors due to the nature of its markets, which are extremely diverse and are becoming more and more complex, sophisticated and differentiated among each other (Williams & Buswell,2003)

Laws (1995 in Williams & Buswell,2003), suggested that travelers are becoming increasingly familiar with destinations, forcing tourism authorities and operators to continuously upgrade facilities and deliver high quality services. Correspondingly, customers in leisure

markets are also becoming more experienced, notably in terms of benchmarks, and are more apt to make comparisons based on previous experiences.

The relationship between leisure and tourism comes mainly from the perspective in which the tourism system is composed of (1) travel, (2) accommodation and (3) participation in activities at the destination (Williams & Buswell,2003) These activities, indeed, fall under one of the terms that are related to leisure which are the following: residual time, activity, function, a state of mind, or an experience (Williams & Buswell,2003)

“Leisure activities can range from purpose-built facilities such as leisure centers to theatres to resources such as national parks or urban open space, which may not involve a service encounter with staff, or mixed developments that may combine retailing with leisure opportunities and environments” (Williams & Buswell,2003,p.5)

Although the leisure and tourism industries fulfill the normal features of service management, both industries contain particular dimensions that represent a challenge for the performance of service quality. Control over the overall experience might not be in the hand of the service provider, as many other actors are involved in the process, such as tourism authorities, travel agents, tour operators, thus, emphasizing the interest of the industry in maintaining and assuring only the highest standards of quality in the services it provides.

Features of the tourism and leisure products must be considered in managing service quality. Although such features have been pinpointed in literature at a general level for tourism and leisure(Williams & Buswell,2003), these can also be related to this research, as attributes concern (a) the carrying capacity of facilities and resources, (b) seasonality, (c) safety, (d) the environment, (e) the packaging of the product (e.g. brochures) and (f) technology (e.g. Internet)

“There are several reasons for the significance of service quality to the leisure and tourism industry, which are concerned with the competitive edge, social trends, consumer behavior and demand, and technology” (Williams & Buswell,2003,p.5) Indeed, issues such as new social structures, hyper reality (linked to imagery, symbolism and technology) (Rojek,1993), increasing expectations, value for time and money, and consumer behavior, are making it quite challenging for industries to cope with the changing environments of the market.

Tian-Cole and Crompton (2003) suggested that managers in tourism aim to improve the quality of services and the level of customer satisfaction in the belief that this effort will create loyal visitors. Loyal visitors will return and will recommend both the destination and the service provider to others.

Sparks and Westgate (2002) suggested that service failure can have negative effects in an organization since customers can easily switch to a different provider if a failure in service quality is experienced. However, among customers who experience service problems, those who receive satisfactory resolution are more likely to remain loyal to the service provider, hence, the importance of maintaining high levels of service quality at all times, and understanding the existing gaps in the service that has been delivered.

The literature review supports the thought of service quality having a direct influence on an organization's success or failure, as quality has been "recognized as a strategic tool for attaining operational efficiency and improved business performance"(Jain & Gupta, 2004,p.25) This is true for the service industry in general, and correspondingly to the dive industry as well, as scuba diving takes part in both the tourism and leisure industries, as it involves a marine recreational activity that is carried out by individuals who usually travel long distances to specific dive sites (Tabata, 1992) Therefore, the dive industry and specially dive center operators are highly concerned by the issues regarding service quality and its measurement, as demarking a service among the fierce competition in the market is of high importance to companies.

1.2.6 Measuring Service Quality: The SERVQUAL Instrument

In the context of service industries, quality has been conceptualized divergently and based on these different conceptualizations, alternative scales for measuring service quality have been proposed (Brady,Cronin & Brand, 2001; Cronin & Taylor,1994; Dabholkar, Sheperd and Torpe, 2000; Parasuraman, Zeithaml & Berry,1985,1988)

One of the most popular and applied methods used for measuring service quality is Parasuraman's et al. (1985) SERVQUAL model. This approach relies on the perspective of quality in terms of characteristics as to how the service is delivered (Brady & Cronin, 2001),

therefore it involves customers' perceived quality which is viewed as "the degree and direction of discrepancy between consumers' perceptions and expectations" (Parasuraman et al., 1988, p.17)

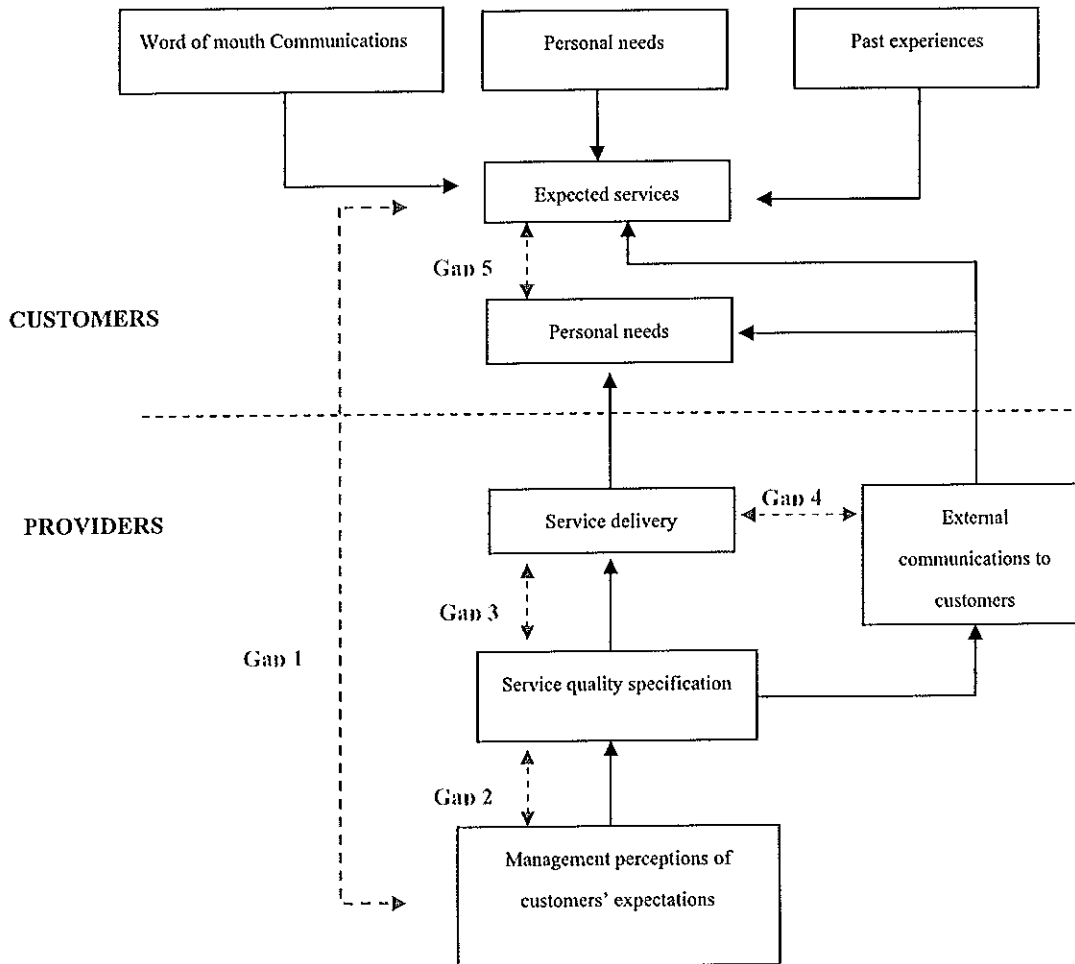
The SERVQUAL model is based on the concept that services differ from goods, due to the characteristics of intangibility, heterogeneity, inseparability and perishability. This approach also relies on a disconfirmation paradigm, in which "customers judge service delivery via the formula that customers' perceptions should equal or exceed customers' expectations". (Williams & Buswell, 2003, p.178) When perceived or experienced service is less than the expected service, it results in less than satisfactory service quality, but when perceived service is equal or higher than the expected service, the evident inference is that service quality is more than satisfactory (Jain & Gupta, 2004)

In this sense, the SERVQUAL model assumes quality is the result of gaps between a customer's expectations and the perceptions of actual service performance. Hence, on the basis of these concepts, Parasuraman et al. (1985) developed a gap model of perceived service quality (see figure 1.3) The five gaps incorporated in the model are the following:

- 1) the gap between management's perceptions of consumer expectations and customer's expected service
- 2) the gap between management's perceptions of consumers' expectations and the translation of those perceptions into service-quality specification
- 3) the gap between perceptions of service-quality specification and service delivery
- 4) the gap between service delivery and external communications to consumers, and
- 5) the gap between customer's expectations of services and actual service performance

Although both academics and practitioners have extensively used the SERVQUAL model since its creation in the mid-1980's and support Parasuraman et al's. (1985) methodology, such as Brown and Bond (1995, cited in Shanin, 2005, p.3) who commented that "the gap model is one of the best received and most heuristically valuable contributions to the services literature", the model however, has been target of criticism among authors.

Figure 1.3 - SERVQUAL Gap Analysis Model by Parasuraman, Zeithaml and Berry (1985)



Source: Zeithaml et al.1990 in Williams & Buswell (2003:???)

However, critics have mainly been "concerned with the design and reliability of the instrument rather than its implementation" (Williams & Buswell, 2003, p.181) and have included some of the following:

- Carmen (1990) suggested that SERVQUAL dimensions are insufficient to meet SQ measurement needs
- Teas (1993) questioned the instrument's discriminant validity that may cause the "perception-minus-expectation" measurement to be a misleading indicator of customers' perceptions of SQ

- SERVQUAL is not appropriate for all sectors (Finn & Lamb,1991 in Chang, Chen & Hsu,2002; Scott & Shieff,1993; Crompton et al.,1991) since the dimensions of SQ change with the type of service (Crompton & MacKay,1989)
- The disconfirmation paradigm (Expectations-Perceptions) as a basis to measure SQ has been questioned as Cronin and Taylor (1992) affirm there is lack of theoretical and empirical support for the perceptions-expectations gap conceptualization of SQ
- There is disagreement in whether SERVQUAL should measure the will expectations or the would expectations of service performance
- There is not a clear distinction between CS and SQ and the relationship between each other is uncertain (Cronin & Taylor, 1992; Rust & Oliver,1994) No agreement has been reached in whether CS results from SQ , vice versa or neither (Shonk,2006)
- SQ does not affect purchase intention, contrary to CS which seems to have a positive effect on it (Cronin & Taylor, 1992)
- SERVQUAL does not measure neither SQ nor CS, but rather it “appears at best an operationalization of only one of the many forms of expectancy disconfirmation” (Cronin & Taylor,1994, p.129)

The most intense criticism has come from Cronin and Taylor (1992, 1994), who created a performance-based measurement scale called SERVPERF, as authors believed that measuring expectations is irrelevant in order to measure SQ. This scale, based on Parasuraman et al.'s (1985) SERVQUAL model, discarded the expectation component (E) and used the performance component (P) only, comprised of 22 items. According to the authors, who tested the instrument in four different industries, the SERVPERF scale is a better measurement method, as it explains more variance in the overall SQ measured through a ‘performance-only’ scale.

Nonetheless, Parasuraman, Zeithaml and Berry (PZB) (1994), have responded to several of these critics arguing that:

- The gap conceptualization has been supported by several authors (Grönroos 1982; Lehtinen & Lehtinen, 1982; Sasser,Olsen & Wyckoff,1978; Bolton & Drew,1991 in PZB,1994), giving strong consistency and theoretical support for this matter
- Cronin and Taylor (1992) based critics and arguments on studies which focused on the roles of expectations, performance and disconfirmation in the formation of

attitudes, while SERVQUAL was conceived to “measure perceived SQ- an attitude level- at a given point in time, regardless of the process by which it was formed. It is a tool designed to obtain a reading of this attitude level, not a statement about how the level was developed” (PZB,1994, p.112)

- The distinction and causality between CS and SQ is characterized by confusion, as it is a complex issue. Nevertheless, in the past, authors (Carman, 1990; PZB, 1988) have distinguished between the two constructs according to the level at which the two compounds are measured: CS is considered as a transaction-specific assessment (consistent with the CS literature), while SQ is a global assessment (consistent with SQ literature) “Based on this distinction, researchers have posited that an accumulation of transaction-specific assessments leads to a global assessment (i.e., the direction of causality is from CS to SQ)” (PZB,1994, p.112)

- SQ measurements instruments that include customer expectations provide richer information than those that focus on perceptions only, such as SERVPERF. In addition, executives in companies that have switched to a disconfirmation-based approach have provided positive feedback as the information generated by this measure has had a greater diagnostic value for the organization (PZB, 1994)

A recent study done by Jain and Gupta (2004), in assessing the diagnostic power of both SERVPERF and SERVQUAL, provided a clearer idea of the use of each instrument. Jain and Gupta (2004) carried a survey among 400 consumers of fast food restaurants in New Delhi, India; the researchers found the SERVPERF scale to offer a more convergent and discriminant valid explanation of the SQ construct. However, the scale was found to be deficient in its diagnostic power. It is the SERVQUAL scale which outperformed the SERVPERF scale, since it possesses a “higher diagnostic power to pinpoint areas for managerial interventions in the event of service quality shortfalls” (Jain & Gupta, 2004, p.25)

The authors also suggested that SERVPERF should be employed for assessing the overall service quality of an organization. In addition, the authors argued that this measure should be the preferred instrument if one is interested in undertaking SQ comparisons across service industries.

SERVQUAL, in contrast, should be the preferred instrument when the research objective is to pinpoint areas of deficiency within a company and identifying service shortfalls

from the customer's perspective. The information provided by SERVQUAL is therefore very useful and pertinent in planning managerial intervention, as this scale is superior in its diagnostic power (Jain & Gupta, 2004)

In the fields of tourism, sport and leisure, the SERVQUAL instrument has been used as a measuring tool by various academic writers (Crompton & MacKay, 1989; Fick & Ritchie, 1991; Chelladurai, 1992; McDonald et al., 1995; Frochot, 1996; Tribe & Snaith, 1998; Kim & Kim, 1998; O'Neill et al., 2000; Crilley et al., 2002; Ko & Pastore, 2004)

Crompton et al. (1992) argued that SERVQUAL cannot be used to evaluate service quality in the different types of recreation services and therefore suggested the need to develop a new scale to fit tourism or other recreation services sectors, hence, the reason why there are to date, so many adapted versions of the SERVQUAL model (see table 1.8)

Table 1.8 Application of the SERVQUAL Instrument and Model's Adaptations within the
Tourism and Leisure Industry

Application	References	Model's name
Recreation	MacKay and Crompton (1988)	REQUAL
Travel and tourism	Fick and Ritchie (1991)	
	Knutson et al. (1990)	LODGESERV
	Saleh and Ryan (1991, 1992)	
Hotels	Richard and Sundaram (1994)	
	Akan (1995)	
	Gabbie and O'Neil (1997)	
	Ekinici et al. (1998)	
Resort	Tribe and Snaith (1998)	HOLSAT
Fast food industry	Johns and Tyas (1997)	
Restaurants	O'Neill (2001)	DINESERV
US recreational services	Hamilton et al. (1991)	
Heritage sites	Frochot (1996)	HISTOQUAL
Leisure and tourism facilities	Williams (1997)	

Source: Adapted from Williams & Buswell, p.178

In regards of the present research, scuba diving is an important and growing component of tourism around the world, with people travelling extensively to visit wrecks, coral reefs and caves (Tabata,1992) Regardless of this, little attention has been focused in relation to the dive industry as an important business in the tourism industry, catering for a heterogeneous market of scuba divers worldwide.

In literature, scuba diving has been studied mainly (but not extensively) under ecological or motivational perspectives, while research on the scuba diving consumption experience from a tourism perspective is scarce; only one similar study has been done by O'Neill, Williams, MacCarthy and Groves (2000) in trying to assess the service quality of dive tour operators in Western Australia.

Aiello (1998), for instance, emphasized the diversity of the tourism industry in Australia's Great Barrier Reef, offering products and services such as day trips, chartered diving and live-aboard operations, and highlighted the importance of tour operators service performance to divers' satisfaction.

Indeed, when all or most of the operators in an area provide a similar range of activities and products, the differentiation process becomes particularly challenging (O'Neill, Williams, MacCarthy and Groves, 2000) Therefore, there is an urge to develop competitive advantages or "value added", which can be accomplished by delivering the highest quality of service.

The information provided through SERVQUAL can "assist a manager in identifying cost-effective ways of closing service gaps and of prioritizing which gaps to focus on" (Shanin,2005, p.1), and establishing clear standards of service delivery.

Therefore, the use of the SERVQUAL scale seems highly appropriate for the context of this research, which aims to identify the existing shortfalls in service quality performed by dive centers and to pinpoint the major areas of underperformance, in order to provide suggestions and recommendations on future managerial intervention to decrease –or eradicate– the gaps between customers' expected SQ and perceived SQ.

1.2.7 Sustainable Diving Tourism: A Management Challenge

In the context of tourism, where sustainability has become a top priority in terms of three main pillars – economic, environmental and social- (Brundtland, 1987 in Townsend, 2008), it is in the interest of the dive industry to take action in regards of providing a sustainable development.

Hence, at present, dive industry managers and administrations face an increasing demand in ensuring (1) economical growth, (2) optimal environmental conservation and resource management, and (3) social responsibility.

As the industry has a strong presence in developing countries, the need to protect fragile ecosystems has become a key issue of diving tourism, as well as the industry's potential to contribute to the local community and reduce poverty.

Dive tourism, as any form of tourism, may bring cultural change, conflict over use of resources (e.g. fishery), among others (Townsend, 2008) Furthermore, the involvement of the local community seems difficult in countries where language, economic and educational barriers exist, making it in general, an industry run by foreigners.

Consequently, dive businesses have the responsibility to ensure the company's presence brings economic and social benefits rather than negative consequences (Townsend, 2008), and creating good relations with local people is important.

Additionally, working towards the long term in the matter of marine life conservation should be a priority in the agenda. Today, factors such as bleaching, climate change, natural disturbances, poor land-use practices and agriculture are some of the main threats causing the deterioration of coral reefs (Townsend, 2008) and consequently of the marine life. Being aware of the value of coral reefs (Berg et al., 1998; Dixon et al., 1993; Fernandes, 1995; Riopelle, 1995), it is in the interest of the dive industry to cooperate and contribute to reduce diver- induced damages, but also to increase awareness among the local community, divers in general and diving tourists, while participating in and fostering environmental projects.

1.3 Aims And Objectives Of The Study

The aim of this research is to explore the demand of the scuba dive market in Phuket and to collect information on scuba diving tourists' expectations and perceptions of service quality performed by diving centers, based on an Importance/Performance construct using the SERVQUAL instrument (Parasuraman et al., 1985) Objectives of the study:

- 1) To generate a market profile of scuba diving tourists visiting Phuket using a mixed approach consisting of demographic information, level of experience, travel behaviour and motivations to dive
- 2) To measure scuba divers' expectations/perceptions of dive centers' service quality performance

1.4 Significance of the Study

Given the significance of the diving market in terms of rapid growth, number of divers worldwide and the future projections of the industry, it is evidently important to study this topic which seems to be of so little interest to the tourism community.

Only a few sources of literature on diving tourism have appeared in journals and books and although the topic of diving has been included in previous research and publications, it is still far from having been deeply studied, analyzed and conceptualized.

Available information and previous studies focus mainly on the environmental impacts of marine tourism (including diving and snorkeling) and are quite diverse, since results differ according to the focus, depth and precision of the investigation.

As the popularity of diving is growing at a fast pace around the world and represents a market target that can be further developed, this is an opportunity for countries such as Thailand to reinforce its destination image as a top dive site and to contribute to the development of the industry, as it is predicted to continue expanding in the future as diving will become a major activity in 2020 (WTO, 2001)

As dive destinations are each different and unique, it is imperative to study Phuket's dive industry particularly, due to the differences in marine life and geographic characteristics which differ from other sites in the world and which represent Phuket's diving industry potential to

attract scuba divers, among other reasons such as divers' motivations and behaviors, which also affect scuba diving tourists' decision-making. These topics will be further explained in the literature review.

The outcomes of this study will contribute to:

- a) Provide dive operators with a market profile that is specific to Phuket's dive industry
- b) Provide relevant information on dive centers' performance of service quality as perceived by divers (customers) and on the possible shortfalls that might exist in the service delivery
- c) Give recommendations and suggestions on how to improve the dive experience and diving centers' service quality and consequently, meet scuba divers' expectations

1.5 Scope of the Study

This study focuses on scuba diving tourists who consume scuba diving services (day trips and live-aboard trips) in diving centers which own at least one boat and are located in Phuket, Thailand. The study covers key issues related to:

- a) Divers' demographic profile, consisting of: gender, age, marital status, income, nationality, education
- b) Diving history, which includes: number of total dives, number of dives within the last twelve months, certification level, years of certification, intention to upgrade scuba certification
- c) Motivations to dive, consisting of fifteen items that involve the following components: competency/mastery, social component, intellectual component, relaxation, escapism
- d) The dive experience in Phuket/Andaman, conformed of: motivations to dive in Phuket, dived sites in Phuket/Andaman, type of diving activities overtaken, previous diving experiences in Thailand, overall dive satisfaction and importance of external elements during the dive experience
- e) Travel behavior of scuba divers: length of stay, accommodation type, purpose of travel, other activities overtaken during the holiday, type of diving activities

overtaken, pre-booking and booking of dive trips, travel expenditure, intention to dive again in Phuket/Andaman

f) Divers' ecological implication and awareness

g) The gaps between the importance/performance of dive center's service quality as perceived by scuba divers and the overall satisfaction rate of scuba divers

1.6 Definition of Key Terms

a) **SCUBA diving:** The word SCUBA is the acronym for Self-Contained Underwater Breathing Apparatus. Scuba diving involves attaining great ocean depths with the aid of a cylinder containing high-pressure air and a regulator supplying the diver with it at ambient pressure (Garrod & Gössling, 2008)

b) **Scuba diving tourism:** Scuba diving tourism involves individuals travelling from the usual place of residence, for no more than one year and staying at least one night away, and actively participating in scuba diving activities

c) **Recreational diving:** Diving to prescribe limits, including a depth no greater than 40 meters, using only compressed air and never requiring a decompression stop. Recreational scuba diving, as taught by national certifying agencies, is defined as diving that: (1) uses only compressed air as the breathing mixture, (2) is never done solo, (3) does not exceed a depth of 130 feet, (4) has a depth-time profile not requiring a decompression stop; if necessary one can ascend to the surface without stopping, (5) does not require specialized training beyond the basic open water course (Scuba Diving Portal)

d) **Technical diving:** Diving other than conventional commercial or recreational diving that takes divers beyond recreational diving limits. It is further defined as an activity that includes one or more of the following: (1) diving beyond 40 meters/130 feet, (2) required stage decompression, (3) diving in an overhead environment beyond 130 linear feet from the surface, (4) accelerated stage decompression and/or (5) the use of multiple gas mixtures in a single dive (PADI, 2010)

e) **Service quality:** The discrepancy between consumers' perceptions of services offered by a particular firm and the expectations about firms' offering services (Parasuraman, Zeithaml and Berry, 1985)

CHAPTER 2

METHODOLOGY

Located in the Andaman Sea, Phuket is a popular destination for scuba divers, and benefits from a positive destination image, as it has been recognized as a base for scuba diving operators and a door to the Andaman sites, known to be among the top rated dive spots in the world. Research was conducted during Phuket's high season for diving, which takes place between October and April. Data was collected during a two-month period between the 9th of February, 2010 to the 10th of April, 2010.

