

## FOREST-BASED TOURISM IN SRI LANKA: MARKET SEGMENTATION ON TRAVELER PRE-TRIP EXTERNAL INFORMATION SEARCH BEHAVIOR

W.A.R.T.W.Bandara<sup>1</sup>  
Senior lecturer Department of Zoology  
University of Kelaniya  
Sri Lanaka  
e-mail: rangika@kln.ac.lk

Richard Vlosky<sup>2</sup>  
Director and Professor  
Crosby Land & Resources Endowed Professor in Forest Sector Business Development  
Louisiana Forest Products Development Center  
Rm. 227, School of Renewable Natural Resources  
Louisiana State University Agricultural Center  
Baton Rouge, LA 70803  
e-mail: rvlosky@agcenter.lsu.edu  
www.lfpdc.lsu.edu

---

### ABSTRACT

*With the rising demand for ecotourism in today's dynamic global environment ecotourism operators may face difficulties in competing with one another to market available products and services for diverse customers. Therefore, an improved understanding of how tourists acquire information about a destination is important in destination marketing. Primary objectives of this paper are to identify consumer segments for forest-based ecotourism market in Sri Lanka based on traveler external information search behavior and develop customer profiles in terms of demographic, socio-economic, and customers' actual travel decisions. Data were gathered by conducting face to face interviews using a pre tested questionnaire at three selected publicly-managed, forest-based, protected areas with diverse ecological variations and differing ecotourism settings in Sri Lanka. The sample population consisted of domestic and international travelers from age 18 years or above. During the study period, from the opening to the closure, every third tourist exiting from three sites were interviewed. This study identifies four distinct market segments, 1) impulsive searchers, 2) active seekers, 3) passive seekers and, 4) provider dependents, based on ecotourists' utilization of external information sources in selecting forest-based tourism destinations. Also this paper compares derived segments in the context of ecotourists' actual travel related decisions, such as destination choice, estimated expenses and the length of stay at the destination which are important factors for destination marketers to make marketing decisions to attract their interested market segments. Further, study findings can help marketers to identify the source of information and information distribution channel to attract their relevant segments and by using this information marketers can attract different segments during different seasons of the year.*

Key words: Forest-based tourism, pre-trip information search, market segments

---

### Introduction

In the 1980s, the term *ecotourism* emerged as a direct result of acknowledgment and reaction by travelers to global ecological practices. Ecotourism focuses on the concept of nature-based elements in travel activities to enhance visitor experiences, as well as an increased desire to minimize adverse impacts of tourism to the environment. Further, ecotourism considers the wellbeing of local people and including educational components in travel activities. Ecotourism as a business is widely growing throughout the world and large scale development of Ecotourism practices were supported by concrete evidence that consumers were shifting away from mass tourism and seeking experiences of a more individualistic and enriching nature (Wight, 1993; Steward and Sekartjakrarini, 1994; Wall, 1997; Diamantis, 1999).

With the rising demand for ecotourism in today's dynamic global environment ecotourism operators may face difficulties in competing with one another to market available products and services for diverse customers or clients (Wight, 1993; Steward and Sekartjakrarini, 1994; Wall, 1997; Diamantis, 1999; Higham and Carr, 2002). Therefore, specifically tailored sound marketing orientation is very important for successful marketing of tourism destinations (Morrison, 2000). One crucial concept of sound marketing consists of an exchange of information regarding a particular product or service (Fesenmaier and Vogt, 1992).

In overseas travelling, information searching is necessary to select a destination as well as for traveler on-site decisions such as selecting accommodation, transportation, and tours (Filiatrault and Ritchie, 1980; Jenkins, 1978; Perdue, 1985; Snepenger et al., 1990). Information for each available alternative and accompanying attributes carry the capability to maximize the final decision

of a rational consumer (Pan and Fesenmaier, 2001; Assael, 1995). According to Gronflaten (2005), travelers tend to gather and utilize information relating to their trip at different phases of an entire trip.

Drawing from numerous extant classifications, an internal search vs. external search classification system is fundamental for collecting information. When a search takes place, a consumer initially performs an internal search, using his or her past experiences to plan the vacation (Schul and Crompton, 1983 in Fodness and Murray 1997). Most often, consumer memory is insufficient to make decisions. Consumers tend to engage in an extended search when purchasing higher priced, and more complex services, which intrinsically create a greater perceived risk such as overseas travels (Beatty & Smith, 1986). When talking about tourism, travelers tend to extend a search from internal search to use various external information sources (Schul and Crompton, 1983 in Fodness and Murray 1997). According to the scholars in the field, travelers' search is predominantly external, and thus involves an added effort, as well as a variety of external information sources (Schul and Crompton, 1983, Fodness and Murray, 1997).

