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An Exploratory Study to Develop a Geotourism Typology Model Based on the Experience and the Importance of Geotourism in the Decision to Visit a Destination

Hasoly P. Hurtado
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**An Exploratory Study to Develop a Geotourism Typology
Model Based on the Experience and the Importance of
Geotourism in the Decision to Visit a Destination**

*This thesis is presented in partial fulfilment of the award of an
Honours Degree*

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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

ABSTRACT

This study develops a typology model for geotourism to address the existing gap in the literature regarding who is participating in geotourism. As geotourism is a new concept, the literature is not only lacking in this area, but there is also a conflict of definitions available from scholars and organisations. This study defines geotourism in accordance to the definition of Newsome and Dowling (2010). It also aims to reduce the gap in literature by providing a starting point to the development of future geotourism typology models through the adaptation of McKercher's Cultural Tourism Typology Model (2002).

Participants eligible for this study were tourists participating in the Crystal Cave in Yanchep National Park, Perth, Western Australia. This site was chosen as the Crystal Cave's management is practicing geotourism. Therefore, it was assumed tourists were participating in geotourism as Yanchep National Park, including the Crystal Cave, comply with the definition. Geotourism focuses on sustainability, conservation, benefitting the community, appreciation of cultural and geoheritage value through education and interpretation and tourist satisfaction (Dowling, 2008). Management places importance on the sustainability and conservation of the cave. Tourists have the opportunity to learn as they are provided with educational opportunities in the guided tour through the cultural and geoheritage interpretation. It also benefits the community as it creates job opportunities. Furthermore, results of the study demonstrate that locals visit the cave benefitting them through their positive participation and experiences.

The data was collected through on-site self completed questionnaires. Analysis included a criteria sheet and guidelines established in accordance to the description of each of McKercher's typologies as well as Statistical Package for the Social Sciences 17 (SPSS). After the analysis of the results, it became evident that the Cultural Tourism Typology Model (2002) could not be applied to geotourism as some typologies needed to be adapted and new typologies were discovered. As a result, a new model was re-developed based on McKercher's Model. Purposeful tourists and incidental tourists remained with the same characteristics. The serendipitous tourist typology was changed slightly to include some geo-motivation. Furthermore, two new typologies were created as a result of the data analysis. The new typologies are the 'intentional geotourist' who is characterised by high geo-influence and positive encounter, and the 'accidental geotourist' who has no geo-influence and a positive encounter.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education.
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I am very grateful towards the wonderful team at Yanchep National Park, beginning with Alison Pritchard, Park Manager, as she allowed me to conduct my study in the Park. From the very beginning, Alison made me feel welcome and provided me with much needed help including free entrance to the Park, visitor statistics and information as well as the support of her team. I would also like to mention the two tour guides who either introduced me or allowed me to introduce myself, to the visitors partaking in the Cave tour, as part of their talk before entering the cave. Joy and Naomi continually encouraged me and made it possible to reach my data collection target.

A special mention goes to my partner Christopher Tran as his invaluable support and guidance made this task seem possible. His support included accompanying me to the site where I conducted data collection, discussing ideas, giving me feedback and constructive criticism, proof reading and helped me stay on track. Without his encouragement, I would have found it difficult to grasp the task of writing a thesis.

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TABLE OF CONTENTS

Chapter 1 - Introduction	1
1.1 Introduction	1
1.2 Background to the Study	1
1.2.1 Tourism	1
1.2.2 Geotourism	3
1.3 Geotourism Study Site	4
1.4 Significance of the Study	10
1.5 Thesis Structure	12
1.6 Chapter Summary	12
Chapter 2 – Literature Review	13
2.1 Introduction	13
2.2 Brief Overview on Current Geotourism Academic Literature	13
2.3 Tourists Participating in Geotourism	16
2.3.1 Relevance of Previous Academic Studies to Current Thesis Study	19
2.4 Tourist Typologies	20
2.5 Theoretical Background on Motivation & Decision Making Processes	22
2.5.1 Motivation	22
2.5.2 Decision Making Processes	28
2.6 Tourism Theoretical Framework	31
2.6.1 The Five Typologies	32
2.7 Theoretical Framework	36
2.8 Chapter Summary	37
Chapter 3 - Research Methods	39
3.1 Introduction	39
3.2 Research Approach to Investigating Geotourism Typologies	39
3.3 Research Aims and Objectives	39
3.4 Research Method Rationale	40

3.5	Site/Population.....	41
3.6	Sample	41
3.7	Research Instrument.....	42
3.8	Pilot Study.....	44
3.9	Procedure	44
3.10	Data Collection Period.....	45
3.11	Response Rate.....	45
3.12	Data Analysis	46
3.13	Validity	47
3.14	Ethical Considerations	47
3.15	Anticipated and Managed Limitations.....	49
3.16	Chapter Summary	50
	Chapter 4 - Results and Discussion.....	51
4.1	Introduction.....	51
4.2	Demographic Overview and Characteristics	51
4.2.1	Age and Gender	51
4.2.2	Origin	52
4.2.3	Size and Type of Travelling Group.....	53
4.2.4	Estimated Expenditure and Average Income.....	54
4.2.5	Frequency of Visitation and Repeat Visitation	56
4.2.6	Information Source	56
4.3	Application of the Cultural Tourism Typology Model to Geotourism.....	57
4.3.1	Group One: Participant Satisfaction and Experience Encountered.....	58
4.3.2	Group Two: Participant Motivation & Importance of Geotourism	60
4.3.3	Determining if the Cultural Tourist Typology Model can be Applied to Geotourism.....	63
4.4	Adapted Cultural Tourism Typology Model to suit Geotourism	66
4.4.1	Purposeful Geotourist	67

4.4.1.1 Demographic Overview and Characteristics of a Purposeful Geotourist.....	68
4.4.2 Serendipitous Geotourist.....	69
4.4.2.1 Demographic Overview and Characteristics of a Serendipitous Geotourist.....	70
4.4.3 Intentional Geotourist.....	72
4.4.3.1 Demographic Overview and Characteristics of a Intentional Geotourist.....	73
4.4.4 Accidental Geotourist.....	74
4.4.4.1 Demographic Overview and Characteristics of a Accidental Geotourist.....	75
4.4.5 Incidental Geotourist.....	77
4.4.5.1 Demographic Overview and Characteristics of an Incidental Geotourist.....	77
4.5 Five Geotourism Typologies and a Cross Analysis.....	79
4.6 Chapter Summary	86
Chapter 5 – Conclusion and Recommendations.....	87
5.1 Conclusion	87
5.2 Recommendations.....	90
References	93
Appendices	99

LIST OF FIGURES

1.1	Crystal Cave.....	4
1.2	Inside the Crystal Cave.....	5
1.3	Map of Yanchep National Park in relation to Australia.....	6
1.4	Map of Yanchep National Park.....	7
1.5	Yanchep National Park Awards.....	8
1.6	Formations in the Crystal Cave.....	9
2.1	A social psychological model of tourism motivation.....	27
2.2	Destination selection process.....	31
2.3	Cultural Tourist Typology Model.....	37
4.1	Participant's age range.....	52
4.2	Western Australia Regions.....	52
4.3	Participant's country of residency.....	53
4.4	Participant's travel group description.....	54
4.5	Average amount of money spent by travelling groups.....	55
4.6	Cultural Tourism Typology Model.....	57
4.7	Order of preference for Park visit.....	63
4.8	Remaining Cultural Tourist Typologies applicable to Geotourism.....	65
4.9	Adapted Geotourism Typology Model.....	66
4.10	Geotourist typology.....	80
4.11	Comparison of gender balance across the typologies.....	80

LIST OF TABLES

2.1	Classification of Cultural Tourists in Hong Kong.....	34
4.1	Participant's impression of the Crystal Cave tour: Question 2.....	58
4.2	Participant's favourite activity: Question 8.....	59
4.3	Reasons for participating in Crystal Cave tour: Question 4.....	61
4.4	Influential factors when deciding on which cave to visit: Question 5.....	61
4.5	Importance of having an educational experience at Yanchep National Park: Question 12.....	62
4.6	Importance of the Cave tour in the participant's decision to travel to Yanchep National Park: Question 6.....	62
4.7	Comparison of ages across the typologies.....	81
4.8	Comparison of residential location across the typologies.....	82
4.9	Comparison of income across the typologies.....	82
4.10	Comparison of expenditure across the typologies.....	83
4.11	Comparison of travel groups across the typologies.....	84
4.12	Comparison of travel size across the typologies.....	84

LIST OF APPENDICES

A Questionnaire.....99

B Criteria Sheet.....103

C Information Letter.....105

CHAPTER 1

INTRODUCTION

1.1 Introduction

This honours thesis focuses on the alternative type of tourism; geotourism, and the development of a geotourism typology model. The development of the model is based on an existing model, McKercher's Cultural Tourism Typology Model (2002) as it was developed based on the experience sought by the tourist and the importance of cultural tourism in the decision to visit a destination. Similarly, these factors and results gathered from the data collected from tourists participating in the Crystal Cave tour at Yanchep National Park, Perth, Western Australia, have influenced the typologies and structure of the Geotourism Typology Model presented towards the end of this thesis.

1.2 Background to the Study

This chapter will discuss the background to the study including an overview of tourism and the alternative type of tourism; geotourism. It will also introduce Yanchep National Park where the study site, Crystal Cave, is located. In addition, it will outline the significance of this study. A thesis structure is also provided.

1.2.1 Tourism

Tourism is a worldwide industry which attracts many different markets. According to the Tourism Satellite Account: Western Australia 2006/2007 Fact Sheet (Tourism Western Australia, 2007), to Western Australia alone, tourism contributed approximately \$6.6 billion of a combined direct and indirect contribution, with a State Gross Value Added direct contribution of \$2.97 billion or 2.3% (ranked fourteenth among non-tourism industries). In 2008, tourism's contribution increased to \$7.31, with a 4.3% total economic contribution to Western Australia including a State Gross Value Added direct and indirect contribution (Tourism Western Australia, 2008). Therefore, the tourism industry is important to the Western Australian economy. There are no more recent figures in the economic contribution tourism has on Western Australia, however, nationally, tourism had a Gross Value Added direct contribution of \$31 billion in 2009/2010, a 3.2% increase from the previous financial year. The direct tourism Gross Domestic Product also increased 3.2% to 3.4 billion (Australian Government: Department of resources, 2010).

Weaver and Lawton (2010, p. 2) build on Goeldner and Ritchie's definition of tourism and define tourism as "... the sum of the processes, activities and outcomes arising from the relationships and the interactions among tourists, tourism suppliers, host governments, host communities and surrounding environments that are involved in the attracting, transporting, hosting and management of tourists and other visitors." Furthermore, The World Tourism Organisation (Australian Bureau of Statistics, 2006) specifically define on their website, a tourist as "the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited." Thus, tourism is the recreational, leisure activities and interactions, focusing on the tourist experience, between a tourist and a host city/community.

There are two types of tourism; mass tourism and alternative tourism. Mass tourism is the traditional form of tourism and is described to be opposite to the concept of alternative tourism. Mass tourism can be differentiated from alternative tourism as mass tourism focuses on pulling large crowds at any one time, to its fullest capacity, to maximise potential revenue without taking into account sustainable issues (Weaver & Lawton, 2010). Furthermore, it is described as uncontrolled tourism causing impacts due to inappropriate development of infrastructure, traffic congestions and pollutions to the local ecosystem (Page & Dowling, 2002). Diamantis (2004) argues that mass and alternative tourism are complete opposites as one, alternative tourism, focuses on the natural and cultural environment and the other, mass tourism, on the built environment. Richardson (1993) argues that mass tourism can be beneficial to developed countries as tourism injects large amounts of money into their economies. However, she points out that the benefits are sometimes questionable as some sites can be physically and atmospherically destroyed due to mass tourism. She further argues that in the Third World Countries, the sites are exploited but the money does not stay in their economy as most operations are owned by 'outsiders'.

This is not what geotourism is about as it is an alternative type of tourism. However, not all sites that are geological in nature embrace geotourism. Instead, some operators embrace a mass tourism approach which can exploit natural sites and create irreversible damage (Burne & Chapple, 2008; Hose, 2007; Hudson, 2004; King, 2010; Nepal, 2000; Schwer, 2000).

1.2.2 Geotourism

Geotourism as a niche sector of tourism is growing rapidly (Dowling & Newsome, 2006; Newsome & Dowling, 2010). However, there are no current statistics in the Australian Bureau of Statistics indicating its contribution to the Australian economy. Nevertheless, there is a growing interest around the world to participate in geotourism (Gates cited in Kim, Kim, Park, & Guo, 2008), an emergent segment of tourism based on geodiversity. According to Rodrigues and Neto de Carvalho (2009, p. 82), “Humans always travelled to see geological wonders, but only now there is...new specificities and new contingencies that follow the general trends of tourism (like lodging and restaurants) but that also have its own trends.” Therefore, the concept of geotourism is fairly new.

As geotourism is a new concept and a form of alternative tourism, it is difficult to define. Newsome and Dowling (2010) characterise geotourism as a sustainable way of experiencing and appreciating the Earth’s geology. It is geologically based and focuses on sustainability, conservation, benefiting the community, appreciation of cultural and geoheritage value through education and interpretation and tourist satisfaction (Dowling, 2008). The *National Geographic* website (2010) define geotourism as all of the geographical elements of the Earth and states that it “enhances the geographical character of a place.” This definition includes all of the environmental aspects which is not what geotourism is about. Dowling and Newsome (2006) believe that geotourism only involves geological and geomorphological resources such as landforms and fossils. Therefore, the National Geographic’s definition is very broad and similar to other types of tourism such as nature-based tourism. However, there are other parts of the definition which are valid. These are that geotourism is sustainable and focuses on the heritage, cultural aspects and the community benefits. These conflicting definitions add confusion to operators. However, Newsome and Dowling (2010) clarify the definition of geotourism by refining the definition of the scholar Hose and their own previous definition. The following definition will be used in this study as identified by Newsome and Dowling (2010, p. 3):

Geotourism is a form of natural area tourism that specifically focuses on geology and landscape. It promotes tourism to geosites and the conservation of geo-diversity and an understanding of earth sciences through appreciation and learning. This is achieved through independent visits to geological features, use of geo-trails and view points, guided tours, geo-activities and patronage of geo-site visitor centres.

Although there are a few disagreements within the different organisations and scholars on the definition of geotourism, a unified decision is ‘closer’ than ever before as this type of tourism is now being recognised. The next step is to establish who is visiting geosites and participating in geotourism to identify typologies within geotourism; an area in which literature is lacking as very few studies have been conducted by scholars to identify who is participating in geotourism.

1.3 *Geotourism Study Site*

Yanchep National Park is one of Western Australia’s oldest national parks (Department of Environment and Conservation, 2010a) and one of Perth’s iconic tourist attractions offering a unique experience. The park has an abundance of wildlife including native Australian flora and fauna. These include tuart and banksia woodlands, water and bush birds such as swans, pelicans, parrots and honeyeaters, the endangered Carnaby’s black cockatoos and the iconic Western Grey kangaroos and koalas (Department of Environment and Conservation, 2010a). The park is also home to many caves including the Crystal Cave (Figures 1.1 and 1.2).



Figure 1.1. Crystal Cave. Source: Hasoly Hurtado

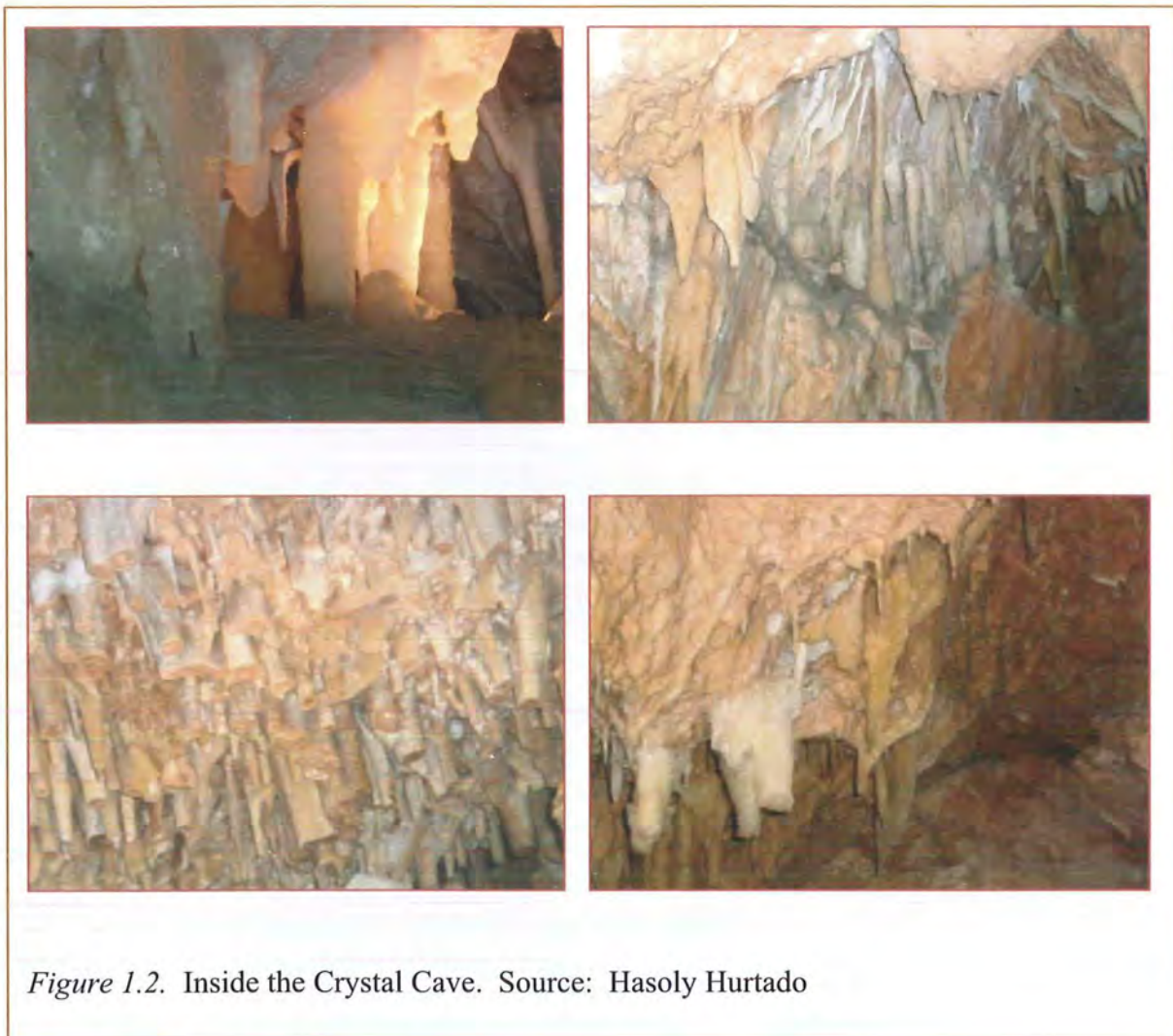


Figure 1.2. Inside the Crystal Cave. Source: Hasoly Hurtado

The Park is located in Yanchep, Western Australia (Figure 1.3). It is only forty five minutes drive north of Perth City (51 kilometres) making it a popular day trip for many Western Australians (Department of Environment and Conservation, 2010a). It is open every day of the year offering popular activities such as a cave tours, an Aboriginal experience, walking trails such as the Ghosthouse Walk trail, rowboats, golf course and spotting wildlife such as the koalas on the Koala Boardwalk, kangaroos and birds (Figure 1.4) (Department of Environment and Conservation, 2010a). Other facilities include picnic shelters, tables, gas barbecues, drinking fountains, toilets, public telephones, parking, interpretive signage and information/souvenir shop. There is also accommodation available at the Park, the historic Yanchep Inn (Department of Environment and Conservation, 2010a).



Figure 1.3. Map of Yanchep National Park in relation to Australia (Google Maps, 2010)

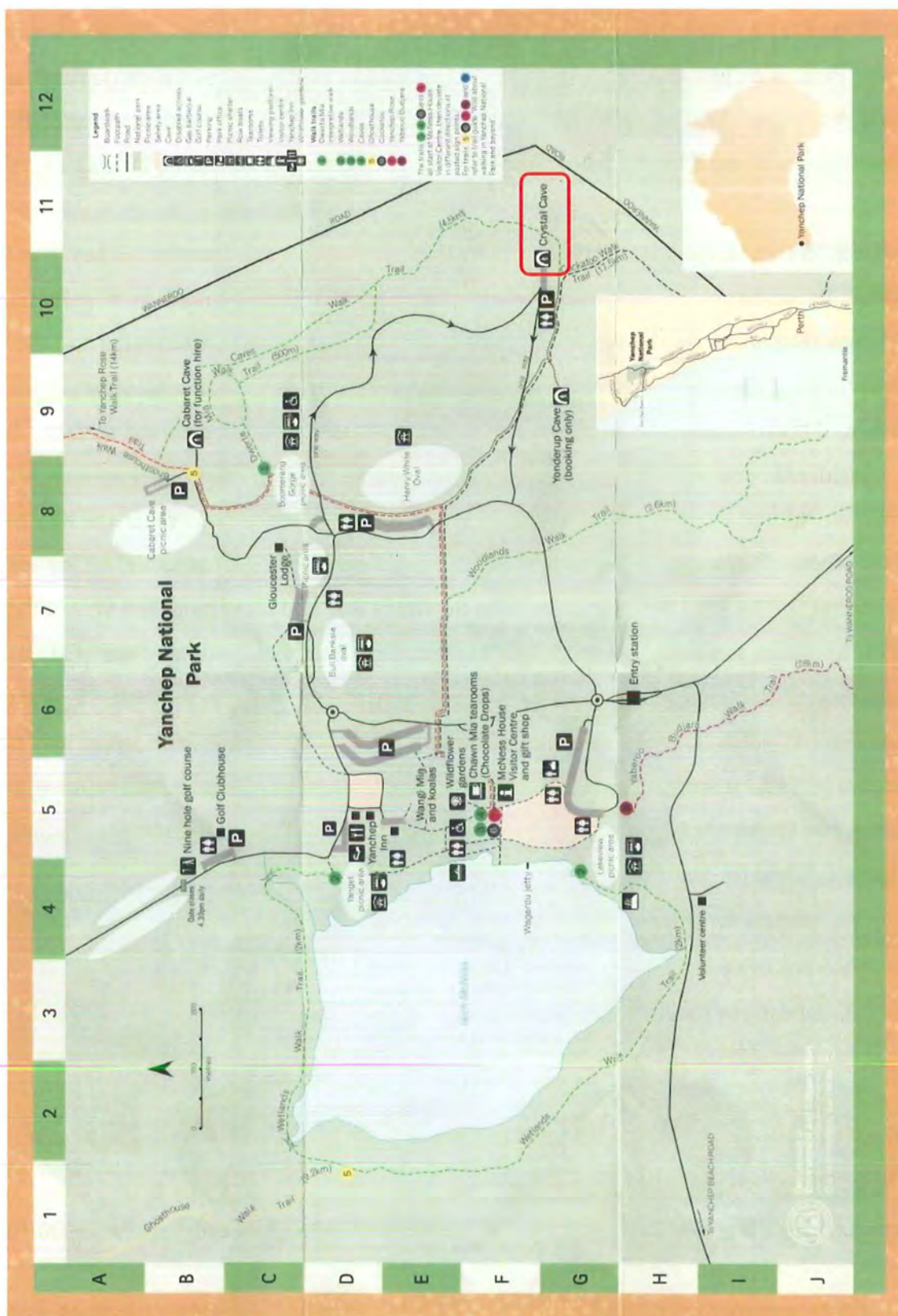


Figure 1.4. Map of Yanchep National Park
(Department of Environment and Conservation. Information and visitor's guide, 2010b)

The Park recommends spring as the best season to visit as there is a beautiful display of wildflowers at the time (Department of Environment and Conservation, 2010a). Entry to the Park is \$11.00 per vehicle or \$5.00 per motorcycle, concession cardholder or coach passenger. There is a \$20.00 Annual Local Pass available to residents in specific areas adjacent to the Park (Department of Environment and Conservation, 2010a).

Yanchep National Park is home to more than 600 documented caves. They were formed by underground streams flowing from the Gnangara Mound in a westerly direction (Department of Environment and Conservation, 2010a). Compared to other cave systems, these caves are considered to be small in dimension and close to the surface. This is because the ground water is only about ten meters below the surface. It is considered one of the six major cave regions of the State (Department of Environment and Conservation, 2010a). One of the earliest sightings recorded was in 1838 where Lieutenant George Grey noted the caves as ‘remarkable’ (City of Wanneroo, 2010). In 1841, Surveyor John Septimus Roe and Governor Hutt visited the Caves however, it was not until 1931 when the Park became a National Park (City of Wanneroo, 2010). Several caves have been open for tourists for the past 70 years including Crystal Cave, Cabaret, Mambibby, Yanchep and Yonderup caves (Department of Environment and Conservation, 2010a). The park has a commitment to sustainable tourism within the cave. This is demonstrated through the awards attained (Figure 1.5) and the cave’s three main values established:

- As habitats for certain species of wildlife
- As sites of archaeological and scientific importance
- As attractions to tourists and recreational cavers.



