



UNIVERSITI PUTRA MALAYSIA

***VISITORS' SEGMENTATION AT PENANG NATIONAL PARK USING
PLACE ATTACHMENT APPROACH***

NABILA AIZA BINTI IBRAHIM

FH 2017 26

**VISITORS' SEGMENTATION AT PENANG NATIONAL PARK USING
PLACE ATTACHMENT APPROACH**

By

NABILA AIZA BINTI IBRAHIM

**Thesis Submitted to the School of Graduate Studies, Universiti
Putra Malaysia, in Fulfillment of Requirements for the Degree of
Master of Science
XXX MONTH YEAR**

All material contained within the thesis, including without limitation text, logos, icons, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of material within the thesis for non-commercial purposes from the copyright holder. Commercial use of material maybe only be made the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirements for the degree of Master of Science

**VISITORS' SEGMENTATION AT PENANG NATIONAL PARK:
APPLICATION OF PLACE ATTACHMENT AS SEGMENTATION
APPROACH**

By

NABILA AIZA BINTI IBRAHIM

May 2016

Chairman : Dr. Siti Suriawati Isa
Faculty : Faculty of Forestry

Market segmentation is an important tool in planning effective marketing strategies and a viable tool in the planning process for minimizing the impact of visitors' depreciative behavior, development of effective public relations, educational programs and visitor risk management. While studies of visitors in many ecotourism destinations are widely adopted travel motivation as segmentation tool, this study looks for an approach to segment visitors at ecotourism site by using place attachment. Besides that, this study is designed to differentiate segmented visitors according to their socio-demographic backgrounds, behavioral variables and travel motivations.

Therefore, a survey was conducted to 387 respondents using self-administered and convenience sampling design where respondents were asked to choose and rate their agreement on items measuring place attachment (place identity and place dependent), (2) socio-demographic background, (3) behavioural variables (trip characteristics, main destinations and activity preferences) and (4) travel motivations (setting and visit motivation). K-means clustering analysis was used to cluster respondents into three groups; high attachment, medium attachment and low attachment based on their place attachment score.

An accompanying F-test analysis on these three groups indicated significant differences with regard to their place identity and place dependence score. High attachment visitors scored higher mean on place identity and place dependence at (M=4.13; M=3.93) as compared to medium (M=3.20; M=2.99) and low attachment visitors (M=2.33; M=2.11) on $F(2,384) = 526.2, p=.00$ and $F(2,384) = 514.4, p=.00$. Result indicated that there were 90 respondents (23.3%) in the high attachment groups, 195 respondents (50.4%) in the medium attachment group and 102 respondents (26.3%) in low attachment groups.

Furthermore, Chi-square test of independent at $p < .05$ with Bonferroni test was used to determine the characteristics of each of the place attachment group as according to their socio-demographic background and behavioural variables. Moreover, Analysis of Variance (ANOVA) at $p < .05$ with Scheffe test was then used to determine the characteristics of each of the place attachment groups as according to their travel motivations. Based on the result, high attachment group was likely to be older with the range of age from 41 to 61 years old and above, academicians and researchers as the main occupational background. Most of them were repeat visitors and nature viewing was their main activities.

Moreover, highly attached visitors' main destinations at PNP were Pantai Kerachut and Teluk Kampi, most of them came to PNP alone and their source of motivation were more towards the 'self-enrichment' with benefits attainment. On the other hand, medium attachment group were slightly young with the range of age from 20 to 40 years old. Most of them were homemaker/retiree/student and business/services as their occupational background. Most of the medium attached visitors were first time visitors with hiking/tracking, fishing and photography as their activities at PNP. Their main destination at PNP were Teluk Aling (USM CEMAC) and Teluk Duyung (Monkey Beach) while some can be found at Sungai Tukun.

They liked to travel with their friends and their source motivation to visit PNP was to be creative and came to PNP on the account of PNP was a good place for outdoor activities. Furthermore, low attachment group was younger with the range of age below than 30 years old, and most of them were first time visitors. Their main activities were picnicking and came to PNP with their family and organization. They preferred Pasir Pandak and Sungai Tukun as their main destination and their motivation to visit PNP was to do or conduct activities with their family and group and pulled by the motivation of PNP as a good place to spend their time with family and companion.

Based on the result, this study propose several implications on the ecotourism development at PNP where it enables managers, planners and policy makers to better link the profile of visitors into the ecotourism development for better future of the park. Such result can be used in the management action to minimize the impacts of park visitation, marketing ecotourism product and developing effective risk management in the park.

Abstrak tesis yang dikemukakan ke hadapan Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**SEGMENTASI PELAWAT DI TAMAN NEGARA PULAU PINANG:
APLIKASI PERTAUTAN TEMPAT SEBAGAI KAEDAH SEGMENTASI**

Oleh

NABILA AIZA BINTI IBRAHIM

May 2016

Pengerusi : Dr. Siti Suriawati Isa
Fakulti : Perhutanan

Segmentasi pelawat merupakan sesuatu kaedah yang penting dalam merancang strategi pemasaran yang berkesan dan perancangan untuk meminimakan kesan perlakuan pelawat yang negatif, pemajuan hubungan awam yang berkesan, program-program pendidikan dan pengurusan risiko pengunjung. Walaupun kajian-kajian terhadap pelawat di destinasi-destinasi ekopelancongan kebanyakannya membahagikan pelawat berdasarkan motivasi perjalanan, kajian ini bertujuan untuk membahagikan pelawat di Taman Negara Pulau Pinang (TNPP) dari segi pertautan tempat. Selain dari itu, kajian ini juga dijalankan untuk membezakan lagi pelawat yang telah disegmentasi berdasarkan latar belakang sosio-demografi, pembolehubah tingkah laku dan motivasi perjalanan.

Oleh itu, kajian ini telah dijalankan terhadap 387 responden yang dipilih menggunakan reka bentuk persampelan mudah, dalam bentuk borang kaji selidik yang diisi sendiri di mana responden diminta untuk memilih dan menyatakan tahap persetujuan mereka terhadap perkara-perkara yang mengukur pertautan tempat (identiti tempat dan kebergantungan tempat), (2) latar belakang sosio-demografik, (3) pembolehubah-pembolehubah tingkah laku (jenis perjalanan, destinasi utama dan kecenderungan pemilihan aktiviti) dan (4) motivasi-motivasi perjalanan (motivasi tempat dan motivasi melawat).

Analisis Kluster K-mean setelah digunakan untuk mengelompokkan responden kepada tiga kumpulan; kumpulan pertautan tinggi, pertautan sederhana dan pertautan rendah berdasarkan kepada min (M) pertautan tempat mereka. Analisis F-test yang turut dijalankan kepada tiga kumpulan tersebut telah menunjukkan perbezaan yang ketara diantara min identiti tempat dan kebergantungan tempat mereka dimana kumpulan pelawat yang mempunyai pertautan tinggi mendapat min yang lebih tinggi dalam identiti tempat dan kebergantungan tempat ($M=4.13$; $M=3.93$) berbanding kumpulan pertautan sederhana ($M=3.20$; $M=2.99$) dan kumpulan pelawat pertautan rendah ($M=2.33$; $M=2.11$) pada $F(2,384) = 526.2$, $p=.00$ dan $F(2,384) = 514.4$, $p=.00$.

Hasil kajian menunjukkan bahawa terdapat 90 responden (23.3%) dalam kumpulan pertautan tinggi, 195 responden (50.4%) dalam kumpulan pertautan sederhana dan 102 responden (26.3%) dalam kumpulan pertautan rendah. Seterusnya, ujian Chi-square tidak bersandar pada $p < .05$ serta ujian Bonferroni telah digunakan untuk menentukan sifat-sifat bagi setiap kumpulan pelawat berdasarkan latar belakang sosio-demografik dan pembolehubah tingkah laku mereka. Selain itu, Analisis Varians (ANOVA) pada $p < .05$ berserta ujian Scheffe telah kemudiannya digunakan untuk menentukan sifat bagi setiap kumpulan pertautan tadi menurut motivasi perjalanan mereka.

Berdasarkan kepada keputusan analisis yang telah dijalankan, kumpulan pertautan tinggi cenderung untuk terdiri daripada mereka yang lebih berusia dalam lingkungan umur 41 hingga 61 tahun dan ke atas, dengan latar belakang pekerjaan yang kebanyakannya dari kumpulan ahli akademik dan penyelidik. Selain itu, kebanyakan daripada mereka adalah pelawat berulang, dan aktiviti utama mereka adalah melihat alam semula jadi. Disamping itu, destinasi utama kumpulan ini adalah adalah Pantai Kerachut dan Teluk Kampi, kebanyakannya datang secara bersendirian dan sumber motivasi mereka adalah lebih kepada 'pengkayaan sendiri' serta pencapaian faedah.

Sebaliknya, kumpulan pertautan sederhana adalah sedikit muda, dalam lingkungan usia 20 hingga 40 tahun. Kebanyakan mereka terdiri daripada suri rumah, pesara, pelajar, dan perniagaan/servis. Selain itu, kebanyakan mereka merupakan pelawat yang melawat TNPP untuk kali pertama dan aktiviti utama mereka di TNPP termasuklah menjelajah hutan/*trekking*, memancing dan mengambil gambar. Destinasi utama mereka di TNPP adalah Teluk Aling (USM CEMAC) dan Teluk Dutung (Monkey Beach) selain beberapa orang di Sungai Tukun. Kumpulan pertautan sederhana juga melawat TNPP bersama rakan dan sumber motivasi mereka untuk melawat TNPP adalah untuk menjadi kreatif dan motivasi tempat mereka adalah TNPP merupakan tempat yang sesuai untuk beraktiviti luar.