2.1 Population, Sample Size and Selection

2.1.1 Population

The sample population consisted of domestic and/or international scuba diving tourists, who are taking a day-trip or a liveaboard trip with dive centers operating in Phuket. Each year, 300,000 divers come to Phuket, as stated by the Tourism Authority of Thailand (TAT, 2008). Hence, this number represents the population size of this research. In addition, dive center managers, a representative of the Phuket Marine Biological Center and Green Fins Thailand Coordinator were approached in order to carry in-depth interviews.

2.1.2 Sample Size

Based on the number of divers who visit Phuket, the Yamane formula was used to obtain the sample size of this study.

The application of the formula resulted in a sample size of 399 scuba divers.

Yamane formula values:

n = Sample size

N = Population size

e = Significance level

$$n = \frac{N}{1 + N(e)^2} \rightarrow n = \frac{300.000}{1 + 300.000(0.05)^2} = 399.46$$

2.1.3 Selection of Dive Centers in Phuket

A list of registered dive operators in Phuket was provided by the Tourism Authority of Thailand (TAT), which consisted of 105 existing companies at the time of the release of the list in 2008.

However, after careful investigation, it was found that 34 companies were not suitable for this study, as they were 'dive operators', such as agencies or dive equipment manufacturers, instead of dive centers. In addition, some of these dive operators no longer existed.

The number of registered dive centers amounted to a total of 71 companies. As the aim of this research was to measure service quality, the criterion to select the dive centers for the survey instrument distribution, was based on the company's ownership of at least one boat, since it is more likely for such companies to have greater control over the service quality performed by their organization, as boats are a primary part of the dive tourism product.

Hence, under this selection criterion, 30 diving centers were approached, through a census sampling method.

2.2 Research Instruments

2.2.1 Questionnaire

The survey instrument consisted of a five-page structured questionnaire, divided in seven parts:

1. Demographic information
2. Scuba diving history
3. Motivations to dive (5-point Likert scale)
4. Diving in Phuket/Andaman
5. Travel behavior
6. Ecological issues (5-point Likert scale)
7. Dive operator's service quality (Servqual)

The first two components of the questionnaire involved participants' general demographic information, combined with their scuba diving history which aimed to categorize divers by level of experience in the activity (total number of logged dives), in order to present the

results of the market profile. In addition, as recommended in the literature of marketing and diving tourism, this research used a combined approach to obtain a more pertinent and incisive market profile, which also includes motivations to dive, which have been evaluated using a 5-point Likert scale in which 1= 'not important', 2= 'of little importance', 3= 'moderately important', 4= 'important', 5= 'very important'.

In addition, part 4 concerned divers' behavior during their trip to Phuket/Andaman, and aimed to obtain information on the diving activities that were effectuated, sites visited, reasons to dive in Phuket, level of satisfaction, among others. The importance of several elements of the dive experience were also assessed using a 5-point Likert scale in which respondents rated the elements as 1= 'not important', 2= 'of little importance', 3= 'moderately important', 4= 'important', 5= 'very important'.

Additionally, divers' travel behavior was also studied, in order to obtain information on tourism issues such as: length of stay, accommodation type, travel purpose and activities undertaken during divers' visit to Phuket.

Furthermore, part six, denoted as 'ecological issues', was devoted to obtaining information on scuba divers' perceptions on crowding, environmental damage resulting from scuba diving, dive operator's emphasis on non-damaging underwater behavior, and divers' concern, interest and previous involvement in marine environmental activities. Respondents were asked to rate eight statements using a 5-point Likert scale in which 1= 'strongly agree', 2= 'agree', 3= 'undecided', 4= 'disagree' and 5= 'strongly disagree'.

The last part focused on dive centers' service quality, using the SERVQUAL instrument (Parasuraman et al.'s, 1985), based on an importance/performance construct, using a 5-point Likert scale ranging from 1= 'not important' to 5= 'very important' for the importance statements, and a 5-point Likert scale ranging from 1= 'strongly disagree' to 5= 'strongly agree' for the actual performance statements.

Furthermore, multiple choice items and open ended questions were included, with the intention of obtaining data on divers' consumer behavior, trip expenditure, and overall satisfaction with the dive center's performance, intention to recommend the dive center to others and intention to return to Phuket to dive in the future.

2.2.2 SERVQUAL

The SERVQUAL instrument (Parasuraman et al., 1985) was chosen to measure service quality in order to identify the gaps and shortfalls that might exist in the service performance of diving centers in Phuket.

The instrument consisted of 25 statements, categorized under the five dimensions proposed by Parasuraman et al. (1988):

- Responsiveness (3 statements)
- Assurance (4 statements)
- Empathy (6 statements)
- Reliability (5 statements)
- Tangibility (7 statements)

The statements were adapted to the diving industry context, although many of the original statements were kept. The use of SERVQUAL to measure SQ in the context of the diving industry had already been tested by O'Neill, Williams, MacCarthy and Groves (2002), showing strong support for this approach. Each statement was rated on a 5-point Likert scale, on the basis of a two dimensional model originated from an importance/performance construct.

2.2.3 Experience Level Categorization

In order to present the results of this research, four levels of experience based on the number of logged dives of each individual have been used. To categorize divers upon this criterion, the researcher adopted the experience level construct of Miller et al.'s (2009) Diving Tourist Specialization Index (DTSI) which consisted in (1) years diving, (2) total number of dives, (3) highest scuba diving certification level, (4) investment in equipment, clubs, magazines and (5) diving travel career. Based on the total number of logged dives an individual has done, divers have been placed under the following levels of experience:

- 1) Beginners (0-10 dives)
- 2) Intermediates (11-50 dives)
- 3) Enthusiasts (51-200 dives)
- 4) Specialists (>200 dives)

2.3 Data Collection

In order to achieve the objectives of this study, both qualitative and quantitative data were collected throughout the research.

2.3.1 Methods for Data Collection

Data was collected by two means: (a) interviews with dive industry professionals and (b) a survey instrument for scuba diving tourists.

a) Interviews

Interviews were undertaken with five dive center managers (DMC), before the conception of the questionnaire, in order to obtain information on the dive industry in Phuket, the operation of dive centers and the main services they provide to their customers. The dimensions of service quality to be evaluated by the survey instrument were discussed during these interviews, which lasted approximately one hour and a half each. DCMs commented on their perceptions of the main challenges faced by the dive industry, as well as on the ecological issues that are related to it.

Interviews were also carried with a representative of the Phuket Marine Biological Center, who is also in charge of the international environmental project 'Green Fins Thailand', which provides dive centers with an eco-certification which ensures operators' commitment to pro-environmental practices and behavior whilst scuba diving.

b) Questionnaire

A total number of 750 questionnaires were distributed, between the 9th of February, 2010 and the 10th of April, 2010. Each diving center was given between 10 to 20 questionnaires, based on their willingness to cooperate. Accordingly, the survey instrument was over distributed in dive centers that were more eager to provide their support in this study. Furthermore, the researcher also distributed questionnaires personally, on boats, during peak days of the week.

Therefore, the survey instrument was distributed among dive centers using three approaches:

- 1) Survey instrument packages were delivered by the researcher in dive centers and given to Dive Masters, Dive Instructors, Dive Center Managers or front desk

staff, accompanied by a detailed explanatory briefing about the research objectives and survey instrument's structure and components

2) On-board approach: The researcher distributed the survey instrument in different day-trip boats for 6 days, in order to collect data and observe the performance of diving centers. Some of these trips were undertaken via in-kind (free of charge), as some diving centers were keen in cooperating with this research

3) Distribution of the survey instrument package to Dive Masters and Dive Instructors who work under a free-lance basis, in different companies in Phuket, through a snowball and convenience approach. An explanatory briefing was provided by the researcher in order to give details on the structure and components of the survey instrument

Literature in diving tourism specifically, is very scarce. However, after extensive research and investigation, the researcher was able to obtain several published and non published academic papers, articles and most importantly, master thesis and Ph. D researches, which have been rich sources of qualitative data.

Specialized journals in sport, tourism and leisure have also proven to be a useful source of information.

The Internet has been used as an important tool to access several sources of information, and to purchase several articles that have appeared in journals, magazines or books, that otherwise would have not been available or accessible to the researcher. It has also been used for statistical data collection (e.g. PADI statistics) and general information (e.g TAT travel campaigns, tourism markets)

2.4 Data Analysis

Throughout this study, data has been analyzed by: (1) descriptive analysis for divers' demographics, (2) content analysis for interviews and (3) statistical and quantitative analysis using SPSS (Statistical Package for Social Sciences) version 16.0.

This study assessed different issues using ranging scales for issues such as: (1) motivations to dive, (2) importance of diving in choosing Phuket as holiday destination, (3) overall satisfaction with the dive experience, (4) important elements of the dive, (5) agreement on

ecological issues statements, (6) importance/performance of service quality dimensions and (7) overall satisfaction with the dive center services.

All assessment scales were analyzed by descriptive statistics, including frequency, percent and mean. The analysis of mean was based on the interval width calculated as follows:

$$\begin{aligned} \text{The interval width:} &= (\text{Maximum} - \text{Minimum}) / n \\ &= (5-1) / 5 = 0.8 \end{aligned}$$

Levels Assessed	Scale	Score of Answer	Meaning Determined with Scores
Level of Importance	5	4.21 - 5.00	"Extremely important"
a) Motivations to dive	4	3.41 - 4.20	"Important"
b) Elements of the dive	3	2.61 - 3.40	"Moderately important"
c) Dive centers' service quality	2	1.81 - 2.60	"Of little importance"
importance	1	1.00 - 1.80	"Not important"
Level of Agreement	5	4.21 - 5.00	"Strongly agree"
d) Importance of diving in choosing	4	3.41 - 4.20	"Agree"
Phuket as holiday destination	3	2.61 - 3.40	"Neither agree nor disagree"
e) Ecological issues	2	1.81 - 2.60	"Disagree"
f) Elements of the dive	1	1.00 - 1.80	"Strongly disagree"
Level of Satisfaction	5	4.21 - 5.00	"Very satisfied"
a) Overall satisfaction with the dive	4	3.41 - 4.20	"Satisfied"
experience	3	2.61 - 3.40	"Neither satisfied nor dissatisfied"
b) Overall satisfaction with dive	2	1.81 - 2.60	"Dissatisfied"
center's service	1	1.00 - 1.80	"Very dissatisfied"

CHAPTER 3

RESULTS

Out of the seven hundred and fifty questionnaires delivered, a total of four hundred and fifteen questionnaires were returned, amounting to a 55.33% response rate. This chapter contains the results obtained during this research, in which data was collected through a questionnaire for diving tourists and in-depth interviews with dive industry professionals. Results will be presented in seven parts, as follows:

- 1) Demographic profile
- 2) Dive history
- 3) Motivations to dive
- 4) Diving in Phuket/Andaman
- 5) Travel behavior
- 6) Ecological issues
- 7) Dive centers' service quality and divers' purchasing behavior
- 8) In-depth interviews results

3.1 Demographic Profile of Scuba Diving Tourists

The demographic profile of respondents (see table 3.1) showed that the population of divers who participated in the survey was mainly composed of males (58.3%) against a female population of 41.7%. Most respondents were (1) European, mainly from Germany, Scandinavian countries and the United Kingdom and (2) Americans.

Table 3.1 Scuba Divers' Demographics

Demographics	N	%
Gender		
Female	173	41.7
Male	242	58.3
Age categories		
18 to 24 years	83	20
25 to 31 years	100	24.1
32 to 38 years	76	18.3
39 to 45 years	63	15.2
46 to 52 years	63	15.2
53 to 59 years	24	5.8
60 years or more	6	1.4
Marital status		
Single	217	52.3
Married	161	38.8
Divorced/separated/widowed	37	8.9
Income		
\$19,999 or less	157	37.8
\$20,000-\$39,999	102	24.6
\$40,000-\$59,999	74	17.8
\$60,000-\$79,999	50	12
\$80,000-\$99,000	23	5.5
\$100,000 or over	9	2.2
Total	415	100

Table 3.1 Scuba Divers' Demographics (Continue)

Demographics	N	%
Education level		
Primary school	4	1
High school	49	11.8
Graduate	228	54.9
Post Graduate	134	32.3
Origin		
Europe	243	58.6
America	75	18.1
Australia	30	7.2
Asia	40	9.6
Africa	12	2.9
Middle East	15	3.6
Total	415	100

The average age of scuba divers was 35.26 years, with participants' ages ranging from 18 to 67 years old. Results revealed that 57.60 of divers were aged between 25- 45 years old. Only 20 of participants were aged between 18 to 24 years old. Regarding the marital status of respondents, 51.90 were single, while 39.10 were married.

The educational background of divers proved to be of higher level; indeed, 87.20 of respondents had at least a graduate degree. Only 11.8% had a high school degree while 1% had a primary school degree only.

In regards of participant's income, results showed that 38.8% of diving tourists had a yearly income of \$19,999 or less, while 22.7% had an income ranged between \$20,000- \$39,999. In addition, a total of 38.5% of divers reported to have earnings ranged between \$40,000 - \$100,000.

3.2 Dive History

3.2.1 Certification Status and Level

Respondents' dive history (see table 3.2), revealed that the sample size consisted mainly of certified divers (90.6%) Only 9.4% of respondents were non certified divers, who were either diving for the first time (Scuba Discovery) or were training to obtain a certification.

The majority of certified divers possessed either a basic Open Water certification (30.4%) or an Advanced Open Water certification (42.4%), while 8.2% were Rescue Divers and 8.9% were Dive Masters. Only 0.7% of divers possessed professional certifications of Dive Instructors. A Chi Square test (see table 3.3) showed that there were statistically significant gender differences in the matter of scuba diving certifications, as the female population decreased from the Advanced Open Water level to the Dive Instructor certification.

Certification ranges varied in relation to divers' level of experience (see table 3.4) Beginner's certifications, for example, varied from non certified divers to Advanced Open Water divers. On the other hand, specialists possessed certifications that ranged from the Open Water certification to the Dive Instructor certification. This finding explains that regardless of his/her certification level, a diver's experience is represented by the number of logged dives, as many individuals can obtain higher certifications and yet not participate actively in scuba diving; accordingly, an Open Water diver can have the most basic level of certification and yet fall under the specialist categorization, due to an extensive number of logged dives.

In regards of diver's intention to upgrade the scuba certification they possessed, 45.5% of respondents affirmed to be interested in obtaining further training and certifications, although the majority (54.5%) responded negatively.

3.2.2 Years of Certification

The average certification years of divers was 4.33 years, with a minimum of 0 years for non certified divers and a maximum of 25 years for certified divers. Certification years also varied greatly in regards of the level of experience of each diver (see table 3.5)

The mean certification years for *beginners* were 0.69 years, 2.96 years for *intermediates*, 5.92 years for *enthusiasts* and 9.83 years for *specialists*. A Chi Square test revealed

statistical significant gender differences (Chi Sq.=12.055,p= 0.007), as women tended to be certified for no more than 10 years, in contrast to the male population, which showed that 11.6% of male respondents had 11 or more years of certification (see table 3.6)

3.2.3 Number of Logged Dives (Level of Experience)

The average number of logged dives (see table 3.7) of the sample amounted to 138 dives, with a minimum of 2 dives and a maximum of 2520 dives. The average number of logged dives in the last 12 months resulted in 16 dives, with a minimum of 1 dive to a maximum of 250 dives.

Table 3.2 Respondents' Scuba Dive History

	N	%
First time diving		
Yes	39	9.4
No	376	90.6
Certification status		
Certified	376	90.6
Under certification	31	7.5
Not certified (Scuba discovery)	8	1.9
Certification level		
Not certified/under certification	39	9.4
Open Water diver	126	30.4
Advanced Open Water diver	176	42.4
Rescue diver	34	8.2
Dive Master	37	8.9
Dive Instructor	3	0.7
Total	415	100

Table 3.2 Respondents' Scuba Dive History (Continue)

	N	%
Certification years		
0 to 1 years	96	23.1
2 to 4 years	182	43.9
5 to 10 years	105	25.3
11 years or more	32	7.7
Total number of logged dives		
0 to 10 dives	76	18.3
11 to 50 dives	177	42.6
51 to 100 dives	94	22.6
101 and more dives	68	16.3
Total number of logged dives in the last 12 months		
0 to 10 dives	218	52.5
11 to 50 dives	179	43.1
51 to 100 dives	11	2.6
101 or more dives	7	1.6
Intention to upgrade certification		
Yes	189	45.5
No	226	54.4
Total	415	100

Table 3.3 Certification Level of Scuba Divers and Chi Square Test on Gender Differences

Certification	Female		Male		Chi Square test		
	N	%	N	%	Chi Square	df	p-value
Not certified	18	10.4	21	8.7	.231	1	.631
Open Water	62	35.8	64	26.4	.032	1	.859
Advanced Open water	70	40.5	106	43.8	7.364	1	.007*
Rescue Diver	11	6.4	23	9.5	4.235	1	.040*
Dive Master	12	6.9	25	10.3	4.568	1	.033*
Dive Instructor	0	0	3	1.2	variable is constant		
Total	173	100	242	100			

*Significant statistical differences at $p < 0.05$ level

Table 3.4 Scuba Certification Ranges by Level of Experience and Mean Score

Level of experience	Mean	Std. deviation	Min.	Max.
Beginner	0.51	0.55	Non certified (0)	Advanced Open Water (2)
Intermediate	1.71	0.59	Open Water (1)	Rescue Diver (3)
Enthusiast	2.28	0.86	Open Water (1)	Dive Instructor (5)
Specialist	2.73	1.27	Open Water (1)	Dive Instructor (5)

0=Non certified, 1=Open Water, 2= Advanced Open Water, 3=Rescue Diver, 4= Dive Master, 5= Dive Instructor

Table 3.5 Years of Certification of Divers by Level of Experience

	Mean	Std. deviation	Min.	Max.
Years of Certification	4.33	4.09	-	25
Level of experience				
Beginner	0.69	0.86	0	3
Intermediate	2.96	1.50	1	8
Enthusiast	5.92	3.78	1	20
Specialist	9.75	4.88	2	25

**Significant statistical differences at $p \leq 0.01$ level

Table 3.6 Years of Certification by Gender and Chi Square Test on Gender Differences

Years of certification	Female		Male		Both genders		Chi Square test		
	N	%	N	%	N	Total	Chi Square	df	p-value
0 to 1 year	42	24.4	54	22.3	96	23.3			
2 to 4 years	80	46.5	101	41.7	181	43.7			
5 to 10 years	46	26.7	59	24.4	105	25.4	12.055	3	.007
≥11 years	4	2.3	28	11.6	32	7.7			
Total	172	100	242	100	414	100			

**Significant statistical differences at $p \leq 0.05$ level

When comparing the total number of logged dives by certification level (see table 3.8), results revealed that there are differences in the mean of each level. For instance, Open Water divers ($n=126$) scored a mean of 74.87 logged dives, with a minimum of 6 dives and a maximum number of 1043 dives. Advanced Open Water divers ($n=176$) had a mean score of 91.62 dives with a minimum of 9 dives and a maximum of 1500 dives. Rescue Divers's ($n=34$) mean score of logged dives was 145.32 with a minimum of 12 dives and a maximum of 1500 dives, while Dive Masters ($n=37$) averaged 693.24 dives with a minimum of 70 and a maximum of 2520 dives. Surprisingly, Dive Instructors ($n=3$) had a lower mean score of 366.67 dives compared to Dive Masters, with a minimum of 200 dives and a maximum of 500. These results could be explained by the fact that all three respondents had been certified as scuba divers for only one year, suggesting that respondents had recently obtained a professional certification and had therefore less experience than Dive Masters who had been diving for a longer period of time, hence, amounting to larger numbers of logged dives during the diving history. Additionally, 2 out of the 3 Diving Instructors who responded to the questionnaire were doing an internship at one of the diving centers involved in this research and had come to Thailand specifically to upgrade the scuba certification to a professional rank.

Table 3.7 Total Number of Logged Dives

Logged dives	N	%	Mean	Min.	Max.
Mean number of logged dives during lifetime	415	100	138.31	2	2520
Mean number of logged dives in the last 12 months	415	100	16.08	1	250

Since divers have been categorized by level of experience and not by certification level, it is also interesting to examine results from this perspective, as the four groups (*beginners*, *intermediates*, *enthusiasts*, *specialists*) differ from one another as well (see table 3.9) *Beginners* (0 to 10 dives; n= 76) had a mean of 6 logged dives, with a minimum of 2 and a maximum of 10 dives. *Intermediates* (11 to 50 dives, n=177) had an average of 29 dives with a minimum of 11 dives and a maximum of 50. *Enthusiasts* (51 to 200 dives, n=94) had an average of 106 dives with a range of 51 to 200 dives. Lastly, *specialists* (more than 200 dives, n=68), had a mean of 615 dives with a minimum of 215 dives to a maximum of 2520 dives. A Chi Square test was conducted (see table 3.10) in order to control gender differences, which were found to be statistically significant at the *enthusiast* and *specialist* levels. Most female divers tend to be categorized within the *beginner* or *intermediate* levels, as the majority (68.8%) had 50 dives or less. In contrast, it is clearly evident that the *enthusiast* and *specialist* levels are male dominated, as 44.6% of male respondents (n=108) had logged 51-200 dives against 31.3% of female respondents (n=54)

Table 3.8 Total Number of Logged Dives by Certification Level

Certification	N	Mean	Std. deviation	Min.	Max.
Not certified	39	3.87	1.17	2	6
Open Water	126	74.87	142.86	6	1043
Advanced Open Water	176	91.62	150.94	9	1500
Rescue Diver	34	145.32	145.32	12	1500
Dive Master	37	693.24	643.24	70	2520
Dive Instructor	3	366.67	366.67	200	500
Total	415	138.31	331.24	2	2520

Table 3.9 Total Number of Logged Dives by Level of Experience

Experience level	Number of dives	Mean	Std. deviation	Min.	Max.
Beginners	0 to 10 dives	6	2.80	2	10
Intermediate	11 to 50 dives	29	11.39	11	50
Enthusiasts	51 to 200 dives	106	44.20	51	200
Specialists	>200	615	625.82	215	2520
Total		138.31	331.24	2	2520

Table 3.10 Total Number of Dives by Level of Experience and Chi Square Test on Gender

Differences

Experience level	Number of dives	Female		Male		Chi Square test		
		N	%	N	%	Chi Square	df.	p-value
Beginners	0 to 10 dives	37	21.4	39	16.1	0.053	1	0.819
Intermediate	11 to 50 dives	82	47.4	95	39.3	0.955	1	0.328
Enthusiasts	51 to 200 dives	34	19.7	60	24.8	7.191	1	0.007*
Specialists	>200	20	11.6	48	19.8	11.529	1	0.001**
Total		173	100	242	100			

*Significant statistical differences at $p \leq 0.05$ level. **Significant statistical differences at $p \leq 0.01$ level

In regards of the number of logged dives effectuated during the last 12 months, most divers (52.5%) had dived 0 to 10 dives, followed by 43.1% of divers who had logged 11 to 50 dives. Only a minority (2.7% and 1.7%) of divers had logged 51 to 100 dives and more than 100 dives respectively. A Chi Square test confirmed gender differences in these results (see table 3.11) Indeed, male divers proved to have been more active in the last 12 months than females, as 56.2% had dived between 11 to more than 200 dives, in contrast to the female population (35.2%) Additionally, 64.7% of female divers affirmed to have logged 0 to 10 dives, against 43.8% of male divers. Such results imply that men had participated in scuba diving more recently and more extensively in comparison to female divers.