The most commonly known are the Cabaret Cave, popular for its wedding functions, and Crystal Cave, where tours are conducted every day (Department of Environment and Conservation, 2010a) (Figure 1.6). Entry to the Crystal Cave is \$10 for adults, \$5 for children (or \$25 for two adults and two children) and \$8 for Australian Seniors Card holders (Department of Environment and Conservation. Information and visitor's guide, 2010b).

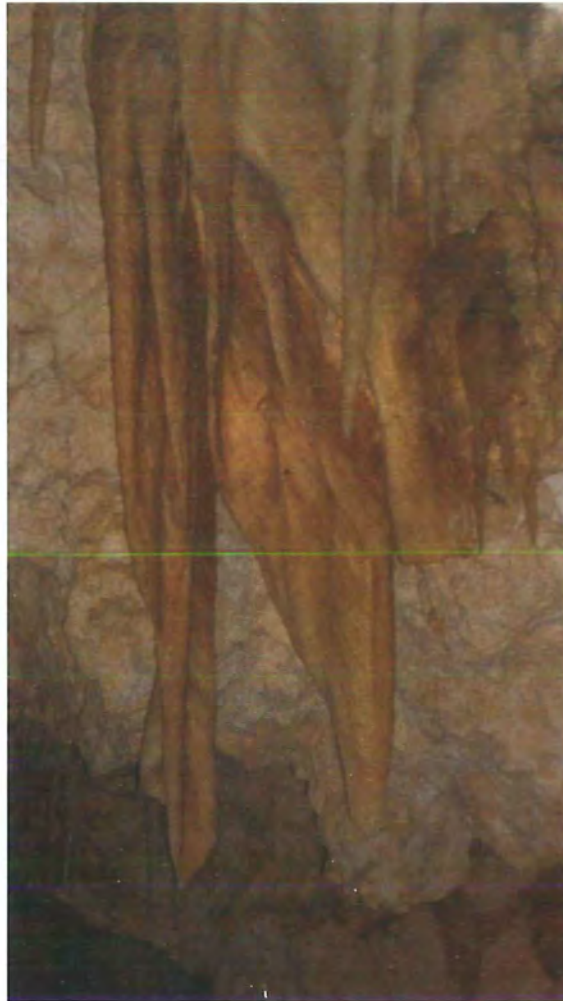


Figure 1.6. Formations in the Crystal Cave. Source: Hasoly Hurtado

Between the financial years of 2006 and 2009 the Park attracted a range between 216,496 and 255,401 visitors including local, interstate and international visitors (Yanchep National Park, 2009). In 2008-2009 there were 216,496 visitors. The total entry count during June, the same month as the data collection period, was 10,640. Visitors are mostly over 56 years of age (39%). Other age groups include 36 to 45 years of age (23%), 26 to 35 (18%), 46 to 55 (15%) and 17 to 25 (4%).

The main origin of visitors to the Park is Australian including locals (74%). Other visitors are from the United Kingdom (5%), Germany (4%), France (2%) and other (2%). Within Australia, the majority of visitors are from Western Australia (84%). Others are from New South Wales (5%), Victoria (5%), Queensland (5%) and South Australia (1%). The reasons given for Park visitation (not including locals) are general (32%), golf (19%), hotel (12%), walking trails (11%), koalas (8%), caves (5%) and other. This ranks caves as the fifth reason. Locals rank caves as their sixth reason (2%), visitors from United Kingdom rank it second (27%), from Germany third (12%) and French rank caves equal third (9%). For 35% of visitors, it is their first time visiting the Park and they travel mostly in a family group (37%). Other groups include partners (19%), solo travellers (16%) and with friends (16%). Eight percent of locals visiting the park are taking international visitors to the Park. Most visitors have local knowledge of the Park (61%) while other visit the Park as a result of word-of-mouth recommendation (11%) (Yanchep National Park, 2009, pp. 1-9).

1.4 Significance of the Study

As geotourism is an emerging sector of tourism, the academic literature regarding geotourism is limited and relatively small when compared to other areas of tourism. There have been several studies conducted focusing on the tourist's impact on geosites. Such literature includes studies focusing on the effects of visitors on a cave, for example, a Glowworm Cave in New Zealand (Doorne, 2000) and Cueva del Agua in Spain (Calaforra, Fernandez-Cortes, Sanches-Martos, Gisbert, & Pulido-Bosch, 2002). However, very few studies have been conducted towards identifying geotourists and their motivation to visit a destination. One of the latest studies focusing on this was conducted in Korea (Kim et al., 2008).

It is important to identify geotourists and group similar travel motivation. However, all visitors are different to each other therefore, no product can satisfy all because people

have varied needs and wants (Kotler & Armstrong, 2004; Lee, 2004). However, segmentation helps understand the characteristics of tourist and the customers/visitors themselves (Kim et al., 2008; Lee, 2004). Segmentation can be achieved by grouping consumers with similar needs/interests (Lee, 2004; Kotler cited in McKercher & du Cros, 2003). Categorising similar tourists allows for insight into what attracted them to the destination and what kind of experience they hope to gain.

Segmentation can also provide insight into destination choice therefore, it is imperative to understand as it can give a competitive advantage (Huybers, 2003). Furthermore, segmentation is important as it is widely used in marketing strategies to develop products and attract tourists more effectively (McKercher & du Cros, 2003). For these reasons, identifying segments/typologies within geotourism is significant.

The purpose of this study is to potentially lessen the research gap that exists regarding the motivational reasons of tourists for participating in geotourism by providing a starting point to a geotourism typology model. This will be achieved by applying the Cultural Tourist Typology Model to geotourists. This model was designed by McKercher (2002) for the purpose of understanding the different experiences sought within cultural tourism and the importance of cultural sites in destination choice. The study identified five typologies which are described in Chapter Two: Literature Review.

Applying the Cultural Tourism Typology model to geotourism will provide a guide to the potential typologies within geotourism. This will assist managers to understand geotourist's needs and wants. Identifying the typologies within geotourism will enable managers to better develop their products and tailor them to the appropriate typology. For example, heavy use of geological jargon in a tour is encouraged for a group of geologists however, it is not suited for tourists without this background. By not adapting the tour or language in this case, the tourists may become bored and encounter a negative experience. Therefore, this study aims to potentially assist managers in product development through the creation of a geotourism typology model adapted from the Cultural Tourist Typology Model (McKercher, 2002). A similar model will be adjusted according to the findings of the study. This will contribute to the literature as it will give a starting point for future models ultimately helping managers understand the geotourist for better product development such as the adaptation of tours and delivery to the typology.

1.5 Thesis Structure

This thesis has been structured to include five chapters. This chapter, Chapter 1: Introduction, has introduced the study to the reader by providing information on the background of the study including a definition and outline on tourism and specifically geotourism as well as an overview of the study site and significance of the study.

The following chapter, Chapter 2: Literature Review, provides a review on the current academic literature available on who is participating in geotourism and the importance of typology. The theoretical background on the motivational factors and decision making process as a general scope will be reviewed including models specific to tourism. The theoretical framework selected for this study will be outlined extensively in this chapter including information gathered from its application to a previous study.

Chapter 3: Research Methods outlines the aims and objectives, method rationale, site and population, sample, instrument procedure, data analysis, validity, ethical considerations and anticipated and managed limitations. The chapter also presents the effectiveness of the research methodology as tested through a pilot study.

Chapter 4: Results and Discussion determines whether the Cultural Tourism Typology Model applies to geotourism and making adaptations to the model if needed, the chapters have been combined to ensure the fluidity of the discussion.

Chapter 5 concludes the study in terms of its aims and significance, the methodological approach and key findings. The chapter also presents recommendations and suggestions for improvements for future studies such as additional questions.

1.6 Chapter Summary

This chapter has presented the background to the study by introducing an overview of tourism and geotourism, and the Crystal Cave located in Yanchep National Park. The significance of the study has also been outlined; to develop a geotourism typology model and lessen the literature gap. A literature review will be presented in the following chapter discussing the tourists participating in geotourism, why typology is important, the theoretical background on motivational influences and the decision making process and the theoretical framework applied to this study.

CHAPTER 2

LITERATURE REVIEW

2.1 *Introduction*

The previous chapter outlined the significance of the study, introduced the study site and discussed the background of the study. This included an outline of tourism in Western Australia and introduces the concept of geotourism. This chapter provides a literature review of geotourism and focuses on the studies that have been conducted in order to identify who is participating in geotourism. It also identifies why typology is important and provides an understanding of the motivational factors and the decision making process. The chapter also outlines the theoretical framework used for this study.

It is important to recognise that most literature use the terms segments and typology interchangeably. The two terms are similar in definition as they both refer to ‘group making’. Segmenting is defined as dividing something into different parts or sections (Oxford Dictionaries, 2011; Cambridge University Press, 2011). The term segment can often be found in marketing texts, therefore, groups with similar characteristics are referred to as a segment of the market. Typology is more specific as it is defined as the “systematic classification of types that have characteristics or traits in common.” (American Heritage Dictionary of the English Language, 2009). Therefore, a typology model is devised according to common traits. As a result, the term typology will be used throughout this thesis.

2.2 *Brief Overview on Current Geotourism Academic Literature*

The literature concerning geotourism is limited and relatively small when compared to other areas of tourism as it is a new concept. There are several studies outlining negative impacts on geosites as a result of mass and/or uncontrolled tourism such as Burne and Chapple (2008), Hose (2007), Hudson (2004), King (2010), Nepal (2000) and Schwer (2000). Other studies which have focused on the impact a tourist has on geosites include the effect of cave visitors in New Zealand (Doorne, 2000) and in Spain (Calaforra, Fernandez-Cortes, Sanches-Martos, Gisbert, & Pulido-Bosch, 2002). The main impact visitation has to a cave is that it causes harm to the geosite and organisms in the cave through the contamination of the water and changes in temperature of the cave generated by the heat of the lighting resulting in the spread of micro-flora and

fauna (Hose, 2007). The Sulphur Banks in Hawaii, a popular attraction, has also deteriorated due to tourism (King, 2010).

Negative impacts in the Sulphur Banks are mainly due to poor infrastructure and planning as there are no designated parking areas and no restrictions on bus and car access resulting in the damage of fragile areas. Furthermore, roads are narrow and built on pits emitting steam, therefore, tourists go off-road to overpass traffic congestions. Visitors also walk off the paths and too damage the fragile environment (King, 2010). Apart from the evident non-existent sustainability, Sulphur Banks cannot be considered geotourism as there is also a lack of interpretive signage to educate the tourist. These are all issues that can be omitted by embracing geotourism as it will not only benefit the geological site, it will also benefit the local community and the tourist experience (Newsome & Dowling, 2010).

According to Farsani, Coelho and Costa, (2011) geoparks have a positive effect on the local community and encourage local participation in tourism activities as it creates opportunities for local and rural developments. This is because the recommendations and criteria for a geopark includes high local involvement as the initiative must come from the local community and generate economic development that improves the local living conditions and rural environment due to the ingression of foreign currency from tourist who general spend in the local community (Farsani et al., 2011). Geoparks also develop more subtle connections with local culture and social life than national parks as local knowledge and culture is a valued asset to the management of the geopark (Farsani et al., 2011). Hose (2007) outlines the benefits and positive outcomes from embracing geotourism and organisations such as United Nations Educational, Scientific and Cultural Organisation (UNESCO) and their Geopark Network as it allows for the creation of a reserve acting as a form of protection for the delicate geosites and generates sustainable tourism. Dowling and Newsome (2010, p. 1) also support this view as “It is about creating a geotourism product that protects geoheritage”.

Hawaii Volcanoes National Park is good example of geotourism as it embraces sustainability as it is recognised as an International Biosphere Reserve and a UNESCO natural World Heritage Site (King, 2010). The park provides many educational opportunities of the geology and geoheritage through the Kilauea Visitor Centre and the Jaggar Museum. The management strategies also ensure visitor satisfaction through the

risk minimisation policies to ensure the safety of the tourists. Although community benefits are not discussed in King's (2010) paper, it is evident that the park is embracing geotourism as geology is a focal point, there is interpretation of geology and geoheritage, customer satisfaction and sustainability.

Nepal (2000) argues the importance of sustainable tourism through careful planning and management as an essential element of geotourism. He has identified the Himalayas to have had negative environmental consequences as a result of the rapid increase in tourism. Nepal (2000) also states that impacts on not only the environment, but the ecology, socioculture and economy, will worsen if tourism is not managed. If the geotourism approach is adopted these issues can be overcome as the main elements of geotourism are sustainability, conservation, benefiting the community and appreciation of the cultural and geoheritage value through education and interpretation (Dowling, 2008).

An example of an operator/s practicing geotourism are mining operators in Potosi, Bolivia. Tours are conducted in working silver mines and are narrated by indigenous Quechua miners who mostly are descendents of those who laboured and suffered during the 16th century (Pretes, 2002). This is an important element of the tour as it allows for an authentic experience and an appreciation for the cultural value. These are elements of geotourism. Furthermore, it benefits the community as it collaborates with the local community; the indigenous Quechua and local mine workers. In addition, Pretes (2002) supports the approach of Potosi mine tours as he compares it to other mining communities who have embraced their mining history as a method of tourism, and describes them as a 'theme park'. Pretes (2002) criticises the mines in Dawson in Canada, Kimberley in South Africa and Ballarat in Australia as the tours are not authentic as the mines are not operating, the history becomes museumified and is recreated "typically from the perspective of the Anglo miners and settlers. Indigenous voices have been carefully silenced" (p. 454). In essence, Pretes (2002) argues that the authenticity and cultural value is lost as the true history has not been educated and interpreted to the tourist. Therefore, by definition, this is not in accordance with true geotourism as it is lacking in several important elements such as educational value.

Another area of tourism that is lacking important elements of geotourism are waterfalls in Australia. Hudson (2004, p. 85) argues that waterfalls are "much more important as resources for tourism development in Australia" than caves as most promotional

material, even those promoting caves in the Blue Mountains, depict waterfalls rather than the caves, and waterfalls are also used in the marketing of “The Great Outdoors.” Although waterfalls are a geosite and tourists are visiting the site, it does not mean geotourism is occurring. Hudson (2004) discusses the issue of already undertaken and proposed development and easy accessibility to waterfalls as a threat to the conservation of the site. Hudson (2004, p. 90), indicates that large numbers of visitors result in “soil erosion and damage to vegetation...Vandalism, including littering and the removal of plants...and graffiti...often seen on rocks and trees along footpaths and at the falls.” This is not sustainable tourism therefore it cannot be considered as geotourism. Waterfalls that have preserved the pristine beauty are those located in national parks and other reserves (Hudson, 2004). Although it may be assumed that this tourism is sustainable, it cannot be classified as geotourism as the article does not mention community benefits or any forms of education to the tourist through either tours or interpretative signage on how the waterfall was formed or any cultural or geoheritage value. As a result, it can be determined that tourism occurring at a geological site does not signify that geotourism is taking place.

These studies are a few examples of research and there are several other studies which have been conducted on impacts of tourism on a geological site. However, there is limited academic literature relating directly to geotourism in particular to identifying who is participating in geotourism.

2.3 Tourists Participating in Geotourism

Very few studies have been conducted by scholars to identify who is partaking in geotourism. One of the first studies was conducted by Page, Keene, Edmonds and Hose in 1996 (cited in Novelli, 2005). An audit was held on the tourists visiting Centre of the Dorset and East Devon coast. This was a popular holiday destination for its unspoilt dramatic coastline and areas of biological and geological Sites of Special Interest (Novelli, 2005). The audit established several trends:

- Two-thirds were first time arrivals and many were casual arrivals; that is, their visit was unplanned on the day
- About two-thirds arrived in family groups and about one-quarter (mainly older people) arrived alone or in couples
- Almost half were aged 30 to 44 years and almost as many were aged 45 to 64 years
- One-third had studied geology to some level

- A fifth were hobby geologists.

Furthermore, two main groups were identified:

- Families with young children (parents generally under 40 years of age), and
- Mature couples.

A sub-group was also identified, mature couples with children, most likely grandchildren (Novelli, 2005, pp. 34 - 35). Although this study managed to identify two main typologies visiting that particular area, it does not delve into the importance of geotourism when choosing to travel to Dorset and East Devon coast or the experience they encounter. However, it does state that a fifth were geologists by hobby, therefore, it can be assumed that their main motivation is the geosite, but this was not explored in the audit.

Another study has been held specifically targeting geologists. Mao, Robinson and Dowling (2009) conducted a study to explore the potential market of geoscientists and their motivation behind travel as well as their preferred attractions. In 2008, a questionnaire was sent by mail to members of the Geological Society of Australia (GSA). The questionnaire looked at demographics, reasons for travel and interest in geotourism.

The findings showed that main purpose of travel was “...to increase their knowledge of geological sites and landforms, satisfy their curiosity, have memorable experiences, obtain intellectual stimulation, and visit destinations offering a unique bundle of features and attractions.” and the least motivating factors “...were being able to share travel experiences after returning home...and meeting new people as part of a group tour.” (Mao et al., 2009, p. 73). These results show that geologists seek a deep experience and their main motivation is the geology in a particular destination.

The respondents were mostly male (84%) and between the ages of 55 to 64 years of age. The number of respondents was 154. The respondents included undergraduates, people employed on a full time basis (50%) and semi to fully retired (29%). It is also important to note that the economic status of the sample group is above average (Mao et al., 2009). From this study, it can be assumed that geologists partaking in geotourism are specifically choosing destinations with geosites. This can be determined as their main motivation is to increase their knowledge of geosites.

Another important finding is that they preferred to travel alone instead as a part of a tour group. It was suggested that this may be because there are no tours that accommodate the needs of the geoscientist (Mao et al., 2009). With studies like these and the use of typologies, better product development can be achieved leading to more satisfaction and better quality of experience.

Another scholar has identified who Hawaii's geotourists are. King (2010, p. 115) states that "The simple answer is nearly everyone as almost every island visitor participates in at least one geotourism-related activity during their Hawaiian holiday." King's analysis of the visitor statistics from the State of the Hawaii Department of Business, Economics and Tourism revealed the following possible typologies: newlyweds/honeymooners, families, young, middle aged and seniors. Self-drives held the most participant percentage in all typologies, whereas, helicopter or plane tour and private limousine/van tour held the least. However, this is probably due to cost factors therefore no concrete conclusions can be drawn. Furthermore, these tourists partaking in geotourism related activities may not be partaking in true geotourism as they may not be learning about the geology and instead may just be sightseeing.

Hose (2007) identifies two typologies within geotourism, the 'dedicated geotourist' and the 'casual geotourist'. The dedicated geotourist places greater importance on the personal educational/intellectual gain and enjoyment. This is the dedicated geotourists' main purpose for travel. On the contrary, the casual geotourist prioritises pleasure as their main purpose and intellectual gain plays a limited role.

Kim et al. (2008) conducted a study to determine different typologies within the geotourism sector. Participants were those who had attended the Hwansun Cave in Korea. 547 questionnaires were collected with questions relating to the type of visit, belief in the value of cave tourism resources, purpose of visit and frequency of visits (Kim et al., 2008). To analyse the data collected, researchers used factor analysis which allows for common variables to be grouped (Coakes, Steed & Ong, 2009).

As a result, four clusters were determined:

1. Cluster 1 – Escape-seeking group

This cluster is the least likely to return to participate in a cave tour as they were the least satisfied group.

2. Cluster 2 – Knowledge and novelty-seeking group

Tourists in this group are most likely to return to cave tours as this cluster comprises of students or professionals who are most likely to be experts in cave tourism.

3. Cluster 3 – Novelty-seeking group

This cluster have significant levels of satisfaction and willingness to return to cave tours. Tourists also place importance in preserving cave tourism resources.

4. Cluster 4 – Socialisation group

People in this cluster are most likely to participate in cave tours for socialising reasons. They show low levels of return participation and satisfaction but there is medium interest in resource preservation.

(Kim et al., 2008)

2.3.1 Relevance of Previous Academic Studies to Current Thesis Study

The findings of the geoscientists' motivation study (Mao et al., 2009) relates to only one potential typology therefore it is clear that more research needs to be conducted in order to identify other typologies within geotourism. Furthermore, the results of the Dorset and East Devon study (Novelli, 2005) cannot be applied to other areas of geotourism as it is very specific and not all geosites will be attracting only families and mature couples. Therefore, a typology model cannot be constructed from this information alone. On the contrary, the typologies identified in Hawaii (King, 2010) are too broad and do not delve into motivational factors. Furthermore, we cannot be certain if the tourists are truly undertaking geotourism.

Hose's (2007) recognition of two typologies is agreeable as there are different levels of participation in geotourism. However, it is the researcher's belief that this can be further broken down into more specific typologies. The cluster study (Kim et al., 2008) is the 'most complete' as it attempts to create a typology model within the geotourists visiting caves. However, the main focus of tourist classification is satisfaction with the tour and does not explore the motivational factors; an important aspect of this research thesis. Kim et al (2008) study does not identify what 'pulls' a tourist to the geosite and does not explore the motivational factors and importance of the geosite. Therefore,

management cannot develop their products effectively as they do not understand the decision making process of the geotourists or what attracted them there.

2.4 *Tourist Typologies*

Typologies are important because all tourists are different to each other therefore, no product can satisfy all because they have varied needs and wants (Kotler & Armstrong, 2004; Lee, 2004). However, Weaver and Lawton (2010, p. 157) state that segmentation “divides total tourist population into smaller, relatively homogenous subgroups that can be catered to or managed as separate market segments.” Therefore, segmentation, or typology models, helps understand tourist’s characteristics and the customer itself (Kim et al., 2008; Kotler & Armstrong, 2004; Lee, 2004). Segmentation can be achieved by grouping visitors with similar needs (Kotler & Armstrong, 2004; Lee, 2004). Categorising similar tourists provides insight into what attracted them to the destination and what kind of experience they hope to gain.

Segmentation may also provide insight into destination choice, therefore it is imperative to understand as it gives a competitive advantage (Huybers, 2003). It can be used as a marketing tool to improve product development and marketing (McKercher & du Cros, 2003). Before being able to construct a typology model for geotourism, it is imperative to understand the experience geotourists seek and the importance of geotourism in the decision to visit a destination. Gates (cited in Kim et al., 2008, p. 302) suggests that “geotourists have a variety of reasons to visit geotourism destinations including tourism itself, research, and outdoor recreation.” Insight into what makes a tourist decide on a particular destination is needed to determine these factors.

Cohen’s (1972) tourist typology was one of the first proposed and is often referred to in academic studies (Yfantidou, Costa, & Michalopoulos, 2008). He identifies four tourist typologies based on their experience. These are the ‘organised mass tourist’, the ‘individual mass tourist’, the ‘explorer’, and the ‘drifter’ (Cohen, 1972). Tribe (2009, p. 33) suggests the “Main differentiating factor consisted of a continuum of familiarity/strangeness sought by tourists that could be used to delineate between varying qualities of experience.” The tourist seeking the most familiarity is the organised mass tourist and is most likely to purchase packaged tours to minimise strangeness. The individual mass tourist seeks both elements. To satisfy the strangeness, the smaller element, tourists take part in short sightseeing trips. The

explorer will undertake self-guided tours, however, maintain familiarity through amenities such as reliable transportation and comfortable accommodation. The drifter tourist seek the most strangeness out of the four typologies as they avoid tourist establishments and rather immerse themselves in the host's culture (Cohen, 1972; Hyde, 2008).

Other academics have attempted to refine the typologies, such as Pearce (cited in Yfantidou et al., 2008) who has identified behaviours in respect to each typology. However, Cohen (1984, p. 378) later states that "much of the recent research on tourists can be classified using Smith's or Cohen's typologies." His argument for this is that Smith's (cited in Cohen, 1984) study in 1977 based the typology model on the number of tourists and their adaptation to local norms and Cohen's (1984) is based on the exposure to strangeness of the host compared to the home environment. However, since Cohen's (1984) study, new research has been based on different aspects rather than adaptation to local norm or familiarity versus strangeness to host environment (see McKercher & du Cros, 2003).

Plog (1973) has also conducted studies to classify tourists according to their personality. He found that there are two main personality distributions, the 'Dependables' and the 'Venturers'. However, according to Plog (1973), the majority (83.5%) of tourists do not fit perfectly into these categories. Instead, they are classified as either 'near-Dependables', 'near-Venturers' or 'Centrics'. Centric are tourists who possess characteristics of both groups and are located in the middle of the spectrum. Dependables do not seek new ideas and experiences, are restrictive in spending discretionary income, prefer popular and well-known brands, face life with little self confidence and low activity levels, often look to authority figures for guidance and direction in their lives, are passive and non-demanding in their daily lives, like structure and routine in their relatively non-varying lifestyles and prefer to be surrounded by friends and family (Plog, 1973). Venturers are opposite to Dependables as are intellectually curious and want to explore, make decisions quickly and easily, spend discretionary income more readily, like to choose new products shortly after introduction to the marketplace, face everyday life full of self-confidence and personal energy, look to their own judgement for guidance and direction rather than authority figures, are active and relatively assertive, prefer a day filled with varying activities and challenges and often prefer to be alone and somewhat meditative (Plog, 1973).