Bagi kumpulan pertautan rendah pula, mereka lebih muda dengan umur bawah daripada 30 tahun, dan kebanyakannya adalah pelawat kali pertama. Aktiviti utama kumpulan ini adalah berpiknik dan mereka datang ke TNPP bersama keluarga atau kumpulan mereka. Mereka lebih menggemari Pasir Pandak dan Sungai Tukun sebagai destinasi utama. Motivasi kumpulan ini melawat TNPP adalah untuk melakukan atau mengadakan aktiviti bersama keluarga atau kumpulan mereka. Motivasi mereka untuk melawat TNPP kerana ianya tempat yang baik untuk menghabiskan masa mereka bersama keluarga atau teman.

Berdasarkan kepada hasil kajian, kajian ini mencadangkan beberapa implikasi bagi pembangunan ekopelancongan di TNPP di mana ia membolehkan pengurus, perancang dan pembuat dasar untuk menggunakan profil pengguna dengan lebih baik dalam pembangunan ekopelancongan di TNPP. Hasil ini dapat digunakan oleh pihak pengurusan untuk meminimakan kesan lawatan taman, memasarkan produk ekopelancongan dan membangunkan pengurusan risiko taman yang lebih efektif.

ACKNOWLEDGEMENTS

In the name of Allah, the Most Gracious and the Most Merciful Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this thesis. Special appreciation goes to Dr. Abdullah Mohd, Dr.Siti Suriawati Isa and Dr. Mohamad Roslan Mohamad for their supervision and constant support. Their invaluable help of constructive comments and suggestions throughout this study have contributed to the completion of this research.

My deepest gratitude goes to my beloved family; Mr. Ibrahim bin Ismail, Mrs.Zarila binti Mahmud, my sisters, brother and nephew and niece for their infinite love, prayers and encouragement. They are the charming gardeners who make my soul blossom. Moreover, special thanks to Zamru Ajuhari for his love, care and endless assistance.

Last but not least, sincere thanks to all my friends for their kindness and moral support during my study. "There are big ships and small ships but the best ship of all is friendship" Thanks for the friendship and memories.To who indirectly contributed in this research, your kindness means a lot to me.

Thank you very much.

With love!

APPROVAL SHEET 1

I certify that a Thesis Examination Committee has met on xxx to conduct the final examination of Nabila Aiza binti Ibrahim on his thesis entitled "Visitors' segmentation at Penang National Park: Application of Place Attachment as Segmentation Approach" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U. (A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Thesis Examination Committee were as follows:

Name of Chairperson, PhD

Associate Professor
Faculty of Forestry
Universiti Putra Malaysia
(Chairman)

Name of Examiner, PhD

Associate Professor
Faculty of Forestry
Universiti Putra Malaysia
(Internal Examiner)

Name of External Examiner, PhD

Professor
Name of Department and/ of Faculty
Name of Organization/ University/ Institute
(External Examiner)

ZULKARNAIN BIN ZAINAL, PhD

Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

APPROVAL SHEET 2

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the Master of Science. The members of the Supervisory Committee were as follows:

Siti Suriawati Isa, PhD

Senior Lecturer
Faculty of Forestry
Universiti Putra Malaysia
(Chairperson)

Mohamad Roslan Mohamad, PhD

Lecturer
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Member)

BUJANG BIN KIM HUAT, PHD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

DECLARATION FORM

Declaration of graduate student

I hereby confirm that:

- this thesis is my original work;
- quotation, illustrations, and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and Innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification, fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Univeristi Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software.

Signature: _____

Date:

Name and Matric No: Nabila Aiza binti Ibrahim (GS36430)

Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- Supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

Signature: _____
Name of Member
of Supervisory
Committee: _____

Signature: _____
Name of Member
of Supervisory
Committee: _____

TABLE OF CONTENTS

ABSTRACT	Page
ABSTRAK	iii
ACKNOWLEDGEMENT	vii
APPROVAL	xii
DECLARATION	xiii
LIST OF TABLES	xv
LIST OF FIGURES	xx
LIST OF ABBREVIATIONS	xxii
CHAPTER	
1 INTRODUCTION	1
1.1 General background	1
1.2 Problem statement	5
1.3 Justification of the study	8
1.4 Research question	12
1.5 Research objective	13
1.6 Definition and Measurement of Key Terms	14
2 LITERATURE REVIEW	18
2.1 Introduction	18
2.2 Tourism	Error! Bookmark not defined.
2.3 Ecotourism	18
2.4 Market Segmentation	20
2.5 Market Segmentation in Tourism and Ecotourism Context	24
2.6 Place attachment	29
2.6.1 Dimension of Place Attachment	32
2.7 Behavioural and demographic as segmentation tool	34
2.8 Travel motivation as segmentation tool	35
2.9 Conceptual Framework	42
3 RESEARCH METHODOLOGY	45
3.1 Introduction	45
3.2 Study area	45
3.3 Sample Size	47
3.4 Sampling Design	49
3.5 Instrumentation	54
3.6 Validity and Reliability of the Questionnaire	56
3.6.1 Validity of the questionnaire	56
3.6.2 Pilot study and reliability of the questionnaire	59

3.7	Normality	62
3.8	Data Analysis	64
3.8.1	Descriptive analysis	64
3.8.2	K-means cluster analysis	65
3.8.3	Chi-square test of independent	65
3.8.4	One-way Analysis of Variance (ANOVA)	68
4	RESULT AND DISCUSSION	69
4.1	Socio-demographic and travel characteristics of the respondents	69
4.1.1	Gender	70
4.1.2	Age of the visitors	71
4.1.3	Educational background	72
4.1.4	Occupation	73
4.1.5	Travel party	74
4.1.6	Information about PNP	75
4.1.7	Main activities in PNP	76
4.1.8	Main destinations in PNP	79
4.1.9	First or repeat visitors	81
4.1.10	Nationality	82
4.2	Visitors attachment towards PNP	84
4.3	Visitors' segmentation based on place attachment	87
4.4	Place attachment socio demographic characteristic	89
4.5	Characteristics of the place attachment segment based on socio-demographic background.	90
4.5.1	Age	92
4.5.2	Occupational background	95
4.5.3	Objective 1: To determine the characteristic of each place attachment segment based on socio-demographic background in PNP (<i>Summary of finding and discussion</i>).	97
4.6	Characteristics of each place attachment segment based on behavioural variables.	101
4.6.1	Descriptive statistics of Place Attachment Groups' Behavioural variables	101
4.6.2	Place attachment Group's characteristic based on behavioural variables.	103
4.6.3	To determine the characteristic of each the place attachment segment based on behavioural background at PNP (<i>Summary of finding and discussion</i>).	112
4.7	Place attachment group characteristic based on motivation	118
4.7.1	Place attachment group characteristics according to visit motivation	120

4.7.2	Place attachment group characteristics according to setting motivation	124
4.7.3	Objective 3: Determination of Place attachment group characteristic based on motivation as measured by visitors' visit and setting motivation in PNP (Summary of finding and discussion).	128
5	CONCLUSION, IMPLICATION AND RECOMMENDATION	135
5.1	Conclusion	135
5.2	Research implication and recommendation	138
5.3	Future research	142



LIST OF TABLES

Table	Page
Tourist arrivals in Penang National Park	5
Benefits of market segmentation	21
Segmentation basis in ecotourism	26
Recreation Experience Preferences	39
Setting motivation	41
Tourist arrivals in Penang National Park	48
Number of sample to be collected in each quarter of year	52
Instrument of the study	54
List of panels employed to examine the content validity	57
Readability test	58
Reliability test	60
Recreation Experience Preferences	61
Z-score value for skewness and kurtosis for the PI, PD, SM and VM	63
Magnitude of Cramer's v	67
Gender of the visitors	70
Age of the respondent	71
Educational background	72
Occupation	73
Travel party	74
Information about PNP	75
Main activities in PNP	77

Main destinations in PNP	79
First or repeat visitor	81
Nationality	82
Place Attachment and Correlations	85
K-means Cluster Analysis with Place Identity and Place Dependence	88
Descriptive statistics of Place Attachment Groups' Demographic Characteristics	91
Age group	94
Occupational background	96
Descriptive statistics of Place Attachment Groups' Behavioural variables	102
First or repeat visitor	105
Main activities in PNP	107
Main destination in PNP	109
Travel party	111
Bivariate correlation between Place attachment and Motivation	120
Differences of each place attachment group according to their visit motivation to visit PNP	123
Differences of each place attachment group according to their setting motivation to visit PNP	127

LIST OF FIGURES

FiguresPage

The STP of Market Segmentation	22
Dimension of Place attachment	33
Travel motivation dimensions	37
Conceptual Framework	44
Penang National Park's Map	46

ABBREVIATION

DWNP – Department of Wildlife and National Park

PNP – Penang National Park

TNPP – Taman Negara Pulau Pinang

UNWTO – World Tourism Organization

GDP – Gross domestic product

CHAPTER 1

INTRODUCTION

1.1 General background

Tourism and its branches (ecotourism) is one of the examples of world's economic success story, have no starting or end (Yeoman, 2008). In 2016, the tourist arrival in Malaysia is approximately 26.8 million with total revenue close to RM 82.1 billion (Tourism Malaysia, 2017) make it one of the major economic success industries in Malaysia.