Table 3.11 Total Number of Dives in the Last 12 Months and Chi Square Test on Gender

Number of dives	Differences				Chi Square test		
	Female		Male		Chi Square	df.	p-value
	N	%	N	%			
0 to 10 dives	112	64.7	106	43.8	0.165	1	0.684
11 to 50 dives	58	33.5	121	50	22.173	1	0.000**
51 to 100 dives	3	1.7	8	3.3	2.273	1	0.132
>100 dives	0	0	7	2.9	variable is constant		
Total	173	100	242	100			

**Significant statistical differences at $p \leq 0.01$ level

3.3 Motivations to Dive

Fifteen motivations to dive were assessed in this research (see table 3.12) As expected, the most important motivation for scuba divers was (1) 'to look at fish and other marine life', followed by (2) 'to experience adventure and excitement' and (3) 'to discover new places and things'. Motivational factors such as discovery, adventure, novelty, escape and learning scored the highest, while the social component seemed to be of less importance, as results indicated that 'to have a good time with friends' and 'to enjoy family recreation' were among the five less important motivations to dive, along with 'to learn and improve your skills' and 'to exercise'.

When compared to divers' level of experience, results showed that motivational factors seem to vary accordingly. Statistically significant differences were found in the majority of factors using a one-way ANOVA test (see table 3.13) With the only exception of 'to look at fish and other marine life', each level of divers expressed divergent responses in the motivations to dive.

For instance, *beginners*' top three motivations besides the one mentioned previously, included (1) 'to challenge your abilities', (2) 'to live a new experience' and (3) 'to experience adventure and excitement'. Intermediates indicated that (1) 'to experience adventure and excitement', (2) 'to live a new experience' and (3) 'to discover new places and things' were the most important motivations to them. In contrast, enthusiasts rated (1) 'to discover new places and things', (2) 'to get away from regular routine' and (3) 'to experience adventure and excitement' as

the most important motivations to dive. *Specialists*, on the other hand, revealed an interesting result. In contrast to the three previous levels of experience which rated 'to look at fish and other marine life' as the first and most important motivation to dive, *specialists'* motivations were rated as follows: (1) 'to discover new places and things', (2) 'to look at fish and other marine life', (3) 'to learn more about the underwater world' and (4) 'to get away from regular routine'.

Table 3.12 Motivations to Dive (All Respondents)

No.	Motivations to Dive	Mean	Std. deviation
1	To look at fish and other marine life	4.80	0.42
2	To experience adventure and excitement	4.54	0.66
3	To discover new places and things	4.45	0.77
4	To live a new experience	4.44	0.82
5	To learn more about the underwater world	4.26	0.75
6	To challenge your abilities	4.11	0.92
7	To get away from regular routine	4.00	1.17
8	To experience tranquility underwater	3.97	1.04
9	To avoid the hustle and bustle of daily life	3.86	1.20
10	To have a good time with friends	3.85	0.93
11	To relax mentally/physically	3.71	0.98
12	To experience unpolluted surroundings	3.70	1.04
13	To learn/ improve your skills	3.58	1.02
14	To exercise (stay fit, healthy)	3.02	1.18
15	To enjoy family recreation	2.42	1.14

A LSD Post Hoc test (see table 3.13) was conducted to identify the statistically significant differences and similarities among divers' levels of experience in relation to the motivations to dive. The following results were obtained:

Table 3.13 One-way ANOVA and LSD Post Hoc Test of Mean Score Differences for Motivations to Dive among Divers' Levels of Experience

No.	Motivations to dive	Mean scores by level of experience				ANOVA	
		Beginner	Interm.	Enthusiast	Specialist	F-stat	P-value
1	To look at fish and other marine life	4.80	4.85	4.78	4.72	1.76	0.154
2	To experience adventure and excitement	4.14b	4.79a	4.57c	4.32b	23.31	.000**
3	To discover new places and things	3.35b	4.66a	4.74a	4.73a	112.38	.000**
4	To live a new experience	4.19b	4.68a	4.34b	4.22b	10.065	.000**
5	To learn more about the underwater world	3.6	4.33b	4.45ab	4.58a	31.52	.000**
6	To challenge your abilities	4.39a	4.08b	3.79	4.3ab	7.44	.000**
7	To get away from regular routine	2.18c	4.26b	4.65a	4.47ab	176.22	.000**
8	To experience tranquility underwater	3.8b	3.81b	4.28a	4.14a	5.54	.001**
9	To avoid the hustle and bustle of daily life	3.43b	3.68b	4.29a	4.19a	10.92	.000**
10	To have a good time with friends	4.05a	3.7b	3.94a	3.88ab	3.1	.027*
11	To relax mentally/physically	3.27b	3.4b	4.23a	4.29a	33.83	.000**
12	To experience unpolluted surroundings	3.39c	3.63bc	3.77b	4.11a	6.44	.000**
13	To learn/ improve your skills	3.63ab	3.8a	3.17	3.52b	8.39	.000**
14	To exercise (stay fit, healthy)	2.82bc	3.2a	2.75c	3.16ab	4.15	.006**
15	To enjoy family recreation	2.84 a	2.18 c	2.38bc	2.63ab	7.01	.000**

*indicates statistically significant differences between groups at $p < 0.05$. **Indicates statistically significant differences between groups at $p < 0.01$. Remarks: Letters (a), (b), (c) show the multiple comparisons between groups in several variables. The same letters next to the mean scores, indicate no significant differences (at 0.05% level) according to LSD test in ANOVA.

M2. To experience adventure and excitement: Intermediates scored the highest level of motivation to experience adventure and excitement while diving (4.79), followed by *enthusiasts* (4.57) *Beginners* and *specialists* showed no statistical differences on this motivation to dive

M3. To discover new places and things: The motivational component of 'discovery' suggested no statistical differences among *intermediates*, *enthusiasts* and *specialists*, who expressed higher levels of motivation to discover new places and things in contrast to *beginners*

M4. To live a new experience: *Intermediates* were found to be more motivated by this factor (4.68) than *beginners* (4.19), *enthusiasts* (4.34) and *specialists* (4.22), which revealed homogeneous levels of motivations for this variable

M5. To learn more about the underwater world: This motivation was more significant to *specialists* (4.58), who shared statistical similarities with *enthusiasts* (4.45) In the same way, *intermediates* and *enthusiasts* also revealed similarities in the level of motivation to learn about the underwater world in contrast to *beginners*' who gave significantly lower score to this item (3.6)

M6. To challenge your abilities: The element of challenge was most important to *beginners* (4.39) and *specialists* (4.30), and results suggested no statistical differences between the two levels of experience. The latter group, however, indicated to have the same motivational level for this factor in relation to *intermediates* (4.08) However, *enthusiasts* (3.79) revealed the lowest motivation for challenging abilities whilst scuba diving in contrast to the other groups

M7. To get away from regular routine: *Enthusiasts* (4.65) and *specialists* (4.47) expressed high levels of motivation to 'escape' in contrast to *beginners* (2.18) *Intermediates* (4.26) and *specialists*, however, proved to share the same level of motivation for this component

M8. To experience tranquility underwater: *Enthusiasts* (4.28) indicated higher motivation for this element and proved no statistical differences in responses when compared to *specialists* (4.14) Contrastingly, both *beginners*(3.8) and *intermediates* (3.81) expressed significantly lower but similar levels of motivation to experience tranquility underwater

M9. To avoid the hustle and bustle of daily life: Once again, *enthusiasts* (4.29) and *specialists*(4.19) showed to be the most motivated by this factor of 'escape', revealing no statistical differences between both groups, contrary to *beginners* (3.43) and *intermediates* (3.68) who seemed to be less motivated by this issue and shared statistical similarities in responses

M10. To have a good time with friends: This social component revealed higher and equal levels of motivations among *beginners* (4.05), *enthusiasts* (3.94) and *specialists* (3.88) Correspondingly, *intermediates*(3.68) and *specialists* shared same levels of motivation for this factor

M11. To relax mentally/physically: Results suggested that *specialists* (4.29) and *enthusiasts* (4.23) had higher and same levels of motivation to relax in contrast to *beginners*(3.27) and *intermediates* (3.4), which in turn, showed no statistical difference between both groups

M12. To experience unpolluted surroundings: *Specialists* (4.11) showed the highest level of motivation for this feature, in relation to the other three groups. However, no differences were found between the motivation levels of (a) *beginners* (3.39) and *intermediates* (3.63) , and (b) *intermediates*(3.63) and *enthusiasts* (3.77)

M13. To learn/ improve your skills: This factor was most important to *intermediates* (3.8) and *beginners* (3.63), which showed the highest level of motivation to learn/improve skills and no statistical differences among responses. In addition, *beginners*(3.63), *enthusiasts* (3.17) and *specialists* (3.52) indicated no statistical differences among responses

M14. To exercise (stay fit, healthy): *Intermediates* (3.20) revealed a higher level of motivation to exercise when diving, and shared an equal level with the *specialist* divers (3.16) Additionally, (a) *beginners* (2.82) and *specialists* and (b) *beginners* and *enthusiasts* (2.75) proved no statistical differences in this motivation to dive

M15. To enjoy family recreation: *Beginners* (2.84) showed the highest level of motivation to enjoy family recreation, and indicated similarities with *specialist* divers (2.63) Likewise, *enthusiasts* (2.38) and *specialists* also showed similar levels of motivation for this element, as well as *intermediates* (2.18) and *enthusiasts*.

3.4 Diving in Phuket/Andaman

A table of frequencies containing the results of this part of the questionnaire, related to respondents' diving experience in Phuket/Andaman is presented in table 3.14

Among the tourists who visited Phuket and chose to participate in scuba diving activities, a majority of 29.4% (n= 122) affirmed that diving was of 'moderately importance' in the decision making process of the holiday destination choice. The activity was considered as 'important' to 19% (n=79) of respondents, and 'extremely important' to 20.5% (n=85), in the decision to travel to Phuket. Only 7.5% (n=31) of respondents indicated that scuba diving was 'not important' while 23.6% affirmed diving was 'of little importance' in the decision to visit Phuket. The mean score for this question, measured with a 5-point Likert scale, attained a result of 3.21/5.

Furthermore, the importance of scuba diving seemed to increase along with the experience level of divers.

A one-way ANOVA test revealed statistically significant differences ($p=0.035$) in these results in relation to respondents' levels of experience (see table 3.15) Furthermore, a Post Hoc test disclosed statistical similarities in responses among (1) *beginners, enthusiasts and specialists*, (2) *beginners and intermediates*, and (3) *intermediates and enthusiasts*.

The top five factors which influenced respondents to choose to dive in Phuket were: (1) marine life and coral diversity, (2) opportunity to see specific species, (3) good value for money, (4) proximity and accessibility of diving spots and (5) the existence of Marine National Parks.

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

Diving in Phuket/ Andaman	N	%
Importance of diving in choosing Phuket as a holiday destination		
Not important	31	7.5
Of little importance	98	23.6
Moderately important	122	29.4
Important	79	19
Extremely important	85	20.5

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

(Continue)

Diving in Phuket/ Andaman	N	%
Reasons to dive in Phuket		
Variety of dive operators and dive products	56	13.5
Variety of diving spots	134	32.3
Proximity and accessibility of diving spots	208	50.1
Existence of Marine National Parks	174	41.9
Good value for money	211	50.8
Opportunity to see specific species	223	53.7
Marine life in general	108	26
Marine life and coral diversity	242	58.3
Others	2	0.5
Diving activities		
Underwater photography	210	50.6
Night diving	135	32.5
Wreck diving	104	25.1
Deep diving	91	21.9
Decompression/Nitrox diving	86	20.7
Marine life research	37	8.9
Cave diving	22	5.3
Other	47	11.3
Other diving activities		
Not specified	24	6
Trimix	1	0.2
Rebreather	3	0.7
Diver Propulsion Vehicle (DPV)	6	1.4
Underwater videography	9	2.2
Drift diving	4	1
Dive sites visited during trip to Phuket		
Similan Islands	200	48.2
Racha Yai/Racha Noi	193	46.5
Phi Phi Islands	158	38.1

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

(Continue)

Diving in Phuket/ Andaman	N	%
Dive sites visited during trip to Phuket		
Shark Point	113	27.2
Richelieu Rock	99	23.9
Surin Islands	94	22.7
Koh Bon/Koh Tachai	90	21.7
Hin Daeng	70	16.9
Hin Muang	68	16.4
Koh Doc Mai	59	14.2
Others	99	23.9
Other dive sites visited during trip to Phuket		
Not specified	24	5.8
Krabi	1	0.2
Trang caves	1	0.2
Sra keow Cave	1	0.2
Pu Island	3	0.7
Kata reef	13	3.1
Adang Rawee	2	0.5
King Cruiser wreck	31	7.5
Anemone Reef	2	0.5
Turtle Rock	1	0.2
HMS Squirrel	1	0.2
Petaling wreck	1	0.2
Ko Rok Nok	3	0.7
Koh Bida Nok	5	1.2
Koh Haa	1	0.2
Hin Bida	1	0.2
Koh Kai	1	0.2
Other dive sites visited during trip to Phuket		
Koh Yao Noi	2	0.5
Koh Yao Yai	1	0.2

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

(Continue)

Diving in Phuket/ Andaman	N	%
Other dive sites visited during trip to Phuket		
Koh Mai Thon	1	0.2
Previous dives in Thailand		
Yes	111	26.7
No	304	73.3
Dive sites previously visited in Thailand		
Not specified	18	4.3
Phuket	7	1.7
Pattaya	4	1
Koh Samui	6	1.4
Koh Tao	13	3.1
Koh Chang	3	0.7
Koh Lanta	6	1.4
Krabi	4	1
Ko Pha Ngan	3	0.7
Chumphon	2	0.5
Adang-Rawee	2	0.5
Koh Tarutao	2	0.5
Koh Lipe	3	0.7
Koh Cha Bang	1	0.2
Koh Ha Yai	2	0.5
Khao Lak	2	0.5
Koh Rok Nok/Koh Rok Nai	1	0.2
Koh Samet	5	1.2
Koh Kood	2	0.5
Hua Hin	1	0.2
Similans	5	1.2
Surin Islands	2	0.5
Dive sites previously visited in Thailand		
Hin Muan/Hin Daeng	1	0.2

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

(Continue)

Diving in Phuket/ Andaman	N	%
Dive sites previously visited in Thailand		
Trang	2	0.5
Sra Keow Cave	1	0.2
Pu Island	1	0.2
Shark Point	1	0.2
Koh Doc Mai	1	0.2
Racha Yai/ Noi	1	0.2
Koh Haa	1	0.2
Phi Phi Islands	7	1.7
Khao Sok (lake)	1	0.2
Total	111	26.3
Dive sites Asia		
	N	%
Malaysia	105	25.3
Indonesia	157	37.8
Thailand	91	21.9
Maldives	64	15.4
Philippines	58	14
Micronesia	103	24.8
Vietnam	35	8.4
Burma	70	16.9
Cambodia	17	4.1
Laos	13	3.1
Andaman/Nicobar	44	10.6
Borneo	16	3.9
Others	73	17.6
Overall satisfaction with the dive experience in Phuket		
Dissatisfied	3	0.7
Neither satisfied nor dissatisfied	29	7.0

Table 3.14 Divers' Responses on the Diving Experience during Trip to Phuket/Andaman

(Continue)

Diving in Phuket/ Andaman	N	%
Overall satisfaction with the dive experience in Phuket		
Satisfied	107	25.8
Very satisfied	276	66.5
Total	415	100

Table 3.15 One-way ANOVA Test and Post Hoc on the Importance of Scuba Diving in

Respondents' Decision Making Process of Holiday Destination Choice

	Beginner	Intermediates	Enthusiasts	Specialists	ANOVA	
					F-stat	p-value
Importance of diving in destination choice	3.23ac	3.04bc	3.27ab	3.54a	2.893	.035*

* indicates statistically significant differences at $p < 0.05$

Among the most popular dive sites visited by respondents were: (1) the Similan Islands, (2) Racha Yai/Racha Noi, (3) Phi Phi Islands, (4) Shark Point and (5) Richelieu Rock. 'Other' dive sites visited during the trip to Phuket/Andaman included locations such as: (1) King Cruiser Wreck, (2) Kata Reef and (3) Koh Bida Nok.

The most common specialty diving activities in which divers participated were: (1) underwater photography, (2) night diving, (3) wreck diving, (4) deep diving and (5) decompression/Nitrox diving. A minority participated in (1) marine life research and (2) cave diving, while 11.3% of respondents participated in 'other' diving activities including specialties such as: (1) underwater videography, (2) Diver Propulsion Vehicle, (3) drift diving, (4) rebreather and (5) Trimix.

A Chi Square test on gender differences (see table 3.16) proved that male divers are more likely to participate in specialty diving activities, with the exception of 'underwater photography' and 'marine life research' which showed to be of equal popularity among genders.

Whilst diving in Phuket/Andaman, respondents' average depth of the dive (response rate= 47.71%) was 26.92m, with a minimum of 6m to a maximum of 75m. Results, once again, varied among divers' levels of experience (see table 3.17) *Beginners* dived to an average depth of 19.28m (min: 6m, max: 35m); *intermediates* indicated a depth of 25.92m (min: 15m, max: 45m); *enthusiasts*' average depth of dive was 28.88m (min: 15m, max: 60m), while *specialists* dived to a depth of 42.72m (min: 15m, max: 75m)

As shown by results, the average depth of dive increased from *beginners* to *specialists*, fact that might be related to the positive correlation (0.422) found between the number of logged dives (experience level) and the certification level of divers (see table 3.18, which suggests that the more logged dives an individual has, the more likely he/she is to obtain further diving certifications and vice versa, which consequently provides them with the skills and training to participate in specialty diving activities such as 'tec diving', which correspondingly allows them to go deeper, exceeding the average recreational depths (e.g. 75m)

Table 3.16 Specialty Diving Activities Undertaken by Respondents During Trip to Phuket and Chi Square Test on Gender Differences

Diving activities	Females		Males		Chi Square test		
					Chi Square	df	p-value
Deep diving	25	14.5	66	27.3	9.688	1	.002*
Cave diving	4	2.3	18	7.4	5.280	1	.022*
Wreck diving	28	16.2	76	31.4	12.444	1	.000**
Night diving	42	24.3	93	38.4	9.206	1	.002*
Marine life research	10	5.8	27	11.2	3.591	1	.058
Underwater photography	83	48.00	127	52.5	.818	1	.366
Decompression/Nitrox	22	12.7	64	26.4	11.575	1	.001**
Other	12	6.9	35	14.5	5.690	1	.017*

* indicates statistically significant differences at $p < 0.05$. **Indicates statistically significant differences at $p < 0.01$

Table 3.17 Average Depth of Dives by Level of Experience

Level of experience	Average depth (meters)	Std. deviation	Min.	Max.
Beginners	19.28m	19.2899	6m	35m
Intermediates	25.92m	0.84664	15m	45m
Enthusiasts	28.88m	1.50090	15m	60m
Specialists	42.72m	2.74561	15m	75m
Total (all levels)	26.92m	0.83032	6m	75m

Table 3.18 Pearson Correlation Test on the Total Number of Dives (Level of Experience) and the Certification Level of Respondents

	Correlation	Certification level
Total number of dives	Pearson correlation	0.422
	Sig. (2-tailed)	0.000**

**Correlation is significant at the 0.01 level (2-tailed)

Out of the 415 divers who participated in this research, 26.7% (n=111) affirmed to be returning diving tourists, against 73.3% (n=304) who were diving in Thailand for the first time. Visitors who had previously dived in the country had visited spots such as: (1) Koh Tao, (2) Phuket, (3) Koh Lanta, (4) Koh Samui and (5) Krabi.

In addition, respondents were asked to indicate three diving spots located in Asia, which are appealing to dive. Many specific dive sites were mentioned, however the list of countries that were cited in the responses are shown in table 3.14, and included: (1) Indonesia, (2) Malaysia, (3) Micronesia and (4) Thailand, among others. Many respondents, however, indicated dive spots located in Australia, the Caribbean and the Red Sea, which were left aside from the data analysis.

Scuba diving tourists were given a list of 'elements of the dive experience in Phuket/Andaman' to be rated by level of importance (see table 3.19), using a 5-point Likert scale (1='not important', 5='very important') Results revealed high mean scores for (1) marine life in general, (2) marine life diversity, (3) good coral condition, (4) diversity of corals and (5)

visibility. The least important elements of the dive were (1) mega fauna, (2) manta rays and (3) weather.