Dependables show characteristics similar to those who seek familiarity, whereas, Venturers show traits of those who seek strangeness.

Plog (1991) later refined his classification of tourists to the psychocentric traveller who prefers familiarity, and the allocentric traveller who prefers the adventure of unfamiliarity. Psychocentric prefer common tourist accommodation and destinations including sun and fun locations with relaxation and low activity levels. They also prefer tour packages. Allocentrics prefer different destinations including ones with different cultures, high activity levels and destinations who are rarely visited by others (Plog cited in Pearce, 1987).

2.5 Theoretical Background on Motivation & Decision Making Processes

Eugenio-Martin (2003, p. 342) states that “before deciding where to go on holiday, most tourists need to make multiple decisions”. Understanding destination choice is imperative to the development of tourist segments and typologies. This is because understanding why a destination was chosen, can lead to categorising similar tourists in terms of what attracted them to the destination and what kind of experience they hope to gain. Destination choice involves decision making by the tourist and their motivational influences. There are many decision making and motivational models in the literature however, only a few relevant models have been chosen to be discussed.

2.5.1 Motivation

According to Gambrel and Cianci (2003, p. 143) “Maslow’s Hierarchy of Needs model is one of the most referenced and discussed motivation theories.”. It discusses the four basic needs of a person beginning with ‘Physiological’, ‘Safety and Security’, ‘Belonging’, ‘Self-esteem’ and ending with ‘Self Actualisation’ (Gambrel & Cianci, 2003, p. 144). Before the physiological needs are met, there will be little motivation for the other needs. However, once it is met, safety needs will be the main motivation followed by the next need (Gambrel & Cianci, 2003). Marketing texts such as Lee’s (2004) argue that for a person to move from one need to another, ‘need awareness’ has to occur. As a result, need awareness occurs when there is ‘problem recognition’. This means a dissatisfaction gap exists as the current state does not meet the desired state. Once the desire to go on a holiday is established, the destination choice process begins.

Motivational factors were also studied by Huybers (2003) in a survey conducted in August 2002, in Melbourne. The study investigated the motivational factors that influenced destination choice. Huybers (2003) argued it was important to uncover these factors as it would allow for a competitive advantage against other destinations as findings could be implemented for better marketing strategies. Furthermore, segmentation is important as it is widely used in marketing strategies to develop products more effectively (McKercher & du Cros, 2003). There was a total of 384 respondents after the screening in which the criteria was that the respondent was contemplating on going on a long weekend trip within the next three months and that they were the major decision maker.

The survey gave participants a set of scenarios in six destinations, with different attributes (motivations). The common variables were expenditure per person and travel time. Other attributes included amenities and the level of crowdedness. Focus groups were held to determine these factors, the survey questions, and to ensure the questions mirrored real life scenarios (Huybers, 2003).

According to the findings, important attributes which influenced destination choice included quality of amenities, season, expenditure and level of crowdedness. Furthermore, an event such as a festival positively affected the destination choice. Environmental setting, activities and length of travel were not a major discriminating decision factor (Huybers, 2003). Although the findings of this study are significant, findings cannot represent all destination choices in particularly long holidays. The results did not represent the population. The study was conducted on weekend getawayers only, that were travelling close to home, therefore, it is likely they were not looking for activities and the length of time was not important as it was predetermined; the long weekend. However, this study outlines the motivational factors which influence destination choice on weekend getawayers travelling close to home which is a segment of the tourism market.

Dann (1981) identifies seven approaches commonly described among various academics in regards to motivation of individuals and their cultural conditioning. The approaches identified are: 'travel as a response to what is lacking yet desired', 'destinational pull in response to motivational pull', 'motivation and fantasy',

‘motivation as classified purpose’, ‘motivational typologies’, ‘motivation and tourist experiences’ and ‘motivation as auto-definition and meaning’ (Dann, 1981).

The first approach, travel as a response to what is lacking yet desired, is a common approach used by academics to describe motivation. For example, Cohen (1972; cited in Dann, 1981) emphasises the desire a tourist has to experience the unfamiliar versus familiarity. ‘Destinational pull’ in response to ‘motivational push’ is the second approach identified. The ‘push’ and ‘pull’ factor is common in marketing texts (Bearden, Ingram, & LaForge, 2004; Blackwell, Miniard, & Engel, 2001; Kotler, 1997; Kotler & Armstrong, 2004; Pelton, Strutton, & Lumpkin, 1997). According to Dann (1981, p. 191), push factors include anomie, a “situation of perceived normlessness and meaninglessness in the origin society” and ego-enhancement. The pull factors include the resort, sea, sand, sun and other similar elements.

Motivation is also a common theme in the other approaches. Motivation and fantasy is defined by Dann (1981, p. 191) as “A subset of the first two approaches [which] concentrates on the fantasy content of motivation.” This approach focuses on the tourist’s realisation that the possibility exists elsewhere (Dann, 1981). Motivation as classified purpose is an approach in which Dann (1981) argues that the terms purpose and motivation are often used interchangeably. This can be by both the researcher and the respondent. Motivational typologies are also a common approach to explore motivational factors. Dann (1981) recognises two forms of typologies commonly used. The first is behavioural in content. An example of this is Gray’s (1970) typology model which focuses on the natural traits an individual may possess that triggers the desire to explore the unfamiliar. The other typology explores various dimensions of the tourist role. The motivation and tourist experiences approach focuses on tourists being motivated by the search and desire of authentic experiences and the quest for meaning (Dann, 1981). It can be speculated that this approach is useful when exploring the motivational factors of a niche segment of tourism as authentic experiences is a common theme in alternative tourism. Motivation as auto-definition and meaning is the last approach identified by Dann (1981). This approach views tourists’ motivation as different to each individual according to their situation (Dann, 1981). In other words, tourists visiting the one place may have different motivational reasons according to their situation and ‘purpose’ of visit.

Gray (1970) conducted research which focused on the motivational reasons for pleasure travellers. Gray (1970) identified two distinct reasons; 'wanderlust' and 'sunlust'. Wanderlust is defined by Gray (1970, p. 13) as the "basic trait in human nature which causes some individuals to want to leave things with which they are familiar with and to go and see at first hand different exciting cultures and places." Therefore, wanderlust tourists seek something different and new. Furthermore, according to Ritchie (2003, p. 30), wanderlust tourists travel "for some form of educational or learning purpose." On the contrary, sunlust tourism is resort based and tourists seek familiarity in amenities and desire of relaxation, sun, sand and sea (Gray, 1970; Hyde, 2008). Furthermore, Sauran (1978) suggests that sunlust tourists "are highly responsive to price differentials between similar resorts." therefore, the industry is highly competitive. Gray's (1970) concept of wanderlust and sunlust is important however broad, as wanderlust tourist may represent niche tourism and sunlust mass tourism. However, for the purpose of this study, it is too broad and not specific to alternative tourism.

Crompton (1979) identifies four main components in relation to the role and relationship of respondents' motives to participate in pleasure tourism. Firstly, there is a state of disequilibrium which then leads to the second component, the desire for a 'break from routine'. According to Crompton's (1979) findings, these breaks from routine does not necessarily mean partaking in different activities. In fact, people usually have the same routines in a different physical or social environment. Furthermore, the lifestyle does not change, instead, desired elements of it are embraced (Crompton, 1979). These findings differ from other studies that have found unfamiliarity as a motivator as well (Cohen, 1972; Gray, 1970). However, Crompton (1979) does recognise the desire for novelty in the cultural motives aspect; motives that influence the destination. The third component is the behavioural alternatives; stay home, go on a pleasure vacation, or travel. The last, fourth, component is the specific motivational factors which influence the nature and destination of the pleasure vacation; 'socio-psychological' (push) or 'cultural' (pull) motives (Crompton, 1979).

Crompton's (1979, p. 416) study found seven socio-psychological motives; "escape from a perceived mundane environment; exploration and evaluation of self; relaxation; prestige; regression; enhancement of kingship relationships; and facilitation of social interaction." The most common motive was escaping from a perceived environment being either the actual residential location or home and working environment. The

other motives explored similar factors such as opportunity for self discovery and re-evaluation, opportunity to be in a different context and interaction with different people in different situations, something they believe cannot occur at home due to existing perceptions, and the desire to participate in activities which seem inconceivable in their usual lifestyle due to expectations, moral, values and the usual roles of obligation (Crompton, 1979). This is similar to Krippendorf (1987) suggestion that tourists are motivated by the idea of self-freedom and self-determination associated with travel that is not available in everyday life.

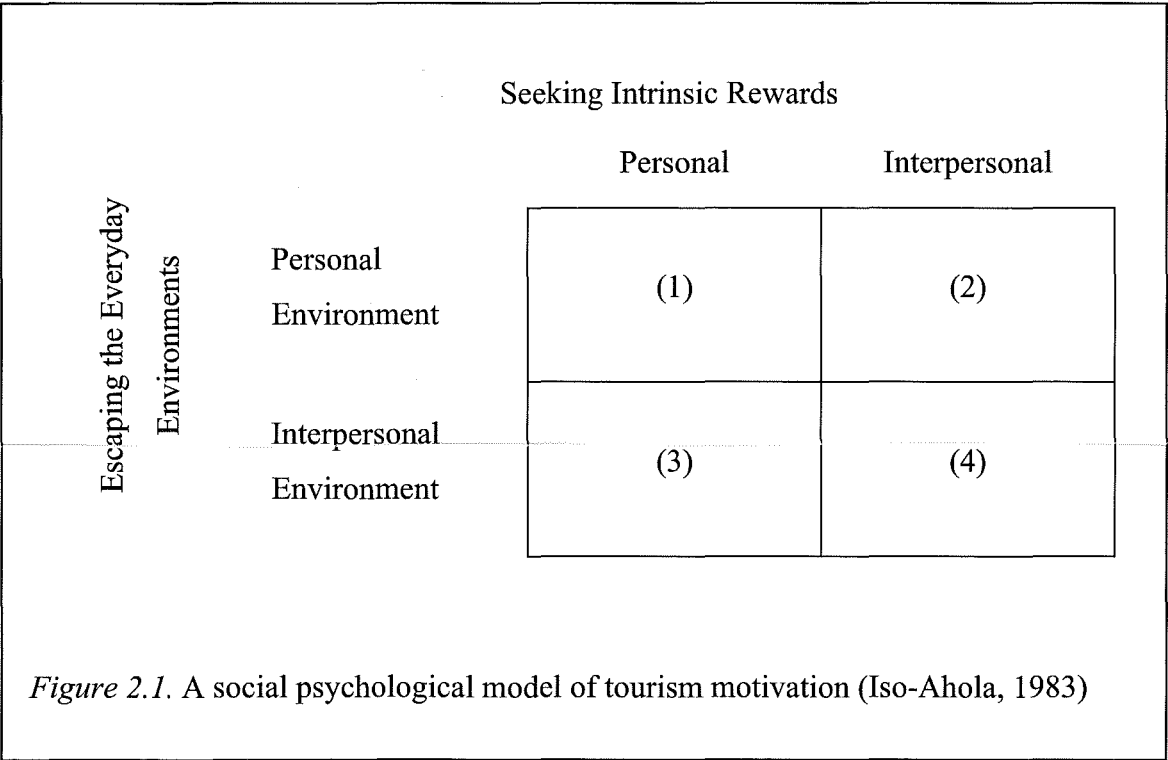
Other factors include the desire of a lifestyle of a previous era such as a 'simple life' with less technological advances, perceived enrichment and enhancements of relationships and the opportunity of meeting new people that they are not likely to socialise with at home (Crompton, 1979). Relaxation is also a main motivator that is more mental rather than physical as Crompton (1979) states that respondents often said they were physically exhausted once home. Therefore, according to Crompton (1979, p. 417), relaxation "meant taking the time to pursue activities of interest."

Cultural motive was the other subgroup in the fourth component. Unlike the socio-psychological motives, Crompton (1979) states it is concerned with the actual destination. Two motivators were identified; novelty and education. Novelty was expressed in many different terms by respondents including curiosity, adventure and something new and different. The desire for visiting a new place was a great motivator. Crompton (1979) points out that this greatly differs from consumer behaviour literature; the trusting and purchasing of the same satisfactory brand rather than trying a new one. However, few respondents did state they returned to the same destination. Crompton (1979) suggests this may be as a result of socio-psychological motive rather than cultural, restricted knowledge and the reduced risk of the unfamiliar. Furthermore, the fear of the unknown was expressed by respondents as compromising the adventure/novelty sought (Crompton, 1979).

Respondents viewed education as an important factor to not only themselves, but in particular for their children. Education and the desire to visit and experience a place triggered the destination selection. Also, several responses suggested they visited a particular site because they were in the destination, and if they did not visit the site, the

opportunity for educational benefit was lost (Crompton, 1979). Therefore, education could be considered as a primary and secondary motivator.

Iso-Ahola (1983) has also conducted studies to understand the motivational factors of a tourist wanting to travel and has developed ‘A Social Psychological Model of Tourism Motivation’ (Figure 2.1). Iso-Ahola (1983) based his study on the approach (seeking) and avoidance (escaping) characteristics of tourists. Firstly, a tourist becomes aware of the potential satisfaction from travelling. Subsequently, Iso-Ahola (1983, p. 259) acknowledges two motivational determinants of tourists behaviour become present: “The desire to leave the everyday environment behind oneself and...the desire to obtain psychological (intrinsic) rewards through travel in a contrasting (new or old) environment.” A tourist may be part of the same cell every time they travel, different cells every time they travel or may be part of all four cells in the one trip. Another important finding by Iso-Ahola and Allen’s (1982) previous research found that a tourist perspective of motivation was different from what it was perceived to be before the trip and was dependent on the level of satisfaction.



Iso-Ahola’s model has been empirically tested in the context of tourism by Snepenger, King, Marshall and Uysal (2006). Results found that the four dimensions suggested by

Iso-Ahola are present within tourist motivational factors. Furthermore, findings suggested that the four cells are equally significant.

2.5.2 Decision Making Processes

Many marketing models outlining the consumer decision making process identify five similar steps such as Lee (2004) and Blackwell et al. (2001). 'Need recognition' is the first step in both Lee (2004) and Blackwell's et al. (2001) five stage model outlining the decision making process. The second stage is 'information search/search for information', where a person seeks information from personal experiences, word-of-mouth, public sources and market-dominated sources such as travel agents. 'Evaluative criteria/alternative evaluation' is the next stage. During this stage, a person compares the different products or services found during the information search stage. According to Lancaster's characteristic-based theory of consumer choice (cited in Huybers, 2003, p. 446), "consumers base their purchase decision on the comparative attribute of relevant choice set of rival products" including attractions, facilities and distance from the tourists home.

Comparisons may also include reputation, amenities and attributes. Purchase is the fourth stage. However, this cannot always occur immediately after evaluation, as unforeseen factors can delay the process. This may include the item being out-of-stock, or fully-booked in terms of tourism, or the price was beyond the budget which may result in the postponing of the purchase or choosing the next preferred option. After purchase, the final stage of the process occurs, 'post-purchase/outcomes'. Here the product is assessed and the level of satisfaction or dissatisfaction is determined by establishing if the expectations were met (Blackwell et al., 2001; Lee, 2004).

An addition to this model is the determination of the level of decision making involved in the purchasing of products. According to Lee (2004), financial risk, social risk, interest and personal importance determine level of decision making. For example, buying a house involves extensive decision making whereas buying an apple involves hardly any decision making (routine response). There is also the middle ground where items such as choosing a restaurant for a special occasion would involve the term called limited decision making. Choosing a destination would lean towards the extensive decision making end of the spectrum as it is costly, there are many places to choose from, then there are tours, to choose accommodation, flights, attractions and the list goes on.

‘A Five Stage Model’ has been developed by Eugenio-Martin (2003) that specifically focuses on the decision making process involved when choosing a destination. He has based his model on the framework and theories of other scholars such as Papatheodorou, Deaton and Muellbauer (Eugenio-Martin, 2003).

Eugenio-Martin’s (2003) Five Stage Model includes:

1. Participation decision
2. Tourism budget decision
3. Frequency and length of stay decision
4. The kind of destination decision
5. Final destination and mode of transport.

This model greatly differs from the five step models used in marketing as the only similarity is the recognition to participate/need awareness. The other elements of the Eugenio-Martins model are more similar with the addition of levels Lee (2004) applies to the marketing models. These are the factors which determine the level of decision making; financial risk, social risk and interest, and personal importance. However, Eugenio-Martine’s (2003) model is most suited to tourism as it is its focal point. The second stage; tourism budget decision, is an important factor in the decision making process. This is supported by Huybers’ (2003) findings as expenditure was an important attribute. However, findings from Huybers’ (2003) study also disagree with Eugenio-Martin’s model. Results showed that frequency and length of stay did not have a major influence on the decision as it was not a discrimination attribute (Huybers, 2003). Therefore, according to Huybers’ (2003) results, it should not be included in the decision making process. However, because the study only focused on one segment of tourism; weekend getaways, a tourism model cannot be derived from the findings.

Another five stage model specific to tourism is suggested by Weaver and Lawton (2010) (Figure 2.2). This model has more similar elements than Eugenio-Martine’s (2003) model to marketing models as they both have a similar first steps; decision to travel and need recognition, and end with a post-purchase evaluation. Furthermore, information search and evaluative criteria is merged into one stage in Weaver and Lawton’s (2010) model. Step three ‘final destination selection’ is similar to Eugenio-Martine’s (2003) step four ‘the kind of destination decision’ as Weaver and Lawton (2010, p. 155) state that destination choice “will likely focus on affordable, political

stable and accessible destination with many interesting attractions and a culture similar to that of decision maker.” However, as other studies have found, some tourists seek, and are motivated by, unfamiliarity as well.

For the purpose of this study and the creation of a typology model for geotourism, step three of Weaver and Lawton’s (2010) model ‘final destination selection’ and step four of Eugenio-Martin’s model (2003); the ‘kind of destination decision’, is most important as it focuses on the features and attributes a destination has as well as what type of holiday they are looking for. This stage will determine if they are a cultural tourist, geotourist, adventure tourist or ‘resort’ tourist, to name a few. However, each typology can be further broken down into more specific typologies. An example of a model outlining specific typologies within a segment is the ‘Cultural Tourism Typology Model’ developed by McKercher (2002).

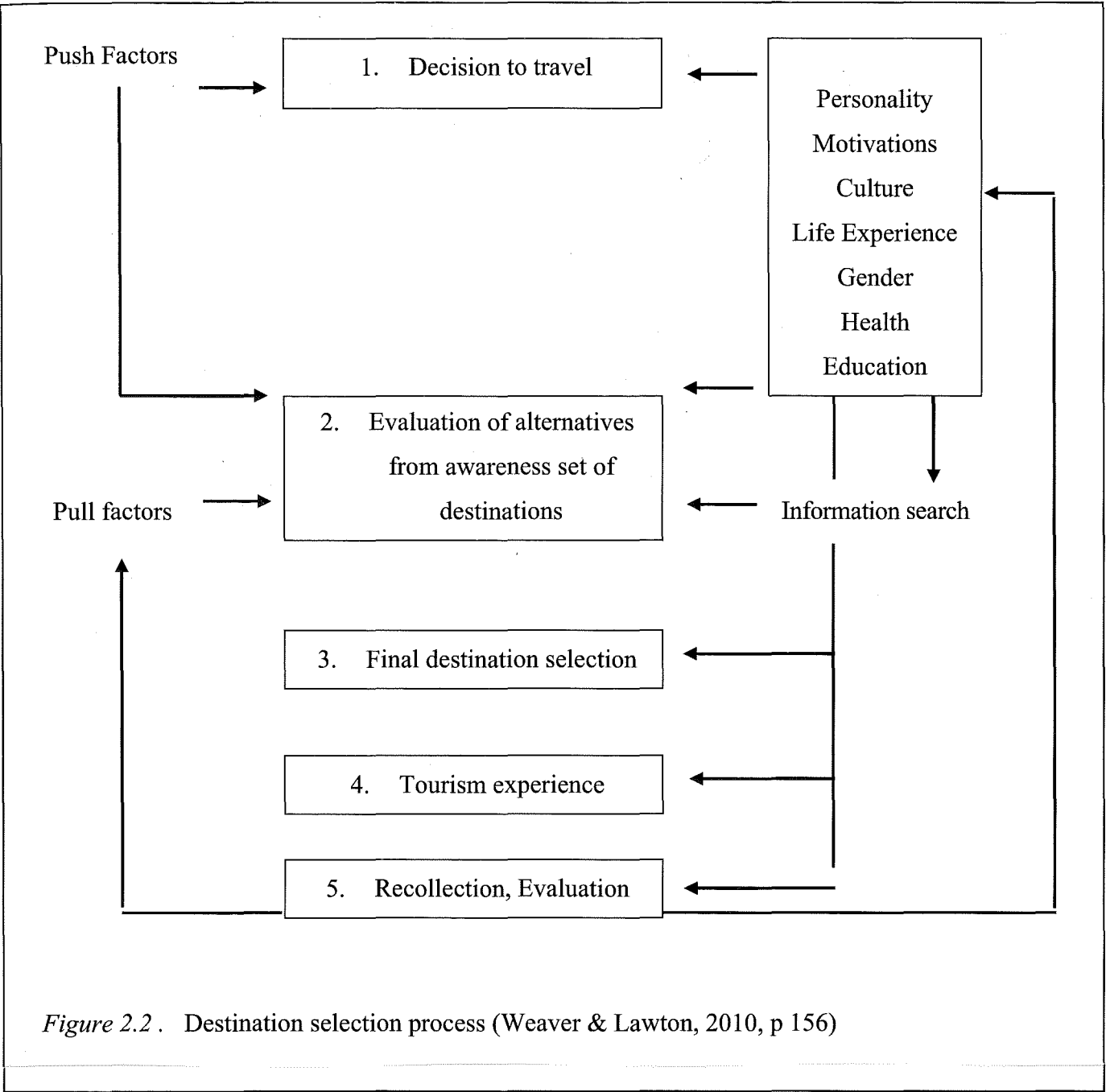


Figure 2.2 . Destination selection process (Weaver & Lawton, 2010, p 156)

2.6 Tourism Theoretical Framework

McKercher’s Cultural Tourism Typology Model (2002) focuses on two factors; the experience sought and the importance of cultural tourism in the decision to visit a destination. Similarly, this thesis study aims to develop a geotourism model based on the experience and the importance of geotourism in the decision to visit a destination. As a result, McKercher’s (2002) model will be used as the tourism theoretical framework for this study. Therefore, the McKercher and du Cros (2003) study and findings will be reviewed with great detail.

The motives behind a tourist’s travel is an important factor allowing insight into how a tourist will engage and the depth in which they will experience the site and tour. McKercher (2002) conducted a previous study in which he identified five typologies relating to the basic motivation of travel and experience quality in terms of cultural tourism. Kotler and Armstrong (2004, p. 293) state that segmentation can be achieved by “divid[ing] large, heterogeneous markets into smaller segments that can be reached more efficiently and effectively with products and services that match their unique needs .” With this in mind, McKercher developed the five typologies and conducted a study with Hilary du Cros to further explore the concept. Scholars such as Silberberg, Richards and McKercher (cited in McKercher & du Cros, 2003) have argued against the perception that all tourists undertaking cultural tourism seek a deep experience. Instead, they argue that destination choice and importance of cultural experiences are dependent on their motives therefore, a tourist may only be visiting a cultural site as a secondary reason. This means that they may have ‘accidently’ become a cultural tourist as they bought a package tour which included a cultural site and may or may not encounter a deep and meaningful experience.

2.6.1 The Five Typologies

The five typologies that have been identified are:

- 1. The purposeful cultural tourist**
Their motivation for visiting the destination is to undertake cultural tourism and they seek a deep experience.
 - 2. The sightseeing cultural tourist**
The centrality of cultural tourism is high however, a shallow experience is encountered.
 - 3. The casual cultural tourist**
The cultural aspect plays a limited part in destination choice and the experience is shallow.
 - 4. The incidental cultural tourist**
Cultural motivation played no meaningful role in destination choice and the cultural experience is shallow.
 - 5. The serendipitous cultural tourist**
The destination choice had very limited to no influence of cultural motivation however, the tourist visited cultural attractions and encountered a deep experience.
- (McKercher, 2002)

The typology model was tested on cultural tourists visiting Hong Kong between October and November 2000. Tourists in the Hong Kong International Airport Departure Lounge were interviewed based on where they were sitting; close to departure gates of the chosen source markets (McKercher & du Cros, 2003). The interview was structured around a questionnaire. There were three qualifying questions one of them being:

“During this visit to Hong Kong, did you visit museums, historical buildings, historical sites, art galleries, go on any cultural tours or attended any festivals/events?”(McKercher & du Cros, 2003)

The number of respondents were 1153 however, the valid sample was reduced to 760. Respondent numbers were reduced according to the chosen source markets which were Australia, New Zealand, USA, Canada, UK, Europe, mainland China, Taiwan Province, Singapore and Malaysia. Many respondents were also removed from the valid sample, although they qualified after the original screening, because they did not nominate the attractions or sites visited, or the places they nominated did not reflect the definition of cultural tourism outlined by the International Commission on Monuments and Sites (ICMS). This raised the issue of managing the differences between cultural tourism definitions among organisations and also between the perception of tourist definition (McKercher & du Cros, 2003). This issue can also be found in geotourism as there are already conflicting definitions as discussed earlier, and the perception of tourists also differ.