Despite its contribution to the economic sector and the well-being of the locals, the sustainability of the tourism industry specifically on ecotourism industry is threatened by several issues concerning the minimization of the impact of increasing visitation (Schwartz, Stewart & Backlund, 2012), development of effective public relations and educational programs (Taylor, 2013; Bagarinao, 1998; Lichtman, 1998; Wright & Krausmar, 1998, implementation of viable marketing and planning program (Picard, 2015; Wearing & Bowden, 1999; Groff, 1998), and effective visitor risk management (Putit, Chan & Hanan, 2013; Coogan, 2001; Mueller, Wall & Cottrell, 1997; Tuler, 1999).

In Malaysia perspective, ecotourism destination in Malaysia is challenged by the issues of biopiracy (Hanafiah & Webb, 2017), social and cultural impact (Masud, Aldakhil, Nassani & Azam, 2017), concentrated in several main attractions (Ramli, 2017) which increase the rate of resource deterioration in these destinations as opposed to other destinations, visitor depreciative behaviour (Ajuhari, Isa & Aziz, 2016) and implementation of effective education programs that able to encourage environmental behaviour (Nair, Mohamed, Thomas & Teare, 2016).

As example, since the establishment of Penang National Park (PNP) back in 2003, it has been challenged by several issues that are anthropogenic in nature which has led to the degradation of its environment (See Wern & Weng, 2010; Hong & Chan, 2011; 2010; Hafizal, 2008; Chan, Zakaria & Ab Ghani, 2004). For that, it has been suggested that segmentation of visitors in the ecotourism destination can contribute to the understanding on the nature of the visitors which can be used to alleviate the challenges of ecotourism destination as stated above (Spenceley, 2015; Kim, Lee, Uysal, Kim & Ahn, 2015; Ritchie, 1999; Machlis, 1996; Manning & Wang, 1998). Although market segmentation is not a new approach in managing and marketing a tourism destination, it is still considered as an important tool in providing and creating a direction for planners and marketers to anticipate similar and different needs of the segments.

In addition, information that is gathered through segmentation is an important head start in designing programs and products in the tourism area, as well as an effective approach in addressing several challenges as mentioned earlier. Visitors in the ecotourism destination are usually segmented through several variables such as travel behavior (Collum & Daigle, 2015), motivation (Fung & Jim, 2015), values (Iversen & Hem, 2016), local economic benefits (Azlizam, Mohd Aswad, Asli & Shazali, 2012) and attitude based segmentation approach (Kim & Weiler, 2013).

Among segmentation tools, the concept of place attachment can be used in segmenting visitors in the ecotourism destination where it is correlated with several other segmentation tools such as motivation (Groulx, Lemieux, Dawson, Stewart & Yudina, 2016) and correlates with several dimensions that are important to ecotourism destination such as pro-environmental behaviour (Cheng & Wu, 2015), leisure satisfaction (Ramkissoon, 2016) conflict and use behavior (Kyle, Graefe, Manning, 2004), setting preferences (Marshall, 2016; Young, Williams & Rogenbuck, 1990) and activity attachment (Tsaur, Huang & Lee, 2017) destination image (Jiang, Ramkissoon, Mavondo & Feng, 2017) destination attractiveness (Ram, Björk & Weidenfeld, 2016) and risk behaviour (Bonaiuto, Alves, De Dominicis & Petruccelli, 2016).

Therefore, with the segmentation of the visitors at ecotourism destination based on place attachment could provide extensive information on visitors' tendency to perform pro-environmental behaviour (Cheng & Wu, 2015), development of effective educational programs (Bruni, Winter, Schultz, Omoto & Tabanico, 2017), effective marketing program (Ram, Björk & Weidenfeld, 2016) and visitor risk management (Bonaiuto, Alves, De Dominicis & Petruccelli, 2016) which nowadays are the among the main challenges faced by many ecotourism destinations all over the world including Malaysia. Thus, the concept of place attachment can be a significant approach in segmenting visitors in the ecotourism destination for that matter.

1.2 Problem statement

Since its establishment in 2003, PNP has become one of the prominent ecotourism destinations in Malaysia with the exponential growth for the number of visitors (Kaffashi, Radam, Shamsudin, Yacob, & Nordin, 2015) as shown in the Table 1.2 due to its beauty, features and diversity of flora and fauna.

Table 1.2 Tourist arrivals in Penang National Park

Year	Total
2005	12547
2006	27484
2007	31300
2008	55762
2009	69667
2010	86664
2011	88443
2012	108278
2013	115915

Source: Penang National Park Administration (2013)

As a national park, PNP is established for the purpose of preservation, hence allowing and encouraging education, recreation and tourism purposes especially as ecotourism destination (Kaffashi *et al.*, 2015; Kamri, 2011). However upon its establishment, PNP had faced several challenges in maintaining the sustainability of its development as reported in several previous studies (Wern & Weng, 2010; Hong & Chan, 2011; 2010; Hafizal, 2008; Chan, Zakaria & Ab Ghani, 2004) concerning the area of environmental degradation that occurred

due to the increase number of visitation. These environmental degradations are also the result of visitors' depreciative behaviors such as vandalism, short-cutting, established undesignated trails, wood burning, trampling on natural trails, and vegetative clearing. In addition, Fallah, Makmom & Aziz (2014) found that the challenges that needed to be prioritized in its management actions are on the managing of visitor safety, enhancing public education for conservation values and visitor satisfaction to ensure the sustainability of ecotourism in PNP in future.

Furthermore, Kaffasi *et al.*, (2015) stated that the current management of PNP should focus more on understanding of visitors' preference for nature appreciation and infrastructure that is suitable with the conservation values in PNP. Thus, with the demand for ecotourism activities at PNP that grew exponentially over the year, threats from visitors' depreciative behaviours and the need to maintain the sustainability of ecotourism development in PNP, Kaffasi *et al.*, (2015) stressed that it is crucial to understand the nature of visitors and their background in PNP. Thus, understanding the nature of visitors and their background can be an added value in the management actions that can strive towards the relevancy and continuity of the ecotourism experience in PNP.

Since it has been suggested by several previous studies that visitor segmentation is an important tool in minimizing the impacts of park visitation (Collum & Daigle, 2015), development of the effective public relation (Morrison, 2013), education program (Anda & Temmen, 2014), implementation of viable park marketing and planning program (Morrison, 2013), and effective risk management (Jones & Yamamoto, 2016), visitor segmentation can be considered as important management tools that can address the challenges that currently faced by PNP (environmental degradation, visitor depreciative behaviours, visitor safety, enhancing public education for conservation values, visitor safety and visitor satisfaction) and met the suggestions that has been made previously by Kaffasi *et al.*, (2015).

Furthermore, as discussed earlier, place attachment is seen as the significant segmentation approach where it has been found to provide information and understanding on pro-environmental behaviour, motivation to travel, leisure satisfaction, activity preferences, and risk behaviour which are among the challenges that needed to prioritize in the management actions of PNP. With that in mind, this study was designed to segment the visitors at PNP based on the concept of place attachment which can address the challenges faced by PNP and enhance the sustainability of the ecotourism management in PNP in future.

1.3 Justification of the study

Development of ecotourism destination requires planners and managers to identify the needs and wants of the market segment since it provide invaluable information especially in identifying visitors' motivational patterns, their expected benefits, values and behaviors. In addition, information that is gathered through segmentation of the visitors can be beneficial in designing persuasive communication signage, development of the activities and facilities, enhance safety, provide sustainability of destination usage, improve satisfactions and destination loyalty (Kozak & Kozak, 2015; Budeanu, 2007; Galloway, 1998).

Therefore, visitor segmentation is seen as one of the effective management tools that can be adopted to be used to ensure the continuity and the relevancy of the ecotourism development all over the world. As stated before, the current states of PNP are challenged by the increasing number of visitors that have unfastened the safety belt of the sustainability of ecotourism experience in the park. With the needs to balance the conservation values and marketability of visitors' experience, this study looked for a marketing approach that can be used as one of the options in maintaining ecotourism management in PNP. The use of place attachment as the segmentation basis in this study as discussed before was because it provide significant understandings in visitors' information

that could have the potential to alleviate the challenges that is currently faced by PNP. Moreover, the concept of place attachment has been used widely in park and recreation continuum where it has been used to explain pro-environmental behavior, environmental concern and conservation awareness (Chen & Wu, 2014; Wilson, Szolosi, Martin & Scanlan, 2014; Ramkisson & Mavondo, 2014). Furthermore, attachment of the visitors' attachment toward a park also can be used as the basis in understanding in the choice of recreation activities involvement (Chen, Hung & Chen, 2015; Ramkisson, Smith & Kneebone, 2014), preferences for nature based recreation activities (Marques, Reis, Menezes & Salgueiro, 2015; Kyle, Graefe, Manning & Bacon, 2004) and motivation (Ramkisson, 2015; Kyle, Mowen & Tarrant, 2004).

However, despite all the positive insight on the visitor segmentation for the ecotourism destination, there are challenges in conceptualizing visitor segmentation since it has been stated to remain unclear concerning on the value practitioners gain from applying marketing approaches in practice (Venter, Wright & Dibb, 2015; Yankelovich & Meer, 2006). Grapentine & Boomgarden (2003) stressed that despite the incitement in term of the information it generates, market segmentation often fail to conceptualize the needs of the practitioners in the industry. Moreover, Quinn & Dibb (2010) stated that despite its long heritage, segmentation may be failing to achieve its original objectives.