Table 3.19 Important Elements of the Dive Experience in Phuket/Andaman

No.	Dive elements	Mean	Std. deviation
1	Marine life in general	4.92	0.28
2	Marine life diversity	4.80	0.41
3	Good coral condition	4.68	0.54
4	Diversity of corals	4.58	0.64
5	Visibility	4.47	0.65
6	Uncrowded sites	4.01	0.83
7	Water temperature	3.97	0.93
8	Whale sharks	3.90	1.10
9	Great variety of diving sites	3.88	1.13
10	Weather	3.85	0.90
11	Manta rays	3.80	1.18
12	Mega fauna (large animals)	3.52	1.02

A one-way ANOVA test revealed statistically significant variances in responses (except for 'visibility' and 'mega fauna') among the four subgroups of the sample; therefore a Post Hoc test was conducted to determine the significant differences among the four levels of experience (see table 3.20) Hence, the following results were revealed:

E2. Marine life diversity: This element scored higher at the *specialist* level (4.94) Scores showed statistical similarities in responses for the other three groups: *beginners*, *intermediates* and *enthusiasts*

E3. Good coral condition: *Enthusiasts* (4.86) gave more importance to a good coral condition during the dive experience than any other group, followed by *intermediates* (4.68), which in turn, showed no differences in relation to *specialists*. Furthermore, no statistical differences were found between *specialists* and *beginners*

E4. Diversity of corals: This dive element was most important to *enthusiasts* (4.72), in addition to *beginners* and *specialists*, as the three groups revealed no statistically significant differences in the results. Accordingly, *intermediates* and *specialists* expressed a statistically similar level of importance for this component

E6. Uncrowded sites: The results for this factor showed variances among the four groups of divers, being an element that was more important to *specialists* (4.58), followed by *enthusiasts* (4.23) However, the importance of this element decreased along with the level of experience, as both *beginners* and *intermediates* ranked this component below 4 (3.63 and 3.85 respectively)

Table 3.20 Elements of the Dive Experience in Phuket/Andaman: Mean Scores by Level of Experience, One-Way ANOVA and Post Hoc Test

No.	Dive elements	Mean scores by level of experience				ANOVA	
		Beginners	Intermediates	Enthusiasts	Specialists	F-stat	P-value
1	Marine life in general	4.85 b	4.89 b	4.96 a	5a	4.432	.004**
2	Marine life diversity	4.78 b	4.77 b	4.79 b	4.94 a	2.808	.039*
3	Good coral condition	4.51 c	4.68 b	4.86 a	4.63 bc	6.234	.000**
4	Diversity of corals	4.71 a	4.44 b	4.72 a	4.60 ab	5.223	.002**
5	Visibility	4.38	4.48	4.53	4.48	0.78	0.505
6	Uncrowded sites	3.63 d	3.85 c	4.23 b	4.58 a	23.836	.000**
7	Water temperature	4.28 a	3.87 b	4.25 a	3.52 c	12.431	.000**
8	Whale sharks	3.80 c	3.46 d	4.29 b	4.61 a	27.377	.000**
9	Great variety of diving sites	3.86 b	3.70 b	4.26 a	3.82 b	5.201	.002**
10	Weather	4.22 a	3.76 b	3.80 b	3.76 b	5.292	.001**
11	Manta rays	3.55 b	3.24 d	4.38 c	4.70 a	45.925	.000**
12	Mega fauna (large animals)	3.55	3.42	3.51	3.73	1.507	0.212

* indicates statistically significant differences between groups at $p < 0.05$ **indicates statistically significant differences between groups at $p < 0.01$. Remarks: Letters (a), (b), (c) show the multiple comparisons between groups in several variables. The same letters next to the mean scores, indicate no significant differences

E7. Water temperature: For this element, higher and similar statistical results were found among *beginners* and *enthusiasts*. However these two groups differed from *intermediates* and *specialists*, which in turn, revealed no statistical differences in the responses

E8. Whale sharks: The presence or sighting of whale sharks during the dive seemed to be more important to *specialists* in relation to the other levels of experience. Furthermore, all four groups revealed differences in the mean scores of this element, although results suggested that 'whale sharks' were more important to the most experienced divers (*enthusiasts* and *specialists*)

E9. Great variety of diving sites: The site variety element was most important to *enthusiasts* (4.26), who clearly differed in opinion from *beginners*, *intermediates* and *specialists*, which in turn, shared similar statistical results among each other

E10. Weather: *Beginners* exposed greater levels of importance in regards of this aspect, and differed from the rest of the sample subgroups. Nevertheless, no statistically significant difference was found among *intermediates*, *enthusiasts* and *specialists*, for whom the 'weather' factor was of less importance during the dive experience

E11. Manta rays: This item revealed statistically significant differences among all levels of experience. However, 'manta rays' showed to be more important to *specialists* (4.70), followed by *enthusiasts* (4.38), *beginners* (3.55) and *intermediates* (3.24)

When asked about the overall satisfaction with the dive experience in Phuket/Andaman, findings revealed a positive result (see table 3.21): a mean score of 4.58/5, as most respondents (66.5%) affirmed to be 'very satisfied' with the dives, followed by 25.8% who affirmed to be 'satisfied'. Only 7% of respondents manifested a state of 'neither satisfaction nor dissatisfaction', while a minority of 0.7% indicated levels of 'dissatisfaction'

Additionally, an ANOVA test was conducted to see whether satisfaction varied among divers' level of experience (see table 3.22), revealing statistically significant differences. Furthermore, a Post Hoc test disclosed statistical similarities among (1) *beginners* and *intermediates* and (2) *enthusiasts* and *specialists*. These latter groups showed lower levels of satisfaction in contrast to *beginners* and *intermediates*.

Table 3.21 Overall Satisfaction with the Dive Experience in Phuket/Andaman

Overall satisfaction	N	%	Mean	Std. deviation
Dissatisfied (2)	3	0.7		
Neither satisfied or dissatisfied (3)	29	7	4.58	0.65
Satisfied (4)	107	25.8		
Very satisfied (5)	276	66.5		
Total	415	100%		

Table 3.22 One-Way ANOVA Test and Post Hoc on the Overall Satisfaction of Divers by Level of Experience

	Beginners	Intermediates	Enthusiasts	Specialists	ANOVA	
					F-stat	p-value
Overall satisfaction with the dive experience in Phuket/Andaman	4.78a	4.62a	4.45b	4.58b	5.619	.001*

**indicates statistically significant differences at $p < 0.01$

3.5 Travel Behavior

In regards of diving tourists' travel behavior (see table 3.23), it was found that the average length of stay of respondents was 10.99 days, with a minimum of 2 days to a maximum of 90 days of stay. On the accommodation type, divers' preferred to stay in a (1) hotel, resort & spa (60%), (2) guesthouse (17.3%), (3) apartment (5.10%), (4) city hotel (5%), (5) time sharing property (4.10%) and (6) with family and friends (3.4%)

Furthermore, most respondent claimed (1) 'leisure' to be the main travel purpose (80.2%), followed by (2) shopping (5.5%), (3) visiting family/friends (5.3%), (4) business (4.1%) and (5) health and wellness (4.1%)

Additionally, diving tourists were asked to identify the main activities carried during the trip to Phuket. Results revealed that (1) beach and sun was the most important activity for tourists (89.9%), followed by (2) spa and health activities (42.4%), (3) culture (40.2%), (4) entertainment

(34.7%), (5) marine sports and activities (34.5%), (6) nightlife (34.2%), (7) tours and excursions (32.8%), (8) dining (29.2%), (9) outdoor sports and activities (15.95%) and (10) golf (11.4%)

When asked about purchasing behaviour, the majority of respondents (62.4%) stipulated to have pre-booked the diving course/trip prior to arrival to Phuket, against 37.6% who had not made any reservations in advance. The average pre-booking days reached 16.72 days, however responses ranged from 5 days to 120 days.

Furthermore, findings revealed that in selecting the dive center, most divers relied on the word of mouth, as 52.5% of respondents stated to have chosen the dive operator based on a 'friend referral'. However, 13.5% affirmed to have selected the dive center over the internet, while 11.8 % indicated to have seen it on the street. In addition, 7.5% of divers had heard of the dive operator through a Tour Operator, in contrast to 3.4 % who had selected the dive center with the assistance of a travel agency. In addition, 4.8% of respondents indicated to have read about the dive center on an advertisement.

On the preferred pre-booking method for divers, the Internet seemed to be the most popular (48.7%), followed by a direct pre-booking through the dive center (27.2%), Tour Operator (9.4%), travel agency (6.7%) and through a hotel (6.3%)

Table 3.23 Respondents' Travel Behavior

	N	%
Accommodation type		
City hotel	29	7
Hotel, resort & spa	249	60
Guesthouse	72	17.3
Staying with family/friends	14	3.4
Time sharing property	17	4.1
Apartment	21	5.1
Other	13	3.1

Table 3.23 Respondents' Travel Behavior (Continue)

	N	%
Travel purpose		
Leisure	333	80.2
Shopping	23	5.5
Business	17	4.1
Visiting family/friends	22	5.3
Health & wellness	17	4.1
Others	3	0.7
Touristic activities		
Beach and sun	373	89.9
Spa, health activities	176	42.4
Cultural activities	167	40.2
Entertainment activities	144	34.7
Marine sports and activities	143	34.5
Nightlife	142	34.2
Tours and excursions	136	32.8
Dinning	121	29.2
Outdoors sports and activities	66	15.9
Golf	47	11.4
Others	19	4.6
Dive course/trip pre-booking		
Yes	259	62.4
No	156	37.6
Pre-booking days (average)	16.72	

Table 3.23 Respondents' Travel Behavior (Continue)

	N	%
Dive center selection		
Friend referral	218	52.5
Internet	56	13.5
Saw it on the street	49	11.8
Tour Operator	31	7.5
Advertisement	20	4.8
Travel agency	14	3.4
Journal, magazine article	12	2.9
Other	15	3.6
Booking method		
Internet	202	48.7
Dive center	113	27.2
Tour Operator	39	9.4
Travel agency	28	6.7
Hotel	26	6.3
Other	7	1.7
Average Expenditure		
Total expenditure	\$6,817.17	
Accommodation	\$1,313.51	
Food and beverage	\$783.42	
Diving	\$6,087.17	

In the matter of respondents' travel expenditure, there was a low response rate to this question as it corresponds to a sensitive subject, hence, only a minority of participants shared this information. However, findings revealed that for the total expenditure of the trip (response rate= 9.39%), the average was USD \$6087.17, with an expenditure range of \$400 - \$30,000. Correspondingly, the average expenditure for accommodation (response rate= 8.91%) reached USD \$1313.51 (min: \$30, max: \$9,000), while for food and beverage (response rate=8.43%) the total expenditure amounted to USD \$783.42 (min: \$50, max: \$3500) Lastly, the total average

expenditure on scuba diving was USD \$858.84, with a minimum expenditure of \$75 and a maximum of \$4500.

3.6 Ecological Issues

In regards of the topic of ecologic issues (see tables 3.24 and 3.25), respondents were asked to rank eight statements in a 5-point Likert scale based on level of agreement (1= 'strongly disagree', 5= 'strongly agree')

Findings suggest that scuba divers believe pre-dive briefings carried by either a Dive Master or a Dive Instructor during a dive trip, should emphasize the 3Ts: 'don't touch, don't tease and don't take' (4.72/5) in order to preserve the marine life, as respondents are aware of the potential damage that can be caused to the underwater ecosystem and the reef communities whilst scuba diving (4.36/5)

Furthermore, respondents expressed interest in participating in environmental conservation activities that include diving (3.79/5), although only a minority (17.6%) of divers manifested previous involvement in such activities, indicating to 'agree' (8.4%) and 'strongly agree' (9.2%) with the statement.

Table 3.24 Responses to the Statements of Ecological Issues, Based on a 5-Point Likert Scale

	N	%
The reefs in Phuket are crowded		
Strongly disagree	23	5.5
Disagree	69	16.6
Undecided	148	35.7
Agree	143	34.5
Strongly agree	32	7.7

Table 3.24 Responses to the Statements of Ecological Issues, Based on a 5-Point Likert Scale

	N	%
Scuba diving, at extensive levels, can damage reef communities		
Strongly disagree	5	1.2
Disagree	1	0.2
Undecided	45	10.8
Scuba diving, at extensive levels, can damage reef communities		
Agree	151	36.4
Strongly agree	213	51.3
Pre briefings should emphasize the 3Ts: Don't touch, don't tease and don't take		
Undecided	16	3.9
Agree	83	20.0
Strongly agree	316	76.1
My marine life knowledge has improved during this holiday as a consequence of the received training/instruction		
Strongly disagree	55	13.3
Disagree	218	52.5
Undecided	85	20.5
Agree	38	9.2
Strongly agree	19	4.6
My marine life knowledge is extensive		
Strongly disagree	10	2.4
Disagree	90	21.7
Undecided	171	41.2
Agree	109	26.3
Strongly agree	35	8.4

Table 3.24 Responses to the Statements of Ecological Issues, Based on a 5-Point Likert Scale
(Continue)

	N	%
I have participated in environmental conservation awareness/training activity involving diving		
Strongly disagree	203	48.9
Disagree	47	11.3
Undecided	92	22.2
Agree	35	8.4
Strongly agree	38	9.2
I am interested in participating in environmental conservation awareness/training activity involving diving		
Strongly disagree	10	2.4
Disagree	24	5.8
Undecided	116	28.0
Agree	158	38.1
Strongly agree	107	25.8
I am concerned about the environmental risks and the sustainability of the dive sites in Phuket/Andaman		
Strongly disagree	31	7.5
Disagree	34	8.2
Undecided	140	33.7
Agree	149	35.9
Strongly agree	61	14.7
Total	415	100.0

Table 3.25 Mean Scores for Ecological Issues Statements, as Perceived by Divers

	Statements	Mean	Std.
1	The reefs in Phuket /Andaman are crowded	3.22	0.99
2	SCUBA diving, at extensive levels, can damage reef communities	4.36	0.78
3	Pre-dive briefings during this trip emphasized the 3T's: Don't touch, don't tease and don't take	4.72	0.52
4	My marine life knowledge has improved during this holiday as a consequence of the received training/instruction	2.39	0.98
5	My marine life knowledge is extensive	2.83	0.94
6	I have participated in environmental conservation awareness/training activity involving diving	2.17	1.35
7	I am interested in participating in environmental conservation awareness/training activity involving diving	3.79	0.97
8	I am concerned about environmental risks and the sustainability of the dive sites in Phuket/Andaman	3.49	1.84

When asked about marine life knowledge, 34.7% of respondents affirmed to either 'strongly agree' or 'agree' with the statement of possessing an extensive knowledge of the underwater life. However, 41.20% stated to be 'undecided', while 24.10% of respondents either 'disagreed' or 'strongly disagreed' on this matter.

3.7 Dive Centers' Service Quality (SERVQUAL)

The SERVQUAL instrument applied in this research aimed at obtaining results on diving tourists' expectations and perceptions of dive centers' service quality performance (see table 3.26). Findings revealed that the most valued dimensions by level of importance (expectations) were (1) assurance, followed by (2) reliability, (3) tangibles, (4) responsiveness and (5) empathy.

Nonetheless, out of these five dimensions, 'assurance' was the only component which had a negative gap of -0.51, representing a perceived dissatisfaction among divers. The other four dimensions scored positive satisfaction levels, although it is important to remark that performance scores were not significantly high when compared to the importance scores.

In regards of the 'assurance' dimension (I=4.85), the four items presented scored unsatisfactory levels of performance. The most important element to divers corresponded to the 'confident and trust instilled by instructors/guides to customers' (I=4.96), however, this component had a negative gap of -0.25 against the actual performance score (P=4.71). In addition, the most significant gaps found among this dimension were (1) 'instructors/guides encourage divers to respect the underwater ecosystem and marine life as not to damage it' (P-I= -1.10) and (2) 'instructor/guides put a lot of emphasis on safety instructions and guidelines' (P-I= -0.43)

The 'reliability' dimension (I=4.56), correspondingly, was the second most important dimension to scuba divers. The dimension's components which showed higher scores by level of importance were: (1) low risk experiences and high safety/quality standards are emphasized' (I=4.82), (2) 'briefings are clear, accurate and very informative for everyone' (I=4.75) and (3) 'the dive center provides services at the time they promise to do so' (I=4.63)

Nevertheless, the first two elements resulted in dissatisfaction, as both scored lower levels of performance (P-I= -0.32; -0.19). Regardless of these results, dive centers exceeded customers' expectations, as the overall gap between importance/performance revealed an overall satisfactory score of 0.028 for this dimension.

The 'tangible' component (I=4.53) was the third most important dimension to respondents, who expressed that (1) 'modern/high quality equipment' (I=4.89), (2) 'good facilities to cater for divers' (I=4.87) and (3) 'the quality and quantity of food and beverages' (4.87) were the key elements of this dimension. However, it was found that 'modern/high quality equipments' did not meet divers' expectations, although results suggested a low dissatisfaction score of -0.01. Nevertheless, the overall tangible dimension resulted in a higher performance score (P=4.76), hence, exceeding divers' expectations.

The 'responsiveness' dimension (I=4.47) scored a satisfaction level among all of its elements. The most important one being (1) 'employees give prompt service to customers' (I=4.72), followed by (2) 'employees are never be too busy to respond to customer's requests' (I=4.41) and (3) 'counter staff are very helpful and always eager to answer your questions and

fulfill your requests' (I=4.28). The positive gap between importance/performance was 0.07 for this dimension.

Lastly, the 'empathy' dimension results (I=4.29) - which also exceeded customers' expectations (P=0.20) - suggested that the empathetic elements of higher importance to divers were (1) 'employees understand the specific needs of customers' (I=4.73), (2) 'the company shows interest in customers' feedback and satisfaction' (I=4.31) and (3) 'instructors/guides are always friendly, caring and give customers individual attention' (I=4.25)

Table 3.26 Servqual Results: Mean Scores for Importance (I)/Performance (P) and Gaps Found Between P-I

SERVQUAL	I	P	P-I
RESPONSIVENESS			
Q1. Employees give prompt service to customers	4.72	4.75	0.03
Q2. Employees are never be too busy to respond to customer's requests	4.41	4.53	0.12
Q3. Counter staff are very helpful and always eager to answer your questions and fulfill your requests	4.28	4.35	0.07
Dimension mean	4.47	4.54	0.07
ASSURANCE			
Q4. The behavior of the instructor/guide instills confidence and trust in customers	4.96	4.71	-0.25
Q5. Instructors/guides put a lot of emphasis on safety instructions and guidelines	4.86	4.43	-0.43
Q6. Instructors/guides encourage divers to respect the underwater ecosystem and marine life, as not to damage it	4.82	3.72	-1.10
Q7. Diving instructors/guides have the knowledge to answer diver's questions	4.77	4.52	-0.25
Dimension mean	4.85	4.35	-0.51
EMPATHY			
Q8. The diving center gives customers a personalized service	4.16	4.38	0.22
Q9. Employees give customers personal advice and support	4.19	4.62	0.43
Q10. The company has its customer's best interest at heart	4.08	4.49	0.41
Q11. Employees understand the specific needs of their customers	4.73	4.57	-0.16

Table 3.26 Servqual Results: Mean Scores for Importance (I)/Performance (P) and Gaps Found
Between P-I

SERVQUAL	I	P	P-I
Q12. Instructors/guides are always friendly, caring and give customers individualized attention	4.25	4.68	0.43
Q13. The company shows interest in customer's feedback and satisfaction	4.31	4.18	-0.13
Dimension mean	4.29	4.49	0.2
RELIABILITY			
Q14. The dive center provides services at the time they promise to do so	4.63	4.72	0.09
Q15. When a customer has a problem, employees show interest in assisting/solving it	4.43	4.74	0.31
Q16. Low risk experiences and high safety/quality standards are emphasized	4.82	4.48	-0.34
Q17. Briefings are clear, accurate and very informative for everyone	4.75	4.56	-0.19
Q18. Service performance is right since the beginning	4.16	4.43	0.27
Dimension mean	4.558	4.586	0.028
TANGIBLE			
Q19. The dive center has modern/high quality equipments	4.89	4.88	-0.01
Q20. There are good facilities to cater for divers	4.87	4.91	0.04
Q21. Employees are neat in their appearance	4.23	4.69	0.46
Q22. Brochures are visually appealing	4.01	4.39	0.38
Q23. The company's vessel is highly suitable for diving	4.39	4.74	0.35
Q24. The decor/appearance of the diving center's premises is visually appealing	4.48	4.8	0.32
Q25. The food and beverages provided are fresh, good in quantity and quality	4.87	4.88	0.01
Dimension mean	4.53	4.76	0.22

Regarding customer's overall satisfaction with the dive center (see table 3.27), the majority of scuba divers were either 'very satisfied' (83.6%) or 'satisfied' (13.7%) A minority of 2.6% expressed to be 'neither satisfied nor dissatisfied'. The overall satisfaction rate attained a

score of 4.80/5, showing that scuba diving tourists were highly satisfied with diving centers' services. Furthermore, when asked about the intention to recommend the dive center to others, 97.6% of respondents (n=405) answered positively to this question (see table 3.28), whereas 97.3% (n= 404) expressed interest to come back to Phuket to dive in the future.

Table 3.27 Customer Satisfaction with the Dive Center Services

	N	%	Mean	Std. deviation
Neither satisfied nor dissatisfied	11	2.65		
Satisfied	57	13.73	4.8	0.4557
Very satisfied	347	83.61		
Total	415	100		

Table 3.28 Intention to Recommend the Dive Center to Others and Intention to Return

Diving in Phuket/ Andaman	N	%
Will recommend the dive center to others		
Yes	405	97.59
No	10	2.41
Intention to return to Phuket to dive		
Neither satisfied or dissatisfied	11	2.65
Satisfied	57	13.73
Very satisfied	347	83.61

3.8 Interview Results

Interviews were carried with dive center managers in order to discuss the important dimensions corresponding to the dive product and to obtain information on the situation of the dive market in Phuket as well as on the current challenges and issues faced by operators.

Furthermore, interviews were carried with a biologist engaged in marine ecological activities at the Phuket Marine Biological Center (PMBC) in order to obtain information on the state of the marine environment and the impacts caused by scuba diving.

Lastly, an interview was carried with the Coordinator of Green Fins Thailand, an environmental conservation organization which targets dive operators and scuba divers and focuses on coral reef and coastal conservation.

The results of the interviews will be presented hereinafter, as follows:

Table 3.29 Interviews Carried with Dive Center Managers

Table 3.30 Interview Carried with Phuket Marine Biological Center

Table 3.31 Interview Carried with Green Fins Thailand Coordinator

Table 3.29 Interviews Carried with Dive Center Managers (DCMs) (5 interviewees)

Topic	Results
Market profile of scuba diving tourists	DCMs agreed in the fact that the overall majority of scuba diving tourists are European, aged 20-40 years, mainly diving with a spouse. The market is not based on 'walk in' customers but on a more specialized population which seeks information and pre-books in advance, as divers are more interested in quality and in obtaining feedback from customers, either by a friend recommendation, comments posted online or in specialized magazines. In contrast, budget tourists tend to frequent dive centers located in popular touristic areas such as Patong, and are more interested in obtaining a 'good deal' rather than on a dive center's reputation. During high season, the core product DCMs target in sales, are liveaboard trips, which are high-expenditure products that provide the best experiences in the most unique sites categorized among the best in the world. In addition, divers are more skilled and autonomous, levels of risk are lower and the experience is generally very satisfactory. However, this information came mainly from DCMs personal recall, as in general, a proper market profile had not being developed.
Implemented marketing strategies (CRM, quality control)	Four out of five DCMs indicated that the only information collected from divers upon registration consisted of issues such as age, sex, nationality but did not include any information that could be used neither for a market profile elaboration nor for marketing strategies. Only one dive center indicated to have been implementing a Customer Relationship Management (CRM), as a market profile had been established, both pre-purchase and post-purchase strategies were put in place and obtaining customer feedback was very important to the company. Quality control strategies were implemented by this dive center as well, in addition to the obligatory quality control assessment undertaken by PADI or the diving association dive centers are affiliated to.