The results, depicted in Table 2.1, show that almost half of the tourists are classified as incidental or casual. They demonstrated to have little cultural motivational impact on destination choice. The experiences are sightseeing orientated or they show a small interest in learning a little about the culture. Casual tourists visited convenient attractions and showed an interest in visiting temples. Incidental tourists were only convenience based, visited cultural attractions that were in clusters and engaged in no intellectual challenge. It was noted that a popular choice was visiting themes parks. Sightseeing cultural tourists had the most percentage of the sample. They indicated that culture was an important motivation to the destination however did not experience a deep encounter as it was mostly sightseeing orientated and had little chance to learn.

Sightseeing tourists preferred to undertake a number of tours without engaging in one particular activity in depth. Purposeful and serendipitous cultural tourists had the smallest percentage of the sample. Purposeful tourists sought intellectually challenging experiences such as visiting museums. Serendipitous tourist were the smallest group and demonstrated no clear trends (McKercher & du Cros, 2003).

Table 2.1
Classification of Cultural Tourists in Hong Kong

Cultural Tourist Type	Percentage of Sample	Percentage of Sample
	(n=687) (McKercher, 2002, p. 36)	(n=760) (McKercher & du Cros, 2003, p. 49)
Incidental	27.9	20.9
Casual	23.5	26.7
Sightseeing	30.7	32.0
Purposeful	11.8	13.4
Serendipitous	6.2	7.0
Total	100	100

Demographics are also a contributing factor when segmenting tourists and classifying motivations. The study held indicated that the sightseeing and purposeful cultural tourists tended to be older whereas casual and serendipitous tourists tended to be younger (McKercher & du Cros, 2003). From this it can be assumed that younger people are mostly casual and serendipitous because they are in search of recreational and fun experiences such as the ‘typical’ low-budget backpacker. On the contrary, the purposeful and sightseeing tourists may be older as they are more educated, have a profession and have more discretionary income to spend on tours and museums. Another important finding is that 22.1% of the tourists were business travellers and classified as incidental and casual tourists (McKercher & du Cros, 2003). This may be the case as they may use their spare time to explore and participate in cultural activities. Obviously, they would have to be casual or incidental as their main purpose for the trip is for business.

Findings also showed that the geographical location of the tourist influences the depth of the experience sought, therefore, influencing the classification of the cultural tourist. Generally, the further the distance between the tourist’s originating region to the

destination, the more likely they will seek a deep experience such as visiting museums, heritage buildings and other intellectually challenging activities (McKercher, 2002; McKercher & du Cros, 2003). The majority of purposeful and sightseeing cultural tourist, who seek a deep experience, were from western countries whereas, incidental cultural tourists were mostly from China and Singapore (McKercher, 2002). A possible trend may be that the tourists whose originating destination is far from the site of visitation, may be purposeful or sightseeing. However, the study did not enquire into this therefore further research needs to be conducted.

The motivational factors were also investigated through 13 questions. Three questions specifically targeted the underlying reasons and the others questioned preferred activities. Both purposeful and sightseeing tourists were motivated by educational or cultural factors, by the chance to learn about another culture and to personally grow. This was more evident and important in purposeful tourists. For these reasons, this typology is most likely to undertake research pre-departure and an extensive decision making process. Incidental and serendipitous tourists placed more importance in recreational, relaxation and fun as well as visiting friends and families. As a result, there was a visible difference between the typologies and the activities they undertook.

The activities and attractions preferred by purposeful and sightseeing are museums over shopping, visiting obscure attractions and local markets rather than brand outlets. On the other hand, casual and incidental tourists were at the other end of the scale. Both casual and incidental tourists had low interest in heritage and cultural tours. Incidental tourists preferred low involvement and well known places that were entertainment orientated such as theme parks (McKercher & du Cros, 2003). This proves that the motivation is firstly for pleasure and not for cultural tourism. However, we must not disregard them as an unimportant part of tourism as “Incidental or casual cultural tourists are not superficial consumers of culture. These people see travel as recreation, refreshment and replenishment and seek experiences that help them achieve these goals.” (McKercher & du Cros, 2003, p. 55).

This study is significant for cultural tourism as it gives an insight into the market, the size and the different products needed for different typologies. It is also important as it can give direction to creating a tourist typology model for other segments of tourism

such as geotourism. It is imperative to begin to identify potential markets and to classify them to better understand the needs and wants of geotourists.

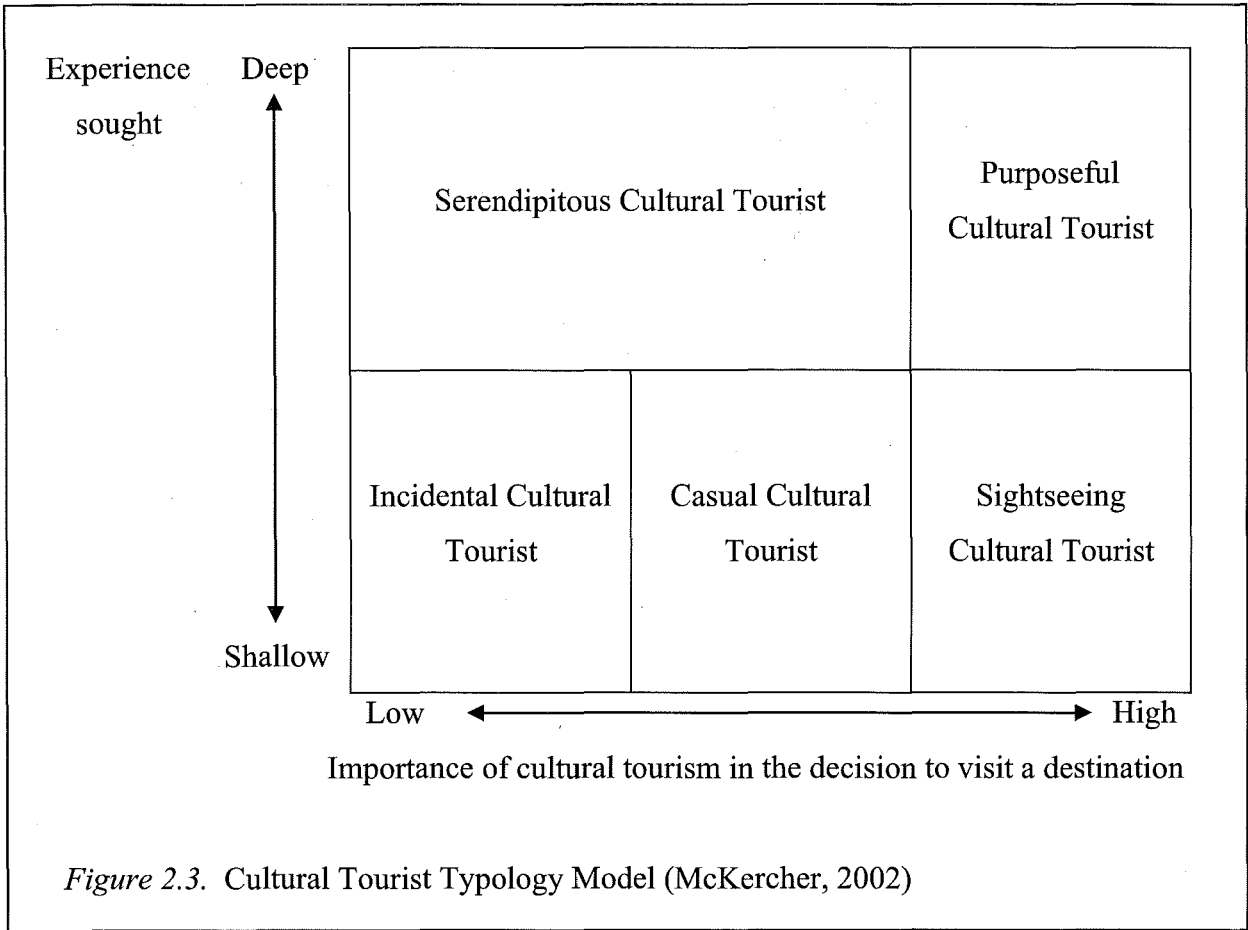
2.7 *Theoretical Framework*

The researcher will apply the Cultural Tourism Typology Model designed by McKercher (2002) in order to establish a geotourism typology model. The model is based on the centrality cultural tourism plays when deciding on a destination and the depth of the experience the tourist seeks to encounter. The model was constructed based on the idea that not all cultural tourists seek the same experience, contrary to what Kotler suggests (cited in McKercher & du Cros, 2003). As a result, five typologies were identified relating to the basic motivation of travel and experience quality, in terms of cultural tourism (2002).

The cultural tourism typology model can be tested in the geotourism sector for many reasons. Although cultural tourism and geotourism focus on different elements, they are both alternative types of tourism therefore, share many similarities. Alternative or niche tourism, is sustainable tourism as it involves small numbers, offers authentic experiences and offers more meaningful experiences as it concentrates on the needs and wants of a tourist (Novelli, 2005).

The cultural tourism typology may also be applied to geotourists as it focuses on key issues; the importance of the tourism type when choosing a destination and the experience sought. Similar to cultural tourism, it can be argued that not all geotourist will seek a deep geology experience. Furthermore, the encounter sought and decision process depends on many factors including personal interest, level of knowledge, time availability and the number and type of travel groups. For these reasons, these elements need to be factored into the typology model.

The five typologies identified in the Cultural Tourism Typology Model (McKercher, 2002) and its application to cultural tourism, is discussed in the previous sub-heading. The typologies are purposeful cultural tourist, sightseeing cultural tourist, casual cultural tourist, incidental cultural tourist and serendipitous cultural tourist. Figure 2.3 depicts the level of experience sought and the importance cultural tourism played in destination choice according to each typology.



The cultural tourism typology will be used as a guide to identify potential typologies within geotourism. Once the data has been collected, adaptations can be made to better suit geotourism according to the trends the results show. Adaptations may include the deletions of a typology or the inclusion of new ones.

2.8 Chapter Summary

This chapter has presented a literature review and has outlined a gap in the literature review. This gap is present as there is no academic literature addressing who is partaking in geotourism and the motivation behind participation. Specifically, there are no models outlining the influence a geosite has in the decision to visit a destination and the experience encountered. McKercher’s Cultural Tourism Typology Model (2002) however, addresses these issues in the context of cultural tourism and investigates common trends and characteristics within the different cultural typologies. This model is the theoretical framework for this study and therefore, this study will determine if the model can be applied to geotourism giving a starting point to typologies within geotourism and lessening the gap in the academic literature. The next chapter will detail the methodological approach adopted to carry out the research.

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CHAPTER 3

RESEARCH METHODS

3.1 *Introduction*

The previous chapter, Literature Review, focused on the theoretical framework that has been applied to this research study. This chapter will discuss the research methodology that was adopted and needed in order to accomplish the application of the theoretical framework to geotourism. This chapter will include the research aims and objectives, research method rationale, site and population, sample, research instrument, procedure, data analysis used, validity, ethical considerations taken, and anticipated and managed limitations.

3.2 *Research Approach to Investigating Geotourism Typologies*

The main focus of this study is to identify potential typologies within geotourism. The use of McKercher's Cultural Tourism Typology Model (2002) will provide a theoretical framework for the basis of the research. As a result, the research design and instrument have been influenced to incorporate key aspects to determine if McKercher's Cultural Tourist Typology Model can be applied to geotourism (refer to Figure 2.3 in Chapter 2).

3.3 *Research Aims and Objectives*

The purpose of this study is to identify potential typologies within geotourism to generate a greater understanding of who is participating in geotourism. Therefore, the results of this study will allow for the adaptation, if necessary, of McKercher's Cultural Tourist Typology Model (2002) and will focus on what the common trends are of each typology identified. This will address the key aim of this study: To identify the typologies and classify geotourists.

This aim will be accomplished through the following research objectives:

- To identify the typologies within geotourism specifically according to the experience they encounter and the importance of geotourism in the decision to visit a destination.
- To apply McKercher's Cultural Tourism Typology model to geotourists participating in Crystal Cave tours located in Yanchep National Park.

- Develop a geotourism typology model adapted from the Cultural Tourist Typology model and the results from the study.

The research objectives correlate to the theoretical framework as the Cultural Tourist Typology model (2002) is based on the importance of cultural tourism in the decision to visit a destination and the experience sought. The research questions and objectives will be met through the use of quantitative research.

3.4 Research Method Rationale

The approach adopted for this study is an exploratory approach. The reasons for this, as argued by Veal (2006, p. 130), are that it “seeks to discover existing research which might throw light on a specific research question or issue.” Furthermore, Jennings (2010, p. 17) states that the exploratory method “is conducted when very little or no information/data exists on the tourism phenomenon being investigated”. This is most suitable to the research question as the concept of geotourism is new and although there is several literature suggesting typology models for other areas of tourism, there are no current studies which specifically determine geotourism typologies.

Quantitative research was conducted in this study. This methods involves the numerical evidence through the collection of data and statistical analysis (Veal, 2006). A reason for this is that it was not feasible to conduct in-depth interviews with 120 tourists as it is not only time consuming for the researcher, but the tourists do not have time and are hesitant to participate in an interview during their leisure time. However, more importantly another reason is the information needed could be acquired through a survey therefore, there was no need for in-depth interviews.

The data was collected through the on-site survey method. The questionnaire included pre-coded and open-ended questions. The reasons for inclusion of both types of questions are that both have differing advantages therefore, some questions are more suited to one particular type. When respondents answer open-ended questions, they are not influenced by the options given therefore, it creates a more personalized response (Veal, 2006). On the contrary, pre-coded questions allow for scaling and easier categorising as the options are already stated and the researcher does not have to search for patterns in the response to categorise (Veal, 2006), which eased the data analysis process.

The type of questionnaire chosen has been on-site as it provides a high response, it is not expensive and can be self-completed (Veal, 2006). Self-completed questionnaires are most suitable due to the time constraints of the research. Multiple surveys were completed in the same time it would have taken to complete one with the interviewer-completion method.

3.5 *Site/Population*

The site for the purpose of this study is the Caves in Yanchep National Park in particular the Crystal Cave (Figure 1.4). The term population is described by Veal (2006, p. 284) as the “The total category of subjects which is the focus of attention in a particular research project”. As the purpose of the study is to form a basis for the development of geotourism typologies, to assist managers in product development, the population is comprised of tourists that participated in the Cave Tour in Yanchep National Park.

3.6 *Sample*

The sample selected is imperative to achieve the aims of the study, therefore, many factors need to be considered. According to Veal (2006, p. 284), “A sample is selected from the population” required in your research. Therefore, the sample will always just be a representation of the population and the validity of the sample depends on the sample size and confidence which should be less than 0.05 or 95% level of confidence (Coakes, Steed, & Ong, 2009; Veal, 2006). The sample size is not dependent on a percentage of a town population or city. Instead it is the absolute size of the sample which is important (Veal, 2006). A researcher should also take into consideration the required level of precision in the results, the level of detail in the analysis and the available budget, resources and time when considering sample size (Jennings, 2010; Veal, 2006). With this in mind, the target set was a minimum of 100 tourists that had participated in the Crystal Cave tour. However, to ensure the achievement of this target, a further 20 participants were sought during the Pilot Study to cater for any incomplete surveys. In total 119 surveys were valid for use in the data analysis process as one had too much missing data.

The target set is also feasible as time and budget constraints were considered. All of the participants were situated in Yanchep National Park, therefore, time was optimized as travelling was reduced to one location instead of many. This also reduced costs as the site is located close to the residential location of the researcher.

The convenience approach was adopted when choosing a target population as the attraction, Crystal Cave in Yanchep National Park, is local. However, it was aimed for true representation of the population visiting the Crystal Cave to ensure the validity of the research. To be truly representative of the population, random (probability) sampling is suggested by Veal (2006) as it is most suitable for sampling a site, user and/or visitor surveys. Veal (2006, p. 284) also suggests this method reduces bias as “all members of the population have an equal chance of inclusion in the sample.” Furthermore, it is time and cost effective (Neuman, 2006). As a result, all tourists over 18 undertaking the Crystal Cave tour were offered the opportunity to complete a survey. This not only allowed for everybody to have an equal chance, but it also allowed for a wide variety of demographic data collection. Most importantly, it allowed for the collection of a variety of tourist’s motivational reasons; tourists that are going to the Park for various reasons and not just the Cave. This is important as the main aim of the study is to determine the different typologies within geotourism. As discussed in the literature review, this includes tourists whose main reason for visitation was not necessarily the geo-attraction; casual, incidental and serendipitous tourists.

3.7 *Research Instrument*

The quantitative data has been collected through the form of a questionnaire (Appendix A). The questionnaire avoided jargon where possible, used simple language and asked only one question at a time (Veal, 2006). Furthermore, questions should allow the respondent to feel comfortable about the questionnaire (Neuman, 2006). As suggested by Veal (2006), questions flowed in a logical and comfortable manner; begun with easy but relevant questions and ended with personal questions such as income. For these reasons, the beginning of the questionnaire included simple questions relating to the demographics including the age bracket, residential location and gender. This data was collected through pre-coded questions.

There was no screening question to determine whether the tourist was a geotourist. It was assumed tourists were partaking in geotourism; either casual or dedicated, as the Crystal Cave comply with the definition of geotourism. Evidently, management places importance on the sustainability and conservation of the cave as they have gained government accredited awards (Figure 1.5). Tourists certainly have the opportunity to learn as they are provided with educational opportunities in the guided tour through the cultural and geoheritage interpretation. It also benefits the community as it not only creates job opportunities, results of this study also indicate that locals visit the cave benefiting locals through their positive participation and experiences. As a result, a screening question was not necessary.

The next section related to the participant's impression of the Crystal Cave tour, what type of experience they encountered and the reasons for participation. This was asked in the form of pre-coded questions and one open-ended question. This links into the following section which explored the importance of geotourism in relation to their visit to Yanchep National Park and identified if the participant had an interest in caves. This was mainly conducted in the form of pre-coded questions. This section involved more thought process and analyses by the respondent therefore, it was presented near the end as suggested by Veal (2006). The purpose of this section was to determine the importance of the Cave and where it compares to other attractions of the Park in the view of the tourists. This section will help determine where in the typology model the tourist falls and to establish new trends.

Open-ended questions and Likert Scales were then used in the following section to explore their views and satisfaction with the Park as well as how important education was when deciding to visit Yanchep National Park. These questions may make the participant feel uncomfortable as they may feel they are being judged on their views and importance of education in a leisure activity, even though the questionnaire is anonymous. However, it is suggested by Ritchie, Burns and Palmer (2005) that this issue can be overcome by providing a Likert scale to questions that are difficult, as it provides a basis for participant judgement.

The questionnaire finished with 'easy-to-answer' pre-coded questions such as expenditure, frequency of visit and participation in the Cave tour, how they heard about the Crystal Cave tours, travel group details and number of people in travel group. This

section was included to establish if there are any trends within the typologies in geotourism.

3.8 Pilot Study

A pilot study was conducted to ensure the effectiveness of the methodology chosen. A total target of twenty participants was achieved. The pilot study was held in the same conditions; same site and methodology, to ensure true representation of the effectiveness of the research methodology. During the beginning of this process, a potentially hindering limitation was identified in the research procedure. This limitation is discussed in the following heading 3.9 Procedure. Therefore, this was quickly adapted. As the one flaw was identified and rectified early in the process and no other changes were made to the method, the data collected from the pilot study was included in this study.

3.9 Procedure

Random (probability) sampling allowed for the opportunity of everyone over the age of 18 to complete the questionnaire. This procedure permitted for a wide variety of participant interests' and demographic data collection. This is important as the main aim of the thesis study is to determine the different typologies within geotourism. This method was also preferred as true representation of the population was achieved. Through this method, as suggested by Veal (2006, p. 284), "all members of the population have an equal chance of inclusion in the sample".

A copy of an Information Letter was attached to the clipboard given to them with the questionnaire. There was no letter of informed consent as the questionnaire is anonymous. Instead, the following statement was printed at the beginning of the survey:

By completing this survey, I understand that participation is voluntary, I do not have to answer questions I do not feel comfortable with and can choose not to complete the survey once started, and understand that I will be kept anonymous.

The procedure was tested in the pilot study and as a result, a limitation was identified. The initial procedure undertaken to distribute the self-completed questionnaires, was to approach the tourist after they had finished the tour. However, this had a major

limitation. Too much time was being spent with one tourist as the researcher introduced themselves and explained what the questionnaire was for. This meant that other potential candidates were not approached by the researcher as they left the site for other planned activities. Furthermore, the tourists may have felt intimidated as the researcher was approaching them on an individual basis. As a result, the procedure was adapted within the first day of the data collection. With collaboration of the Tour Guides, either the researcher or the Tour Guide introduced the researcher after the dissemination of the safety information. The introduction included the researchers' name, purpose of study, indicated that it was an anonymous survey, the participant had to be over 18 and that the researcher would be waiting at the end of the tour to hand out the questionnaires. This proved to be more effective as the number of participants increased dramatically as they had an understanding of the study and were more willing to participate after becoming aware of the purpose.

3.10 Data Collection Period

The data collection process was completed during four days over a week long period. It commenced on Saturday 5 June 2010 through to Sunday 13 June 2010. The period included a long weekend, which is considered to be a peak period. The majority of the questionnaires were completed during the first Sunday and Monday; public holiday. Saturday was an extremely low data collection day. A factor which may have contributed to this is the fact that the number of tours on offer on Saturday was low. Furthermore, the tours were not to full capacity of thirty people. However, on the Sunday and Monday, there were rotating tours every thirty minutes to its full capacity.

3.11 Response Rate

Most people were willing to participate in the survey as it was not time consuming and they understood the reasons behind the study. During the peak days responses averaged to ten people out of a tour of thirty. This is very high considering many of the people partaking in the tours were families therefore, not everyone in the tour were eligible to fill out questionnaire as they were not over eighteen. Furthermore, couples were usually reluctant to complete a survey if their partner was already filling one out. This was discovered as the researcher would usually receive the response "My partner already has one. He/she can do it." It was very rare that they would complete one too. This was similar with friends or relatives travelling together. As a result, it was very difficult to get a perfect 'thirty-out-of-thirty' response rate. However, the response rate is still

considered successful, as on the majority of occasions, one person of each travelling group completed the survey in each cave tour group asked to participate in the survey.

3.12 Data Analysis

The first step in the data analysis process was to determine whether the geotourists that participated in the survey, matched with the typologies of the Cultural Tourist Typology Model. To do so, a criteria sheet was developed following the principles of the Cultural Tourist Typology model (Appendix B). The researcher then applied this criteria sheet to each individual participant by analysing each questionnaire one-by-one. It was soon discovered that only fifty three participants fitted into a typology. The typology that was easily identified was the purposeful tourist; thirty eight participants. The rest of the participants showed trends of two or more typologies and therefore could not be placed into a specific typology.

The second step was to establish what trends were present in the remaining participants. A criteria sheet was also developed for the adapted and new typologies identified in relation to geotourism. The criteria is thoroughly discussed in the following chapter. This then allowed for the analysis of the data in accordance to each typology.

The data collected was analysed with the software Statistical Package for the Social Sciences (SPSS) version 17.0. This software has been specifically designed for statistical analysis and is used by social scientists and related professionals (Coakes et al., 2009). The questionnaire was coded to make data entering into SPSS faster and more efficient. Once the data was entered, measures were taken to ensure the data had been inputted correctly. As recommended by Veal (2006), 10% of the sample participants were randomly selected and cross-referenced to ensure the data was correctly entered. Furthermore, descriptive statistics was also conducted to ensure that the variables were in the expected range (Coakes et al., 2009).

Descriptive analysis, frequencies and cross-tabs were also conducted to analyse the data to gain a better understanding of the trends and characteristics of each typology. Therefore, SPSS software has allowed the researcher to perform many statistical analysis in a reliable manner adding validity to the research. Furthermore, SPSS also indicates whether findings are statistically significant. This is very important as it will

ensure that valid results are presented in the final thesis and that relevant conclusions are drawn.

3.13 Validity

Ensuring validity in a research is imperative to ensure the results are valid. Veal (2006, p. 41) describes validity as “the extent to which the information collected by the researcher truly reflects the phenomenon being studied.” He further indicates that tourism and leisure are challenged in this area as the research and results are dependent on the behaviour, attitudes and responses of people. For these reasons, Veal (2006, p. 41) suggests that the “validity of leisure and tourism data can rarely be as certain as in the natural sciences.” As a result, this may lead to imperfections, such as people not understanding the question and answering incorrectly. This was managed by the researcher as simple questions were used avoiding jargon. This minimised the risk of imperfections and enhanced the validity of the participant’s responses.

Furthermore, it is recommended by Miller et al. (cited in Ritchie et al., 2005), that validity can be enhanced by visiting the site in two separate visits. This was considered in this study as data was collected over several days and not just the one. Miller et al. (cited in Ritchie et al., 2005) further indicate in their study that data was collected as soon as possible to diminish the possibility of re-construction of the events. Validity was added in this study as the researcher collected the data straight after the participants had partaken in the cave tour. This allowed for more accurate data as participants did not have the opportunity to re-construct or forget information.