Such criticisms result in calls to rethink how research into the practices of marketing is accomplished (Andersson, Aspenberg, & Kjellberg, 2008; Bailey, Baines, Wilson, & Clark, 2009; Dibb & Simkin, 2009; Foedermayr & Diamantopoulos, 2008; Harrison & Kjellberg, 2010; Steenkamp & Ter Hofstede, 2002). Therefore, in order to ensure the effectiveness of the segmentation that has been conducted, Katsoni *et al.*, (2013) suggested that employing multiple variables to the segmentation tools or means will result in greater explanatory power than single variable. The use of multi-stage segmentation or a combination of multiple variables is highly recommended for market segmentation (Katsoni *et al.*, 2013; Morrison, 1996; Middleton, 1994; Havitz and Diamanche, 1990).

Therefore, it could be said that the impact of market segmentation can be enhanced if it is designed with a combination of multi stage and multiple segmentation variables. Thus, with the intention to provide a deeper understanding on the visitors' information in PNP and comply with those upbringing, this study was not only objectify at segmenting the visitors at PNP based on place attachment but also was intended to provide informations on visitors' motivation to visit PNP, their socio-demographic background and behavioural characteristics (trip characteristic and type of activities that each of the group participated into).

Motivation (setting and visit motivation has longed be considered as the importance variables in understanding the visitors' needs, preferences, expectations, and/or desired outcomes (Rid, Ezeuduji &Pröbstl-Haider, 2014).Motivation is considered as an important construct to examine visitors' motivation as it provides the basic principle in understanding why they travel and whether destination can fulfilled their desired needs (Park & Yoon, 2009; Park, Resinger & Park, 2009). Therefore, with the adoption of motivation it can further provides deeper understanding on the characteristics of each place attachment's segment in term of comprehending the needs, desired, preferences and motivation for each place attachment's segment to visit PNP.

Moreover, this study also looked to behavioural segment of each place attachment in term of each segment's choices towards the main destination and activity preferences in PNP. Consequently, information that is gathered from each segments can provide an importance insight for the park management in minimizing the impacts of the depreciative behaviors, planning and development of the activities that can detain the needs of the segments, improve public relations and effective educational programs and visitor risk management. As examples, encouraging pro-environmental behaviour in the park through environmental interpretation (interpretation centre, guided tours and panels) and conservation awareness program can be improved if the required knowledge on the specific segment is available.

1.4 Research question

In order to segment the visitors at PNP based on place attachment and identify each segment's characteristics based on their socio demographic, behavioural variables and motivation, several research questions are outlined:

1. What are the socio-demographic characteristics of the place attachment segments at PNP?
2. What are the behavioural characteristics as measured through trip characteristics, main activity and main destination of the place attachment segments at PNP?
3. What are the motivations of the place attachment segments to visit PNP?

1.5 Research objective

The main objective of this study is to segment the visitors at Penang National Park according to place attachment. The specific objectives are:

1. To determine the characteristic of place attachment segment based on socio-demographic background in PNP.
2. To determine the characteristic of place attachment segment based on behavioural variables as measured through trip characteristics, main activity and main destination in PNP.
3. To determine the characteristic of place attachment segment motivation (visit and setting motivation) to visit the park.

1.6 Definition and Measurement of Key Terms

- A. Visitor: A visitor is a traveler taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited. A visitor (domestic, inbound or outbound) is classified as a tourist (or overnight visitor) if his/her trip includes an overnight stay, or as a same-day visitor (or excursionist) otherwise (UNWTO, 2014). In this study, visitor is defined as any person who visited and participating in any ecotourism activities in PNP. Term visitor also is used interchangeably with ecotourist.
- B. Place attachment: Place attachment is the emotional link formed by an individual to a physical site that has been given meaning through interaction (Miligan, 1998). In this study, place attachment refers to emotional linked formed by the visitors towards Penang National Park. It was measured by using two dimensions; place identity and place dependence.

- C. Place identity: Place identity refers to the emotional and affective bond between an individual towards a setting (Kyle *et al.*, 2004). In this study, place identity refers to the emotional and affective bonds between visitors and setting (PNP).
- D. Place dependence: Place dependence refers to the positive evaluation of a place on the basis that it meets and individual's need and allow them to achieve their goal (Anton & Lawrence, 2014; Shumaker & Taylor, 1983). In this study, place dependence refers to the visitors' setting attachments that are goal related particularly on the setting's ability to facilitate visitors' desired leisure experience.
- E. Visitor segmentation: Visitor segmentation has been used as a method in understanding market (buyer or customer) into different groups to achieve organizational goals (Pesonen, 2015). That is, in this study, visitors segmentation refers to the segmentation of visitors at PNP based on their place attachment.
- F. Socio-demographic segmentation: Segmentation of the market based on socio-demographic background. In this study, socio-demographic segmentation refers to the segmentation of the visitors at PNP based on their socio-demographic variables.

- G. Behavioral segmentation: A type of *market segmentation* based on differences in the consumption *behavior* of different groups of consumers, taking into account their lifestyles, patterns of buying and using, patterns of spending money and time, and similar factors. In this study, behavioural segmentation also known as behavioral variables refer to the segmentation of visitors as according to their trip characteristics (travel party, first or repeat visitors and information about PNP).
- H. Psychographic segmentation: Psychographic segmentation involves dividing the market into segments based upon different personality traits, values, attitudes, interests, and lifestyles of consumers. In this study, psychographic segmentation or also known as psychographic variables refers to the segmentation of the visitors at PNP based on their travel motivation (setting and visit motivation).
- I. Motivation: Motivation refers to the underlying forces that arouse and direct an individual's behaviour (Iso-Ahola, 1999). In this study, motivation refers to the combination of visit and setting motivation that arouse visitors to visit PNP.

- J. Visit motivation: Visit motivation or also known as push motivation refers to the desire to escape, rest and relaxation, prestige, health and fitness, adventure and social interaction, family togetherness, and excitement (Yoon & Uysal, 2005). In this study, visit motivation refer to the visitors' desire to escape, rest and relaxation, prestige, health and fitness, adventure and social interaction, family togetherness, and excitement. It was measured by using Recreation Experience Preferences (REP) scale as adopted from Driver, Nash and Haas (1987) and Budruk and Stanis (2013).
- K. Setting motivation: Setting motivation or also known as pull motivations are those that are inspired by a destination's attractiveness, such as beaches, recreation facilities, cultural attractions, entertainment, natural scenery, shopping, and parks (Yoon & Uysal, 2005). In this study, setting motivation refer to the attractiveness attributes that is pulling visitors to visit PNP. it was measured by adopting setting motivation's items from Kyle *et al.*, (2004).

REFERENCES

- Ajuhari, Z., Isa, S. S., & Aziz, A. (2016). Promoting Pro-environmental Behavior in Ecotourism Destination. In *Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014)* (pp. 1023-1039). Springer Singapore.
- Anda, M., & Temmen, J. (2014). Smart metering for residential energy efficiency: The use of community based social marketing for behavioural change and smart grid introduction. *Renewable Energy*, *67*, 119-127.
- Anderson, D. H., & Fulton, D. C. (2008). Experience preferences as mediators of the wildlife related recreation participation: Place attachment relationship. *Human Dimensions of Wildlife*, *13*(2), 73–88.
- Andersson, P., Aspenberg, K., & Kjellberg, H. (2008). The configuration of actors in market practice. *Marketing Theory*, *8*(1), 67–90.
- Anton, C. E., & Lawrence, C. (2014). Home is where the heart is: The effect of place of residence on place attachment and community participation. *Journal of Environmental Psychology*, *40*, 451–461.
- Ardoin, N. M. (2006). Toward an interdisciplinary understanding of place: Lessons for environmental education. *Canadian Journal of Environmental Education (CJEE)*, *11*(1), 112–126.
- Ardoin, N. M., Wheaton, M., Bowers, A. W., Hunt, C. A., & Durham, W. H. (2015). Nature-based tourism's impact on environmental knowledge, attitudes, and behavior: a review and analysis of the literature and potential future research. *Journal of Sustainable Tourism*, *23*(6), 838–858.
- Ashworth, G. J. (2000). Heritage, tourism and places: A review. *Tourism Recreation Research*, *25*(1), 19–29.
- Bagarinao, T. (1998). Nature parks, museums, gardens, and zoos for biodiversity conservation and environment education: the Philippines. *Ambio*, 230–237.
- Bailey, C., Baines, P. R., Wilson, H., & Clark, M. (2009). Segmentation and customer insight in contemporary services marketing practice: why grouping customers is no longer enough. *Journal of Marketing Management*, *25*(3-4), 227–252.