Table 3.29 Interviews Carried with Dive Center Managers (DCMs) (Continue)

Topic	Results
Main challenges faced by the dive industry in Phuket	<p data-bbox="416 443 1177 517">In general, DCMs indicated that the main challenges faced by the industry were related to the following matters:</p> <ul style="list-style-type: none"> <li data-bbox="475 539 1177 613">- Lack of cooperation, cohesion, support and agreement among dive centers, local authorities and the Thailand Diving Association (TDA) <li data-bbox="475 636 1177 710">- Too many political conflicts, abuse of power and corruption within the industry, unequal benefits and favoritism <li data-bbox="475 732 916 754">- Lack of control, supervision and regulations <li data-bbox="475 777 1177 904">- No site management control, sustainability represents an issue that should be embraced by the government, as the private sector needs support and cannot face this challenge on its own <li data-bbox="475 927 1177 1099">- Competitive pricing strategies are difficult. Diving is becoming increasingly expensive in the area due to fuel costs and fees applied by the government, as visiting dive sites include displacement to distant locations, as Phuket/Andaman sites are not situated on reef shores <li data-bbox="475 1122 1177 1196">- Keeping high quality standards and competitive advantage in the market <li data-bbox="475 1218 847 1240">- Hiring qualified staff, reducing costs <li data-bbox="475 1263 1177 1337">- Protecting the environment from diver-induced damage and other causes
Marine National Parks	<ul style="list-style-type: none"> <li data-bbox="475 1361 1177 1489">- The underwater environment is not really protected in these areas. Sightings of locals fishing in 'no take zones' have occurred, there is a poor control and regulation is not respected <li data-bbox="475 1512 1177 1585">- Although site management has been announced, the implementation of it has been ineffective <li data-bbox="475 1608 1177 1729">- There is unclear information on the distribution of the profits obtained from fees. Few projects, poor management and control have failed to improve facilities, preserve sites and enhance diving experiences

Table 3.29 Interviews Carried with Dive Center Managers (DCMs) (Continue)

Topic	Results
Ecological issues	<ul style="list-style-type: none"> - Ecological projects such as beach clean ups and reef conservation programmes have been carried and promoted by TDA, dive centers and the Phuket Marine Biological - Center, but these do not happen very often and do not involve the overall participation of dive companies. Most of the time, such projects are undertaken independently by each organization - The most experienced divers are more keen in learning and protecting the marine environment and tend to be ecologists - In Thailand, the AWARE program promoted by PADI encourages an underwater code of conduct that is eco-friendly and aims at educating divers and protecting coral reefs. The PMBC also carries projects that involve the local community and aims to increase awareness and education among divers and Thai nationals - Divers seem to be interested in the conservation and protection of marine resources, as the global trends in tourism foster sustainable and ecological friendly approaches, scuba divers also favor such initiatives when it comes to the selection of a dive center and in the future, DCMs believe that 'eco labels' or 'eco-friendly' certifications will play an important role in adding value to dive centers' services and reputation - Although DCM were aware of the importance of guaranteeing minimal impact during the dives, no supervision or control measures were implemented in any of the companies, in order to assess staff's ecological behaviour and attitude during pre-dive briefings and whilst underwater - DCM expressed frustration and concern in regards of the sustainability of the dive industry in Phuket, as regulation implementation is insufficient. Diver-induced damage is visible and many customers often comment on this matter, as coral breakage or damages caused by unskilled or negligent divers are witnessed

Table 3.30 Interview Carried with Phuket Marine Biological Center

Topic	Results
Objectives of PMBC and main contributors	<p>To carry out research on marine and coastal resource in the Andaman Sea and the Gulf of Thailand and to provide education on the importance of sustainable uses of natural resources</p> <p>Contributors: Thai government, local community and private sector (No dive centers contribute or cooperate with PMBC directly)</p> <p>Directed by: Department of Marine and Coastal Resources</p>
Functions and units of the PMBC	<p>The PMBC is responsible for: marine and coastal resource exploration, marine biology and ecology research, marine and coastal resource production and assessment, reference collection and aquarium, marine endangered species studies, and oceanography and environment research.</p> <p>PMBC works with schools and universities to provide university.</p>
Opinion on the current situation of the dive industry in Phuket	<p>There is a lack of cooperation or 'structure' within the dive industry. Companies do not work as a network, due to politics involved in each organization. Such divergences prevent DCMs from committing to work together, as there are conflicts and differences in the objectives aimed at (monetary vs. environmental) Furthermore, the industry has mainly focused on economic benefits and has been developed almost exclusively from the Thai community. Therefore, what is more important than joining forces among dive operators, is to actually work together with the local community and to embrace the social responsibility that exists towards Thai people and the preservation of marine resources. Each company should be interested in improving ecological awareness within the local community as some are very 'primitive' and do not understand the consequences of human actions on the marine environment. In addition, the dive industry is not accessible to all due to economic constraints, lack of education and skills and language barriers.</p>

Table 3.30 Interview Carried with Phuket Marine Biological Center (Continue)

Topic	Results
Legal framework and regulations in Thailand	Laws exist in regards of marine fauna protection and fishery. It protects all corals, 400 species of aquarium fishes, turtles, specific shell species, whale sharks, cetaceans and seahorses. However, most shark species are not protected by law and shark fin consumption is not illegal. Regulations exist in regards of MNP's protection and maintenance, the use of boats (type, anchoring, zoning)
Actual situation of the legal framework and regulations' implementation in Phuket	"At this point, it is almost impossible to avoid illegal fishing and overfishing", even in protected areas. There is no strict control in the sea. Laws and regulations mainly cover MNPs, although even in such zones, rules are not entirely followed and respected. Dive sites can be crowded and the number of staff is insufficient to supervise and patrol the sea, especially during the night.
Main factors contributing to coral and marine life damage in Phuket/Andaman	<p>The main cause of coral damage is bleaching, occurring from: (1) coastal development (sedimentation), (2) fishing and (3) tourism (direct and indirect causes).</p> <p>Two main coral bleaching took place in 1991 and 1995, causing great damage to the Andaman's corals. At present, the situation is quite dangerous, as water temperatures are rising and 50% of the corals are already dead in the Andaman cluster.</p> <p>In the Phuket area, the 2004 tsunami damaged several dive sites, however it was not a main cause of deterioration, since corals have shown a rapid recovery and growth. Most of the damage comes from human disturbances, in areas close to the beach front due to sedimentation resulting from constructions. In coral reefs, human-induced damages include dynamite fishing (in the 1980's), boat anchoring, crowding, water sports practices, and damages resulting from tourism, such as coral extraction, fining causing sedimentation, fish feeding causing alterations in the ecosystem (e.g. starfish infestation on corals)</p>

Table 3.30 Interview Carried with Phuket Marine Biological Center (Continue)

Topic	Results
Scuba diving: An opportunity or a threat?	<p>Diving tourism is both positive and negative. It is an opportunity because it represents economic benefits and income for the community, as it is a main contributor to the local economy. It also serves as an 'eye' to observe and denounce practices such as dynamite fishing, which was banned several years ago. On the negative side, it causes destruction, as the dive industry is unsustainable and there is no control in the area. However, this could be mediated, if dive centers and other organizations in cooperation with tourism actors and the government, could strongly commit to changing and promoting a good behaviour of divers underwater, through education, for example.</p>
Artificial reefs	<p>Artificial reefs could positively contribute to the sustainable development of the dive industry and to the protection of coral reefs. It would result in coral growth while reducing stress in other sites. Such projects have been either carried or conceptualized in the area, unfortunately maintenance has been poor and investment has been insufficient. A 'pirate ship' was going to be sunk to create an artificial wreck site, but it sank on the way to its destination, and is unreachable now. There is clearly a lack of logistics and although the idea of artificial reefs is quite good, it has been unsuccessful since the industry has not put enough attention or interest to it.</p>
Dive industry sustainability: Barriers and challenges	<ul style="list-style-type: none"> - Lack of awareness at an international, national and local level - Lack of commitment from dive operators - The lack of cooperation between the private and public sectors - Poor practice and respect of laws and regulations - The lack of involvement of the Thai community in the industry - Minimizing impacts of tourism with good and effective planning and management

Table 3.30 Interview Carried with Phuket Marine Biological Center (Continue)

Topic	Results
Recommendations to ensure a sustainable future of the dive industry	<ul style="list-style-type: none"> - Education to promote awareness among divers and the local community - The elaboration and implementation of projects involving the community, international and local divers, the private and public sectors, in regards of the environment conservation and sustainability - Reinforcement of laws and regulations - Investment in MNPs, further economic allocation in the area, aimed at developing diving tourism in a sustainable way, project development, coastal management and scientific research - Commitment from dive operators: Even if the government does not provide the industry with economic support, companies have the power to make changes and influence divers' behaviour while encouraging them to take action in protecting the marine ecosystem. Furthermore, dive operators can also launch campaigns and projects independently, or work together with other dive centers.
Mission and objectives of GF Thailand	<p>Mission statement: "To protect and conserve coral reefs by establishing and implementing environmentally friendly guidelines to promote a sustainable diving tourism industry"</p> <p>Objectives: To establish a network of environmentally friendly dive operators that will assist with monitoring coral reefs and enhancing public awareness through operating dive shops according to a set of eco-friendly guidelines</p>
Current situation of the GF Thailand project	<p>Public sector partners include: the Department of Marine and Coastal Resources, MNPs and TAT. Private sector partners include those in the tourism industry such as hotels and dive operators. There are 120 dive centers affiliated to GF, in 6 provinces located in the Andaman coast and the Gulf of Thailand. Furthermore, there are 200 individual members.</p>

Table 3.31 Interview Carried with Green Fins Thailand Coordinator (Continue)

Topic	Results
GF members' commitment	Participate in regular underwater cleanups, participate in the development and implementation of a mooring buoy program and actively use such device, participate in coral reef monitoring, implement an adequate waste management, abide by environmental laws and regulations, provide guests with an explanation of GF in pre-briefings, provide training to employees and guests on good environmental practices for snorkeling, diving, boating, marine wildlife interaction and other marine recreational activities, provide guests with information on local marine protected areas, rules and regulations, promote a strict 'no touch' policy for all reefs diving and snorkeling
Activities undertaken by GF	Promotion of a code of conduct for divers, talks, conferences, seminars, school visits, community-involved activities and environmental campaigns such as "Reduce & Recycle" or "Play Tons" for kids, education, garbage cleaning, reef monitoring, clean-ups. Activities involve both Thai and international divers
Opinion on the educational system of PADI in regards of the environmental education provided	There is a need to provide a better diving education, especially to teach divers to respect and appreciate the environment because diver are 'visitors', as the marine world is hosting them. Hence, the underwater environment should remain intact. Environmental education is lacking in the literature and materials provided by PADI, but GF is a good response to this vacuum. Now, companies are more interested and willing to participate in this project.
GF survey results on dive centers' commitment to the GF project	In 2004, the GF operation was challenging and difficult. The survey was only held during the first 3 years after GF was introduced in Thailand. Results were quite fair at the time. In the future, GF will try to implement the operators' assessment instrument, if the budget allows.

Table 3.31 Interview Carried with Green Fins Thailand Coordinator (Continue)

Topic	Results
Eco-friendly certifications and labels for the dive industry	European and American divers are conscious and possess higher levels of awareness in regards of the importance to protect and provide a sustainable future for the marine environment. Certification and labels will play an increasing important role when it comes to choosing a dive operator, as divers do seem to prefer companies that are committed to ecological purposes. As long as this tendency exists, this will be positive because more companies will be interested in joining the GF project. Although eco-certifications might exist at present, these are not exclusive to the industry of diving. In Thailand, GF is the only organization providing an eco-friendly certification for the dive industry specifically.

CHAPTER 4

SUMMARY

Phuket is one of Asia's top diving sites and the main dive base in Thailand. With its outstanding marine life and reefs, the Andaman offers a great variety of diving sites for divers of all levels of experience and contains the world's highest marine biodiversity (Allen & Werner, 2002 in Main & Dearden, 2007) The dive industry has clearly been developed in the last 30 years in order to cater for the growing demand of diving tourists who visit Phuket, however, the abundance of dive operators, products and services available in the market have created a competitive environment which can only be faced by providing customers with the highest levels of quality while increasing the market share and maintaining the existing customer base at the same time (O'Neill et al., 2000)

The expansion of the scuba dive market demand and the WTO's forecast for 2020 suggest that the demand will continue growing at a fast pace. Hence, it is in the interest of dive professionals, local government and administrations as well as environmental authorities, to better understand the scuba diving population through the elaboration of a pertinent market profile that includes not only demographic information, but also relevant data on the motivational factors behind the activity of diving, divers' behaviour and travel preferences, among others. In addition, understanding what scuba divers' expect and perceive about dive operators' service quality performance is necessary in order to satisfy customers by providing exceeding levels of quality that outperform the existing competitors on the island.

Therefore, the objectives of this research were: (1) to generate a market profile of scuba diving tourists visiting Phuket and (2) to measure scuba divers' expectations/perceptions of dive centers' service quality performance.

The target population of this study included domestic and international diving tourists visiting Phuket during February-April 2010, with a sample size of 399 divers. A total of 415 questionnaires were collected for the data analysis, which was conducted using the SPSS 16.0 program.

4.1 Conclusion

The demographic profile of scuba divers showed that the average diver was a highly-educated male or female aged in his/her 30's and coming mainly from a European country.

Results suggested that scuba diving tourists visiting Phuket seem to be advanced divers frequenting several different dive spots during the trip and participating in various diving activities such as underwater photography and night diving. The main motivational factors which influenced individuals to participate in scuba diving were 'to look at fish and other marine life' and 'to experience adventure and excitement'. These results were logical as the activity takes place in an underwater environment and also involves submerging into settings that are unknown, subsequently fostering the sense of adventure and excitement among divers.

Diving tourists stayed in Phuket for less than two weeks and decided to dive in the area for reasons such as 'marine life and coral diversity' and the 'opportunity to see specific species', which suggested that divers prefer and seek interactions with marine environments during the dive experiences over 'good value per money' or 'proximity or accessibility of diving spots'. In addition, the activity of diving was moderately important to the majority of respondents in the decision to visit Phuket.

The most visited dive sites were the Similan Islands, Racha Yai/Racha Noi and Phi Phi Islands. In addition, results revealed that diving tourists also dived in spots that are not necessarily popular and that may require longer travelling distances (e.g. Sra Keow Cave, Krabi) Some of these sites, however, provide divers with the opportunity to do specialty dives such as cave or wreck diving, suggesting that such activities may attract a 'niche' segment within the diver population.

The depths of dives varied among respondents' levels of experience and ranged between 6m to 75m, implying that Phuket/Andaman encloses dive sites that are suitable for all levels of divers, from novice to specialist.

During the dive experience, the most important elements as perceived by divers were 'marine life in general' and 'marine life diversity', which once again, emphasized the significant value of the marine ecosystem to the activity of scuba diving, thus inferring that in order to

provide quality experiences, the conservation, protection and sustainability of the marine environment must be ensured.

The overall majority of divers were diving in Thailand for the first time, although a significant percentage of respondents were returning divers (26.7%) The most popular diving destinations visited by returning tourists in previous trips were Koh Tao and Phuket.

In regards of other Asian dive sites or places respondents wished to dive, spots located primarily in Indonesia, Malaysia and Micronesia were mentioned, giving an insight on Thailand's main competitor destinations at present.

The sample population of this research was based on leisure tourists seeking for 'sun, sea and sand', and staying in a hotel, resort & spa during the trip.

Results showed that 'word of mouth' was the major source of information in regards of the dive company's selection, as the majority of respondents had heard from the operator through a friend. Additionally, it was concluded that diving tourists preferred to pre-book the diving trip/course online, prior to arrival to Phuket.

In the matter of ecological awareness and implications, respondents expressed strong support for the reinforcement of ecological/non-damaging behavior while scuba diving, during pre-dive briefings. Furthermore, results suggested a general agreement among divers, in regards of the coral reef damage that can be caused by scuba diving, at extensive levels. This finding implies that divers are aware of the need to protect the marine environment and are conscious of the negative consequences that may arise from the practice of scuba diving.

A main objective of this research was to assess divers' perceptions of the importance and performance of the various service quality dimensions delivered by dive centers. Results indicated that 4 out of 5 dimensions were satisfied, as the performance levels exceeded divers' expectations, with the exception of the 'assurance' dimension which showed an unsatisfactory level of performance, and corresponded to issues related to safety, trust and non-damaging underwater interactions.

Results offer a 'state of affairs' of the service quality being performed by diving centers in Phuket and pinpoints the existing shortfall in the dimension of 'assurance', which was, in fact,

the most important dimension as perceived by divers, followed by 'reliability'. However, the negative gap of the first dimension was relatively low (-0.51), giving an optimistic standpoint to managers who are committed to improving services and satisfying customers' needs.

Scuba diving tourists, in general, seemed to be satisfied with both the dive experience in Phuket/Andaman (4.58/5) and the dive center's services (4.80/5) In addition, the majority of respondents expressed the intention to recommend the dive operator to others (97.6%) and to return to Phuket to dive (97.3%)

4.2 Discussion

4.2.1 Objective 1: Market Profile of Scuba Diving Tourists Visiting Phuket/Andaman

The demographic characteristics of scuba diving tourists were similar to those reported in previous studies carried in international contexts (Mundet & Ribera, 2001; Miller et al., 2009; De Melo, 2003; Thapa et al., 2005; Tourism Queensland, 2004; Canadian Ministry of Tourism, 2007; O'Neill et al., 2000; Musa, 2002, 2006; Ditton et al., 2002)

The findings of this research revealed that the sample size was dominated by male divers although, as supported by the literature on diving tourism, the gender balance seems to be changing and becoming more even, as 41.7% of respondents were females. However, this result is in contradiction with the findings of Worachananant et al., (2004), which suggested that the diver population at Surin Marine National Park in November and December 2004 was primarily composed of Thai females.

The average diver was 35.26 years, which is in accordance with the findings of previous studies (Garrod and Gössling, 2008; Tabata, 1992; Mundet and Ribera, 2001; Musa, 2002; Miller et al., 2009) Although divers came from a wide range of countries, most were either Europeans or Americans, mainly single. The Thai diver population was not representative in this research (n=2), which may be due to the high costs of training and diving, especially during the peak season for diving.

Furthermore, diving tourists manifested high levels of education, as 87.2% of respondents affirmed to possess either a graduate or post-graduate degree. Furthermore, the

average income of respondents ranged between USD\$20,000- \$39,999. As Mundet and Ribera (2001) suggested, these results might be linked to the requirement for purchasing power, since scuba diving involves equipment, training and sometimes long-haul trips to access dive sites. In addition, Cater and Cater (2001) support the idea that the domination of highly-educated divers is linked to the high participation costs of the activity, as individuals with well-paid jobs are more likely to be able to afford these expenses.

The dive history of respondents varied widely in terms of the total number of logged dives, years of certification, certification level, and total number of dives in the last 12 months. The broad range of results in this matter has been previously exposed in studies conducted in other locations such as Spain (Mundet and Ribera, 2001), Australia (Rouphael and Inglis, 1995; Miller, 2005), the Florida Keys (Meisel and Cottrell, 2003) and New York (Todd, 2004). The findings of this research disclosed that 42.4% of respondents possessed an Advanced Open Water certification, followed by 30.4% who had an Open Water certification. However, only a small number of divers (17.8%) held a Rescue Diver, Dive Master or Dive Instructor certification. The average diver had been certified for 4.33 years. These results align with Miller's (2005) study conducted in the Great Barrier Reef, Australia in which divers commonly held basic and intermediate certifications (60.4%) in contrast to 18.3% of divers who possessed advanced and professional certifications. Furthermore, the results of this research showed that scuba certifications increased significantly with each level of experience, meaning that '*beginners*' tended to hold a basic Open Water certification, while '*intermediates*' were more likely to possess an Advanced Open Water certification only. In the same way, '*enthusiasts*' levels of certification ranked from Open Water to Rescue Diver, while for '*specialists*', certifications ranked from the basic to the highest (Open Water to Dive Instructor), although the majority of '*specialists*' held a Dive Master certification.

Based on the total number of logged dives, respondents were categorized under four levels of experience. Findings revealed that the majority of respondents were '*intermediates*' (42.6%), followed by '*enthusiasts*' (22.6%). Interestingly, only 18.3% of respondents were '*beginners*', while 16.3% were '*specialists*'. These findings show that in contrast to previous findings which suggested that Phuket's diving industry relied on a high turnover of inexperienced divers (Bennett, 2002) and divergently from popular dive sites such as Koh Tao, Phuket is not

based on the average back-packer diver, but mainly on more advanced scuba divers. The dominance of such diver population can be explained by the fact that the questionnaire was launched during the high season of diving, in which Marine National Parks were open, attracting divers from all over the world to visit Phuket/Andaman during that time of the year, in which both weather and visibility are most suitable for diving. Additionally, the majority of the dive centers which cooperated with this research offered liveaboard trips, which, as mentioned previously, tend to cater for the most specialized divers, since greater investment is required in terms of time and money and involve mobilization to 'pristine' areas in which dives are undertaken over several days, in various dive sites (Dearden, Bennett and Rollins, 2007)

Furthermore, the overall average of logged dives was 138, with a minimum of 2 dives to a maximum of 2520 dives. However, when results were compared and examined by divers' certification level, there was an evident degree of overlap among responses. Indeed, while some divers may increase both the certification level and number of logged dives accordingly, some may not. For instance, Open Water divers had an average of 74.87 dives, with a minimum of 6 dives to a maximum of 1043 dives. This later number greatly exceeds the number of dives required to become a Diving Instructor (e.g. 100 dives), and clearly suggests that individuals may actively and extensively participate in scuba diving activities and yet not seek to obtain further certifications. Hence, scuba certification alone cannot be a reliable measure of divers' level of experience.

During the last 12 months previous to the completion of the questionnaire, the number of logged dives increased from beginners to specialists, indicating that those with higher levels of experience tended to dive more often and participated more actively in the activity.

The average diver's main motivation to dive was 'to look at fish and other marine life', as expected, followed by 'to experience adventure and excitement' and 'discover new places and things'. Such findings are in alignment with those reported by Todd (2002) and Thapa, Meyer & Pennington-Gray (2002) However, motivations varied among the subgroups of divers by level of experience, and results suggested that at a beginner/intermediate level, divers might be initially drawn by the idea of adventure and challenge that involves scuba diving, as well as the desire to participate in an activity that is 'new' to them, as the level of experience is still limited.

Nevertheless, as the level of experience increases, the desire to live an adventurous scuba diving experience is still latent and has the potential to achieve a state of peak when risk and competence are in balance (Morgan & Stevens, 2008)

In addition, as the level of experience increases, it seems that motivations that involve 'discovery' and 'learning' tend to gain importance, as well as the sense of 'escape'. This last motivation can be explained by the fact that once a diver has obtained a certain level of skills and abilities, he/she is more likely to have a more relaxed attitude towards the sport (Meisel & Cottrell, 2003; Ditton et al., 2002; De Melo, 2003), as the sense of risk and danger are diminished, hence scuba diving becomes an activity in which -due to the expertise and dive history of participants- divers can submerge into an underwater world that is different from the everyday context, go deeper, longer, and in the search of new or diverse spots and experiences that will provide them with a sense of escape from daily routine. Cater and Cater (2008) align such factor to Beard and Ragheb's (1983) leisure motivator of 'stimulus-avoidance', implying that scuba diving provides an opportunity to escape into an environment that is not normally experienced and that arises individuals' intrinsic curiosity, as the sea is an ecosystem in which humans are not designed to live.