3.14 Ethical Considerations

A large amount of tourism research takes place in social settings (Jennings, 2010). As a result, the researcher has to ensure that the research undertaken does not negatively alter the experience of not only the participant but the local community. To avoid this alteration and to protect the participant, a set of guidelines were established. Ethics followed today in the Western world derive from the Nuremberg Code which was developed after World War II as a result of the cruel experiments which took place under the Nazi regime (Jennings, 2010). Other codes have also influenced the ethical guidelines that are in place today. Such codes include the Universal Declaration of Human Rights and the Declaration of Helsinki (Jennings, 2010). A combination of all

these codes forms the ethical standards that is followed in Australia and New Zealand; the National Health and Medical Research Council (NHMRC) (Jennings, 2010).

Jennings (2010) argues that the main reason as to why a tourist participates in tourism is because they want to escape everyday life. As a result, researchers have to be careful not to intrude and alter the experience. For this reason, the survey was conducted after the Cave Tour to ensure their tour experience was not altered. Glesne (cited in Jennings, 2010, p. 109) adds that the participant must have the right to withdraw at any given time of the research as well as being aware of the purpose of the study and consequences of findings. To achieve this, participants received an Information Letter (Appendix C) explaining the purpose of the study. The survey was also voluntary and the participant could choose to withdraw at anytime. These details were included in the Information Letter attached to the clipboard. To ensure the participants were aware of these details, it was also stated at the top of each questionnaire. Furthermore, participants were also briefed on these details.

It is imperative that the privacy of the participants is protected through either means of anonymity or confidentiality (Jennings, 2010). In this study, the participants are protected through the means of anonymity. The questionnaire did not ask for personal details such as name and address as these questions may also make the participants feel uncomfortable. This was also made known to the participants through three avenues, an Information Letter, a statement at the top of each questionnaire and verbally. Furthermore, Jennings (2010, p. 106) argues that "Tourism researchers should never cause participants to experience anxiety or embarrassment, or generate feelings of inferiority or stress." To ensure this did not occur, participants were also informed that they did not have to answer a question if they did not feel comfortable in doing so.

Burns (cited in Jennings, 2010) states that the most fundamental ethical principle is informed consent; a participant must completely and clearly understand the nature and purpose of the research being conducted. This study did not have a document stating 'informed consent' as it was suggested by the Edith Cowan University Reviewing Panel not to have one. This was due to the fact that the survey is anonymous and no part of the questionnaire identifies the participant. However, it was stated that this area still needed to be addressed. This was achieved, as suggested by the panel, through the

statement at the beginning of each questionnaire referred to previously in this chapter in point 3.9 Procedure.

When undertaking research, another ethical guideline is to ensure that the participants are physically safe at all times (Jennings, 2010). For this reason, tourists were approached to complete a questionnaire at the end of the tour, instead of before, as important information about safety issues are being disseminated before the tour. Furthermore, participants were briefed about their potential participation in the survey after the safety information was disseminated. For obvious reasons, participants were not asked to complete the questionnaire during the tour as it could not only detract from the experience, but it is also very unsafe.

3.15 Anticipated and Managed Limitations

The main limitations for the researcher were time and budget constraints. As a result, the Cultural Tourism Typology Model was only applied to one type of geosite - caves. Furthermore, the study was only carried out on one cave site location - Yanchep National Park Crystal Cave. This limitation has been managed as validity has been considered by allowing every tourist participating in the Crystal Cave tour to complete a survey (probability sampling) and not just every fourth person or other similar method.

As a result of the study being conducted in only a cave site, it presents a limitation on the validity of its application to other geosites. However, the purpose of the study is to lessen the literature gap that exists in geotourism typologies. As a result, this study will achieve the purpose of lessening the literature gap by providing a starting point for a typology model. It is important for larger scale research to be conducted in the future.

Another limitation considered by the researcher was the willingness of participation by tourists. It was considered as a possible limitation as it could have resulted in a low participation rate or the same type of typology may have been more inclined to participate. With the initial procedure, this proved to be a great limitation as not many tourists were interested in participating. Due to ethical reasons a researcher cannot force a tourist to participate. This limitation was managed through the introduction of a pilot study. The outcomes of the pilot study were then implemented for the next round of data collection for the actual study. The limitation was overcome by briefing all tourists as a group and stressing the importance of the study and explaining that insight

into all levels of interest in geotourism is appreciated for the purpose of developing a typology model. The second procedure proved to be more effective and efficient as the number of participants increased as there was a better understanding of the research and rapport was built as the Tour Guides introduced the researcher and encouraged the tourists to participate.

3.16 Chapter Summary

This chapter presented the methodological approach adopted for this study and provided reasons as to why the quantitative approach was most appropriate. Factors that influenced the methodology choice, including sample size, site, instrument and procedure, incorporated the aims and objectives of the study. Time and budget constraints also influenced the methodological choice. For these reasons, data was collected through self-completed questionnaires at Yanchep National Park, specifically those who participated in the Crystal Cave tour. Most importantly, the research methodology chosen was suitable for the information required for the study. The results from the 119 questionnaires collected are discussed in the following chapter.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 *Introduction*

This chapter will present, analyse and discuss the results derived from the data collected through the questionnaires completed by tourists participating in the Crystal Cave tour in Yanchep National Park. It begins with a demographic overview and participant characteristics and discusses the application of the Cultural Tourism Typology Model to geotourism. This chapter also determines whether the Model can be applied to geotourism and what adaptations are needed to better suit this alternative type of tourism. This is the fundamental aim of the study.

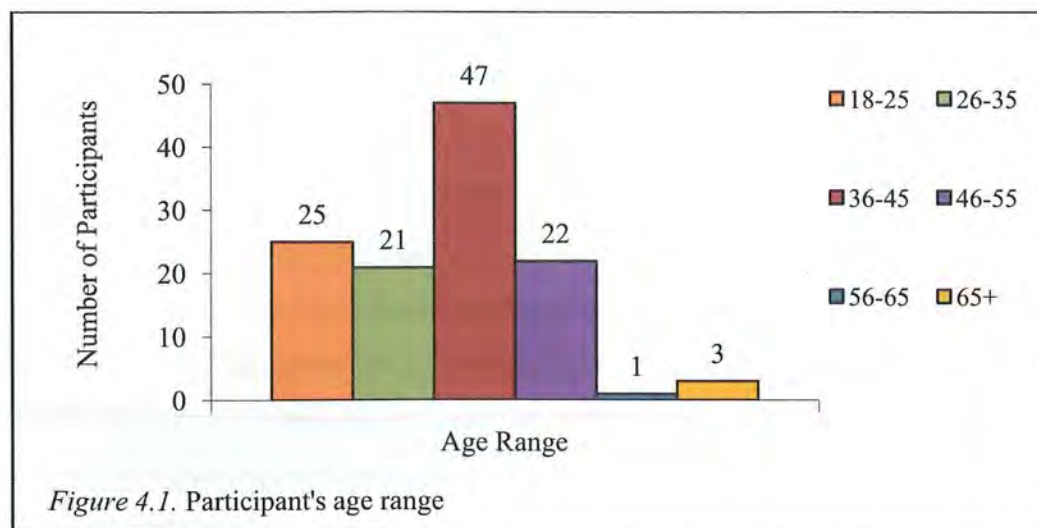
4.2 *Demographic Overview and Characteristics*

This section will present the statistical demographic results of the participants. Sections include age and gender, origin, size and type of travelling group, estimated expenditure and average income, frequency of visitation and return visitation and information source.

4.2.1 *Age and Gender*

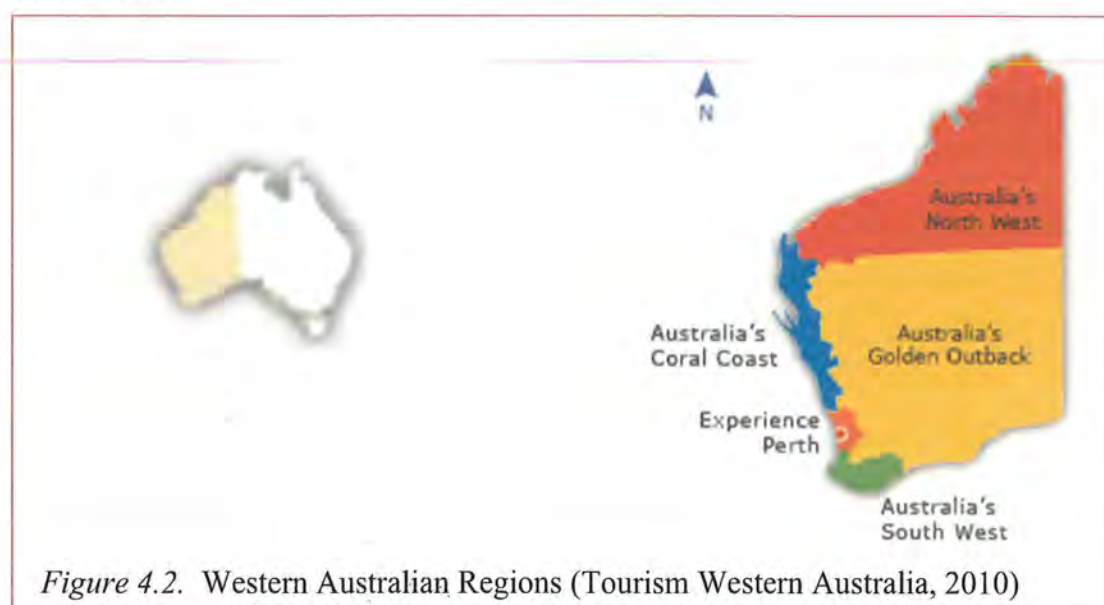
A total of 119 participants completed the survey. Most of these participants were female as they represented a total of 68 respondents (57.1%). However, the gender breakdown is comparatively even as 51 participants were male (42.9%). This differs from Mao et al. (2009) data which found that 84% of respondents were male. This difference may be due to the fact that their study surveyed professionals in the field of geology in which the data suggests that it is a mostly male oriented field. On the contrary, this study surveyed visitors to the Cave without using profession as screening.

The majority of participants are aged between 36 to 45 years (39.5%). Only four participants are over the age of 56 (Figure 4.1). This is a similar result to the audit conducted by Page et al. (cited in Novelli, 2005) as results indicated that almost half were 30 to 44 years of age. However, it differs as results also indicate that almost as many were aged 45 to 64. This finding is also supported by Mao et al. (2009) as the majority were from 55 to 64 years old. Results from the Crystal Cave study do not support the previous findings of other studies as only twenty two (18.5%) were aged 46 to 55 and only four between 56 to over 65 (3.4%).

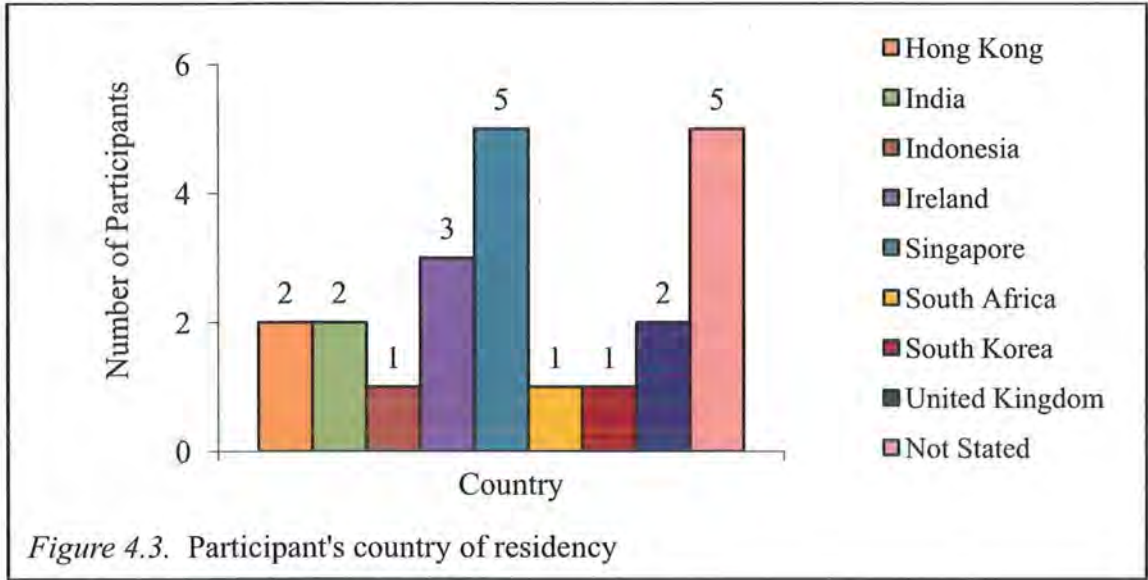


4.2.2 Origin

The majority of participants have a residential location in Australia (85.1%). Within Australia, 89 participants (90.8%) are from Western Australia (WA). All of the WA participants reside within the metropolitan area and Experience Perth region. This includes Perth, Fremantle and Rottnest, Peel and Rockingham, Sunset Coast, Swan Valley and Darling Range and the Avon Valley (Figure 4.2). Experience Perth is one of the five Western Australian Regions as part of the Regional Tourism Organisations which were developed for WA's strategic marketing direction. The five regions are Experience Perth, Australia's Coral Coast, Australia's Golden Outback, Australia's North West and Australia's South West (Australia, 2010). Few participants were from other states with only four from Queensland, three from Victoria and one each from South Australia and Northern Territory. No participants resided in Tasmania or New South Wales.



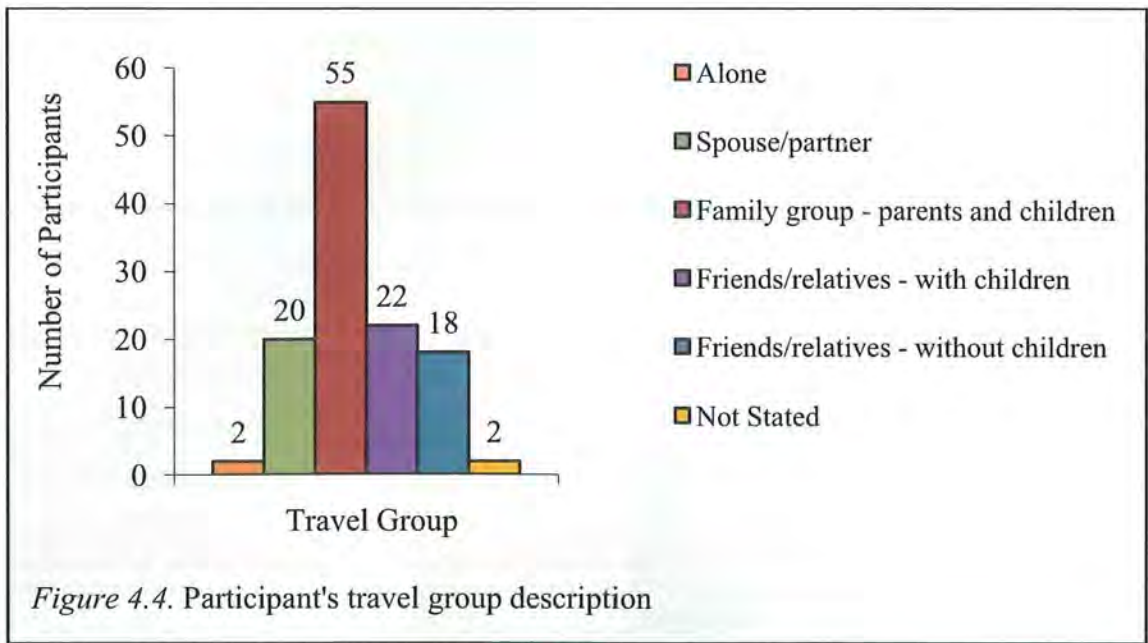
The international participants reside in Hong Kong, India, Indonesia, Ireland, Singapore, South Africa, South Korea and United Kingdom (Figure 4.3). McKercher and du Cros' (2003) study found that the further the origin of the tourist, the deeper the experience they encountered. As there were only seventeen international participants, no clear conclusions could be drawn. However, it is an important area to explore as statistics discussed in Chapter 1, demonstrate that, when compared to locals, visitors travelling from overseas countries, such as United Kingdom, Germany and France, rank the Crystal Cave to have a higher importance for visiting the park than other activities, when compared to locals.



4.2.3 Size and Type of Travelling Group

The size of each travelling group ranged from one to twenty. There was at least one person/group travelling in each category from one to twelve and there was one group travelling in a group of sixteen and twenty. The average number of travellers is five people per group. However, the majority of people travelled in groups of four (24), two (23) and three (14). Participants were also asked to describe their travelling group. The minority of people travelled alone; two people. Fifty five participants indicated that they travelled in a family group consisting of parents and children (Figure 4.4). This was the majority equating to a valid percentage of 47%. These findings coincide with Page's et al. (cited in Novelli, 2005) study as a major group was families with young children. As a result, this can also be considered as a major group that participate in cave tours. Forty participants travelled with friends/relatives, twenty two travelled with children, and eighteen travelled without children. Twenty participants indicated they were travelling with a spouse/partner. No participants travelled with business associates

or as part of a school/university or sporting club/group. This greatly differs from McKercher and du Cros' (2003) study as 22% were business travellers who participated in cultural tourism.

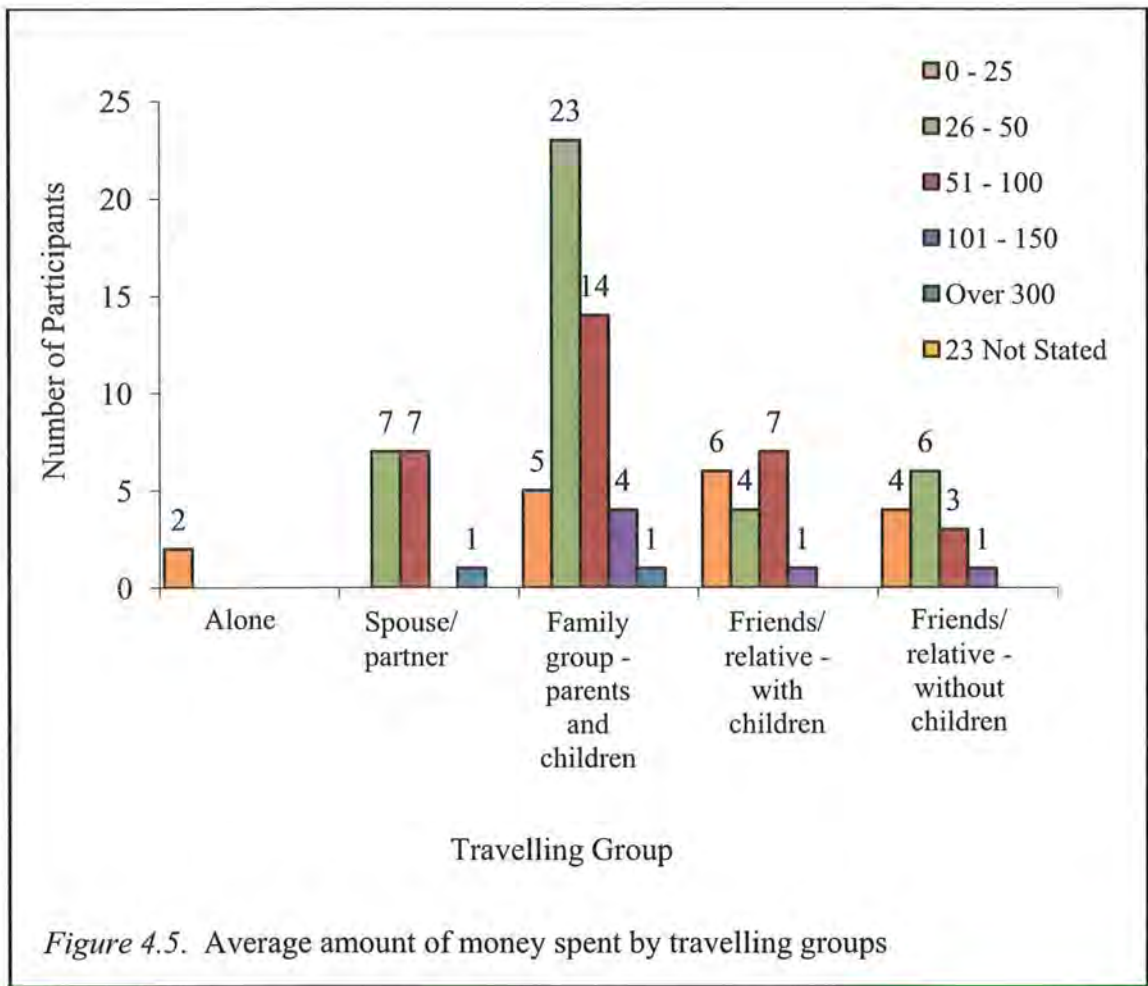


4.2.4 Estimated Expenditure and Average Income

The average estimated spend by the participant on their visit to Yanchep National Park was between \$26 and \$50. Forty six out of 111 participants selected this option equating to a valid percentage of 41.4%. Two people spent over \$301 which was the highest option available to the participant. Seven people spent between \$101 to \$150 and thirty seven spent \$51 to \$100. Nineteen participants spent \$0 to \$25. It is highly likely that these participants did not participate in other monetary activities such as dining, the Aboriginal Experience or Didgeridoo and Dance, as the money would have been spent for the entry price of \$11 and the Cave tour which is \$10 for adults of \$5 for children.

Participants travelling with a spouse or partner have the greatest percentage spending above \$50 (53.3%) (Figure 4.5). This is followed by friends/relatives with children (44.4%) and family groups – parents and children (40.4%). People travelling alone did not spend over \$50 and friends/relatives travelling without children spent above \$50 (28.5%). However, it was expected that larger groups, in particular families travelling with children, would spend more as there is higher costs in undertaking activities. Furthermore, when answering this question, it was expected that parents would include their spending as a family as they would have to pay for their children. This would

bring their total expenditure higher than a group travelling with friends/relatives travelling without children, as they would most likely indicate their own spending as each pays for their own activity. An important unexpected finding, is the high percentage spending above \$50 in participants travelling with their spouse/partner. This indicates that this group is willing to spend more money in other activities and therefore participate in a large amount of what the Park has to offer.



Results show that Yanchep National Park attracts visitors from all socio economic backgrounds. Ninety seven participants indicated their average income. The mean income earned by participants was \$45 001 to \$75 000. The majority of participants aged between eighteen and twenty five earned less than \$45 000. On the contrary, the majority of participants in the ages between thirty six and fifty five earned above \$45 000. Furthermore, this age bracket had the most amount of participants earning over \$75 000 (27 out of 36). However, Analysis of Variance (ANOVA) testing revealed there was no significant relationship between a participant's income and the amount spent at Yanchep National Park ($p > .05$).

4.2.5 Frequency of Visitation and Repeat Visitation

Fifty nine participants (51.3%) were returning visitors to Yanchep National Park. This differs from the one third who were returning visitors in Page's et al. Audit (cited in Novelli, 2005). Out of these participants twenty nine (25.4%) had visited the park over two years ago, seven (6.1%) within two years, four (3.5%) within a year, two (1.8%) within six months to a year, and sixteen (14%) within five months. One participant did not make a response . The remainder fifty six participants (48.7%) who completed the question were visiting Yanchep National Park for the first time. The majority of participants, forty two (36.5%), have visited Yanchep National Park up to four times and seventeen (14.8%) have visited the park over five times. Therefore, approximately half of participants are repeat visitors. However, the Crystal Cave tour does not receive as much repeat visitation as the Park itself does. Seventy eight participants (68.4%) were visiting the crystal cave tour for the first time and thirty six participants (31.6%) were repeat visitors. Twenty seven (23.7%) participated in the Cave tour up to four times and four participants (3.5%) had taken the tour over five times. Five participants (4.4%) had undertaken in the Cave tour every time they visited the park.