- Baloglu, S., & Uysal, M. (1996). Market segments of push and pull motivations: A canonical correlation approach. *International Journal of Contemporary Hospitality Management*, 8(3), 32–38.
- Bansal, H., & Eiselt, H. A. (2004). Exploratory research of tourist motivations and planning. *Tourism Management*, 25(3), 387–396.
- Battisti, G., & Favretto, A. (1997). Sporting and outdoor activities in the development of tourism in Slovenia: The case of the Triglav National Park. *Tourism Recreation Research*, 22(2), 29–35.
- Beh, A., & Bruyere, B. L. (2007). Segmentation by visitor motivation in three Kenyan national reserves. *Tourism Management*, 28(6), 1464–1471.
- Bidin, S., Mariapan, M., Aziz, A., & Ramlan, M. A. (2013). Exploring hard and soft domestic ecotourists preferences towards selected eco-friendly attributes of ecolodges in Kinabalu Park, Sabah. *Pertanika Journal of Tropical Agricultural Science*, 36(S), 247–260.
- Bidin, S., Mariapan, M., Aziz, A., & Ramlan, M. A. (2013). Exploring hard and soft domestic ecotourists preferences towards selected eco-friendly attributes of ecolodges in Kinabalu Park, Sabah. *Pertanika Journal of Tropical Agricultural Science*, 36(S), 247–260.
- Billig, M. (2006). Is my home my castle? Place attachment, risk perception, and religious faith. *Environment and Behavior*, 38(2), 248–265.
- Blamey, R. (1995). *The nature of ecotourism*. Bureau of Tourism Research.
- Bonaiuto, M., Aiello, A., Perugini, M., Bonnes, M., & Ercolani, A. P. (1999). Multidimensional perception of residential environment quality and neighbourhood attachment in the urban environment. *Journal of Environmental Psychology*, 19(4), 331–352.
- Bowlby, J. (1979). The Bowlby-Ainsworth attachment theory. *Behavioral and Brain Sciences*, 2(04), 637–638.
- Bricker, K. S., & Kerstetter, D. L. (2000). Level of specialization and place attachment: An exploratory study of whitewater recreationists. *Leisure Sciences*, 22(4), 233–257.
- Brown, B. B., & Perkins, D. D. (1992). Disruptions in place attachment. In *Place attachment* (pp. 279–304). Springer.

- Brown, B., Perkins, D. D., & Brown, G. (2003). Place attachment in a revitalizing neighborhood: Individual and block levels of analysis. *Journal of Environmental Psychology, 23*(3), 259–271.
- Budeanu, A. (2007). Sustainable tourist behaviour—a discussion of opportunities for change. *International Journal of Consumer Studies, 31*(5), 499–508.
- Budruk, M., & Lee, W. (2016). Importance of Managing for Personal Benefits, Hedonic and Utilitarian Motivations, and Place Attachment at an Urban Natural Setting. *Environmental Management, 1–14*.
- Budruk, M., & Stanis, S. A. W. (2013). Place attachment and recreation experience preference: A further exploration of the relationship. *Journal of Outdoor Recreation and Tourism, 1*, 51–61.
- Burger, J., Gochfeld, M., & Niles, L. J. (1995). Ecotourism and birds in coastal New Jersey: contrasting responses of birds, tourists, and managers. *Environmental Conservation, 22*(01), 56–65.
- Bonaiuto, M., Alves, S., De Dominicis, S., & Petruccioli, I. (2016). Place attachment and natural hazard risk: Research review and agenda. *Journal of Environmental Psychology, 48*, 33-53.
- Bruni, C. M., Winter, P. L., Schultz, P. W., Omoto, A. M., & Tabanico, J. J. (2017). Getting to know nature: evaluating the effects of the Get to Know Program on children's connectedness with nature. *Environmental Education Research, 23*(1), 43-62.
- Chan, L. K. (2004). Fern Distribution Pattern–locality Relationship in the Penang National Park. In *Regional Conference Ecological and Environmental Modelling (ECOMOD 2004)* (pp. 15–16).
- Chan, N. W. (2009). Issues and Challenges of Managing Natural Heritage in Penang National Park, Malaysia. In *Proceedings of 2 nd National Symposium on Tourism Research* (p. 111).
- Chan, N. W., Chan, I. K., & Kumar, K. (2003). Ecotourism in the Penang National Park: Issues and challenges. *Ecotourism: Issues and Challenges, NW Chan, Ed., Ed Penang: School of Humanities, Universiti Sains Malaysia*.
- Chan, N. W., Zakaria, N. A., & Ab Ghani, A. (2004). Modelling environmental change in the Penang National Park. In *Regional Conference on Ecological and Environmental Modelling (ECOMOD 2004)*. Penang, Malaysia (pp. 15–16).

- Cheng, T.-M., & Wu, H. C. (2015). How do environmental knowledge, environmental sensitivity, and place attachment affect environmentally responsible behavior? An integrated approach for sustainable island tourism. *Journal of Sustainable Tourism*, 23(4), 557–576.
- Collum, K. K., & Daigle, J. J. (2015). Combining attitude theory and segmentation analysis to understand travel mode choice at a national park. *Journal of Outdoor Recreation and Tourism*, 9, 17-25.
- Cooper, C., Larson, L., Dayer, A., Stedman, R., & Decker, D. (2015). Are wildlife recreationists conservationists? Linking hunting, birdwatching, and pro-environmental behavior. *The Journal of Wildlife Management*, 79(3), 446–457.
- Correia, A., Kozak, M., & Ferradeira, J. (2013). From tourist motivations to tourist satisfaction. *International Journal of Culture, Tourism and Hospitality Research*, 7(4), 411–424.
- Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6(4), 408–424.
- Deng, J., & Li, J. (2015). Self-identification of ecotourists. *Journal of Sustainable Tourism*, 23(2), 255–279.
- Devesa, M., Laguna, M., & Palacios, A. (2010). The role of motivation in visitor satisfaction: Empirical evidence in rural tourism. *Tourism Management*, 31(4), 547–552.
- Dibb, S. (1998). Market segmentation: strategies for success. *Marketing Intelligence & Planning*, 16(7), 394–406.
- Dibb, S., & Simkin, L. (2009). Implementation rules to bridge the theory/practice divide in market segmentation. *Journal of Marketing Management*, 25(3-4), 375–396.
- Dolnicar, S. (2007). 8 Market Segmentation in Tourism. *Tourism Management: Analysis, Behaviour, and Strategy*, 129.
- Dolničar, S. (2004). Beyond “commonsense segmentation”: A systematics of segmentation approaches in tourism. *Journal of Travel Research*, 42(3), 244–250.
- Dolnicar, S., & Grün, B. (2008). Challenging “factor–cluster segmentation.” *Journal of Travel Research*, 47(1), 63–71.

- Driver, B. L., & Brown, P. J. (1986). Probable personal benefits of outdoor recreation. *President's Commission on American outdoors—A Literature Review*, 63–70.
- Driver, B. L., Nash, R., & Haas, G. (1987). Wilderness benefits: a state-of-knowledge review. *General Technical Report, Intermountain Research Station, USDA Forest Service*, (INT-220), 294–319.
- Droseltis, O., & Vignoles, V. L. (2010). Towards an integrative model of place identification: Dimensionality and predictors of intrapersonal-level place preferences. *Journal of Environmental Psychology*, 30(1), 23–34.
- Ednie, A. J., Daigle, J. J., & Leahy, J. E. (2010). Place Attachment on the Maine Coast: User Characteristics and Reasons for Visiting. *Journal of Park and Recreation Administration*, 28(1).
- Eusébio, C., João Carneiro, M., Kastenholz, E., & Alvelos, H. (2015). Social tourism programmes for the senior market: a benefit segmentation analysis. *Journal of Tourism and Cultural Change*, 1–21.
- Fakeye, P. C., & Crompton, J. L. (1991). Image differences between prospective, first-time, and repeat visitors to the Lower Rio Grande Valley. *Journal of Travel Research*, 30(2), 10–16.
- Fallah, M., Makmom, A., Aziz, A., & MM, B. (2014). A fuzzy analytic hierarchy approach for ranking and prioritizing sustainability criteria and indicators of ecotourism management. *IOSR Journal of Environmental Science, Toxicology and Food Technology*, 8(12 ver. 4), 64–73.
- Fennell, D. A. (2014). *Ecotourism*. Routledge.
- Foedermayr, E. K., & Diamantopoulos, A. (2008). Market segmentation in practice: Review of empirical studies, methodological assessment, and agenda for future research. *Journal of Strategic Marketing*, 16(3), 223–265.
- Fung, C. K., & Jim, C. Y. (2015). Segmentation by motivation of Hong Kong Global Geopark visitors in relation to sustainable nature-based tourism. *International Journal of Sustainable Development & World Ecology*, 22(1), 76–88.
- Frochot, I. (2005). A benefit segmentation of tourists in rural areas: a Scottish perspective. *Tourism Management*, 26(3), 335–346.
- Galloway, G. (2002). Psychographic segmentation of park visitor markets: evidence for the utility of sensation seeking. *Tourism Management*, 23(6), 581–596.