The social component of 'to be with friends' and 'for family recreation' revealed similar results to those of the previously mentioned authors; divers tended to seek interpersonal relationships by making new friends, however participants did not show significant interest in diving for 'family recreation', as suggested by De Melo (2003) Beard and Ragheb's (1983) 'social component' suggests that there are two basic needs to be met: (1) the need for friendship and interpersonal relationships and (2) the need for the esteem of others. This seems pertinent to the context of scuba diving, since the 'buddy format' is central to the activity, as divers are highly encouraged to dive in pairs for both safety issues and continual monitoring (Cater and Cater, 2008)

A significant number of respondents (39.5%) stated that scuba diving was 'important' or 'extremely important' in the decision to visit Phuket, against 31.10% of divers who specified that diving was either 'of little importance' or 'not important'. These results show that it would be a mistake to believe that the market demand relies on 'walk-in' customers, as it also seems to cope with individuals who deliberately seek to practice the sport whilst on holiday. This

trend is stronger at the enthusiast and specialist levels, as recreational activities are more central to the lifestyle of the most specialized recreationists, who often travel large distances to practice the activity (Bryan, 1977 in Miller, 2005)

The main reason given for choosing to dive in Phuket was: 'marine life and coral diversity', which was expected of an activity which is essentially based on marine resources. Divers also chose to dive in the area for the 'opportunity to see specific species', which may include large pelagic fishes (e.g. whale sharks, silver tip sharks), hard and soft corals (e.g. sea fan corals) or small fishes and inhabitants (e.g. pygmy seahorses, nudibranches), to recall a few. As suggested by Miller (2005), the desire to interact and/or see specific species or habitats increases along with the level of expertise of divers, since the knowledge and understanding of the underwater world is expanded.

Respondents also expressed that the dive products and services were of 'good value per money', suggesting a positive perception of the pricing strategy of Phuket's dive industry. Although the activity of diving is generally considered as 'expensive', the local dive market seems to provide competitive pricing in comparison to other international sites. For instance, an 8d/7n liveaboard trip to the Bahamas costs approximately \$2295/person, comparably to Palau which offers the same sort of trip for approx. \$2300-\$2700. Similarly, a 7d/7n trip to Bali and Komodo is likely to be around \$1900 while a visit to the Great Barrier Reef will cost \$2500 for 8d/7n. Liveaboard trips in Phuket, however, are offered at a much lower rate, ranging from \$1400-1600 for a 6-day trip to the Similan Islands, Surin and Richelieu Rock, or \$1400-\$1500 for a 6d/7n trip to both the Similan Islands and the Mergui Archipelago in Myanmar.

The top visited dive site in the Andaman was the world-famous Similan Islands, which benefits from a very strong popularity among the diver population. Other Marine National Parks such as Phi Phi and Surin Islands were also among the most visited sites, indicating that, as suggested in the literature (Barker & Roberts in Garrod & Gössling, 2008), divers are attracted to sites that have been designated as marine protected areas since these are perceived to shelter healthy and abundant marine life.

In addition, results showed that besides the commonly visited spots, respondents also visited sites which are suitable for specialized divers only, such as the Sra Keow Cave in

Krabi or the HMS Squirrel vessel in Promthep Cape, which has a minimum depth of 65m, hence, only 'tec divers' are able to reach such depths, which exceed the recreational standards of scuba diving and involve higher risks. Results also revealed that diving tourists undertook various specialty diving activities during the trip to Phuket, representing an opportunity for dive operators to tailor diving trips to the specific needs of specialized divers, who, as suggested by Tabata (1992), may travel extensively to view wrecks, coral reefs and caves in order to carry out specific dive techniques (Smith,2005)

Divers' overall satisfaction with the dive experience was quite high (4.58); only 0.7% of respondents expressed dissatisfaction. This result is very positive, as it is well recognized that a satisfied tourist will recommend the destination to others, thus reinforcing Phuket's image as a top destination for diving. In addition, it was found that 26.7% of respondents were returning tourists, who had previously dived in Thailand, hence, providing stronger support to the importance of maintaining high levels of satisfaction in regards of the dive experience in order to increase such number through word of mouth. Additionally, 97.3% of respondents affirmed to be interested in returning to Phuket to dive in the future.

On the most important elements of the dive experience, divers expressed interest in attributes related to marine life (e.g. marine life in general, good coral condition) However, it was found that in accordance with Miller et al. (2009), beginners seemed to be more concerned about physical features such as weather and water temperature than the more experienced divers. Interestingly, 'whale sharks' and 'manta rays' were not among the top rated elements of the dive, although these species are highly promoted in tourism campaigns. However, enthusiasts and specialists gave more importance to these iconic creatures than beginners and intermediates, suggesting that more experienced divers may have higher expectations of sighting or encountering such species during the dives. Furthermore, results revealed a clear difference in responses in regards of the issue of 'crowding' among subgroups. This element was more important to enthusiasts and specialists who, as Bennett (2002) suggested, have lower tolerance for high crowding on sites.

The average diver tourist visited Phuket for leisure purposes and stayed in a hotel, resort & spa during his/her trip, with an average length of stay of 11 days during which the main activities undertaken involved the 'beach and sun'. In addition, scuba diving trips were pre-

booked with an average of 17 days in advance. The main source of information about the selected dive center was a 'friend referral', while the most popular booking method was found to be the Internet.

These findings draw attention to the substantial need to provide and maintain satisfactory levels of service quality, as divers seemed to select a dive operator based on its reputation and additionally, demonstrated a tendency to use the Internet as the preferred booking method, thus suggesting that dive operators should also focus on the quality of the information and services provided online.

Respondents' average expenditure on diving exceeded the expenditure amount for accommodation and food & beverage, suggesting that those who responded to the question had taken liveaboard trips as such divers belonged to the more experienced groups of participants who are more willing to spend high amounts of money and time in participating in the activity of scuba diving (Miller, 2005)

On the ecological issues, scuba divers expressed high levels of agreement in the statement suggesting that pre-dive briefings should emphasize the 3T's of: 'don't touch, don't tease and don't' take', as divers are conscious of the damage that can be caused by scuba diving. Such findings reveal, as suggested by De Melo (2003), that divers accept and welcome awareness campaigns and pre-dive briefings (Medio et al., 1997) on environmental friendly practices, indicating a sense of openness and responsibility to reef and marine life conservation issues. In addition, it seemed that the majority of respondents did not consider the marine life knowledge they possessed to be extensive, and additionally, it had not improved during the trip, as a consequence of the received training/instruction of dive professionals, highlighting a lack of marine life education within the industry. Although only a few divers had participated in environmental projects involving diving, higher numbers of respondents showed interest in participating in such projects in the future. Furthermore, divers seemed to be 'undecided' about being concerned for environmental risks in Phuket/Andaman and on crowding. Nonetheless, in 2002, Bennett's findings revealed that diving tourists visiting Phuket were not satisfied with the levels of site crowding, and Main (2007) urged the need for site management and site restrictions in the area.

4.2.2 Objective 2: Dive Centers' Service Quality: Importance and Performance

Previous research on diving tourism in Thailand has focused on issues such as the economic benefits of diving in MNP's (Tapsuwan et al., 2004), the impacts of scuba diving in coral reefs (Worachananant et al., 2004), the perceptions of diving impacts (Dearden et al., 2000) and the tsunami impacts on Phuket's dive industry (Main & Dearden, 2007). Although the findings of these researches have provided relevant and useful information on topics related to the dive tourism industry at a national and local context, none of them has aimed at developing a clear market profile of divers or at investigating the consumption aspects of the dive experience and the provision and performance of service quality by dive centers. This research attempted to obtain insightful information on the key attributes of service quality performed by dive centers in Phuket.

The SERVQUAL results showed that 'assurance' rated highest in terms of importance, which is not surprising given the fact that scuba diving is a potentially hazardous activity, however, this dimension scored the lowest level of performance among the five service quality dimensions, the biggest gap (-1.10) being related to the lack of instructor/guide's commitment to encourage divers to respect the underwater ecosystem during the dives. Of high interest is the fact that the item of 'instructors/guides put a lot of emphasis on safety instructions' had the second biggest negative gap in the assurance dimension, result that should be taken in consideration by all dive operators, because although the nature of risk is inherently seductive to the activity of diving (Lyng, 2005 in Morgan et al., 2008), Cater (2005) denotes that while adventure tourists may want to be thrilled and perhaps even frightened, participants do not actually want to be endangered during recreational experiences. In addition, Worachananant's (2004) study undertaken in Surin MNP revealed that despite the fact that divers may be aware of the negative effects of scuba diving, individuals seem to practice low environmental care. However, the author presumes that this may be linked to a lack of awareness of the specific actions that cause damage. Hence, it is in the interest of dive operators to promote and reinforce an underwater "code of conduct" among divers for two main reasons: (1) to ensure the sustainability of the marine environment as to maintain the attractiveness of sites and to protect the reef resources in which the dive industry is based, and (2) to contribute to a favorable dive experience that may positively influence divers' satisfaction, as it has been suggested that divers

who witness environmental damage or impacts from other individuals are significantly less likely to return to Phuket to dive (Dearden et al., 2001) Therefore, ensuring safe experiences with minimal environmental impact should be the top priority for managers.

The second most relevant dimension by level of importance was 'reliability' (4.56/5), which concerned the dive operator's ability to perform the promised service accurately. Once again, the most significant gap (-0.34) between the expectations and perceptions of actual performance was related to the emphasis given to providing low risk and high safety/quality experiences to customers, followed by 'briefings are clear, accurate and very informative for everyone' (-0.19) In regards of the last issue, briefings can play an important role in enhancing the dive experience and therefore contributing to higher levels of satisfaction among divers, as instructors/guides can optimize the briefing period to share interesting and pertinent knowledge about marine life, site characteristics, possible marine encounters, weather conditions as well as clear information on the dive logistics (e.g. depth, bottom time) and safety guidelines. It has been suggested by Smith (2005) that briefings seem to raise divers' expectations before entering the water, hence the necessity to provide accurate and reliable information in order not to disappoint customers if expectations are not met.

The dimension of 'tangibles' scored the third highest level of importance as perceived by diving tourists. The only attribute to have shown a low negative gap was 'the dive center has modern/high quality equipments' (-0.01), signifying that efforts should be done in obtaining high quality equipments and providing regular maintenance to them, as the success of the scuba diving activity depends on underwater devices which are essential to the safety of divers . Nonetheless, the remaining six attributes of the tangible dimension scored levels of satisfaction. Attributes related to the visual appearance of staff, brochures and premises of the dive center scored lower levels of importance, suggesting that while still relatively important to divers' perceptions, such attributes are not as relevant as those directly linked to the dive experience itself, corresponding to the equipment, facilities to cater for divers and the food and beverages provided whilst on the boat. Such findings are in accordance with those of O'Neill et al., (2000) who concluded that the tangible elements are fundamental to the dive product in terms of both assurance and safety, as the appearance of dive centers' premises, for instance, gives a first impression to customers and may influence divers' perceptions of trust and security.

The 'responsiveness' dimension scored levels of satisfaction among its three attributes, suggesting that dive operators seem to be committed to delivering quality services, as respondents perceived that staff members provided a prompt service, were always available, helpful and eager to fulfill customers' requests and provide assistance to them. This is an outstanding result for the companies under investigation, as this indicates a good performance in regards of the human interactions that take place during the service delivery. Furthermore, O'Neill et al. (2000) emphasized the importance of exceeding customers' expectations in regards of this dimension, as scuba divers who participated in a study carried in Australia indicated that a warm welcome and the 'feel good' factor associated to it were of high relevancy; additionally, the authors stated that if such attributes were not satisfactorily performed, divers would simply take business somewhere else.

Lastly, the dimension of 'empathy' resulted in two negative gaps, corresponding to (1) 'employees understand the specific needs of customers' (-0.10) and (2) 'the company shows interest in customer's feedback and satisfaction' (-0.13) Such attributes may be related to each other, as interviews carried with dive center managers demonstrated that most of the operators were not conducting a quality control program or survey to obtain feedback from customers; such vacuum may consequently result into a lack of understanding in regards of divers' needs. However, the satisfactory results of the remaining attributes of this dimension suggest that the interaction between employees and customers is favorable, as the attributes related to the provision of a personalized service, advice, support and friendliness of the staff scored levels of satisfaction among the diver population.

Analysis revealed, as a whole, that dive operators are succeeding in performing high levels of service quality. Furthermore, the only existing negative gap in the assurance dimension (-0.51) could be rapidly and easily bridged if immediate management actions are taken, to train staff members and encourage an improved service delivery within the company.

4.3 Recommendations

Diving tourism is a great opportunity for Phuket as it can be directed towards the reinforcement of its destination image and can provide significant income to the local communities in the Andaman cluster, while promoting environmental conservation and the

sustainability of the marine resources the industry depends on. With the WTO's 2020 forecasts and the facts supporting the growth and potentiality of the scuba dive market in the world, it is in the interest of the local dive industry and the government to embrace the opportunities and strengths of the dive scene provided by Phuket and its surroundings. This study provided information on scuba diving tourists' demographics, motivations, travel and purchasing behaviour as well as information on customers' expectations and perceptions of dive centers' service quality performance. The data collected from the questionnaire indicated several characteristics and trends within the diver population, and provided valuable information on the needs and wants of scuba divers today. Therefore, seven points of focus that would contribute to the development and sustainability of the dive industry in Phuket have been suggested, along with several recommendations respectively, which are presented hereinafter:

A) Ensuring a sustainable underwater environment and reducing scuba diving impacts

- Dive operators must be proactive in promoting non damaging underwater behaviour and could help reduce divers' impacts on the environment by:
(1) selecting dive sites that match divers' expectations and needs, (2) providing pre-dive briefings that encourage the 3T's in order not to negatively affect the marine environment and ensure no risk of biodiversity loss
- Reinforcement and standardization of regulations in the area in terms of no-take zones, boat regulations (e.g. use of a mooring buoy), fishing methods, among others
- Development and application of 'zoning' strategies in the Andaman cluster: An allocation strategy in which the level of experience and skills of divers is matched with a certain dive spot could help reduce damaging effects on corals, as it has been found that damage decreases with an increased level of experience (Worachananant., 2007) and that people who have less than 100 logged dives, for instance, cause greater impacts (Roberts & Hawkins, 1994 in Hawkins et al., 2005) In addition, Worachananant et al., (2007) found that 93% of divers visiting Surin

MNP made contact with substrata during a 10 minute observation period, with an average of 97 contacts per hour of dive, results which support the urgent need to take action in this matter. Geographical characteristics of dive sites, in addition, were found to have an influence on the strength of currents, and these, consequently, result in higher rates of contact among the less experienced divers (Woranchananant et al., 2007) Hence, attributing sites to groups of divers based on competency and experience could be a suitable strategy to diminish damaging contact while providing safe experiences to divers

- Site carrying capacity management: There is a need to limit diver induced stress on the coral reef system (Woranchananant et al., 2007) in order to ensure the sustainability of MNPs and dive sites in the Andaman cluster. A site management strategy should address problems of crowding and environmental degradation (Barker and Roberts, 2008), and although Thailand's MNP have tried to apply regulations to limit the number of visitors in dive sites, it has been stressed out by dive center managers that such regulations lack constancy and firmness. Additionally, the 2004 tsunami caused damages in various sites which are now going through a recovery period which should not be put in risk by the industry. Determining the carrying capacity of sites involves the "ability of reefs to support a range of extractive and invasive used without perceptible changes and degradation of its biological productivity and species diversity over a reasonable period of time" (Harriot et al., 1997 cited in Garrod & Gössling, 2008, p.156) An efficient determination of the carrying capacity of sites could eventually result in a new pricing strategy, in which higher park fees could be charged to visit the less crowded sites, for example, while providing divers with a quality experience while diving in small groups. Furthermore, promoting such way of diving also allows for greater supervision that will consequently reduce diver induced damages. Most importantly, as Duffus and Dearden (1990) stressed in the

model of ecotourism evolution, the challenge faced by the industry is to maintain a carrying capacity of sites, which will not reduce the attractiveness of such locations and will therefore attract the most specialized ecotourists instead of the generalist visitors

- Reef monitoring programs: Such projects may involve not only the dive industry professionals or environmental authorities, but may also include the cooperation of students, divers, and diving tourists. Such programs could contribute to the sustainability of the marine resources by monitoring the state of reefs in the Andaman, in an effort to protect them and ensure both attractiveness and a healthy coral growth because as Miller (2005) denotes, broken and unhealthy corals are noticeable, unattractive, and should be a concern for operators and tourists.
- The creation of artificial reefs: Artificial reef projects have been put in place in Phuket and the areas surrounding it in the last years, however, such projects have not reached maturity and some have failed to be launched. The implementation of such artificial formations -which are designed to reduce stress, promote coral growth, manage crowding and provide quality experiences to divers- if developed and managed properly, could become a significant source of income, as it would provide greater and unique experiences to scuba divers. In addition, artificial reefs could be conceived for a 'zoning' strategy, as such areas could be adapted to the specific needs of the demand and cater for the different experience levels of scuba divers
- Coastal management: The island of Phuket has seen a constant and fast development in the past years which has caused negative effects on marine resources. Factors such as poor land practices, industrial/urban sewage discharge, coastal constructions and water sports may cause damage from the sediment traces left behind, and directly threat or affect the underwater environment. Therefore, if the industry - based on the existing marine resources- is to sustain itself, there is a need to apply a properly conceived

coastal development strategy that will prioritize the urge to sustain, conserve and protect the environment it depends on

B) Education amongst scuba divers

Literature provides strong support for the educational value of scuba diving (Dearden et al., 2007) and suggests there is an accrued interest in environmental educational programmes by highly receptive divers (Barker & Roberts, 2003 in Dearden et al., 2007) As the industry faces the challenge of providing experiences in which the positive impacts of diving are enhanced while reducing the negative ones (Dearden et al.,2007), some actions can be done to encourage awareness among scuba divers visiting Phuket :

- The creation, reinforcement and delivery of standardized educational programs among all dive operators, MNP staff members and PMBC, including information on the relevant regulations and guidelines that must be abided by divers, the code of underwater conduct to be followed, environmental information in regards of site characteristics, strengths and fragile ecosystems, endangered species, among others
- The standardization of pre-dive briefings in marine protected areas, in the context of diver's behaviour, site susceptibility to impact and current strengths (Worachananant et al., 2007), as such briefings have proven to be effective in alerting and directing divers to specific attributes of the sites while enriching the diving experience itself (Miller, 2005)
- Environmental education provided by MNPs and environmental authorities to Dive Masters and Dive Instructors, on the impacts and causes of marine life and reef damage

C) Social responsibility with the Thai local community

Involving Thai locals in the dive industry has been difficult for two reasons: (1) diving is an expensive business, involving high expenses in training, equipments and boats, and (2) the need of industry members to have a good education level (e.g. marine diversity) and competency in at least one foreign language. However, as Townsend (2008, in Garrod & Gössling, 2008) suggested, although there are barriers for most people in developing countries

who wish to enter the dive business, efforts can be made by dive operators to foster the involvement of the local community in the industry by:

- Committing to training, working with and employing local people
- Ensuring that the presence of the company results in economic and social benefits to the people, whilst developing good relations with the community
- Working in cooperation with other organisms such as the Phuket Marine Biological Center (PMBC), diving training institutions, Thailand Diving Association (TDA) to design an optimal and reinforced educational program aimed at educating and motivating people to increase awareness of the value of marine and reef resources in the area, to be launched in schools, universities, tourism campaigns, the Phuket Aquarium, etc, as to create a better educated generation of potential conservationists, divers and/or employees
- Actively participating and engaging in community projects that may promote and provide an alternative to fishing while incentivizing conservational efforts
- Supporting non-profit organizations that have objectives related to the dive industry development, such as the Ecotourism Training Center (ETC) in Phuket, which relies on contributions and support from PADI to provide training in English, computer and diving skills to young Thai men and women, or Green Fins, which is in charge of undertaking several environmental educational and conservational projects within the dive industry in Thailand. Additionally, a good example of supporting the development of the dive industry through the implication of the local community is PADI's scholarship programme, aimed at students with economical distress, wishing to become dive professionals. Such example could be introduced by the management in dive centers

D) Regulation of the dive industry

Although there are official policies and regulations for scuba diving activities and businesses, no government body manages, supervises or oversees the industry, hence, challenges in the matter of safety and environmental operating standards exist (Main, 2005) Phuket's dive industry has faced a number of accidents and the sinking of boats has reflected insufficient safety procedures. However, efforts have been made to achieve a sustainable diving industry with the creation of the Dive Operators Club of Thailand (DOCT) in 2000 and the Thailand Diving Association (TDA) formed in 2004. The DOTC was a first attempt to take control and self regulate the dive industry while conserving the marine resources it depends on (Main, 2005), nevertheless, the organization was dissolved after a few years and does no longer represent the industry politically. The TDA, however, has been able to maintain its position and in affiliation with the Confédération Mondiale des Activités Subaquatiques (CMAS), and has managed to be recognized internationally as a NGO by organizations such as UNESCO (United Nations Educational, Scientific and Cultural Organization), IOC (International Olympic Committee), GAISF (General Association of Sport Federation), IUCN (The World Conservation Union) and many more (TDA, 2008) In addition, TDA's goals include the protection and conservation of the marine environment, the training of Thai nationals to teach water sports like swimming, snorkeling or scuba diving, as well as the training of National Park Rangers, Navy, Police and Rescue Divers (TDA, 2008) Furthermore, the Thailand Diving Association is composed of a technical, scientific and sports committee to improve and guarantee high standards in diving education and safety in Thailand.

Nonetheless, an absence of coordination, organization and communication still exists among companies. Although various projects have been put in place by TDA in regards of marine conservation and education, the cohesion of the dive industry seems complicated as the association requires a voluntary membership of companies. Furthermore, interviews with dive center managers drew attention to dive operators' perception of a disaggregated industry due to political conflicts and inequalities in terms of support and cooperation among dive centers within the industry in Phuket. Hence, leadership within the industry is needed, with reinforced regulations and political voice in order to take part in the decision making process of issues related to diving tourism at a national and local level. Such

efforts will contribute to redirecting the dive industry towards a sustainable future, and will require the strong support of both the government and private sector. Furthermore, a powerful regulatory body could promote environmental practices through the creation of 'labels' or 'environmental-friendly certifications' to be granted to dive operators/centers as incentives and recognition for operators' commitment to a sustainable marine ecosystem.

In addition, quality control strategies should be applied on a standard basis, to all dive companies and operators as to obtain feedback from customers and managers in order to pinpoint the shortfalls in service delivery. Furthermore, the practice of safety standards should be controlled/supervised as well as the promotion of environmental non-damaging behaviour underwater in dive companies and operators.