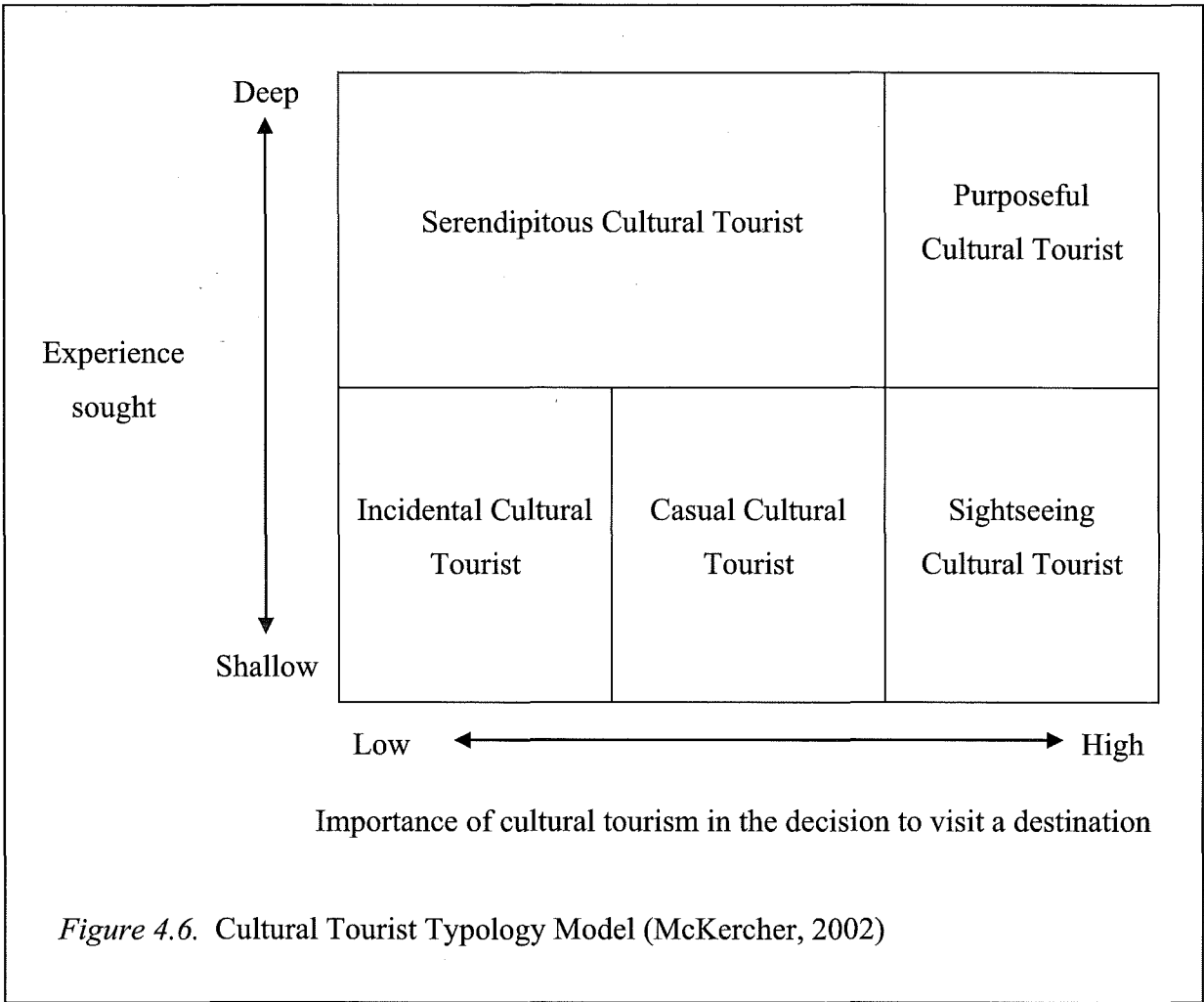
Participants were also asked if they would return to Yanchep National Park. The majority of participants (92.2%) indicated they would but participants living overseas stated they would not return, due to their living too far away.

4.2.6 Information Source

Participants were asked to indicate how they became aware of the Crystal Cave tour. Multiple responses were allowed when answering this question. Most Participants heard about the Cave at the Park and/or by recommendation (word-of-mouth). Many participants also learnt about the cave through a brochure (28%), mainly the Yanchep National Park brochure. Other forms of promotion such as a television programme and magazines/newspapers, were only selected by one participant. One participant wrote they had driven past the Park and decided to turn in as they have an interest in caves. Another participant heard about the Cave through their school. The internet was surprisingly low with only eight participants (6.7%) selecting this option. Therefore, before attending the Park, the main and most effective information source for the cave is word of mouth recommendation. Nine participants stated they had previous knowledge of the Cave suggesting that people who participate in the Cave Tour are satisfied as they recommend the cave to other people.

4.3 Application of the Cultural Tourism Typology Model to Geotourism

The Cultural Tourism Typology Model (2002) was devised to categorise cultural tourists with similar characteristics (Figure 4.6). Similarly, the model was used to categorise geotourist and was applied to the data from the 119 participants who completed the questionnaire.



The data from the participants was analysed to determine if they belonged to a segment of the Typology Model. This was done through a set of guidelines established according to the description of each segment of the model and through the professional discretion of the researcher (Appendix B). The key questions analysed to determine in which typology each participant belonged to, were the following groups of questions:

Group One: Questions exploring participant satisfaction and experience encountered

- 2. Please indicate your impression of the Crystal Cave tour.
- 8. Which activity did you enjoy the most?
- 9. Which activity did you enjoy the least?

Group Two: Questions exploring motivation and the importance of geotourism in decision to travel to Yanchep National Park

- 4. What was your reason for participation in the Cave tour?
- 5. What are the most influential factors when deciding on which cave to visit?
- 6. How important was the Cave tour in your decision to travel to the park?
- 7. Please rank the activities in order of preference for your reason to visit the park.

4.3.1 Group One: Participant Satisfaction and Experience Encountered

Participants were asked to indicate their impression of the Crystal Cave tour to determine their level of satisfaction with the tour. This allowed insight into the type of experience encountered by the respondent whether it was ‘deep’ or ‘shallow’ (Table 4.1). More than one response was possible. Most participants indicated that the tour guide was informative (72.3%) and that there was a good delivery by the tour guide (64.7%). A majority also thought the tour was enjoyable (63.9%). Other positive views included fulfilling (20.2%), interactive (19.3%) and original (13.4%). Six participants thought the cave tour was too short and two stated it was too long. However, one participant specified that it was too long for children. As a result, a suggestion for improvement indicated by the participant was to offer shorter tours for parents with children. Negative comments also included disappointing (2.5%) and the tour guide was not engaging (0.8%). No one indicated that they could not understand tour or that it was boring.

Table 4.1
Participant’s impression of the Crystal Cave tour: Question 2
n=119

Impression	Frequency	Percent	Percent of Cases
Informative	86	27.4	72.3
Good delivery by tour guide	77	24.5	64.7
Enjoyable	76	24.2	63.9
Fulfilling	24	7.6	20.2
Interactive	23	7.3	19.3
Original	16	5.1	13.4
Too short	6	1.9	5.0
Disappointing	3	1.0	2.5
Too long	2	0.6	1.7
Tour guide not engaging	1	0.3	0.8
Total	314	100	263.9

Note. Multiple answers were allowed

The results indicate that participants enjoyed the Crystal Cave Tour the most (64.5%). This was a clear favourite as it was a far greater number than other activities such as the Koala Boardwalk (7.5%), walking trails (5.4%), picnic areas (4.3%), Aboriginal Experience (3.2%) and other activities (Table 4.2). Three participants (3.2%) chose the Koala Boardwalk and Crystal Cave Tour as their favourite activity. A further three participants indicated that they had only experienced the Cave tour so far, therefore, could only answer Cave tour. Twenty six participants did not state a favourite activity.

Table 4.2

Participant's favourite activity: Question 8

n=93

Activity	Frequency	Valid Percentage
Crystal Cave	60	64.5
Koala Boardwalk	7	7.5
Walking trails	5	5.4
Picnic areas	4	4.3
Aboriginal Experience	3	3.2
Koalas & Caves	3	3.2
Only participated in Cave	3	3.2
Spotting wildlife	2	2.2
Ghosthouse walk	2	2.2
BBQ/Lunch	2	2.2
Spotting black cockatoos	1	1.1
Walking around the lake	1	1.1
Total	93	100

Participants were also asked to indicate their least favourite activities. These activities included the Cave tour (7, 13.2%), spotting wild life (4, 7.5%), walking trails (3, 5.7%), Ghosthouse walk (1, 1.9%), Aboriginal Experience (1, 1.9%) and Koala Boardwalk (1, 1.9%). One participant responded incorrectly indicating the rowboats as their least favourite activity as the rowboats were not available. Two participants also indicated they did not enjoy driving. It is important to note that thirty three participants (62.3%) indicated that they either had 'none' as their least favourite activity or 'enjoyed everything'. This suggests that they were happy with all the park had to offer. Furthermore, sixty six respondents did not answer Question 9. This may also suggest that they had nothing as their least favourite activity, however, it cannot be included as a certainty.

4.3.2 Group Two: Participant Motivation & Importance of Geotourism

An important section of the survey explored a critical element of the typology model; the importance of a geological site in the decision to visit a destination. As Yanchep National Park offers many activities, questions were designed to determine how important the Crystal Cave tour was compared to the other activities.

Forty seven participants selected learning about the cave as a reason for participation. These findings are supported by Crompton's (1979) findings as respondents viewed education as an important factor as well. However, the majority of respondents did not participate in the Cave tour to learn about the cave. Instead, the main reason for participation in the cave tour was curiosity (52.1%). This was expected as not everyone's main motivation would be an educational factor. However, as Crompton (1979) argues, educational factors may be a secondary motivator as well as a primary.

Only twenty eight respondents (23.5%) indicated the cave was the main reason for coming to Yanchep National Park and twenty three (11.4%) stated they had a great interest in caves. Out of these twenty three participants, only four indicated caves was the main reason for coming to the park but twelve stated they wanted to learn about the cave. Therefore, it can be assumed that although the participant has an interest in caves and would like to have an educational experience, their destination choice for this occasion was not only based on the geological site but also the park itself and the other activities it has to offer. Three participants (2.5%) indicated they attended as there was nothing else to do and participated to pass time. Furthermore, five participants stated they had no interest in caves; four participated as their companion wanted to (3.4%) and one (0.8%) was part of a tour (Table 4.3).

Table 4.3

Reasons for participating in Crystal Cave tour: Question 4

n=108

Reason	Frequency	Percent	Percent of Cases
Curiosity	62	30.8	52.1
To learn about the Cave	47	23.4	39.5
Have a great interest in cave	23	11.4	19.3
Friends or family visiting brought me here	24	11.9	20.2
Main reason for coming to the Park	28	13.9	23.5
Other: Bringing friends and families	8	4.0	6.7
Nothing else to do/pass time	3	1.5	2.5
No interest but companion wanted to participate	4	2.0	3.4
No interest but part of a tour	1	0.5	0.8
Other: Weekend getaway	1	0.5	0.8
Total	198	100	169.9

Note. Multiple answers were allowed

The most influential factor when deciding on which cave to visit, was the educational factor (31.5%) (Table 4.4). The opportunity to learn is clearly valued by a large group of participants as the decision to travel to Yanchep National Park was also influenced by this factor (37.4%) (Table 4.5). This coincides with the findings of Mao et al. (2009) as the main purpose was to increase knowledge or obtain intellectual stimulation.

Table 4.4

Influential factors when deciding on which cave to visit: Question 5

n=118

Factors	Frequency	Percent	Percent of Cases
Educational value	56	31.5	47.5
Short travelling time	34	19.1	28.8
Close to other tourist sites	32	18.0	27.1
Low cost	23	12.9	19.5
Popularity of the cave	22	12.4	18.6
No interest in caves, therefore no factors influence	11	6.2	9.3
Total	178	100	150.8

Note. Multiple answers were allowed

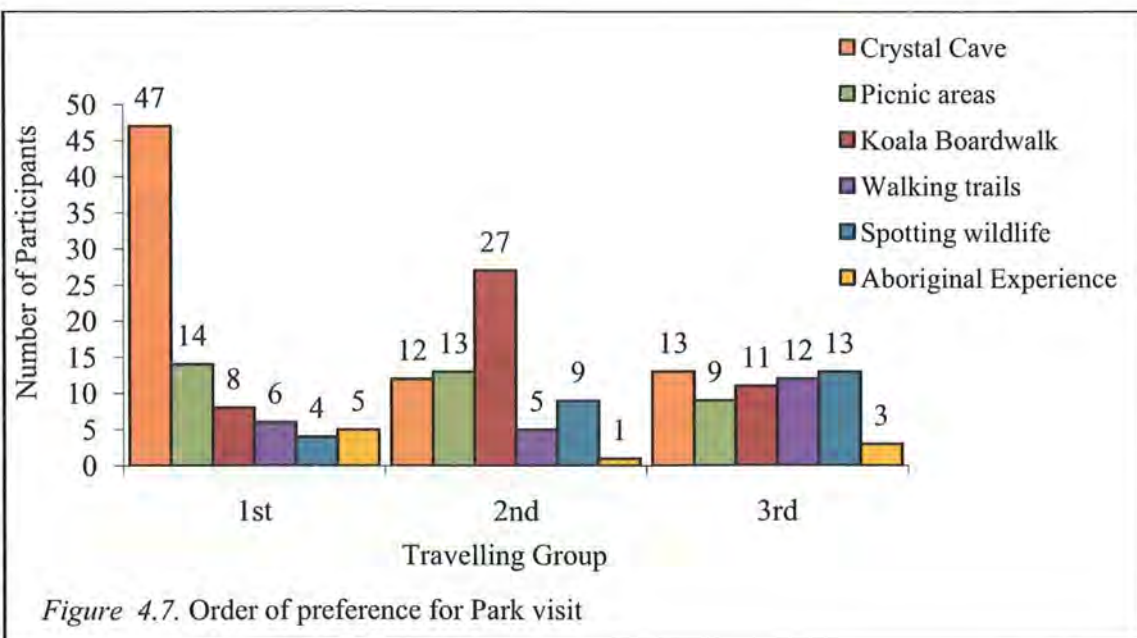
Table 4.5
Importance of having an educational experience at Yanchep National Park: Question 12
n=115

Likert Scale	Frequency	Valid Percentage
Very important	16	13.9
Important	27	23.5
Neutral/indifferent	43	37.4
Not that important	21	18.3
Not important	8	7.0
Total	115	100

More participants (43.6%) indicated that the cave was important in their decision to travel to Yanchep National Park than those who indicated it was not too important or not important at all (26.8%). Furthermore, twenty six indicated that it was very important compared to the eleven on the other end of the spectrum; not important. Thirty five respondents answered ‘indifferent’ (Table 4.6). Forty seven participants ranked the Crystal Cave tour as the main reason to visit the park (Figure 4.7). This is a valid percentage of 56.6% as thirty two participants did not answer the question. More than half of participants (73.9%) indicated that they are interested in participating in another cave tour suggesting there is a genuine interest in caves.

Table 4.6
Importance of the Cave tour in the participant’s decision to travel to Yanchep National Park: Question 6
n=119

Likert Scale	Frequency	Valid Percentage
Very Important	26	21.8
Important	26	21.8
Indifferent	35	29.4
Not too important	21	17.6
Not important	11	9.2
Total	119	100



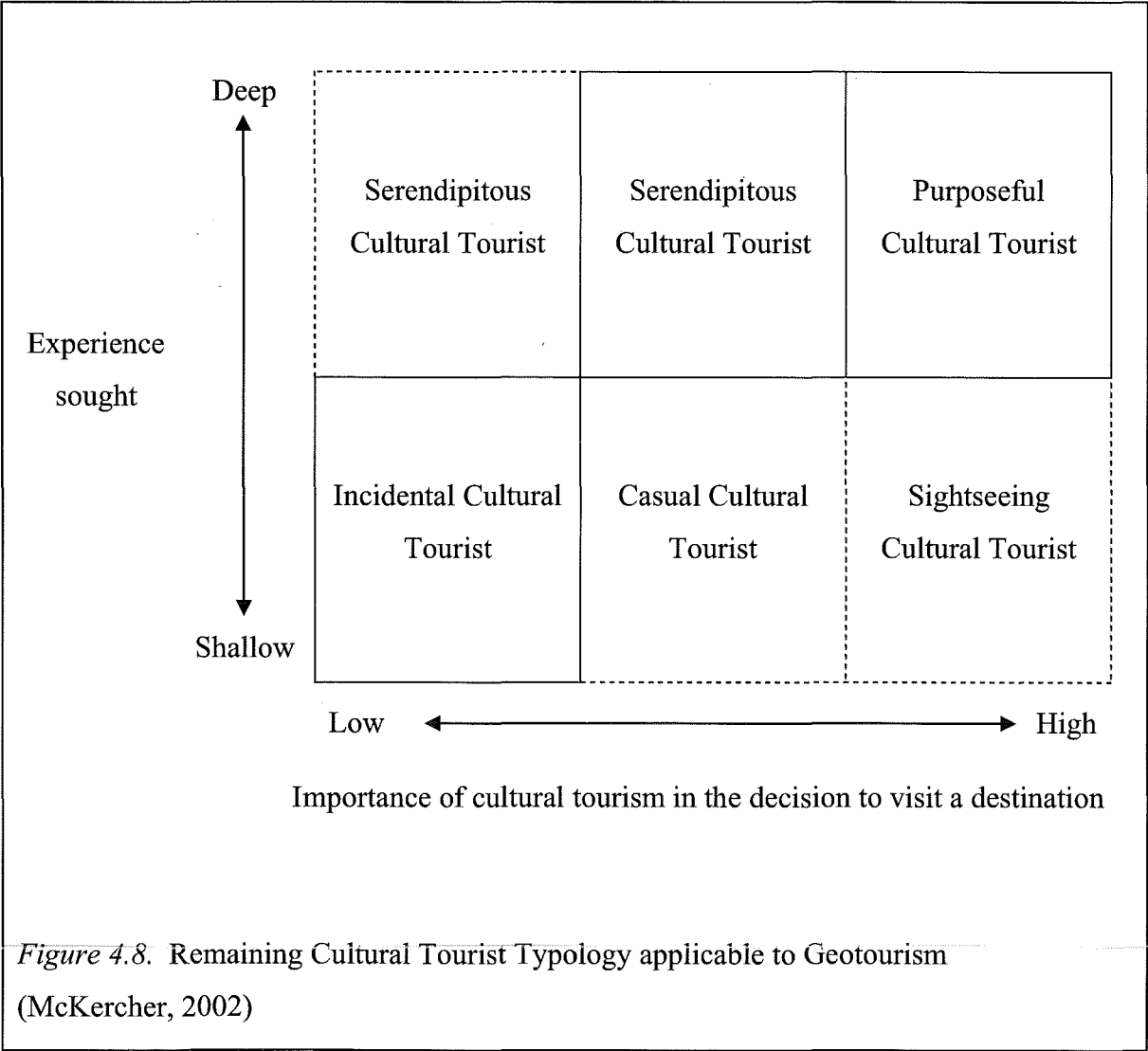
4.3.3 Determining if the Cultural Tourist Typology Model can be Applied to Geotourism

To determine whether McKercher's (2002) Model could be applied to geotourism, the participants were placed in the respective typology according to their responses. This was completed through the analysis of statistical results and, in particular, the analytical processes of the researcher's discretion of each individual participant's completed questionnaire. The analytical process was based on a criteria sheet developed in accordance with the characteristics of the cultural tourism typologies (Appendix B). The first step of the individual questionnaire analysis was to divide the negative experiences from the positive experiences using questions from Group One. As there were only seven participants who had a negative experience, these were analysed first. Questions from Group Two were then applied to determine the influence of geotourism. Six respondents showed traits of an incidental tourist as the Crystal Cave did not have an influence on the decision to travel to Yanchep National Park. These match the characteristics of an incidental tourist; no geo-motivation to travel to a particular site and a shallow experience is encountered. No participants displayed a medium to high geological motivation as well as a negative experience. As a result, this eliminated the possibility of participants displaying characteristics of a casual tourist or sightseeing tourist.

The next step was to analyse the participants who were determined as a positive encounter from analysing questions in Group One. Respondents with positive encounters were then classified according to Group Two questions to determine the level of influence geotourism had. The criteria sheet was also used for this process (Appendix B). The first and most easily recognisable typology was the purposeful tourist. Thirty eight participants displayed characteristics of a purposeful tourist. A purposeful tourist is one that seeks and encounters a deep experience and the main motivation of travelling to the destination is the geological site. The remaining participants who encountered a positive experience were more difficult to place in a category. This was as a result of participants either showing traits that fitted to more than one category or did not fit any of the characteristics. As a result, it was apparent that many of the participants did not fit into a particular typology of McKercher's (2002) Model. Therefore, it was determined that the Cultural Tourist Typology Model cannot be directly applied to geotourism in its true form and adaptations needed to be made (Figure 4.8).

The influence of geotourism on the destination choice of a serendipitous tourist is very limited to nonexistent, nevertheless, a deep experience is encountered. These characteristics were present in the responses of nine participants. However, many other respondents displayed relevant characteristics. Therefore, the researcher has found that this category does not accurately define the participants in this study. Although similar, this category has been adapted to some motivation and the no motivation element has been removed. The experience encounter has remained positive. Reasons for this are that results showed a clear distinction between those whose influence of the Cave played some role to those who displayed no influence. Therefore, it was determined that although some participants' principal motivation for visiting Yanchep Nation Park was not the cave, it had some influence in their destination choice. Although these participants demonstrated to have characteristics of a casual tourist, some motivation, participants could not be placed into this category as a casual tourist has a shallow experience. This reinforces the decision to combine elements of serendipitous and causal tourist through the change of the serendipitous tourist typology to some motivation and the removal of the casual tourist typology. As a result, there were a number of participants who showed elements of this adapted category.

No participant that had geotourism as a main motivation to travel to Yanchep National Park, had a shallow or negative experience. This was evident as elements in Group One questions such as ‘positive impressions’ and ‘enjoyment of the activity’ was displayed by the respondent. As a result, no participants had the characteristics of a sightseeing tourist which is a high cultural tourism influence but a shallow experience is encountered.



4.4 Adapted Cultural Tourism Typology Model to suit Geotourism

After further data analysis, common characteristics were evident that did not fit into the original Cultural Tourism Typology Model. For these reasons new sections were developed. As a result, the adapted Geotourism Typology Model includes categories of the original Cultural Tourism Typology Model, as well as modified and new categories (Figure 4.9). The categories that remained as the original typology are purposeful and incidental. There was also a need for the adaptation of the serendipitous tourist to suit the Geotourism Model as well as the addition of the accidental geotourist and the intentional geotourist. The experience sought was changed to experience encountered and it was either ‘positive’ or ‘negative’ as opposed to ‘deep’ or ‘shallow’. Reasons for this are that experience sought did not seem appropriate as participants would not choose to participate in an activity if seeking a negative experience. Furthermore, the terms deep and shallow, in particular deep, seemed more appropriate for a cultural encounter and not a geological one. This is because a cultural encounter, by nature, may be emotional only in many occasions therefore, can be called deep. Whereas a geological encounter may be emotional on certain occasions, a positive and negative encounter is more suitable.

Motivation	Low		Medium		High
Geotourist	Incidental Geotourist	Accidental Geotourist	Serendipitous Geotourist	Intentional Geotourist	Purposeful Geotourist
Experience	Negative	Positive			

Figure 4.9. Adapted Geotourism Typology Model

(Adapted from McKercher’s (2002) Cultural Tourist Typologies Model)

1. Purposeful Geotourist

Their motivation for visiting the destination is the geosite and to undertake geotourism. They have a positive encounter.

2. Intentional Geotourist

The influence of geotourism was extremely high, however, another motivation was equally or slightly more influential in the decision to travel to a particular destination. The encounter is also positive.

3. Serendipitous Geotourist

Geotourism had a small influence on destination choice, however, the experience encountered was positive.

4. Accidental Geotourist

There was no influence or the tourist was not aware of the geosite, therefore, there is no geotourism influence in the destination choice. However, the experience encountered is positive.

5. Incidental Geotourist

Geotourism played no meaningful role in destination choice and the experience encountered is negative.

After the new model was determined, it was important to re-analyse and classify the respondents into the new typologies in accordance to the questions in Groups One and Two. The specific questions applied are discussed in detail in the following section for each typology.

4.4.1 Purposeful Geotourist

A purposeful geotourist has high motivation and a positive experience. Thirty eight participants were identified as purposeful geotourists. To be eligible for this category, respondents had to have a positive experience and the Cave had to be the main reason for travelling to Yanchep National Park. For an indication of a positive experience, participants had to demonstrate an overall positive impression of the Crystal Cave and not select Crystal Cave as their least favourite activity. All thirty eight participants followed these requirements. It was also highly preferred that participants had Crystal Cave as their favourite activity. However, this was not a requirement as not selecting Crystal Cave does not mean a negative experience. Only two participants did not select Crystal Cave nevertheless, they indicated in other sections of the questionnaire that they had a positive review of the tour.

Participants also had to indicate in the questionnaire that the Cave was the main reason for travel to Yanchep National Park. Respondents demonstrated this by selecting 'Very Important' and 'Important' as their answer to 'How important was the Cave tour in your decision to travel to Yanchep National Park?' If participants selected any other option for this question they were not eligible for this category. Respondents also indicated their reason for participation in the Cave tour. Participant's answers were either, but not limited to, 'Have a great interest in caves', 'Main reason for coming to the Park' and 'To learn about the cave'. Participants could not have selected 'Not interested in caves...' or 'Nothing else to do/to pass time' as these characteristics made the eligible for other categories. Furthermore, respondents were not eligible for this category if they indicated they did not have an interest in caves in Question 5. Question 7 also explored their motivation level by asking the participant to rank the activities in order of reason for coming to the Park. All participants who answered this question ranked Crystal Cave as number one reason for visiting the Park except for one. This participant was still categorised as a purposeful geotourist as they indicated in Question 4 that the Cave tour was the main reason for going to the Park.