- Garms, M., Fredman, P., & Mose, I. (2016). Travel motives of German tourists in the Scandinavian mountains: the case of Fulufjället National Park. *Scandinavian Journal of Hospitality and Tourism*, 1–20.
- Gilleard, C., Hyde, M., & Higgs, P. (2007). The impact of age, place, aging in place, and attachment to place on the well-being of the over 50s in England. *Research on Aging*, 29(6), 590–605.
- Gladwell, N. J. (1990). A psychographic and sociodemographic analysis of state park inn users. *Journal of Travel Research*, 28(4), 15–20.
- Grapentine, T., & Boomgaarden, R. (2003). *Maladies of Market Segmentation Research. Marketing Research. Spring.*
- Griffiths, S. P., Bryant, J., Raymond, H. F., & Newcombe, P. A. (2016). Quantifying subjective human dimensions of recreational fishing: does good health come to those who bait? *Fish and Fisheries*.
- Groff, C. (1998). Demarketing in park and recreation management. *Managing Leisure*, 3(3), 128–135.
- Gross, M. J., & Brown, G. (2008). An empirical structural model of tourists and places: Progressing involvement and place attachment into tourism. *Tourism Management*, 29(6), 1141–1151.
- Groulx, M., Lemieux, C., Dawson, J., Stewart, E., & Yudina, O. (2016). Motivations to engage in last chance tourism in the Churchill Wildlife Management Area and Wapusk National Park: the role of place identity and nature relatedness. *Journal of Sustainable Tourism*, 24(11), 1523–1540.
- Hailu, G., Boxall, P. C., & McFarlane, B. L. (2005). The influence of place attachment on recreation demand. *Journal of Economic Psychology*, 26(4), 581–598.
- Halpenny, E. A., Kulczycki, C., & Moghimehfar, F. (2016). Factors effecting destination and event loyalty: examining the sustainability of a recurrent small-scale running event at Banff National Park. *Journal of Sport & Tourism*, 20(3-4), 233-262.
- Halpenny, E. A. (2010). Pro-environmental behaviours and park visitors: The effect of place attachment. *Journal of Environmental Psychology*, 30(4), 409–421.
- Hanifah, N. A., & Webb, A. B. (2017). Ecotourism and Biopiracy: A Legal Perspective on the Sustainability of Tourism Destination in Malaysia. In *Balancing Development and Sustainability in Tourism Destinations* (pp. 9-19). Springer Singapore.

- Harrison, D., & Kjellberg, H. (2010). Segmenting a market in the making: Industrial market segmentation as construction. *Industrial Marketing Management, 39*(5), 784–792.
- Havitz, M. E., & Dimanche, F. (1990). Propositions for testing the involvement construct in recreational and tourism contexts. *Leisure Sciences, 12*(2), 179–195.
- Havitz, M. E., Kaczynski, A. T., & Mannell, R. C. (2013). Exploring relationships between physical activity, leisure involvement, self-efficacy, and motivation via participant segmentation. *Leisure Sciences, 35*(1), 45–62.
- Hearne, R. R., & Salinas, Z. M. (2002). The use of choice experiments in the analysis of tourist preferences for ecotourism development in Costa Rica. *Journal of Environmental Management, 65*(2), 153–163.
- Hendricks, W. W., Chavez, D. J., & Bricker, K. S. (2008). Place attachment and recreational constraints relating to fire management. *Fire Social Science Research From the Pacific Southwest Research Station: Studies Supported by National Fire Plan Funds, 21*.
- Hernandez, B., Hidalgo, M. C., & Ruiz, C. (2013). *Theoretical and methodological aspects of research on place attachment*. Routledge: New York, NY, USA.
- Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology, 21*(3), 273–281.
- Hinds, J., & Sparks, P. (2008). Engaging with the natural environment: The role of affective connection and identity. *Journal of Environmental Psychology, 28*(2), 109–120.
- Hollensen, S. (2015). *Marketing management: A relationship approach*. Pearson Education.
- Hong, C. W., & Chan, N. W. (2011). The role of driving force-pressure-state-impact-response (DPSIR) framework on Penang National Park. *Malaysian Journal of Environmental Management, 12*(1), 85–95.
- Hong, C.-W., & Chan, N.-W. (2010). Strength-weakness-opportunities-threats Analysis of Penang National Park for Strategic Ecotourism Management. *World Applied Sciences Journal, 10*(1), 136–145.
- Huang, J., & Hsu, C. H. C. (2009). The impact of customer-to-customer interaction on cruise experience and vacation satisfaction. *Journal of Travel Research*.

- HUNZIKER, W., & KRAPF, K. (1942). General Introduction into Tourism Science. *Zurich in German*.
- Hunziker, W., & Krapf, K. (1942). *Grundriss der allgemeinen Fremdenverkehrslehre*. Polygraph. Verlag.
- Hwang, S.-N., Lee, C., & Chen, H.-J. (2005). The relationship among tourists' involvement, place attachment and interpretation satisfaction in Taiwan's national parks. *Tourism Management, 26*(2), 143–156.
- Ismail, M. H. (2008). The Role Of Interpretive Signages In Enhancing Conservation Knowledge, Awareness And Behavior Among Visitors At The Penang National Park, Malaysia. Universiti Putra Malaysia.
- Ismail, M. M., Jaafar, M., & Mohamad, D. (2015). SOCIAL CARRYING CAPACITY OF ECOTOURISM NATIONAL PARK: CASE STUDY OF NATIONAL PARK KUALA TAHAN, MALAYSIA.
- Iso-Ahola, S. E. (1999). Motivational foundations of leisure. *Leisure Studies: Prospects for the Twenty-First Century, 35–51*.
- Iversen, N. M., Hem, L. E., & Mehmetoglu, M. (2016). Lifestyle segmentation of tourists seeking nature-based experiences: the role of cultural values and travel motives. *Journal of Travel & Tourism Marketing, 33*(sup1), 38–66.
- Jaafar, M., Nordin, A. O. S., Abdullah, S., & Marzuki, A. (2014). Geopark Ecotourism Product Development: A Study on Tourist Differences. *Asian Social Science, 10*(11), 42.
- Jahi, J. M. (1996). *Impak pembangunan terhadap alam sekitar*. Penerbit Universiti Kebangsaan Malaysia.
- Jahi, J. M. (1999). *Striking a Balance Between Environment and Development: Is Malaysia Prepared to Managed the Environment to Face Challenges in the Next Millenium*. Penerbit Universiti Kebangsaan Malaysia.
- Jahi, J. M. (2001). The important of social and economic aspects in integrated drainage basin management system. *Malaysian Journal of Environmental Management, 2*, 77–88.
- Jones, T. E., & Yamamoto, K. (2016). Segment-based monitoring of domestic and international climbers at Mount Fuji: Targeted risk reduction strategies for existing and emerging visitor segments. *Journal of Outdoor Recreation and Tourism, 13*, 10-17.

- Jiang, Y., Ramkissoon, H., Mavondo, F. T., & Feng, S. (2017). Authenticity: The link between destination image and place attachment. *Journal of Hospitality Marketing & Management*, 26(2), 105-124.
- Kaffashi, S., Radam, A., Shamsudin, M. N., Yacob, M. R., & Nordin, N. H. (2015). Ecological Conservation, Ecotourism, and Sustainable Management: The Case of Penang National Park. *Forests*, 6(7), 2345–2370.
- Kalisch, D., & Klaphake, A. (2007). Visitors' satisfaction and perception of crowding in a German National Park: a case study on the island of Hallig Hooge. *For.Snow Landsc. Res*, 81(1/2), 109–122.
- Kamri, T., & Samarahan, K. (2011). Stated preference technique for national parks in Malaysia. *Journal of Tourism, Hospitality & Culinary Arts*, 4, 45–52.
- Kantawan, K., Suksard, S., & Hoamuangkaew, W. (2007). Satisfaction of Tourists Towards Mae Fa Luang Garden. *Thai J. For*, 26, 31–39.
- Katsoni, V., Giaoutzi, M., & Nijkamp, P. (2013). Market Segmentation in Tourism: An Operational Assessment Framework. In *Quantitative methods in tourism economics* (pp. 329–352). Springer.
- Katsoni, V., & Venetsanopoulou, M. (2013). Use of innovation systems for an effective tourism marketing development strategy. *Journal of Science & Technology*, 8(5), 33–40.
- Kil, N., Holland, S., & Taylor, S. (2010). Improving the management of natural resource recreation areas through understanding place-attached visitor segments. *Journal of Park and Recreation Administration*, 28(3).
- Kim, H.-Y. (2013). Statistical notes for clinical researches: assessing normal distribution (2) using skewness and kurtosis, *Restor Dent Endod*, 38(1), 5254.
- Kim, H., Borges, M. C., & Chon, J. (2006). Impacts of environmental values on tourism motivation: The case of FICA, Brazil. *Tourism Management*, 27(5), 957–967.
- Kim, H., Lee, S., Uysal, M., Kim, J., & Ahn, K. (2015). Nature-based tourism: Motivation and subjective well-being. *Journal of Travel & Tourism Marketing*, 32(sup1), S76–S96.

- Kim, S. S., Lee, C.-K., & Klenosky, D. B. (2003). The influence of push and pull factors at Korean national parks. *Tourism Management, 24*(2), 169–180.
- Kim, A. K., & Weiler, B. (2013). Visitors' attitudes towards responsible fossil collecting behaviour: An environmental attitude-based segmentation approach. *Tourism Management, 36*, 602-612.
- Kirk, D. (1996). Demographic transition theory. *Population Studies, 50*(3), 361–387.
- Kotler, P., & Armstrong, G. (2013). *Principles of marketing 15th global edition*. Pearson.
- Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educ Psychol Meas.*
- Kudryavtsev, A., Stedman, R. C., & Krasny, M. E. (2012). Sense of place in environmental education. *Environmental Education Research, 18*(2), 229–250.
- Kyle, G., Graefe, A., Manning, R., & Bacon, J. (2004a). Effect of activity involvement and place attachment on recreationists' perceptions of setting density. *Journal of Leisure Research, 36*(2), 209.
- Kyle, G., Graefe, A., Manning, R., & Bacon, J. (2004b). Effects of place attachment on users' perceptions of social and environmental conditions in a natural setting. *Journal of Environmental Psychology, 24*(2), 213–225.
- Kyle, G. T., Absher, J. D., & Graefe, A. R. (2003). The moderating role of place attachment on the relationship between attitudes toward fees and spending preferences. *Leisure Sciences, 25*(1), 33–50.
- Kyle, G. T., Absher, J. D., Hammitt, W. E., & Cavin, J. (2006). An examination of the motivation—involvement relationship. *Leisure Sciences, 28*(5), 467–485.
- Kyle, G. T., Mowen, A. J., & Tarrant, M. (2004). Linking place preferences with place meaning: An examination of the relationship between place motivation and place attachment. *Journal of Environmental Psychology, 24*(4), 439–454.
- Lew, A. A. (2011). Tourism's role in the global economy. *Tourism Geographies, 13*(1), 148–151.
- Lewicka, M. (2011). Place attachment: How far have we come in the last 40 years? *Journal of Environmental Psychology, 31*(3), 207–230.