The TDA in cooperation with the government could also work to obtain accurate and updated information on the market profile of divers and collect data that will contribute to the development of a proper market segmentation which will consequently lead to the conception of precise, adapted messages to be used in TAT's marketing plan.

E) Enhancement and protection of Marine National Parks sites

- Education guidance provided by MNP to dive masters, dive instructors and other members of the dive industry (e.g. standardized pre-dive briefing protocol)
- Clear information on MNP's management, projects, financial resources allocation, investment and actions, as there seems to be a lack of communication and understanding between the dive industry and the government. Although annual meetings are held to provide information on the financial statement of MNPs, dive center managers' who participated in the interviews undertaken during this research expressed disappointment in the lack of investment, regulations and efforts from MNP's management to genuinely protect the marine resources of the protected area. Furthermore, managers commented on the insufficient allocation of financial resources for the Andaman cluster, as the fees obtained from diving tourism are centralized and distributed equally among the Thai National Parks in general. Dive center managers

suggested that an incensement of MNP's monetary resources could contribute to the appliance of several projects and to the improvement of infrastructure to cater for divers while protecting the environment. Furthermore, a clear understanding of the distribution of the income obtained through MNP's fees is important as dive companies and tourists are more willing to pay user fees when these contribute to park conservation and operations (Bennett, 2002)

- Reinforcement of regulations for scuba divers, fishery and dive operators
- Park zoning and carrying capacity strategies to be put in place efficiently

F) Dive centers' service quality control and improvement

Dive centers must be committed to a continuous improvement in order to guarantee the company's success (Witt & Muhlemann, 1995 in O'Neill et al., 2000) Although the success of the dive experience depends on several factors and elements which cannot be controlled by dive operators, actions should be put in place to provide only the highest levels of service quality as a competitive advantage. Some recommendations are provided below:

- Service quality and customer's satisfaction should be assessed and monitored constantly in order to obtain pertinent and insightful feedback from customers, since quality improvement is not possible without measuring quality performance of the service (Edvardsson, 1994 in O'Neill et al., 2000)
- Dive centers should focus on a customer-oriented strategy, through a strong service culture that should be promoted within the company. Understanding the specific needs of the demand is crucial to anticipate customers' requirements in order to meet divers' expectations during each service encounter. Such management commitment would lead to constant service improvement and would focus on staying 'ahead' of the customer rather than on the product and price alone. Such strategy could be very valuable at present, as Phuket's dive industry has been developed in a competitive environment in which the performance of high levels of service quality may be used as a differentiation strategy, particularly in a

location which is marked by tourism fluxes resulting from seasonality. Hence, the deliverance of high quality services could be a way for dive centers to remain operationally viable during the year, considering that 'word of mouth' has proven to be the primary source of information for customers

- Optimal human resources management: As part of a service culture, managers must focus on the human interactions between customers and employees. Promoting empowerment, providing regular training, good working conditions and a reward/incentive strategy could be useful tactics to increase motivation and satisfaction among employees, and consequently increase the retention rates within the company. As the dive industry in Phuket relies heavily on free lancing employees, it is important for managers to focus on providing staff with continuous training on service delivery and customer relations, in order to guarantee the delivery and performance of services that are in accordance with the company's quality standards
- Efforts should be made in providing top quality-modern equipment to divers and personalized equipment for females and kids (e.g. smaller, light weighted equipment)
- Marketing strategies should advertise messages that are real, as such messages help generate the initial expectations of divers (Noe, 1999 in Miller, 2005) and dive centers are under considerable pressure to provide the experience that has been advertised in order to meet customers' expectations. However, as Bennett (2002) suggests, Thailand's dive industry has concentrated heavily on iconic species such as whale sharks and manta rays, although since the 1990's very few sightings have occurred (Theberge and Dearden, 2006 in Main, 2007) Managers should try to avoid the marketing of non-deliverable trip attributes as dissatisfaction may encourage divers to seek alternative destinations (Main, 2007)

- Safety instructions and guidelines should be delivered throughout the dive experience. Managers should ensure that instructors/dive masters emphasize such matters, as scuba diving involves certain regarding both participants' health and the environment. Providing quality experiences with minimal impact on the marine resources and minimizing the potential real risks of the activity are two key factors of a successful diving experience

G) Marketing strategies

Target markets within the dive population should be identified. This research proved that such population can be segmented by level of experience as it is far from being homogeneous in terms of motivations, perceptions, needs and skills. The determination of a proper market profile will contribute to:

- the provision of insightful information on the characteristics of scuba divers
- a better understanding of the diver population in regards of the needs, expectations and behaviour of this segment
- tourism marketing and the elaboration of successful promotional campaigns
- providing an overview of the opportunities to be developed within the dive industry in Phuket
- an effective planning and management of diving tourism operations

Specialty diving activities could be further promoted as to cater for a more specialized diver population, as the sample size of this research was constituted of experienced scuba diving tourists, hence, providing strong support for the development of special interest tourism within the dive market. The existence of unique dive sites offering ultimate dive experiences for technical divers, for instance, could be enhanced in marketing campaigns. The opportunity to deliver exclusive and unique dive experiences could be used as a competitive advantage for Thailand as a diving destination in Asia and the world. Furthermore, it would contribute to the development of niche markets, and would decelerate or prevent scuba diving from becoming a mass activity.

Adapted products and packages could be developed in order to provide scuba divers with competitive touristic products including accommodation, local transfers, meals and diving activities. In addition, dive operators could apply a price discrimination strategy, based on divers' age categories, for example.

Dive centers' distribution channels should be enlarged, including places such as hotels, dive forums and expositions. Internet should be used as a key tool for communication efforts. Promotional strategies should be expanded in the form of sponsorships, public relations, merchandising, mailings and sales promotions.

Customer Relationship Management (CRM) should be implemented in order to attract new customers but also retain those the company already has. Pre-sale actions should be undertaken, with the goal of promoting cross-selling and up-selling among customers. Furthermore, post-purchase actions should be done with the objective of obtaining customers' feedback and promoting loyalty.

4.4 Limitations and Suggestions for Further Research

4.4.1 Limitations

This study, carried during the high season for diving, faced a few limitations. First, interviews with dive center managers were difficult to schedule, as many among them were unreachable or unavailable. Furthermore, this issue consequently led to the non-participation of several dive centers which were not eager in cooperating with this research.

Nevertheless, a number of dive centers were keen on supporting and contributing to this study, hence, the questionnaires were over-distributed among these dive operators in order to collect data.

Furthermore, questionnaires were distributed during a two-month period, representing only a small proportion of the entire estimated diver population visiting Phuket each year (300.000 divers, TAT, 2008) In addition, the survey instrument, presented in one language only, could be filled in exclusively by English speakers. The length of the questionnaire (5 pages), accordingly, might have been a factor contributing to the lack of participation among certain groups of divers.

4.4.2 Suggestions for Further Research

Further research should be done in terms of divers' motivations, expectations, perceptions and behaviour. Although this study provides an insight in terms of such issues in regards of the dive experience and the service quality of dive centers, the constantly changing environments and market fluctuations require industry professionals and local authorities to continually investigate the new market trends. Furthermore, other topics related to the dive industry (e.g. underwater perceptions, motivations to visit MNPs) should be studied, as scuba diving tourism literature is still limited. Additionally, research should be adapted to the local context of Phuket, and should be done with the cooperation of the private and public sectors.

Bibliography

Bibliography

- Barker, N. H. L., & Roberts, C. M. 2008. "Scuba diver behaviour and the management of diving impacts on coral reefs." *Biological Conservation*. 120(4), page 481-489.
- Beard, J., Ragheb, M. 1983. "Measuring leisure motivation." *Journal of Tourism and Leisure Research*. (15), page 219 - 227.
- Bennett, M. 2002. "Scuba diving tourism in Phuket, Thailand: Pursuing sustainability." **Master of Science Dissertation, Department of Geography, University of Victoria, Victoria, British Columbia.**
- Bennett, M., P. Dearden, and R. Rollins. 2003. "The sustainability of dive tourism in Phuket, Thailand." *Communities in SE Asia: Challenges and Responses*. page 97–106.
- Beerli, A., Martin, J. 2004. "Tourists' characteristics and the perceived image of tourist destinations: A quantitative analysis: A case study of Lanzarote, Spain." *Tourism Management*. 25(5), page 623-636.
- Bitner, M. J., & Hubbert, A. R. 1994. **Encounter Satisfaction versus Overall Satisfaction versus Quality: The Customer's Voice. In: Service Quality: New Directions in Theory and Practice.** Rust, R.T., & Oliver, R.L. (Eds.). Thousand Oaks, CA: Sage.
- Brady, M., Cronin, J. 2001. "Some new thoughts on conceptualizing perceived service quality: A hierarchical approach." *Journal of Marketing*. July. 65, page 34-49.
- Buckley, R. 2006. "*Adventure Tourism Research: a Guide to the Literature*". International Centre for Ecotourism Research, Griffith University, Gold Coast, Australia. Available at: http://www98.griffith.edu.au/dspace/bitstream/10072/13805/1/40390_1.pdf [Online] Retrieved November 26, 2009.

- Carmen, J. M. 1990. "Consumer perceptions of service quality: An assessment of the SERVQUAL Dimensions." *Journal of Retailing*. 66(1), page 33-55.
- Cater, C. 2008. **Perceptions of and interactions of marine environments: Diving attractions from great whites to pygmy seahorses.** . Garrod ,B & Gössling,
- Cater, C. I. 2005. "Playing with risk? Participant perceptions of risk and management complications in adventure tourism." *Tourism Management*. 27(2): page 317-325.
- Chelladurai, P. 1992. "A classification of sport and physical activity services: implications for sport management." *Journal of Sport Management [JSM]*. 6(1) page 38 - 51.
- Chelladurai, P., Chang, K. 2000. "Targets and standards of quality in sport services." *Sport Management Review [SMR]*, 3(1), page 1 - 22.
- Chang, C., Chen, C., Hsu, C. 2002. "A Review of Service Quality in Corporate and Recreational Sport/Fitness Programs." *The Sport Journal*. Quarterly referred sports journal published by the United States Sports Academy..5, page 3.
- Coccia, G., Cohen, T. 2008. Identifying and evaluating strategic niche market segments for which Namibia has comparative and competitive advantages. Available at: http://www.namibiatourism.com.na/trade_docs/chapter_5.pdf [Online] Retrieved 2nd of February, 2009 [Online] Retrieved 14 January 2010.
- Correia, A., Oliveira, N., Silva F. 2009. "Bridging perceived destination image and market segmentation: An application to golf tourism." *European Journal of Tourism Research*. 2(1), 2009.
- Crompton, J. 1979. "Motivations for pleasure vacation." *Annals of Tourism Research*. 6(4), page 408- 424.

Crompton, J., McKay, S. 1997. "Motives of visitors attending festival events." *Annals of Tourism Research*. 24(2), page 425-439.

Cronin, J., Taylor, S.A. 1992. "Measuring Service Quality: A re-examination and extension." *Journal of Marketing*, 56, page 55-68.

-----, 1994. "SERVPERF versus SERVQUAL: Reconciling Performance- based and Perception- Minus- Expectations Measurement of Service Quality." *Journal of Marketing*. 58 (1), page 125-31.

Dabholkar, P., Thorpe, D. I., & Rentz, J. Q. 1996. "A measure of service quality for retail stores" *Journal of the Academy of Marketing Science*. 24(Winter). page3-16.

Dann, G. 1981. "Tourist motivation: An appraisal." *Annals of Tourism Research*. 8(2), page 187-219.

Davis, D., Tisdell, C. 1996. "Economical management of recreational scuba diving and the environment" *Journal of Environmental Management*. 48, page 229-248

Davis, D., Harriott, V., MacNamara, C, Roberts, L., & Austin S. 1996. "Conflicts in a marine protected area: Scuba divers, economics, ecology and management in Julian Rocks Aquatic Reserve" *Australian Parks Monthly Magazine*. 31, page 29-35.

De Melo, M. 2003. "Recreational scuba diving and reef conservation in southern Mozambique." **Dissertation submitted in fulfillment of the academic requirements for the degree of Master of Science in the Oceanographic Research Institute, School of Life and Environmental Sciences, University of Natal, Durban.**

Dearden, P., M. Bennett, and R. Rollins. 2007. "Perceptions of diving impacts and implications for reef conservation" *Coastal Management*. 35(2-3), page 305-317.

Department of National Parks, Wildlife and Plant Conservation (DNP). 2010. "Mu Ko Similan Marine National Park." Available at: <http://www.dnp.go.th> [Online]

Retrieved 21st August, 2010

Dimmock, K. 2007. *Scuba Diving, Snorkeling and Free diving*. Oxford: Elsevier.

Ditton, R. B., and Baker, T. L. 1999. "Demographics, attitudes, management preferences, and economic impacts of sport divers using artificial reefs in offshore Texas waters." **Technical Report no. HD-99-01. Human Dimensions of Fisheries Lab, Texas A&M University, College Station, Texas, USA.**

Ditton, R., Osburn, H., Baker, T., Thailing, C. 2002. "Demographics, attitudes, and reef management preferences of sport divers in offshore Texas waters." *Journal of Marine Science*, page 59.

Duffus, D. A., and P. Dearden. 1990. "Non-consumptive wildlife-oriented recreation: A conceptual framework." *Biological Conservation*. 53, page 213-231.

Edvardsson, B., Gustafsson, A., Roos, I. 2005. "Service portraits in service research: A critical Review." *International Journal of Service Industry Management*. 16 (1), page 107-121.

Ewert, A., & Hollenhorst, S. 1994. "Individual and setting attributes of the adventure recreation experience." *Leisure Sciences*, 16, page 177-191.

Fang, Sam 1994. *Diving escapades in Thailand's tropical seas: Your underwater guide*. Singapore: SNP Publishers.

Garrod, B., Gossling, S. 2008. *New frontiers in marine tourism: Diving experiences, sustainability, management*. Amsterdam : Elsevier

- Giese, Joan L. and Joseph A. Cote. 2000. "Defining Consumer Satisfaction." Available at: <http://www.amsreview.org/amsrev/theory/giese01-00.html> [Online] Retrieved 21st December, 2009
- Gronroos, C. 1984. "A service quality model and its marketing implications." *European Journal of Marketing*, 18, page 36-44.
- Gronroos, C. 1990. **Service Management and Marketing: Managing the Moment of Truth in Service Competition**. London : Lexington Books.
- , 1992. **Service Management: A Management Focus for Service Competition**. London : Elsevier.
- Hall, C.M. 1992. **Adventure, sport and health tourism**. London: Belhaven Press.
- Hawkins, J., Kooistra, D., Buchan, K., White, S. 2005. Sustainability of Scuba Diving Tourism on Coral Reefs of Saba. USA : Taylor & Francis Inc.
- Iso-Ahola, S. E. 1982. "Towards a social psychology theory of tourism motivation." *Annals of Tourism Research*. 9, page 256 – 262.
- Jain, S., Gupta, G. 2004. "Measuring service quality: SERVQUAL vs. SERVPERF scales." *Vikalpa*, 29(2) April-June , page.
- Jennings, Gayle. 2007. **Water-based tourism, sport, leisure and recreation experiences**. Oxford: Elsevier
- Kim, C., Kim, Y.S. 1998. "Segmentation of sport center members in Seoul based on attitudes toward service Quality." *Journal of Sport Management*. 12, page 273-87.

- Kim,C., Kim,Y., Ritchie,B. 2006. **Segmenting Overseas Golf Tourists by the Concept of Specialization.** Australia : Routledge.
- Ko, Y.J., Pastore, D.L. 2005. "A hierarchical model of service quality in the recreational sport industry." *Sport Marketing Quarterly.* 14 (2), page 84-97.
- Lees, Paul. 1995. **The dive sites of Thailand: Comprehensive coverage of diving and snorkeling.** Bangkok : Asia Book.
- Lehtinen, J.R and Lehtinen, U. 1982. **Service Quality: A Study of Quality Dimensions.** Oxford: Elsevier
- Lehtinen, J.R. 1983. **Customer Oriented Service System.** Oxford: Elsevier
- Lehtinen, J.R and Lehtinen, U.1991. "Two approaches to Service Quality dimensions." *Service Industries Journal.* 11(3), page 287-303.
- Lezhava, B. 2007. *Service quality measurement in industrial markets.* MK9200-Ph.D Seminar in business to business marketing. Summer 2007.
- Linden, Palmund and Gössling. 2008. **Environmental management of dive organizations and operators.** New York : Elsevier.
- Lovelock, C. 1992. **Managing Services-Marketing Operations, and Human Resources.** New Jersey : Prentice-Hall.
- MacKay,K, Crompton,J. 1988. "A conceptual model of consumer evaluation of recreation service quality." *Journal of Leisure Studies.* 7(1), page 41 - 49.

- Main, M., Dearden, P. 2007. *Ecological and social response of the coral reefs of Mu Koh Surin Marine National Park, Thailand, and Phuket's diving industry to the 2004 Indian Ocean tsunami*. Thesis submitted in partial fulfillment of the requirements for the Ms.Sc. University of Victoria, Australia.
- Maslow, A. 1954. *Motivation and personality*. New York : Harper & Row.
- McDougall, G., Levesque, T. 1994. "A revised view of service quality dimensions: An empirical investigation." *Journal of Professional Service Marketing*. 11(1), page 189-209.
- Milbourn, G. and G. T. Haight 1998. *Quality service makes happy customers and greater profits*. New Jersey : Prentice-Hall.
- Miller, D. 2005. *Towards sustainable wildlife tourism experiences for certified scuba divers on coral reefs*. Thesis submitted for the degree of Doctor of Philosophy. James Cook University, Australia.
- Miller, D., Timbirica, Y., Birtles, A., Valentine, P. 2009. "Diving tourism in Mozambique: An opportunity at risk?" Available at: http://www.cmt2009.com/Proceedings/content/CMT2009_A_009.pdf [Online] Retrieved December 12, 2009.
- Ministry of Tourism and Sports. 2010. "International Tourists Arrivals by Nationality 2009." Available at: http://www.tourism.go.th/2009/upload/tourism/files/2_2jan-dec_2009.pdf [Online] Retrieved August 29, 2010
- . 2008. "Speech by H.R. Mr. Weerasak Kowsurat, Minister of Tourism and Sports at the International Tourism Borse (ITB, 2008) .Thailand press conference. Friday 7th of March 2008, Saal Berlin" Available at: <http://www.tatnews.org/ITB2008/3732.asp> [Online] Retrieved November 3, 2009.

- . (N/D) "Professional Association of Diving Instructors PADI 2010. "PADI Statistics."
Available at: <http://www.padi.com/scuba/about-padi/PADI-statistics/default.aspx>.
[Online]. Retrieved October 1, 2009.
- Morgan, C., Stevens, C. 2008. "Changes in perceptions of risk and competence among beginning scuba divers." *Journal of Risk Research*. 11(8) December, page 951-966
- Meisel, C., Cottrel, S. 2004. "Differences in motivations and expectations of divers in the Florida Keys." *Proceedings of the 2003 Northeastern Recreation Research Symposium*.
July 2004.
- Mundet, L., Ribera, L. 2001. *Tourism Management*. New York : Mc Hall.
- Murray, Henry A. 2007. *Explorations in Personality*. New York: Oxford University Press.
- Musa, G. 2002. "Sipadan: A scuba-diving paradise: An analysis of tourism impact, diver satisfaction and tourism management." *Tourism Geographies*, 4(2), page 195-209.
- Musa, G. 2006. *Tourism in Marine Environments*. New York:
- Neirotti, L. 2003. *Sport and Adventure Tourism*. New York: Haworth Hospitality press.
- Oh, C., Sorice, M., Ditton, R. 2008. "Exploring Level of Support for Management Restrictions Using a Self-Classification Measure of Recreation Specialization." *Leisure Sciences*. 31 page 107-123.
- Oliver, R.L. 1981. "Measurement and evaluation of satisfaction process in retail setting." *Journal of Retailing*. 57, page 25-48.

- O'Neill, M., Williams, P., MacCarthy, M., Groves, R. 2000. *Managing Service Quality*. New York: Haworth Hospitality
- Orams, M. 1999. *Marine Tourism: Development, Impacts and Management*. New York: Haworth Hospitality.
- Pearce, P., Lee, U. 2005. "Developing the Travel Career Approach to Tourist Motivation." *Journal of Travel Research* 43(3) February, page 226-237.
- Parasuraman, A., Berry, L., Zeithaml, V. 1990. *Delivering Quality Service: Balancing customers perceptions and expectations*. Washington. Routledge.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. 1985. "A conceptual model of service quality and its implications for future research." *Journal of Marketing*, 49(Fall), page 41-50.
- Parasuraman, A., Zeithaml, V., Berry, L. 1988. "SERVQUAL: A multiple item scale for measuring consumer perception and service quality." *Journal of Retailing*, 64(1), page 12-40.
- Parasuraman, A., Zeithaml, V., Berry, L. 1994. "Reassessment of expectations as comparison standard in measuring service quality: Implications for further research." *Journal of Marketing*, 58 (January), page 111-124.
- Prabakaran, B., Arulraj, A., Rajagopal, V. 2008. "Service Quality on Tourism: Application of Structural Equation Modeling." *Conference on Tourism in India-Challenges Ahead, 15-17 May 2008, IIMK*.
- Ramaswamy, R. 1996. *Design and Management of Service Processes: Keeping Customers for Life*. MA : Addison-Wesley Publishing.

- Ritchie, B., Hudson, S. 2009. "Understanding and Meeting the Challenges of Consumer/Tourist Experience Research." *International Journal of Tourism Research*. 11, page 111–126.
- Robinson, M., Novelli, M. 2005. *Niche tourism: Contemporary issues, trends and cases*. Oxford: Elsevier Butterworth-Heinemann.
- Robinson, T., Gammon, S. 2004. "A question of primary and secondary motives: Revisiting and applying the sport tourism framework." *Journal of Sport Tourism*. 9(3),
- Rust, R. T. & Oliver, R. L. 1994. **Service Quality: New Directions in Theory and Practice**. London : Sage Publications.
- Ryan, C. & Glendon, I. 1998. "Application of Leisure Motivation Scale to Tourism." *Annals of Tourism Research*, 25, page 169-184.
- Santella, C. 2008. **Fifty Places to Dive Before You Die: Diving Experts Share the World's Greatest Destinations**. New York : Routledge.
- ScubaTravel. 2008. "100 Best Dive Sites Around the World." Available at: <http://www.scubatravel.co.uk/topdiveslong.html> [Online] Retrieved October 1, 2009
- Shanin, A. 2005. "SERVQUAL and model of service quality gaps: a framework for determining and prioritizing critical factors in delivering quality services." **Paper presented at the International Conference on Quality Management, 19-21 December 2004.**
- Shonk, D. 2006. "Perceptions of service quality, satisfaction and the intent to return among tourists attending a sporting event." **Ph.D Thesis. School of The Ohio State University.**
- Smith, B. 2001. "Entrepreneurship in the Dive Industry." The Higher Education Academy. *Hospitality, Leisure, Sport and Tourism Network Journal*. May, page 1-4.