4.4.1.1 Demographic Overview and Characteristics of a Purposeful Geotourist

The majority of the purposeful geotourists are males (60.5%) within the ages of 26 to 45 (24, 63.2%). There were seven participants in each age range between 18 to 25 and 46 to 55. There were no participants over the age of 56. These findings differ to McKercher and du Cros' study (2003) as purposeful cultural tourists tended to be older. This assumption can be applied to geotourism to an extent as there is supporting evidence. Although the age of 26 may be considered young, results show that the average income is \$45 000 to \$75 000. Furthermore, twelve participants earn an average income of above \$75 000. Therefore, it is likely that these participants are economically stable and may have discretionary income. However, this study did not ask for occupation therefore, no assumption can be made regarding education or profession. The average expenditure was \$26 to \$50. However, twelve participants spent within \$51 to \$100, two between \$101 and \$150 and one spent over \$300.

Most of the participants reside in Australia (32, 86.5%). Other residential locations include Ireland (2), Indonesia (1) Singapore (1) and South Korea (1). However, as most of the participants of the study reside within Australia, no clear trends regarding residential location can be drawn.

The size of each travelling group ranged from two people to twenty. The majority of participants travelled in a group of four (8), three (7) and two (7). However the average travelling size is five. No one travelled alone. The number of people in the travelling groups support the main travel group type. This was travelling with a family group, specifically parents with children (19). Other travel groups included travelling with family/friends without children (7), travelling with family/friends with children (6) and travelling with a spouse/partner (5). From this information, it can be concluded that most participants spent money on the Cave tour only as the entry fee and Cave tour fee would equate to the average expenditure being \$26 to \$50.

Most of the participants were experiencing the Cave tour for the first time (23, 60.5%). Eleven participants had visited the Cave up to four times and two visit the cave every time they go to the Park. Thirty three indicated they would return to the Park. However, this does not mean repeat visitation to the Cave. On the contrary, five of the 119 respondents of the study stated they participated in the Cave tour every time they visited Yanchep National Park. Only one purposeful geotourist indicated they would return specifically for the Cave. On the other hand, participants were asked if they were interested in participating in other forms of cave tourism such as historical cave tours and adventure caving. Thirty one (81.6%) tourists selected at least one option. The most selected choices were adventure caving, (19), small group tours (17) and educational cave tours (16). Fast and popular cave tours was only selected six times. As a result of the large indication of an interest in participating in other cave tours, and considering over half of participants (59.5%) have participated in a cave tour previously, it is likely that purposeful geotourists will participate in another form of cave tour. Based on this information, it can be assumed that it is highly unlikely that caves attracts repeat visitation to the same location. However, it is more likely that geotourism will attract repeat participation.

4.4.2 Serendipitous Geotourist

Unlike McKercher and du Cros'(2003) study, serendipitous and purposeful geotourists do not hold the smallest percentage of the sample. Instead, they hold the two largest percentage of the sample (54.6%). There are twenty seven serendipitous geotourists in the adapted category; some motivation with a positive encounter. To be eligible for this category, participants had to indicate an overall positive impression of the Crystal Cave and a positive experience. No participants selected Crystal Cave as their least favourite

activity. Furthermore, all participants selected positive options when indicating their impression of the cave tour. Most common answers included 'informative' which was selected by 70.4% of participants and 'enjoyable' (63%). No participants selected negative responses such as disappointing or boring. As a result, it can be assumed that all participants had a positive encounter and therefore qualify for this category.

A positive experience is also a characteristic of the purposeful geotourist, therefore the differentiating point is the low level of motivation. In the questionnaire there are several questions that explored the level of importance of the Crystal Cave in the decision to travel to Yanchep National Park. Question 6 was the main focus of this category, a five-point Likert scale asking 'How important was the Cave in your decision to travel to Yanchep National Park?' Participants which selected neutral/indifferent, the middle option, were eligible for this category. This was selected by 59.3% of the serendipitous participants. However, there were some exceptions to this rule. Participants were not placed in this category if they selected 'Main reason for coming to the Park' in Question 4. Participants were also placed in this category if they indicated the Cave was important only if they did not select Crystal Cave in Question 7; a question ranking the activities in order of preference for visiting the Park. Similarly, the reverse situation also made participants eligible for this category. This included participants who indicated the Crystal Cave as their number one activity in Question 7, however only placed them as neutral/indifferent to not important in Question 6. These response guidelines indicate that the Cave did have an influence in destination choice, however it was minimal.

4.4.2.1 Demographic Overview and Characteristics of a Serendipitous Geotourist

Most of the serendipitous geotourists reside in Australia (84.6%). Other residential locations include Singapore (2, 7.7%), Hong Kong (1, 3.9%) and United Kingdom (3.9% or 1 person). The gender breakdown in serendipitous geotourists can be considered even; twelve (44.4%) are male and fifteen (55.6%) are female. The majority of the males are aged between 46 to 55 years (41.7%). The remainder of the males are spread across the other age groups except for over 66 years of age. Most females (86.7%) are under the age of 45. The majority of females are in the age bracket of 36 to 45 (10, 66.7%) and one female is over 66 years of age. McKercher and du Cros' (2003) study concludes that serendipitous cultural tourists tend to be younger. However, this is not the case for the Geotourism Typology Model. The majority of serendipitous

geotourists are over 35 years of age (77.8%). This contradiction in the results is probably due to the adaptation of the serendipitous geotourist in this study.

The average income of a serendipitous geotourist is \$45 000 to \$75 000. However, the majority of participants (66.7%) earn between \$45 000 and over \$75 000. Similar to the purposeful geotourist, it is likely that serendipitous geotourists have discretionary income due to economical stability. Furthermore, serendipitous (66.7%) and purposeful (65.6%) geotourists can be considered to be equally economically stable as they have almost identical percentages earning \$45 000 and above. However, the average expenditure does not reflect the mid to high average income percentage. Instead, the average expenditure of a serendipitous geotourist is \$26 to \$50. This amount is the same as the purposeful geotourist. This may suggest that a serendipitous geotourist only spent money on the Crystal Cave tour. However, the majority of serendipitous participants spent \$51 to \$100, unlike purposeful geotourists who spent \$26 to \$50. This may suggest that the majority of serendipitous geotourists are willing to spend a higher amount than purposeful geotourists, therefore, may be more inclined to participate in other activities that have a fee.

The size of each travelling group ranged from one person to ten. The majority of participants travelled in a group of four (6, 27.3%) and two (4, 18.2%). Serendipitous geotourists travelled in large groups as five participants indicated they travelled in a group of nine or ten. However, the average travelling size is five. One person travelled alone. The majority of serendipitous geotourists travel in a family group, specifically parents with children (53.8%). Other travel groups included travelling with family/friends without children (11.5%), travelling with family/friends with children (19.2%) and travelling with a spouse/partner (11.5%).

Most of the participants were experiencing the Cave tour for the first time (17, 65.4%). Five participants had visited the Cave up to four times, three over five times and one visited the cave every time they went to the Park. Twenty five indicated they would return to the Park. However, this does not mean repeat visitation to the Cave. Nonetheless, respondents (19, 70.4%) stated they had participated in a cave tour previously and 70.4% also indicated that they are interested in participating in other forms of cave tours in particular adventure caving (42.1%), historical cave tour (31.6%) and small group cave tours (31.6%). This suggests that serendipitous geotourists have

an interest in cave tours. This is depicted in the positive experience all serendipitous geotourists encountered. However, results also indicate that this interest has a limited influence in destination choice.

4.4.3 Intentional Geotourist

Results from this study indicate the need for a new category in the Geotourism Typology Model, the intentional geotourist. An intentional geotourist is similar to a purposeful geotourist. They have a positive experience however its differing point is the motivation and influence of the Cave in the decision to travel to a destination. Although an intentional geotourist is greatly influenced by the geosite, it is not the only reason for travel to the destination. The Cultural Tourist Typology Model does not include a category with such traits. Therefore, the need for the new category was crucial as they could not be placed in any of the existing typologies.

Fifteen intentional geotourists were recognised within the study. Common traits within this category focused on the differentiating point; motivation and influence of the Cave. The main questions analysed were questions four, six and seven. If participants selected 'Main reason for coming to the Park', they were categorised as an intentional geotourist only if they selected 'indifferent/neutral' or 'somewhat important' in Question 6. Furthermore, if they stated in Question 6 that the Cave was important in the decision to travel to Yanchep National Park, they were only placed in this category if they did not select 'Main reason for coming to the Park' and did not rank the Crystal Cave as the number one activity for coming to the park. These guidelines were designed according to the new trends noticed, creating a new typology. A participant's response to a particular question slightly conflicted with the answer to another question exploring the same concept; importance of the geosite. It was therefore determined that the Cave tour does greatly influence their decision on destination choice, however, there is another underlying factor which is of equal or slightly more importance.

In the intentional geotourist typology, nine participants (60%) indicated the Cave was the main reason for going to the Park. These nine participants either selected 'indifferent/neutral' (44.4%) or 'somewhat important' (44.4%) in Question 6. One participant indicated important. However, they were placed in this typology as they did not rank the Crystal Cave as the main activity for coming to the Park in Question 7. The remainder of participants that did not indicate the Cave as the main reason for

going to the Park in Question 4, displayed through other answers that the Cave greatly influences their decision. They all stated in Question 6 that the Cave was important in the decision to travel to the Park, however, did not rank the Cave as the number one activity for going to the Park. All fifteen participants indicated a positive experience as no one selected a negative answer to their impression of the cave tour. Instead, answers included informative (13, 86.7%), good guide delivery (11, 73.3%) and enjoyable (10, 66.7%). Furthermore, ten participants (66.7%), stated the Cave tour as their favourite activity and none stated it as their least enjoyable activity. Through the analysis of these questions, it can be concluded that intentional geotourists had a positive experience.

4.4.3.1 Demographic Overview and Characteristics of a Intentional Geotourist

All participants but two reside in Australia (86.7%). The other two participants reside in Singapore. Out of the participating sample that were categorised as intentional geotourists, nine (60%) were female and six (40%) were male. This indicates that the gender balance is moderately even. The majority and average of the participants ages were within 36 to 45 (40%). Participants in this typology were older as 66.7% were over the age of 36 and only five (33.3%) were between the ages of 18 to 35. There were no participants over the age of 56. There was no clear trend on the socio-economic status of intentional geotourists. The distribution of answers ranged from under \$20 000 (3, 20%) to over \$75 000 (5, 33.3%). The average income was \$45 000 to \$75 000. During their Park visit, most respondents spent between \$26 to \$50 (40%) and \$51 to \$100 (40%) suggesting they participated in other monetary activities. Furthermore, a crosstabs analysis was conducted between estimated expenditure and number of people to determine if the participants travelling in higher groups indicated a higher expenditure. This was only the case for one participant who travelled in a group of ten people and indicated an estimated expenditure of \$101 to \$150. This suggests that participants answered the question correctly and indicated how much they spent and not as a group. This is what is being explored as it is important to know how much money is being spent on an individual basis to have a true indication of estimated expenditure.

The size of each travelling group ranged from two people to sixteen. However, only one participant travelled in a group of ten, twelve and sixteen. The other participants travelled in a group of four (30.8%), three (23.1%) and two (23.1%). The main travel

group type was a family group with parents and children (40%). The remainder of participants travelled with family/friends without children (20%), with family/friends with children (20%) and with a spouse/partner (20%).

Most of the participants were experiencing the Cave tour for the first time (73.3%). Seven participants had visited Yanchep National Park for the first time whereas eleven were visiting the Cave for the first time. This indicates that four participants had visited the area before, however, had not visited the Cave. Two participants had visited the Cave up to four times and one participant visits the cave every time they go to the Park. One respondent has participated in the Cave tour over five times.

Overall, intentional geotourists display an interest in caves as twelve respondents (80%) indicated they are interested in participating in other forms of cave tourism and 60% indicated they had participated in another cave tour. Responses for other cave tours interested in included adventure caving (58.3%) and wild cave tours (58.3%). Therefore, it is highly likely that intentional geotourists will participate in another form of cave tour.

4.4.4 Accidental Geotourist

The accidental geotourist typology has been developed as a result of the split of the influential factor of the serendipitous geotourist typology. The original serendipitous tourists' importance of geotourism in the decision to travel to a destination was non-existent to very limited. However, the adapted typology was adapted to some geotourism influence. Therefore, the accidental geotourist's influence, as its name suggests, is not present mainly due to the fact that participants were not aware of such activity when choosing a destination. As a result, guidelines that followed these traits were established and thirty two participants were identified as accidental geotourists. Participants that indicated in Question 19 that they had only heard about the Crystal Cave tours 'While at the Park', were immediately placed in this category. By only indicating 'While at the Park' and not selecting any other option, participants suggest that they had no knowledge of the Cave until they arrived. Therefore, the geotourism influence could not have been existent. This was the situation for nineteen participants (57.6%).

Apart from the nineteen participants who indicated they heard about the Crystal Cave tour at the Park, other respondents were placed in this typology if they displayed no geotourism influence. Questions analysed to identify participants with no drive and geo-motivation included a combination of the following:

- Question 6 – participants ranked the Cave as a ‘4’ or ‘5’ in the Likert scale indicating that it was not important in the decision to travel to the Park.
- Question 4 – responses such as ‘Not interested in caves but was part of a tour package’, ‘Not interested in caves but person travelling with wanted to participate’ and ‘Nothing else to do/to pass time’.
- Question 5 – ‘Short travelling time’ and ‘I don’t have an interest in cave tour, therefore no factors influence’.
- Question 7 – participants did not rank the Cave tour as an activity for coming to the Park.

It is important to note that participants within this typology, in particular the nineteen that selected ‘While at the Park’, were able to select ‘Have a great interest in caves’ and ‘To learn about the cave’ as the reason of participation in the tour. This is because a participant could have travelled to Yanchep National Park without knowing about the tour. However, once knowing, they could have decided to participate in the Cave tour as a result of their great interest in caves or to learn about the cave. Therefore, participants were not excluded from this typology if answers in Question 4 were similar of a purposeful, intentional or serendipitous geotourist, as long as other questions displayed that geotourism was not an influence. Furthermore, accidental geotourists had a positive experience. This was displayed in Question 2 as all participants indicated a positive experience by selecting ‘informative’ (71.9%), ‘enjoyable’ (62.6%), ‘good delivery by tour guide’ (62.5%), ‘fulfilling’ (18.8%) and ‘interactive’ (18.8%). Many participants (61.5%) also indicated that the Cave was their favourite activity.

4.4.4.1 Demographic Overview and Characteristics of a Accidental Geotourist

The balance between females (56.3%) and males (43.8%) was very even in the accidental geotourist typology. These participants reside mostly in Australia (83.3%), with two participants from India and one each from Hong Kong, South Africa and Ireland. Participants in this typology were older as 62.5% were over the age of 36 including one participant over the age of 66. Nine participants (28.1%) were between

the ages of 18 to 35. However, the majority and average age of participants were between the ages of 36 and 45 (43.8%).

Most participants indicated having an income of over \$75 000 (10, 41.7%). Seven participants (29.2%) earn between \$20 000 and \$45 000, four (16.7%) earn under \$20 000 and three (12.5%) earn between \$45 001 and \$75 000 which is the average income. Estimated expenditure ranged from under \$25 (5, 17.9%) to over \$301 (1, 3.6%). The average expenditure as indicated by participants is between \$26 and \$50. The majority of participants (53.6%) also spent between \$26 and \$50 indicating that most participants spent money only on the entry fee and Cave tour as the average number of travellers in a group was 6 and most participants travelled in a family group consisting of parents and children (43.8%). It was concluded that as respondents who were travelling with their children would cover the costs of their children and partner therefore, this amount is likely to represent the total money spent as a group. Other travel groups consisted of friends/relative with children (21.9%), a spouse/partner (18.8%) and friends/relative without children (15.6%). The size of each travelling group ranged from two people (20%) to 12 (3.1%) with the majority of people travelling in groups of two and four (20% each), and eight and nine (16.7% each).

Most of the participants were experiencing the Cave tour for the first time (70%). Eight respondents (26.7%) had participated in the Cave tour up to four times and one participant visited the Cave every time they went to the Park. Seven participants whom had participated in the Cave tour for the first time, had previously attended the Park as only fourteen participants were visiting the Park for the first time.

Most accidental geotourists display an interest in caves as twenty two (68.8%) respondents indicated they are interested in participating in other forms of cave tourism. Multiple responses included adventure caving as the most selected (63.6%). It is important to note that a third of respondents were not interested in participating in any other form of cave tour. However, 56.3% of respondents had not participated in a cave tour previously. Therefore, after participating in the Crystal Cave tour, the interest in caves has risen probably due to the positive experience. Nevertheless, the level of interest is not as high as other typologies and when compared to serendipitous, purposeful and intentional typologies, accidental geotourist are less likely to participate

in other forms of cave tour, however, there is a significant percentage of this group that will probably participate in other forms of cave touring.

4.4.5 Incidental Geotourist

Six respondents showed traits of an incidental geotourist. This typology has remained unchanged from McKercher's (2002) original Model. The characteristics of incidental geotourists are no geotourism motivation to travel to a particular site and a negative experience is encountered. Firstly, questions analysed to determine eligible participants were those exploring satisfaction and experience. Participants were deemed to have a low level of satisfaction and therefore, a negative experience, if they either indicated a negative impression of the Cave (66.7%) or ranked Crystal Cave as their least favourite activity (66.7%). Furthermore, they could not indicate the Cave tour as their favourite activity.

Participants also had to indicate a low level of geotourism influence to be placed in this typology. Four participants (66.7%) selected 'Not important' in the Likert scale. This was the lowest level of influence possible in the Likert scale. One participant indicated 'Somewhat important', but, ranked the Crystal Cave last as a reason to visit the Park. Another participant indicated the Cave influence in their decision to travel to the Park as 'Indifferent'. However, this respondent also ranked the Cave as the sixth, out of nine activities ranked, reason to visit the Park suggesting it was a low motivation. No participants indicated 'Have a great interest in caves', 'Main reason for coming to the Park' or 'To learn about the Cave' indicating no interest in the cave. Furthermore, three participants specifically stated they are not interested in caves in Question 4 or 5.

4.4.5.1 Demographic Overview and Characteristics of an Incidental Geotourist

Similar to the accidental geotourist, the balance in incidental geotourists between females (50%) and males (50%) was even. Four participants reside in Australia (80%) and one participant (20%) resides in the United Kingdom. As the sample number in incidental geotourists is low, it is difficult to determine trends as most of the statistics are spread across. As a result, the difference between one category from another is one participant. This is the situation for age. Two participants (33.3%) are between the aged of 18 and 25, two (33.3%) are in the ages of 36 to 45 and one each in the ages 26 to 35 and over 66. There were no clear trends on the socio-economic background either. Participant's estimated income included under \$20 000 (1), \$45 001 to \$75 000

(2) and over \$75 000 (1). Most participants spent \$51 to \$100 (3, 50%) and one spent between \$26 and \$50, indicating that money was spent on other activities other than entry fee and Cave tour. This is further supported as most participants travelled in a group of two (50%) and one travelled alone. One respondent spent under \$25. One participant travelled in a group of five (25%). Two participants (33.3%) travelled with a spouse/partner, another two in a family group and one (16.7%) with friends/relative with children.

All of the participants were experiencing the Cave tour for the first time. However, one participant had visited the Park previously, two years ago. This respondent's reason for participation in the Cave tour was 'Friends or family visiting brought me here'. This suggests that the participant does not have an interest in caves as he/she did not participate in the tour when previously visiting the Park, and may have only participated this time as the friends/relatives he/she was with may have wanted to participate in the Crystal Cave tour.

Half of the incidental geotourists display an interest in caves as three participants indicated they had participated in other cave tours and three indicated that they are interested in participating in other forms of cave tours such as adventure caving (100%), wild cave tours (66.7%), self-guided tours (66.7%), historical cave tours (33.3%), small group cave tours (33.3%), educational cave tours (33.3%) and fast and popular cave tours (33.3%). It is difficult to determine that these figures can be a true representation of the typology and a common trend as there was a small sample of incidental geotourists.

It is important to note the seventh participant who had a negative experience was not placed in this category as their main motivation for going to the Park was the cave; traits of a purposeful geotourist. As they experienced a negative encounter, they could not be categorised as a purposeful geotourist. A negative experience was encountered as they stated that people at the back of the tour group could not hear the tour guide. This participant shows traits of a sightseeing cultural tourist; high importance but negative experience. However, in this study, there were not enough respondents for this typology to remain.

4.5 Five Geotourism Typologies and a Cross Analysis

The five typologies that have been identified as applicable to geotourism, consequently, forming the Geotourism Model, are:

1. Purposeful Geotourist

Their motivation for visiting the destination is the geosite and to undertake geotourism and they have a positive encounter.

2. Intentional Geotourist

The influence of geotourism was extremely high, however, another motivation was equally or slightly more influential in the decision to travel to a particular destination. The encounter is also positive.

3. Serendipitous Geotourist

Geotourism had a small influence on destination choice, however, the experience encountered was positive.

4. Accidental Geotourist

There was no influence or the tourist was not aware of the geosite, therefore, there is no geotourism influence in the destination choice. However, the experience encountered is positive.

5. Incidental Geotourist

Geotourism played no meaningful role in destination choice and the experience encountered is negative.

Purposeful, accidental and serendipitous geotourists hold the three largest percentages of sample. All three typologies have positive encounters, however, they differ in the level of geotourism influence in destination choice. This varies from no motivation to geotourism being the main motivation. Incidental geotourists, tourists with a negative encounter and no geotourism influence, hold the smallest percentage of sample (Figure 4.10). This is contrary to McKercher and du Cros' (2003) study as almost half of the participants were either incidental (20.9%) or casual (26.7%) and the least percentage was held by either purposeful (13.4%) or serendipitous (7.0%) tourists.

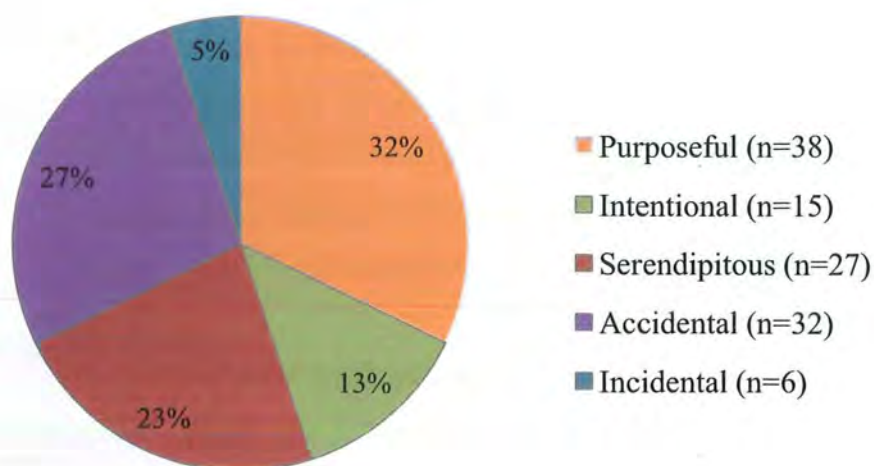


Figure 4.10. Geotourist typology

Note. n=118 as 1 participant has not been placed in a typology

The gender balance between all of the typologies is approximately even (Figure 4.11). The biggest difference is found in both purposeful and intentional geotourists in which it is males who hold the larger percentage by approximately 20% more. Serendipitous and accident geotourists had a greater female percentage. Only incidental geotourists have a perfect 50% gender balance. However, there were only six tourists in this typology, therefore, it is difficult to ascertain a characteristic.

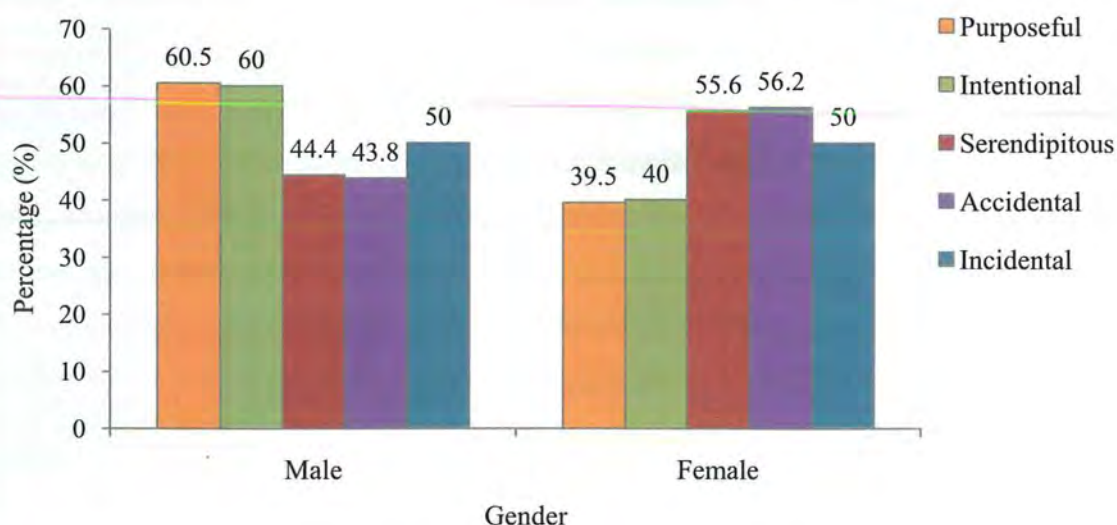


Figure 4.11. Comparison of gender balance across the typologies

When analysing the average age range between the different typologies, there is no difference. All geotourism typologies have an average age of 36 to 45 years. However, when examining in which age bracket the majority of participants are, there is a slight distinction. Purposeful geotourists have an equal amount of respondents in both age categories 26 to 35 and 36 to 45. Incidental geotourists are mostly in the categories of 18 to 25 and 36 to 45 years of age. When considering percentage of participants over 36 years of age, there is a larger difference. Serendipitous geotourists are mostly over 36 years of age (77.8%), whereas purposeful geotourists have an even percentage above and below 36 years of age. Intentional geotourists hold a percentage of 66.7% over 36 years, with no one older than 56 years. Serendipitous geotourists have respondents older than 66 years. Accidental geotourist also hold a greater percentage over 36 years of age (62.5%). Incidental geotourists range evenly from 18 years old to over 66 as there are only six respondents (Table 4.7).