- Lichtman, P. (1998). The politics of wildfire: Lessons from Yellowstone. *Journal of Forestry*, 96(5), 4–9.
- Line, N., & Costen, W. (2011). Environmental attitudes, motivation, and attachment: Toward a model of nature-based tourism.
- López-Mosquera, N., & Sánchez, M. (2013). Direct and indirect effects of received benefits and place attachment in willingness to pay and loyalty in suburban natural areas. *Journal of Environmental Psychology*, 34, 27–35.
- Low, S. M., & Altman, I. (1992). Place attachment. In *Place attachment* (pp. 1–12). Springer.
- Machlis, G. E. (1996). *Usable knowledge: A plan for furthering social science and the national parks*. US Department of the Interior, National Park Service.
- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring leisure motivation: A meta-analysis of the recreation experience preference scales. *Journal of Leisure Research*, 28(3), 188.
- Manning, R. E., Lime, D. W., & Hof, M. (1996). Social carrying capacity of natural areas: Theory and application in the US national parks. *Natural Areas Journal*, 16(2), 118–127.
- Manning, R., Jacobi, C., Valliere, W., & Wang, B. (1998). Standards of quality in parks and recreation. *Parks & Recreation (Ashburn)*, 33(7), 88–94.
- Manning, R., & Wang, B. (1998). Social Science in the national park system: An assessment of visitor information. *Park Science*, 18(1), 16–17.
- Manzo, L. C. (2005). For better or worse: Exploring multiple dimensions of place meaning. *Journal of Environmental Psychology*, 25(1), 67–86.
- Marcus, C. C. (1992). Environmental memories. In *Place attachment* (pp. 87–112). Springer.
- Markwell, K. W. (1997). Photography as a visitor evaluation technique. *Australian Parks & Recreation*, 33(1), 21–23.
- Marques, C., Reis, E., Menezes, J., & Salgueiro, M. de F. (2015). Modelling preferences for nature-based recreation activities. *Leisure Studies*, 1–19.

- Masud, M. M., Aldakhil, A. M., Nassani, A. A., & Azam, M. N. (2017). Community-based ecotourism management for sustainable development of marine protected areas in Malaysia. *Ocean & Coastal Management*, 136, 104-112.
- Marshall, S. C. (2016). *The influence of place attachment, motivations for use, and litter on campers' evaluations of site conditions* (Doctoral dissertation, The University of Utah).
- Mathieson, A., & Wall, G. (1982). *Tourism, economic, physical and social impacts*. Longman.
- Mazanec, J. A. (2000). Market segmentation. *Encyclopedia of Tourism*, 374–375.
- McDonald, M., & Dunbar, I. (2004). *Market segmentation: How to do it, how to profit from it*. Butterworth-Heinemann.
- McHugh, M. L. (2013). The chi-square test of independence. *Biochemia Medica*, 23(2), 143–149.
- Meng, F., & Uysal, M. (2008). Effects of gender differences on perceptions of destination attributes, motivations, and travel values: An examination of a nature-based resort destination. *Journal of Sustainable Tourism*, 16(4), 445–466.
- Middleton, V. T. C., Fyall, A., Morgan, M., & Ranchhod, A. (2009). *Marketing in travel and tourism*. Routledge.
- Milligan, M. J. (1998). Interactional past and potential: The social construction of place attachment. *Symbolic Interaction*, 21(1), 1–33.
- Moore, R. L., & Graefe, A. R. (1994). Attachments to recreation settings: The case of rail-trail users. *Leisure Sciences*, 16(1), 17–31.
- Morantz, A. (2001). FEATURES-PARKS-ISLANDS IN THE STREAM-St. Lawrence Islands National Park tries to preserve its ecological integrity in the heart of a river playground. *Canadian Geographic*, 121(3), 66–79.
- Morrison, A. M. (1996). *Hospitality and travel marketing*. Delmar Publishers.
- Morrison, A. M. (2013). *Marketing and managing tourism destinations*. Routledge.
- Mueller, C. A., Wall, D. L., & Cottrell, S. P. (1997). An analysis of vehicle accidents involving white tailed deer: a geographic information systems case study. *General Technical Report-Northeastern Forest Experiment Station, USDA Forest Service, (NE-232)*, 187–191.

- Nair, V., Mohamed, B., Mohamed, B., Thomas, T. K., Thomas, T. K., ... & Teare, R. (2016). How can the tourism industry respond to the global challenges arising from climate change and environmental degradation?. *Worldwide Hospitality and Tourism Themes*, 8(5), 611-616.
- Ng, F. (1998). *The history and immigration of Asian Americans* (Vol. 1). Taylor & Francis.
- Ngugi, W. T. (1993). Moving the centre: The struggle for cultural freedoms. *London: James Currey*.
- Nuva, R., Shamsudin, M. N., Radam, A., & Shuib, A. (2009). Willingness to pay towards the conservation of ecotourism resources at Gunung Gede Pangrango National Park, West Java, Indonesia. *Journal of Sustainable Development*, 2(2), 173.
- O'Leary, J. T., Morrison, A. M., & Alzua, A. (1998). Cultural and heritage tourism: Identifying niches for international travelers. *Journal of Tourism Studies*, 9(2), 2.
- Oppermann, M. (2000). Tourism destination loyalty. *Journal of Travel Research*, 39(1), 78-84.
- Packer, J., & Ballantyne, R. (2002). Motivational factors and the visitor experience: A comparison of three sites. *Curator: The Museum Journal*, 45(3), 183-198.
- Park, D.-B., & Yoon, Y.-S. (2009). Segmentation by motivation in rural tourism: A Korean case study. *Tourism Management*, 30(1), 99-108.
- Park, J., & Jang, S. S. (2014). Psychographics: Static or dynamic? *International Journal of Tourism Research*, 16(4), 351-354.
- Park, K.-S., Reisinger, Y., & Park, C.-S. (2009). Visitors' Motivation for Attending Theme Parks in Orlando, Florida. *Event Management*, 13(2), 83-101.
- Pesonen, J. A., & Tuohino, A. (2015). Activity-based market segmentation of rural well-being tourists Comparing online information search. *Journal of Vacation Marketing*, 1356766715610163.
- Picard, D. (2015). Making ecotourism sustainable: refocusing on economic viability. Lessons learnt from the "Regional strategic action plan for coastal

- ecotourism development in the South Western Indian Ocean." *Journal of Sustainable Tourism*, 23(6), 819–837.
- Pituch, K. A., Whittaker, T. A., & Stevens, J. P. (2015). *Intermediate statistics: A modern approach*. Routledge.
- Plangmarn, A., Mujtaba, B. G., & Pirani, M. (2012). Cultural value and travel motivation of European tourists. *Journal of Applied Business Research*, 28(6), 1295.
- Plog, S. (2001). Why destination areas rise and fall in popularity. *Cornell Hospitality Quarterly*, 42(3), 13.
- Poria, Y., Butler, R., & Airey, D. (2003). The core of heritage tourism. *Annals of Tourism Research*, 30(1), 238–254.
- Prayag, G., & Ryan, C. (2012). Antecedents of tourists' loyalty to Mauritius: The role and influence of destination image, place attachment, personal involvement, and satisfaction. *Journal of Travel Research*, 51(3), 342–356.
- Proshansky, H. M. (1978). The city and self-identity. *Environment and Behavior*, 10(2), 147–169.
- Putit, N., Chan, M. K. Y., & Hanan, H. (2013). Creating risk management awareness in Park Guiding—a case study of Bako National Park, Sarawak, Malaysia. *Hospitality and Tourism: Synergizing Creativity and Innovation in Research*, 75.
- Quinn, L., & Dibb, S. (2010). Evaluating market-segmentation research priorities: Targeting re-emancipation. *Journal of Marketing Management*, 26(13-14), 1239–1255.
- Ram, Y., Björk, P., & Weidenfeld, A. (2016). Authenticity and place attachment of major visitor attractions. *Tourism Management*, 52, 110–122.
- Ramkissoon, H., & Mavondo, F. (2014). Proenvironmental behavior: The link between place attachment and place satisfaction. *Tourism Analysis*, 19(6), 673–688.
- Ramkissoon, H., Smith, L. D. G., & Kneebone, S. (2014). Visitor satisfaction and place attachment in national parks. *Tourism Analysis*, 19(3), 287–300.
- Ramkissoon, H., Smith, L. D. G., & Weiler, B. (2013). Testing the dimensionality of place attachment and its relationships with place satisfaction and pro-

environmental behaviours: A structural equation modelling approach. *Tourism Management*, 36, 552–566.