- Smith, S., Costello, C. 2009. "Segmenting visitors to a culinary event: Motivations, travel behavior and expenditures." *Journal of Hospitality Marketing & Management*. 18, page 44-67.
- Snuba International. 2010. "Snuba Homepage." Available at: <http://www.snubagirl.wordpress.com/about/>. Accessed March 10th, 2010 [Online] Retrieved January 3, 2010.
- Sparks, R., & Westgate, M. 2002. "Broad-based and targeted sponsorship strategies in Canadian women's ice-Hockey." *International Journal of Sports Marketing and Sponsorship*. 4(1), page 59-84.
- Stone, G. 1999. "The archaeology of fishing: interpreting the evidence for the trepang industry in north Kimberley." BA (Hons) Thesis. University of New England, Armidale.
- Swarbrooke, J., Beard, C., Leckie, S., Promfret, G. 2003. **Adventure tourism: The new frontier**. Oxford : Butterworth-Heinemann.
- Swarbrook,J., Horner, S. 2007. **Consumer behaviour in Tourism**. London : Burlington.
- Tabata, R. 1992. **SCUBA diving holiday**. London : Belhaven Press.
- Tapsuwan,s., Asafu-Adjaye,J. 2003. **Coastal Management**. Bangkok : Matichon.
- Teas, K. 1993. "Expectations as a comparison standard in measuring Service Quality: An Assessment of a Reassessment." *The Journal of Marketing*,
- Thapa, B., Graefe, A., Meyer, L. 2005. "Specialization and marine based environmental behaviors among scuba divers." *Journal of Leisure Research*. 38(4), page 601-615.

- The Cousteau Society. 2010. *"The Aqua Lung."* Available at: www.cousteau.org/technology/aqua-lung [Online] Retrieved January 14, 2010.
- Tian-Cole, S., Crompton, J. 2003. "A conceptualization of the relationships between service quality and visitor satisfaction, and their links to destination selection." *Leisure Studies*. 22(1), page 65-8.
- Tinsley, H. E. A. & Eldredge, B. D. 1995. "Psychological benefits of leisure participation: A taxonomy of leisure activities based on their need-gratifying properties." *Journal of Counseling Psychology*. 42(2), page 123-132.
- Todd, S., Graefe, A. & Mann, W. 2002. "Differences in SCUBA Diver motivations based on level of development." *Proceedings of the 2001 Northeastern Recreation Research Symposium (VD. 104-1 14)*. Research Foundation of State University of New York
- Todd, S. 2004. *New frontiers in marine tourism: Diving experiences, sustainability, management*. Amsterdam : Elsevier.
- Tourism Authority of Thailand (TAT). 2007. *Into the Blue World*. Bangkok : Tourism Authority of Thailand
- , 2008. "Thailand: Dive Guide to the Andaman Sea." Bangkok : Tourism Authority of Thailand
- , 2007. "Events Calendar- Travel & Dive Thailand Expo 2007." Available at <http://www.tatnews.org/events/events/2007/may/3390.asp> [Online] Retrieved October 1, 2009.
- , 2009 "The Amazing Wonders of the Thai Seas diving & snorkeling in Thailand." 2009 Available at: http://www.tatnews.org/special_interest/diving/991.asp [Online] Retrieved October 13, 2009.

- , N/D. "Green Fins- Eco-friendly Diving in Thailand." 2009). Available at: <http://www.tatnews.org/emagazine/3496.asp> [Online] Retrieved October 13, 2010.
- Thailand Travel & Dive Expo. 2009. "About TDEX" Available at: <http://www.thailanddiveexpo.com/en/about.php> [Online] Retrieved October 16, 2009.
- Tourism Queensland. 2009. "Dive Tourism." Available at: http://www.tq.com.au/fms/tq_corporate/research/fact_sheets/dive_tourism.pdf [Online] Retrieved November 2, 2009.
- Townsend, C. 2008. **New Frontiers in Marine Tourism: Diving Experiences, Sustainability, Management** The Netherlands : Elsevier.
- Trauer, B. 2006. **Tourism Management**. London : McGraw-Hill
- Vargo, S.L., Lusch, R.F. 2004. "Evolving to a new dominant logic of marketing." *Journal of Marketing*, 68 (January), page 1-17.
- Vargo, S.L., Lusch, R.F. 2004. "The four service marketing myths: Remnants of a goods-based, manufacturing model." *Journal of Service Research*. 6 (4), page 324-35.
- Yong, J. K. 2000. "A multidimensional and hierarchical model of service quality in the participant sport industry." **Unpublished doctoral dissertation, The Ohio State University**.
- Williams, C., Buswell, J. 2003. **Service Quality in Leisure and Tourism**. London : CABI Publishing.
- Witt, C. & Wright, P. 1992. **Tourist Motivation: Life after Maslow**. London: Mansell

Worachananant, S., Carter, R., Hockings, M., Reopanichkul, P. 2008. "Managing the impacts of scuba divers on Thailand's coral reefs." *Journal of Sustainable Tourism*. 16(6), page 2008.

World Tourism Organization. 2001. "Global forecasts and profiles of market segments. Madrid, WTO." *Tourism 2020 vision*, page 7.

-----. 2001. "Symposium of Tourism Services." Available at: http://www.wto.org/english/tratop_e/serv_e/present_quevedo_e.doc [Online] Retrieved January 29, 2010.

Zeithaml, V. A., & Binter, M.J. 1996. **Service Marketing**. New York : The McGraw-Hill.

APPENDICES

APPENDIX A: Questionnaire for scuba diving tourists

‘Diving tourism in Phuket: Market profile and satisfaction rate of divers’

Dear SCUBA diver,

The present research will be carried as part of the curriculum of Master of Business Administration in Hospitality and Tourism Management (International Program), Prince of Songkla University, Phuket Campus.

This research aims to collect data on diving tourists' market profile and satisfaction rate, as to provide recommendations to develop diving tourism in the region. All the information provided by respondents is strictly confidential and for academic purposes only. I would appreciate if you could spare about ten minutes of your time to fill this questionnaire.

Thank you for your participation,
Ms. Andrea IBANEZ

Part 1. Demographic information

1. Are you: Female Male
2. What is your age? years
3. What is your marital status?
 Single Married Divorced Separated Widowed
4. What is your income per year?
 Less or ≤ \$19,999 \$20,000-\$39,999 \$40,000-\$59,999
 \$60,000-\$79,999 \$80,000-\$99,999 \$100,000 or over
5. What is your nationality?
6. What is your academic background?
 Primary school High school Graduate Post-Graduate

Part 2. Diving history

7. Is this your first time diving? Yes No
8. If no, how many dives have you done, including this one?
9. How many dives have you done within the last 12 months, including this one?
10. What is your highest SCUBA diving certification? If you are currently doing a course, tick under training and the certification you are preparing for.
 Open Water Dive instructor
 Not certified Advanced Open Water Dive Master
 Under training Rescue Diver Other :
11. How many years have you been certified as a SCUBA diver? years
12. Do you intend to upgrade your diving certification in the future? Yes No
Please specify
.....

Part 3. Motivations to dive

13. Below is a list of reasons why people chose to dive. Please circle the number that indicates how important each item was to you as a reason for diving in Phuket/ Andaman.

Not important Very important

To relax mentally/physically	1	2	3	4	5
To learn more about the underwater world	1	2	3	4	5
To experience unpolluted surroundings	1	2	3	4	5
To look at fish and other marine life	1	2	3	4	5
To experience adventure and excitement	1	2	3	4	5
To challenge your abilities	1	2	3	4	5
To learn/ improve your skills	1	2	3	4	5
To get away from regular routine	1	2	3	4	5
To enjoy family recreation	1	2	3	4	5
To have a good time with friends	1	2	3	4	5
To live a new experience	1	2	3	4	5
To exercise (stay fit, healthy)	1	2	3	4	5
To avoid the hustle and bustle of daily life	1	2	3	4	5
To discover new places and things	1	2	3	4	5
To experience tranquility underwater	1	2	3	4	5

Part 4. Diving in Phuket/Andaman

14. Was diving an important reason in choosing Phuket as your travel destination?

Strongly disagree	1	2	3	4	Strongly agree

15. Why did you choose to dive in Phuket? (You can tick more than one)

- | | |
|---|--|
| <input type="checkbox"/> Variety of dive operators and dive products (e.g manta rays) | <input type="checkbox"/> Opportunity to see specific species |
| <input type="checkbox"/> Variety of diving spots | <input type="checkbox"/> Marine life in general |
| <input type="checkbox"/> Proximity and accessibility of diving spots | <input type="checkbox"/> Marine life and coral diversity |
| <input type="checkbox"/> Existence of Marine National Parks | <input type="checkbox"/> Others-Please specify: <input style="width: 100px;" type="text"/> |
| <input type="checkbox"/> Good value for money | |

16. Locations where you have dived in Phuket/Andaman during this trip (You can tick more than one):

- | | | | |
|--|--|--------------------------------------|--|
| <input type="checkbox"/> Similan Islands | <input type="checkbox"/> Koh Phi Phi | <input type="checkbox"/> Koh Doc Mai | <input type="checkbox"/> Richelieu Rock |
| <input type="checkbox"/> Surin National Park | <input type="checkbox"/> Racha Yai/Racha Noi | <input type="checkbox"/> Shark Point | <input type="checkbox"/> Other-Specify: <input style="width: 100px;" type="text"/> |
| <input type="checkbox"/> Koh Bon/Koh Tachai | <input type="checkbox"/> Hin Daeng | <input type="checkbox"/> Hin Muang | |

17. Maximum depth of dive: m

18. Which of the following diving activities have you done in Phuket/Andaman? (You can tick more than one)

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> Deep diving | <input type="checkbox"/> Night diving | <input type="checkbox"/> Decompression/NITROX |
| <input type="checkbox"/> Marine life research | <input type="checkbox"/> Wreck diving | <input type="checkbox"/> Underwater photography |
| <input type="checkbox"/> Other- Please specify: <input style="width: 100px;" type="text"/> | | |

19. Have you ever dived in Thailand before? Yes No
If yes, where?

20. Overall, how satisfied were you with your diving experience in Phuket/Andaman?

Strongly dissatisfied					Very satisfied
1	2	3	4	5	

21. Please rate the importance of the listed elements of your diving experience in Phuket/Andaman?

Statements	IMPORTANCE					ACTUAL PERFORMANCE				
	1	2	3	4	5	1	2	3	4	5
Whale sharks	1	2	3	4	5	1	2	3	4	5
Manta rays	1	2	3	4	5	1	2	3	4	5
Marine life in general	1	2	3	4	5	1	2	3	4	5
Marine life diversity	1	2	3	4	5	1	2	3	4	5
Uncrowded sites	1	2	3	4	5	1	2	3	4	5
Visibility	1	2	3	4	5	1	2	3	4	5
Water temperature	1	2	3	4	5	1	2	3	4	5
Weather	1	2	3	4	5	1	2	3	4	5
Good coral condition	1	2	3	4	5	1	2	3	4	5
Diversity of corals	1	2	3	4	5	1	2	3	4	5
Mega fauna (large animals)	1	2	3	4	5	1	2	3	4	5
Great variety of diving sites	1	2	3	4	5	1	2	3	4	5

22. What other 3 diving spots in Asia do you wish to dive? Please name them.

1. _____ 2. _____ 3. _____

Part 5. Travel behavior

23. How many days do you stay in Phuket? days

24. What is your accommodation type while staying in Phuket?

- City Hotel (in town)
- Hotel, resort & Spa
- Guesthouse
- Other- Please specify:
- Staying with family or friends
- Time sharing property
- Apartment

25. What is your purpose to visit Phuket?

- Leisure
- Visiting family/friends
- Shopping
- Health & wellness
- Business
- Other-Please specify:

26. What other activities do you enjoy doing in Phuket? (You can tick more than one)

- Beach and sun
- Spa, health activities
- Tours & excursions
- Marine sports and activities
- Outdoors sports and activities
- Golf
- Entertainment activities
- Cultural activities
- Dinning (Restaurants & bars)
- Nightlife
- Other- Please specify:

Part 6. Dive operator's service quality

27) The following statements deal with dive operator's service quality. Please rank each statement as follows:

By importance: To what extent is each attribute important to you, regarding service in all dive centers in general?

By actual performance: Show the extent to which the specific dive center you chose has the features described in the statement

RESPONSIVENESS	Not					Very					Strongly					Strongly				
	important					important					disagree					agree				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q1. Employees give prompt service to customers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q2. Employees are never be too busy to respond to customer's requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q3. Counter staff are very helpful and always eager to answer your questions and fulfill your requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
ASSURANCE											1	2	3	4	5	1	2	3	4	5
Q4. The behavior of the instructor/guide instills confidence and trust in customers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q5. Instructors/guides put a lot of emphasis on safety instructions and guidelines	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q6. Instructors/guides encourage divers to respect the underwater ecosystem and marine life, as not to damage it	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q7. Diving instructors/guides have the knowledge to answer diver's questions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
EMPATHY											1	2	3	4	5	1	2	3	4	5
Q8. The diving center gives customers a personalized service	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q9. Employees give customers personal advice and support	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q10. The company has its customer's best interest at heart	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q11. Employees understand the specific needs of their customers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q12. Instructors/guides are always friendly, caring and give customers individualized attention	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q13. The company shows interest in customer's feedback and satisfaction	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
RELIABILITY											1	2	3	4	5	1	2	3	4	5
Q14. The dive center provides services at the time they promise to do so	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q15. When a customer has a problem, employees show interest in assisting/solving it	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q16. Low risk experiences and high safety/quality standards are emphasized	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q17. Briefings are clear, accurate and very informative for everyone	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q18. Service performance is right since the beginning	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
TANGIBLE											1	2	3	4	5	1	2	3	4	5
Q19. The dive center has modern/high quality equipments	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q20. There are good facilities to cater for divers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q21. Employees are neat in their appearance	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q22. Brochures are visually appealing	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q23. The company's vessel is highly suitable for diving	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q24. The décor/appearance of the diving center's premises is visually appealing	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q25. The food and beverages provided are fresh, good in quantity and quality	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Part 7- Ecological issues

28) Please indicate whether you agree or disagree with the following statements:

The reefs in Phuket /Andaman are crowded	1	2	3	4	5
SCUBA diving, at extensive levels, can damage reef communities	1	2	3	4	5
Pre-dive briefings during this trip emphasized the 3T's: Don't touch, don't tease and don't take	1	2	3	4	5
My marine life knowledge has improved during this holiday as a consequence of the received training/instruction	1	2	3	4	5
My marine life knowledge is extensive	1	2	3	4	5
I have participated in environmental conservation awareness/training activity involving diving	1	2	3	4	5
I am interested in participating in environmental conservation awareness/training activity involving diving	1	2	3	4	5
I am concerned about environmental risks and the sustainability of the dive sites in Phuket/Andaman	1	2	3	4	5

29) How did you hear about the selected diving center?

- Friend referral
- Tour operator
- Travel agency
- Advertisement
- Saw it on the street
- Journal, magazine article
- Internet
- Other:

30) Did you book your diving course/trip prior to your arrival to Phuket? Yes No

If YES, how long in advance did you book? Days

31) How did you book your diving course/trip?

- Agency
- Tour operator
- Hotel
- Internet
- Dive center (face to face)
- Other:

32) What is your overall satisfaction regarding the diving center services?

Not satisfied					Extremely satisfied
1	2	3	4	5	

33) Would you recommend the dive center to others? Yes No

34) Do you want to dive in Phuket/Andaman again? Yes No

35) Please write the approximate expenditure amounts of your trip to Phuket/Andaman(excluding airfare) for the following elements:

- Approx. total expenditure for your whole trip to Phuket.....(US dollars)
- Accommodation.....(US dollars)
- Food & beverage(US dollars)
- Diving.....(US dollars)

36) Comments and suggestions about your diving experience in Phuket/Andaman?

.....

Thank you very much for your participation!

APPENDIX B: Interview Questions for Dive Center Managers

1. How many customers do you have per day, month, and year?
2. Do you have a market profile of your customers or a proper segmentation? Under what criteria?
3. Do you apply personalized marketing strategies? CRM?
4. Do you apply any quality control strategies to measure or obtain feedback on your service performance?
5. How do you receive feedback on customers' satisfaction?
6. Do you have any after-sale marketing strategies, follow up?
7. Which are the core dimensions of the scuba dive products you provide?
8. According to you, which are the most important elements of quality in (1) the dive experience and in (2) the service delivery?
9. Which are the main 'problem areas' in the service delivery, based on your customers' complains and/or feedback?
10. In your opinion, what are the profiles of your customers in general?
11. What are the main exigencies, wants and needs of diving tourists?
12. According to you, what are the main motivations that drive people/tourists to dive?
13. What is the main booking method used by divers?
14. Do you share any information about segmentation, market profile and others with institutions, TDA or TAT?
15. Are you aware of the percentage of returning customers?
16. Do you work together with a particular association, network or other DC in Phuket?
17. What projects or contributions to ecological issues have you participated on? With whom?
18. Does your DC cooperate in any project or action to support the local community?
If yes, in which ways?
19. Do you consider your DC to be eco-friendly?
20. Do you regularly observe, control and supervise your DM/DI underwater behavior?
21. Do you believe your staff members regularly emphasize the 3T's: Don't tease, don't touch and don't take?

22. Has your DC provided additional training to your staff in regards of marine life knowledge and pro-environmental behavior?
23. What are the main challenges of a diving center today?
24. What are the main challenges of a diving center in Phuket/Thailand?
25. According to you, which type of divers visit Phuket? (according to their level of skills)
26. Do you believe scuba diving is becoming a mass tourist activity? Please comment.
27. Are your employees mostly Thai or foreigners? Why? Are they fixed staff or free lancers?
28. According to you, is there a shortfall in the scuba diving educational system? Please comment.
29. Do you believe MNP highly contributes to diving tourism?
30. What is your opinion on the operational system of MNP's in the Andaman?
31. Do you consider there is a site management problem in MNP and other dive sites?
32. Do you consider that divers who come to your DC have ecological awareness?
33. Are they interested in marine life knowledge and conservation?
34. Do you believe that quality and/or eco- certifications and labels influence or might influence scuba divers' decision making when choosing a DC?
35. Do you believe that a deeper understanding of scuba divers motivations and needs would help to better adapt products, send messages and promote and develop both diving tourism and the destination image of Phuket?

APPENDIX C: Interview Questions for Phuket Marine Biological Center

POSITION PMBC: _____

1. Please explain what are the objectives, mission, responsibilities and activities organized by the PMBC.
2. Which are the main contributors/cooperators of PMBC both at public and private sector?
3. How many DC work in cooperation with PMBC? For which projects?
4. What is your opinion on the actual situation of the dive industry, where private and public sectors have not yet merged to work as ONE? Do you work with Dive Operators Club of Thailand, TDA, Ecotourism Training Center (ETC), etc?
5. What is your opinion on the lack of involvement of thai locals in the dive industry?
What are the main reasons for this issue?
6. How does PMBC contribute to thai locals' education and awareness of marine life?
What other organizations are involved in this?
7. What is the legal framework (laws and regulations) for:
 - a. Marine species
 - b. Boats (type, anchoring)
 - c. Number of divers, number of boats
 - d. Fishing
8. What is the actual situation for these issues?
 - a. Marine species
 - b. Boats (type, anchoring)
 - c. Number of divers, number of boats
 - d. Fishing
9. Do laws protect certain species in Thailand? (e.g whale sharks)? Do you believe such laws could positively reinforce Phuket/Andaman's destination image among divers, and contribute to an increased awareness of marine conservation, as is the case of Palau's shark sanctuary in Micronesia?

10. Diving takes place mostly in sub-tropical areas and developing countries; in your opinion, is the dive industry and opportunity or a threat? (In regards of ecological, social and financial impacts)
11. What are the main barriers/challenges of developing a sustainable/responsible dive industry in Phuket?
12. What are the main factors contributing to coral reef damage in the Andaman?
13. According to your experience, what actions (at public/private level) could reduce scuba divers' damage in coral reefs?
14. How does the system of MNP work in Thailand?
Research has shown that in the world, out of the 19% of coral reefs that are covered by protected areas, only 2% is EFFICIENTLY protected. Is this the case of TH?
15. What is the state of affairs of dive sites in the Andaman cluster? Which sites are the most damaged? Why?
16. How are the corals recovering after the tsunami?
17. Did the tsunami post-effects change and influence the dive industry to become more aware of the importance of their commitment and participation in marine and coral reef conservation?
18. After the tsunami, has the PMBC implemented a crisis management plan of coastal resources?
19. Do you believe that artificial reefs and dive sites can represent an opportunity to reduce stress in coral reefs and promote diving at the same time?
20. At an Asian level, what is the state of affairs of organizations involved in promoting coral reef conservation? What strategies are they using? What actions are they taking?
Are you presenting in conferences, assisting to dive expositions, etc?
21. What suggestions/recommendations can you make, in regards of steps that can or should be done in order to provide a sustainable future for the dive industry?

APPENDIX D: Interview Questions for Green Fins Thailand Coordinator

POSITION: _____

1. What is the mission and objectives of Green Fins project?
2. What activities do you do, for:
 - a. Awareness training (who do you train?)
 - b. Reef protection and monitoring
 - c. Improving reef health
3. Do you include volunteer divers (tourists) in your projects? If so, what is your feedback on their motivations, implications and interest in ecological issues?
4. PADI considers itself as “environmentally friendly”, but their books and educational system in general, proves the opposite. What is your opinion on this subject?
5. Green Fins has launched surveys to assess dive operators, what are the overall results? Are companies accomplishing or failing to commit to the Green Fins project?
6. How many Dive Centers take part of the Green Fins Project?
7. Do you believe that labels and eco-friendly certifications for dive centers are or can become an important factor influencing diver’s decision making for choosing a DC in Phuke

VITAE

Name : MissAndrea IBANEZ

Date of birth: December 5th, 1985

Place of birth: Guayaquil, Ecuador

Tel: +66 8-4249-0434

E-mail: andrea_ibanez@hotmail.com

Educational Attainment

2007-2008 **Licence Management et Ingénierie des Industries du Tourisme**
Bachelor's Degree in Management specialized in Tourism Industry
 Centre d'Etudes du Tourisme et des Industries de l'Accueil (CETIA)
 Université de Toulouse II

2005-2007 **Brevet Technicien Supérieur Hôtellerie et Restauration option**
Marketing et Gestion (BTS)
A two-year technical degree in Hotel Management specialized in
Marketing
 Lycée Hôtelier et de Tourisme de Biarritz, France

2004-2005 **Certificat d'Aptitudes Professionnels (CAP) Services Hôtelières**
Professional Certificate in Hotel Services
 École Technique Privée d'Hôtellerie Dosnon, France