Table 4.7
Comparison of ages across the typologies
n=118

Typology	Average	Majority
Purposeful	36 to 45	26 to 35 36 to 45
Intentional	36 to 45	36 to 45
Serendipitous	36 to 45	36 to 45
Accidental	36 to 45	36 to 45
Incidental	36 to 45	18 to 25 36 to 45

Most participant’s residential location is within Australia, particular Western Australia. As a result, all typologies have the same characteristic; most geotourists live in the same country and locally. Out of the participating sample very few international tourists participated in the Crystal Cave tour, therefore, no clear assumptions can me made regarding which typology most international tourists are part of (Table 4.8).

Table 4.8
Comparison of residential location across the typologies

Typology	n=118			
	Australia	n	International	n
Purposeful	86.5%	32	13.5%	4
Intentional	86.7%	13	13.3%	2
Serendipitous	84.6%	22	15.4%	4
Accidental	83.7%	25	16.3%	5
Incidental	80.0%	4	20%	1

There is no difference between the typologies in regards to the average income. However, the majority of people who earn over \$75 001 are in all typologies except for incidental. Intentional geotourists also have the same amount of respondents on an income of \$20 000 to \$45 000. This indicates that there is no distinct socio-economic background within this typology. This is a similar case in the accidental typology as a close amount of respondents, to the majority, also earn within \$20 000 and \$45 000 indicating no specific trends. Serendipitous and purposeful geotourists are the most economically stable as approximately two thirds of the serendipitous and purposeful sample earn above \$45 000. Furthermore, one third of serendipitous geotourists earn above \$75 001 and 41.3% of purposeful earn above \$75 001 (Table 4.9).

Table 4.9
Comparison of income across the typologies

Typology	n=118	
	Average	Majority
Purposeful	\$45 001 to \$75 000	Over \$75 001
Intentional	\$45 001 to \$75 000	\$20 000 to \$45 000 Over \$75 001
Serendipitous	\$45 001 to \$75 000	\$45 001 to \$75 001 Over \$75 001
Accidental	\$45 001 to \$75 000	Over \$75 001
Incidental	\$45 001 to \$75 000	\$45 001 to \$75 000

Purposeful, intentional and accidental geotourist had the same amount of expenditure, \$26 to \$50, for their average and majority. In addition, the majority was also \$51 to \$100 in the intentional typology. Serendipitous and incidental typology also had an expenditure between \$51 to \$100. At face value, it can be stated that serendipitous and incidental geotourists are likely to spend the most. However, as explored previously, in relation to their travel group and travel size, serendipitous geotourists are likely to spend more because of their large travel group, family group. Whereas incidental and intentional geotourists are likely to spend on more activities than one as they travel in smaller groups (Table 4.10).

Table 4.10

Comparison of expenditures across the typologies

n=118

Typology	Average	Majority
Purposeful	\$26 to \$50	\$26 to \$50
Intentional	\$26 to \$50	\$26 to \$50 \$51 to 100
Serendipitous	\$26 to \$50	\$51 to \$100
Accidental	\$26 to \$50	\$26 to \$50
Incidental	\$26 to \$50	\$51 to \$100

The majority of participants travel in a family group with parents and children. This trait was common in all typologies. Purposeful, accidental and intentional geotourists do not travel alone. However, only two participants travelled alone, one each in incidental and serendipitous typology. It can therefore be assumed that geotourists prefer not to travel alone (Table 4.11).

Table 4.11

Comparison of travel groups across the typologies

n=118

Typology	Type	Valid Percentage
Purposeful	Family Group	51.4
Intentional	Family Group	40
Serendipitous	Family Group	53.8
Accidental	Family Group	43.8
Incidental	Spouse/Partner	33.3
	Family Group	33.3

Purposeful geotourists had the largest variety of travelling numbers in their group ranging from two to twenty. Accidental geotourist had the most participants indicating they were travelling in a large group. Although most typologies had participants indicating they travelled in a large sized group, the majority of participants travelled in smaller groups. This includes an average of five people per travel group for purposeful, intentional and serendipitous geotourists and an average of six travellers per accidental geotourist group. These figures coincide with the main selection of travel type, family group – parents and children. Incidental geotourists had the smallest range of travellers and the smallest average of travellers (Table 4.12).

Table 4.12

Comparison of travel size across the typologies

n=118

Typology	Range	Average	Majority
Purposeful	2 to 20	5	Groups of 4, 3 and 2
Intentional	2 to 16	5	Groups of 4, 3 and 2
Serendipitous	1 to 10	5	Groups of 4 and 2
Accidental	2 to 12	6	Groups of 2, 4, 8 and 9
Incidental	1 to 5	2.5	Groups of 2

The cross analysis revealed clearer characteristics of each typology in comparison to each other. This is significant as it is important to indentify which typology has a stronger characteristics when to compared to another or whether the characteristics are similar across all. Now that this has been established, it is also important to relate the information back to the previous findings of the typologies in the Cultural Tourism Model and other studies. When comparing the typologies to McKercher and du Cros' (2003) study, some differences can be made in relation to age and residential location. Their study concluded that purposeful cultural tourists tended to be older. On the contrary, purposeful geotourist had an even amount of respondents in the age categories below and above 36 years of age. Futhermore, the age category with the most purposeful geotourist was 26 to 35 years of age. This indicated that the typologies differ greatly as it can be argued that purposeful geotourists tend to be younger. McKercher and du Cros (2003) also concluded that serendipitous cultural tourists tended to be younger, however, serendipitous geotourists tended to be older as 77.% were over 36 years of age. These findings result in differing assumptions that can be drawn on the typologies. It could be assumed that serendipitous cultural geotourists were younger as they were in search of recreation as they were likely to participate in nonrelated cultural activities. On the contrary, purposeful cultural tourists were older therefore assumed more educated with higher discretionary income to spend on cultural tourism such as museums and cultural tours. These assumptions cannot be applied to geotourism as a large percentage of young participants are part of typologies with geotourism as their main motivation.

The residential location also had a great impact on the encounter experienced in cultural tourist. McKercher (2002) and McKercher and du Cros' (2003) studies concluded that the further the origin of residency, the more likely they would encounter a deep experience as they were more likely to travel for cultural reasons. McKercher's (2002) However, this trend does not become apparent in geotourism as most of the participant resided in Australia. As a result, there is no relationship between the origin of residency and the experience encountered as well as the centrality of geotourism.

Other characteristics such as age, income, expenditure, travel group and travel size, explored in this study were not discussed in McKercher (2002) and McKercher and du Cros' (2003) studies. Therefore, no comparisons of typologies can be made. However, comparisons with other studies can be drawn on a general sense on some characteristics.

As previously stated, Mao's et al. (2009) study had mostly male participants and concluded that geotourists prefer to travel alone. On the contrary, the gender balance in this study was equal. Furthermore, typologies were also balanced except in purposeful and intentional geotourists as males were dominant by approximately 20%. These statistics can be stated to be closer to the Mao's et al. (2009) study as geotourists that participated can be assumed to have characteristics of purposeful geotourists. However, an important differentiating point is that all typologies of this study, including purposeful geotourist, prefer not to travel alone as travelling in families groups was preferred. This is more similar to Page's et al. (cited in Novelli, 2005) study as two-thirds of participants travelled in a family group.

4.6 Chapter Summary

This chapter has presented the results from the study and has discussed the findings. Results indicated the need for the adaptation of McKercher's (2002) Cultural Tourism Typology Model to suit geotourism. As a result, a new model has been presented as a starting point for future developments of typology models. The next chapter will present conclusions to, and recommendations from this study.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The aim of the study was to develop a segmenting model applicable to geotourism. The main aim of the segmenting model is to allow for a starting point to segmentation within the sector and to lessen the literature gap. The segmentation within geotourism was developed through a typology model based on the motivational reasons behind a tourist partaking in geotourism and their decision to visit a destination. This differs from several studies previously conducted as most concentrate on the degree of familiarity versus the unfamiliarity a tourist seeks (Cohen, 1972, 1984; Gray, 1970; Plog, 1973, 1991). Furthermore, typologies/segmentations discussed in the literature focus on tourism as a whole and is not specific to a particular sector within tourism. Such example includes Cohen (1972) which identifies mass tourist and niche tourist through his four different typologies.

This study focused solely on niche tourism, geotourism, therefore, it is the researcher's belief that this can be further sub-divided into specific typologies applicable to geotourism. Other studies focus around the basic trait a human has: to seek and desire what is missing and the recognition of what is desired yet lacking (Crompton, 1979; Dann, 1981). This is due to the factors which pull a tourist in response to their motivational push. Most decision-making models describing this process also have need recognition as a step. Other steps involved in the process which lead to the final destination choice include a search of alternatives which is based on their motivational desires and the importance of other elements such as amenities and activities (Eugenio-Martin, 2003; Huybers, 2003; Weaver & Lawton, 2010). Motives and the importance of the geosite in the decision to visit a destination are the specific elements that have been drawn out of the literature to develop the geotourism typology model. As a result, McKercher's (2002) Model was used as a basis and applied to geotourism to determine if it was applicable.

The study involved 119 participants who participate in an on-site self-completed questionnaire in June 2010. The study site was Yanchep National Park, in particular the geosite Crystal Cave. The convenience approach was adopted when choosing a target population as budgetary and time constraints were considered. Random

sampling method was used as it allowed for everyone over the age of eighteen to participate.

Once the data was collected, it was analysed through SPSS Version 17 to gather a sense of responses as a general consensus. Criteria sheets and guidelines were then developed in accordance to the description of each of McKercher's (2002) typologies. It was soon evident that many of the participants did not fit into a particular typology of McKercher's (2002) Model. As a result, a new model was developed based on his Model. Purposeful tourists and incidental tourists remained with the same characteristics. Serendipitous tourists typology was slightly changed to include some geo-motivation. Two new typologies were created as a result of the data analysis. The intentional geotourist who has a high geo-influence and positive encounter, and the accidental geotourist who has no geo-influence and a positive encounter.

Common characteristics among the typologies include the age, bracket, average expenditure, average income and travel group. The majority of participants are between the ages of 36 to 45. Furthermore, the main travel group is family group with parents and children. The age group most likely influences the main travel group as results from this study indicate that families are in that age group. Serendipitous geotourists contain the largest percentage of older people and accidental geotourist contain the youngest. Although results did not reveal trends into the socio-economic background as results were scattered, it can be stated that purposeful tourist do earn a higher income than serendipitous geotourists. However, serendipitous geotourists spend a higher average than purposeful geotourists. This may be as a result of a larger percentage travelling in a family group and family/friends. When comparing estimated expenditure with number of travellers per group and travel group type, it is incidental and intentional geotourists who spend money on more than one activity.

The majority of participants reside within Australia. Two conclusions may be drawn from this. Firstly, it may be concluded that these figures do not give a true indication of the actual percentage of international tourists participating in the Crystal Cave Tour. Possible reasons for the lack of questionnaires completed by international visitors include the language barrier as an intimidating factor which discouraged them from completing a questionnaire. Another factor which may misrepresent the international figures is due to the observation that many international tourist who visited as part of a

tour group did not complete the questionnaire as they were on a schedule, therefore, did not have the time to complete a questionnaire. However, the Yanchep National Park statistics presented in Chapter 1, indicate that the international visitors are the lower percentage (26%) therefore, the findings of this study may be a true representation of international visitors. If this is the case, it may be concluded that, unlike cultural tourists who are likely to travel internationally, most geotourists are willing to only travel within close proximity to their residency location; within their state.

Lack of repeat visitation to the Crystal Cave was another common trend among all typologies. Based on this information it can be assumed that it is highly unlikely that caves attracts repeat visitation to the same location. However, it is more likely that geotourism will attract repeat participation to another location and encourage the want to participate in another geotourism activity. Therefore, it is expected that tourists will want to visit and experience a different cave. This can be assumed as most participants indicated they are interested in participating in another form of cave tour or have participated in other cave tours in the past. For example, many participants stated either their previous participation or their want to participate in the Mammoth Cave and Jewel Cave in Margaret River.

There is potential for a new typology in future studies. This has been concluded as result of the one participant who was not placed in a typology. A new typology was not created in this study as there was only one participant with differing characteristics, therefore, there was not enough evidence to justify the need for that typology. As stated in the previous chapter, the participant showed traits of a purposeful tourist. The respondent's main reason for attending the Park was to visit the Crystal Cave. However, they experienced a negative encounter as they did not enjoy the tour. Therefore, this participant could not be placed in the purposeful typology. Although a sightseeing tourist has high motivation but a shallow experience, the traits and characteristics of this typology does not suit this particular participant. In future studies, this raises the potential to either adapt the sightseeing typology with new characteristics, or to have a clause that geotourists may change from one typology to another depending on the stage they are at in the consumption model. This is the case for this participant as they begin with characteristics of a purposeful geotourist but finish their experience with characteristics of an incidental geotourist. This is a similar situation to Iso-Ahola's (1983) study as it is argued that a tourist can be part of all four cells within one trip.

5.2 *Recommendations*

Although the main aim for this study was to give a starting point to geotourism segmentation, the main recommendation to further improve understanding of geotourism typologies is to repeat the study at another location on a larger scale and to include different types of geotourism such as mountains, caves and canyons. The reasons for this include:

- To make any further needed adaptations to the Geotourism Typology Model. As a result of the participant not fitting into a particular category there is potential for the development or adaptation of a new typology as discussed above. It is essential to conduct further studies to refine the Geotourism Typology Model.
- To uncover more clear trends and characteristics pertaining to each individual Typology. Many of the trends in the typologies were not clear and distinct. The researcher feels this is due to the small sample size and believes there is potential for uncovering more distinct characteristics to each typology as McKercher's (2002) study did. Such trends that can be determined from larger scale studies that could not be determined in this one include:
 - Determining if there is a link between distance of travel and the level of satisfaction/experience
 - Socio-economic trends within each typology
 - Stronger incidental geotourist trends and characteristics.

Suggestions to improve the quality and outcome of future studies include:

- To explore the possibility of larger percentage of international geotourists, it is suggested to translate the questionnaire to different languages to overcome the language barrier
- Restructuring of the questionnaire to group all questions exploring geo-influence separately to questions exploring experience encountered
- To include a question regarding occupation to identify possible trends in the typologies regarding this area as this was not explored in this study.

During the data analysis of stage it was realised that greater information could have been gathered through the improvement of the questionnaire by addressing the key questions listed below. These were not evident during the pilot study as its small scale meant that analysis was clearer and the data did not reveal a need for further analysis to determine clearer trends.

- Will you return to the Crystal Cave? Why?

This is imperative in the analysis of repeat visitation and in determining whether genuine interest is held by the geotourist. Furthermore, typology descriptions and characteristics can be further developed to include, for example, ‘y’ geotourists return to the same geosite for emotional connection, whereas ‘x’ geotourists return to show a family/friend.

- Question 12 and Question 13 should be changed to Crystal Cave Tour instead of Yanchep National Park. This was not originally included in the questionnaire as the Cultural Tourism Typology study was used as a guide to develop some questions. Their questions focused on the area as a whole, however, this does not suit the geotourism study as the focus is not on the wide area but the specific geosite.
- Question 22 explores estimated expenditure. It should be specified that to include the italicized: ‘On the visit to Yanchep National Park, what is your *individual* estimated spend?’ Another question should be added to include “What is your estimated spend as a group?” This will allow for a more clear understanding of individual spending and group spending.

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APPENDIX A

CRYSTAL CAVE TOUR – YANCHEP NATIONAL PARK SURVEY

By completing this survey, I understand that participation is voluntary, I do not have to answer questions I do not feel comfortable with and can chose not to complete the survey once started and that I will be kept anonymous.

1. Please select the following:
☐ Male ☐ Female
Postcode: _____ Country: _____
☐ Under 18 years of age (**terminate survey**)
☐ 18-25 years of age
☐ 26-35 years of age
☐ 36-45 years of age
☐ 46-55 years of age
☐ 56-65 years of age
☐ Over 65 years of age

2. Please indicate your impression of the Crystal Cave tour (*more than one response is possible*)

<input type="checkbox"/> Fulfilling	<input type="checkbox"/> Too short
<input type="checkbox"/> Informative	<input type="checkbox"/> Too long
<input type="checkbox"/> Original	<input type="checkbox"/> Could not understand
<input type="checkbox"/> Enjoyable	<input type="checkbox"/> Disappointing
<input type="checkbox"/> Good delivery by tour guide	<input type="checkbox"/> Boring
<input type="checkbox"/> Interactive	<input type="checkbox"/> Tour guide not engaging

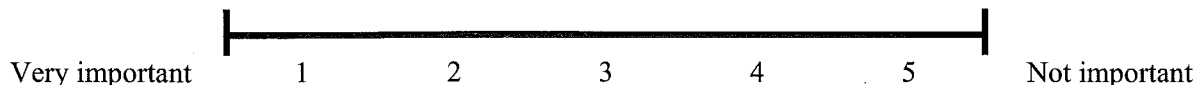
3. Any suggestions for improvement: _____

4. What was your reason for participation in the Cave tour? (*more than one response is possible*)
☐ Curiosity
☐ Have a great interest in caves
☐ Main reason for coming to the Park
☐ To learn about the cave
☐ Friends or family visiting, brought me here
☐ Not interested in caves but was part of a tour package
☐ Not interested in caves but person travelling with wanted to participate
☐ Nothing else to do/to pass time
☐ Other, please specify _____

5. What are the most influential factors when deciding on which cave to visit? *(more than one response is possible)*

- ☐ Low cost
- ☐ Educational value of tour
- ☐ Short travelling time
- ☐ Close to other tourist sites or activities
- ☐ Popularity of cave
- ☐ I don't have an interest in cave tours, therefore no factors influenced

6. How important was the Cave tour in your decision to travel to Yanchep National Park?



7. Please rank the activities in order of preference for your reason to visit the park. *(Please rank only the activities you will partake in today)*

- | | |
|--|--|
| <input type="checkbox"/> Crystal Cave tour | <input type="checkbox"/> Aboriginal Experience |
| <input type="checkbox"/> Ghosthouse walk | <input type="checkbox"/> Rowboats |
| <input type="checkbox"/> Spotting wildlife | <input type="checkbox"/> Golf course |
| <input type="checkbox"/> Picnic areas | <input type="checkbox"/> Koala boardwalk |
| <input type="checkbox"/> Walking Trails | |
| <input type="checkbox"/> Other: _____ | |

8. Which activity did you enjoy the most?

9. Which activity did you enjoy the least?

10. Have you participated in other cave tours? ☐ Yes ☐ No

If yes, where and what cave? _____

11. Are you interested in participating in any of the following? *(more than one response is possible)*

- ☐ Adventure caving
- ☐ Wild cave tours
- ☐ Self-guided cave tours
- ☐ Historical cave tour
- ☐ Small group cave tours
- ☐ Educational cave tours
- ☐ Fast and popular cave tours

12. In your decision to travel to Yanchep National Park, how important was the opportunity to learn about the area?

Very important 1 2 3 4 5 Not important

13. How would you rate your overall experience and satisfaction at Yanchep National Park?

Extremely 1 2 3 4 5 Extremely
satisfied dissatisfied

14. Do you have any suggestions for the Park or overall comments?

15. Will you return to Yanchep National Park? ☐ Yes ☐ No

Why? _____

16. How many times have you visited Yanchep National Park?

- ☐ This is my first visit (*proceed to question 19*)
☐ 1-4 times
☐ 5 times or more

17. When was your most recent visit?

- ☐ 0-5 months ago
☐ 6-12 months ago
☐ 1 year ago
☐ 2 years ago
☐ more than 2 years ago

18. How many times have you participated in the Crystal Cave tour?

- ☐ This is my first visit
☐ Every time I come to the Park
☐ 1-4 times
☐ 5 times or more

19. How did you hear about the Crystal Cave Tours? (*more than one response is possible*)

☐ Word of mouth recommendation

☐ Brochure

☐ While at the park

☐ Radio

☐ TV Programme, which one: _____

☐ Magazine or Newspaper article/advertisement, which one: ____

☐ Internet, which site: ____

☐ Other, please specify: _____

20. How would you best describe your travel group?

☐ Travelling alone

☐ With a spouse/partner

☐ Family group – parents and children

☐ Friends/relatives travelling with children

☐ Friends/relatives travelling without children

☐ Business associates travelling together with family

☐ Business associated travelling without family

☐ School/university/college/sporting club or group

☐ Other, please specify .

21. How many people are in your group? .

*******OPTIONAL QUESTIONS*******

22. On the visit to Yanchep National Park, what is your estimate spend?

☐ \$0-\$25

☐ \$26-\$50

☐ \$51-\$100

☐ \$101-150

☐ \$151-\$200

☐ \$201-\$300

☐ Over \$301

23. What is your average income?

☐ Under \$20 000

☐ \$20 001 - \$45 000

☐ \$45 001 - \$75 000

☐ Over \$75 001

That concludes the questionnaire. Thank you very much for your time.

APPENDIX B

CRITERIA SHEET

Purposeful Tourist – cave main reason and deep experience		
Question	Answer Criteria	
	Required	Optional
2	Either 2a1, 2a2, 2a3, 2a4, 2a5, 2a6	
4	Either 4a2, 4a3	4a1, 4a4, 4a5
5	5a2	5a1, 5a3, 5a4, 5a5
6	Ranked 1 or 2	
7	Cave must be 1	
8	Must be Cave	
9	Cannot be caves	

Sightseeing Tourist – cave main reason but shallow experience		
Question	Answer Criteria	
	Required	Optional
2	Either 2a7, 2a8, 2a9, 2a10, 2a11, 2a12	
4	Either 4a2, 4a3	4a1, 4a4, 4a5
5	5a6*	5a1, 5a3, 5a4, 5a5
6	Ranked 1 or 2	
7	Cave must be number 1	
8	Anything else	
9	Anything	

Casual Tourist – cave had some importance but shallow experience		
Question	Answer Criteria	
	Required	Optional
2	Either 2a7, 2a8, 2a9, 2a10, 2a11, 2a12	
4	Either 4a1 or 4a4	4a5
5	Either 5a1, 5a3, 5a4, 5a5	
6	Ranked 3	
7	Cave must be ranked in the middle	
8	Anything else	
9	-	

Incidental Tourist – cave is not main reason and shallow experience		
Question	Answer criteria	
	Required	Optional
2	Either 2a7, 2a8, 2a9, 2a10, 2a11, 2a12	
4	Either 4a6, 4a7 or 4a8	4a5
5	5a6	5a1, 5a3, 5a4, 5a5
6	Ranked 4 or 5	
7	Caves must be last	
8	Anything else	
9	Anything	

Serendipitous Tourist - cave is not main reason but have deep experience		
Question	Answer Criteria	
	Required	Optional
2	Either 2a1, 2a2, 2a3, 2a4, 2a5, 2a6	
4	Either 4a6, 4a7 or 4a8	4a5
5	5a2	5a1, 5a3, 5a4, 5a5
6	Ranked 4 or 5	
7	Caves must be last	
8	Must be Caves	
9	Cannot be Caves	

APPENDIX C

Honours Research

Dear Participant

You are invited to participate in this research which is being conducted as part of a thesis in partial fulfilment of the requirements of Bachelor of Tourism Management Honours for Edith Cowan University located in Perth Western Australia.

The purpose of the study is to initiate the development of a segmenting model to identify the tourists that are participating in geotourism; geological sites. It is aimed that this study will provide a model that can then be used as a starting point for the further development of geotourism segmenting models. This is needed to assist managers in understanding the tourist's needs and wants. Identifying the segments within geotourism will enable managers to better develop their products and tailor them to the appropriate segments. Therefore, this study aims to assist managers in product development through a geotourism typology model adapted from the cultural tourist model.

If you choose to participate in this study, you will be asked to participate in an interview which will approximately take ten minutes. This interview will be recorded in an excel spreadsheet. The information acquired in this interview will remain anonymous if you choose it to be in the consent form. Please note that participation is voluntary and you may choose to withdraw at any time without reasoning.

If you have any questions or require any further information about the research, please do not hesitate to contact my supervisor or myself.

Hasoly Hurtado

Bachelor of Hospitality and Tourism - Edith Cowan University

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