- Ramkissoon, H. (2016). Place satisfaction, place attachment and quality of life: development of a conceptual framework for island destinations. *Sustainable island tourism: competitiveness and quality of life*, 106-116.
- Ramkissoon, H., Weiler, B., & Smith, L. D. G. (2012). Place attachment and pro-environmental behaviour in national parks: The development of a conceptual framework. *Journal of Sustainable Tourism*, 20(2), 257–276.
- Ramli, Z. (2017). Heritage Tourism in Malaysia: Potential and Challenges. *The Social Sciences*, 12(3), 431-440.
- Raymond, C. M., Brown, G., & Robinson, G. M. (2011). The influence of place attachment, and moral and normative concerns on the conservation of native vegetation: A test of two behavioural models. *Journal of Environmental Psychology*, 31(4), 323–335.
- Reid, R. D., & Bojanic, D. C. (2009). *Hospitality marketing management*. John Wiley and Sons.
- Richards, G. (2000). Tourism and the world of culture and heritage. *Tourism Recreation Research*, 25(1), 9–17.
- Rickard, L. N., & Stedman, R. C. (2015). From ranger talks to radio stations: The role of communication in sense of place. *Journal of Leisure Research*, 47(1), 15.
- Rid, W., Ezeuduji, I. O., & Pröbstl-Haider, U. (2014). Segmentation by motivation for rural tourism activities in The Gambia. *Tourism Management*, 40, 102–116.
- Ritchie, B. W., Chien, P. M., & Sharifpour, M. (2016). Segmentation by Travel Related Risks: An Integrated Approach. *Journal of Travel & Tourism Marketing*, 1–16.
- Ritchie, J. R. B. (1999). Crafting a value-driven vision for a national tourism treasure. *Tourism Management*, 20(3), 273–282.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences [by] John T. Roscoe*. New York, NY: Holt, Rinehart and Winston.
- Rowles, G. D. (1983). Place and personal identity in old age: Observations from Appalachia. *Journal of Environmental Psychology*, 3(4), 299–313.

- Rudež, H. N. (2012). Segmentation in tourism: a holistic approach for future research. *Academica Turistica-Tourism and Innovation Journal*, 5(2), 19–26.
- Ryan, R. 2006. The Humane Metropolis: People and Nature in the 21st-Century City. In Platt, R.H. (Ed.). *The Role of Place Attachment in Sustaining Urban Parks*. Cambridge: University of Massachusetts Press
- Savage, C. (2000). FEATURES-NATIONAL PARKS-A HIGHWAY RUNS THROUGH IT-Underpasses, overpasses and fencing protect Banff's wildlife from traffic on the Trans-Canada. Are they enough? *Canadian Geographic*, 120(5), 34–43.
- Scannell, L., & Gifford, R. (2010). Defining place attachment: A tripartite organizing framework. *Journal of Environmental Psychology*, 30(1), 1–10.
- Schwartz, Z., Stewart, W., & Backlund, E. A. (2012). Visitation at capacity-constrained tourism destinations: Exploring revenue management at a national park. *Tourism Management*, 33(3), 500–508.
- Shumaker, S. A., & Taylor, R. B. (1983). Toward a clarification of people-place relationships: A model of attachment to place. *Environmental Psychology: Directions and Perspectives*, 2, 19–25.
- Simkin, L. (2008). Achieving market segmentation from B2B sectorisation. *Journal of Business & Industrial Marketing*, 23(7), 464–474.
- Singh, D. R. (2008). Small Island Developing States (SIDS): tourism and economic development. *Tourism Analysis*, 13(5-6), 629–636.
- Sirakaya, E., & McLellan, R. W. (1998). Modeling tour operators' voluntary compliance with ecotourism principles: A behavioral approach. *Journal of Travel Research*, 36(3), 42–55.
- Smith, J. W., Siderelis, C., & Moore, R. L. (2010). The effects of place attachment, hypothetical site modifications and use levels on recreation behavior. *Journal of Leisure Research*, 42(4), 621.
- Spenceley, A. (2015). Tourism and the IUCN World Parks Congress 2014. *Journal of Sustainable Tourism*, 23(7), 1114–1116.
- Steenkamp, J.-B. E. M., & Ter Hofstede, F. (2002). International market segmentation: issues and perspectives. *International Journal of Research in Marketing*, 19(3), 185–213.

- Stewart, W. P., Williams, D. R., & Kruger, L. (2013). *Place-based conservation: Perspectives from the social sciences*. Springer Science & Business Media.
- Suntikul, W., & Jachna, T. (2016). The co-creation/place attachment nexus. *Tourism Management, 52*, 276–286.
- Taylor, D. E. (2000). Meeting the challenge of wild land recreation management: Demographic shifts and social inequality. *Journal of Leisure Research, 32*(1), 171.
- Tonge, J., Ryan, M. M., Moore, S. A., & Beckley, L. E. (2015). The effect of place attachment on pro-environment behavioral intentions of visitors to coastal natural area tourist destinations. *Journal of Travel Research, 54*(6), 730–743.
- Tourism Malaysia (2017), <http://mytourismdata.tourism.gov.my/>
- Towner, J. (1995). What is tourism's history? *Tourism Management, 16*(5), 339–343.
- Towner, J. (1996). *An historical geography of recreation and tourism in the western world: 1540-1940*. John Wiley & Sons Ltd.
- UNWTO, T. O. (2014). Tourism Highlights, 2014 edition. *World*.
- Vacha-Haase, T., & Thompson, B. (2004). How to estimate and interpret various effect sizes. *Journal of Counseling Psychology, 51*(4), 473.
- Vaske, J. J., & Kobrin, K. C. (2001). Place attachment and environmentally responsible behavior. *The Journal of Environmental Education, 32*(4), 16–21.
- Veisten, K., Haukeland, J. V., Baardsen, S., Degnes-Ødemark, H., & Grue, B. (2015). Tourist segments for new facilities in national park areas: Profiling tourists in Norway based on psychographics and demographics. *Journal of Hospitality Marketing & Management, 24*(5), 486–510.
- Venter, P., Wright, A., & Dibb, S. (2015). Performing market segmentation: a performative perspective. *Journal of Marketing Management, 31*(1-2), 62–83.

- Vespestad, M. K., & Mehmetoglu, M. (2015). Gender Differences in Vacation Behavior. *Tourism Review International*, 19(3), 147–161.
- Wearing, S., & Bowden, I. (1999). Tourism and a changing Public Sector culture for Parks. *Australian Parks and Leisure*, 1(3), 6–8.
- Weaver, D. B., & Lawton, L. J. (2002). Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia. *Journal of Travel Research*, 40(3), 270–280.
- Weaver, D. B., & Lawton, L. J. (2004). Visitor attitudes toward tourism development and product integration in an Australian urban-rural fringe. *Journal of Travel Research*, 42(3), 286–296.
- Weber, D., & Anderson, D. (2010). Contact with nature: Recreation experience preferences in Australian parks. *Annals of Leisure Research*, 13(1-2), 46–69.
- Wells, W. D. (1975). Psychographics: A critical review. *Journal of Marketing Research*, 196–213.
- WENG, C. N., MOHAMED, B., & WERN, H. C. (n.d.). Potentials, Threats and Challenges in Managing Natural Heritage in the Penang National Park.
- Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: Examining emotional and symbolic attachment to place. *Leisure Sciences*, 14(1), 29–46.
- Williams, D. R., Stewart, W. P., & Kruger, L. E. (2013). The emergence of place-based conservation. In *Place-Based Conservation* (pp. 1–17). Springer.
- Williams, D. R., & Vaske, J. J. (2003). The measurement of place attachment: Validity and generalizability of a psychometric approach. *Forest Science*, 49(6), 830–840.
- Wilson, W. R., Szolosi, A. M., Martin, B., & Scanlan, S. J. (2014). Identifying with the Gunks: Investigating the effect of serious leisure participation and place attachment on environmental concern among traditional climbers. *Journal of Outdoor Recreation, Education, and Leadership*, 6(2), 114–132.
- Wolf, I. D., Stricker, H. K., & Hagenloh, G. (2015). Outcome-focused national park experience management: transforming participants, promoting social well-being, and fostering place attachment. *Journal of Sustainable Tourism*, 23(3), 358–381.

- Wright, R. G. (1998). A review of the relationships between visitors and ungulates in national parks. *Wildlife Society Bulletin*, 471–476.
- Wynveen, C. J., Kyle, G. T., & Sutton, S. G. (2012). Natural area visitors' place meaning and place attachment ascribed to a marine setting. *Journal of Environmental Psychology*, 32(4), 287–296.
- Yankelovich, D., & Meer, D. (2006). Rediscovering market segmentation. *Harvard Business Review*, 84(2), 122.
- Yeoman, I. (2009). *Tomorrow's tourist: scenarios & trends*. Routledge.
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: a structural model. *Tourism Management*, 26(1), 45–56.
- Yuksel, A., Yuksel, F., & Bilim, Y. (2010). Destination attachment: Effects on customer satisfaction and cognitive, affective and conative loyalty. *Tourism Management*, 31(2), 274–284.
- Zaiton, S., Herman, S., Alias, R., & Mohd Rusli, Y. (2012). Willingness to pay for conservation fee at Penang National Park. *Malaysian Forester*, 75(1), 41–50.
- Zografos, C., & Allcroft, D. (2007). The environmental values of potential ecotourists: A segmentation study. *Journal of Sustainable Tourism*, 15(1), 44–66.