Tourism is a service industry where management focuses on productivity and quality of the service (Otto and Ritchie, 1996). Quality of the service is often rated by satisfaction (Qu and Tsang, 1998). Satisfaction is measured by the difference between expected and experienced service (Gronroos, 1988 in Reichel et al. 1999, Zeithmal et al., 2009). Consumer satisfaction can be increased by narrowing the gap between expected and experienced service. Expected quality of the intangible service is determined by marketing communication tangibles, word of mouth, image, and customer needs, while experienced quality is determined by the technical and functional quality mediated by the image (Kotler, 1997). Out of marketing communication tangibles information sources are the most popular one that consumers use to perceive an expected quality in service industry including tourism. In this instance, external information is very crucial to increase customer satisfaction in the industry.

As in the consumer behavior in many products, conceptual and empirical examination of the information search behavior has a long tradition in tourism literature (Etzel and Wahlers, 1985; Fodness and Murray, 1997, 1998, 1999; Perdue, 1985; Raitz and Dakhil, 1989; Schul and Crompton, 1983; Snepenger and Snepenger 1993; Woodside and Ronkainen, 1980). In the tourism literature, Schul and Crompton (1983) examined the travel-specific psychographic statements and socio-demographic variables used to predict and explain the external information search behavior of international travelers. Fodness and Murray (1998) proposed that leisure traveler perceptions of tourist information sources are based on three underlying dimensions: space, time, and operation. Fodness and Murray (1999) expanded their study to test how search contingencies, individual tourist characteristics, and information search strategies are related to behavioral search outcomes. Woodside and Ronkainen (1980) found that only about 20 percent of travelers to South Carolina utilize travel agents, motor clubs, and tour operators to help plan their trips. They also noted that overseas, first-time travelers to a destination were prone to use travel agents and tour operators more frequently (Woodside & Ronkainen, 1980). Snepenger et al. (1990) studied the information search strategies of first time visitors to Alaska. Their study indicated that a large segment of first-time visitors (destination naive travelers) to Alaska utilized travel agents as the main source of external information. Fesenmaier and Vogt's study (as cited in Snepenger & Snepenger, 1993) on the use of information at state welcome centers suggested that a majority of travelers stopping at the welcome centers did not utilize any external information sources prior to their trip. Lo et al. (2002) compared the business and leisure travelers' information search behavior with special reference to the information sources they use. In 2004, Luo et al. found how the Internet, as a new form and popular mode of media, increased tourist pre-trip information search behavior. All aforementioned findings and conclusions in the tourism literature ultimately imply that travelers usually engage in external information search before they make their travel decisions hence traveler external information search behavior plays a pivotal role in tourism industry.

When talk about the concept of ecotourism particularly it is more to highly bio-diverse countries with unique natural attractions. Palau, Costa Rica, Kenya, Honduras, Thailand, Malaysia, Norwegian Fjords, Kerala: India are some of the dominant ecotourism destinations in the world. According to Weaver (2002), three major regions dominating the Asian ecotourism sector namely the rainforest and reef region, mountain trekking and blossom and waterfall region. Out of Asian ecotourism destinations Thailand, Malaysia, Japan, South Korea and Taiwan consist of many components related to ecotourism. In Asian region, Sri Lanka is an island lying in the Indian ocean, presenting a significant tourism resource base, that display natural and cultural phenomena. Sri Lanka consists of tropical rainforests, reef regions, mountain trekking and blossoming areas and easily access waterfall regions providing a unique setup for ecotourism activities. Further, exotic flora and fauna, high endemism, and a heritage equally as ancient and as rich as the Greeks and Romans strengthen the ecotourism markets in Sri Lanka (De Silva, 2000). Additionally, publicly managed protected areas provide a vast setting for ecotourism-related activities (Weaver, 2001). The Department of Forest Conservation and the Department of Wildlife Conservation in Sri Lanka alone administer 501 protected areas which have been declared in the country. The extent of total, protected area encompasses a staggering 1,767,000 ha, which accounts for 26.5 percent of total land area. Obviously, Sri Lanka maintains a relatively high percentage of protected land, as compared to other countries in the world. In addition, the country constitutes the greatest protected areas in Asia (wildlifesrilanka.org, 2010). These high-profile protected areas of Sri Lanka considered icons in the sphere of tourist attractions. As an example, Sinharaja primary rainforest, which has been designated a biosphere reserve, as well as a world heritage site. Small size of the island (65,610 sq. km) affords an open door to diverse attractions. Although the country carries the potential to develop ecotourism, country specific studies and destination promotion attempts have been limited in the tourism marketing literature. Since the country has a potential in ecotourism marketing, studies are needed to support and strengthen the ecotourism marketing by providing destination marketers and relevant authorities with required scientific information to improve the sector. As discussed previously, in order to realize the full potential of tourism marketing, those who market destinations should understand the importance of external information source behavior of travelers in various aspects including information demands, information channels as well as the widely use information sources, how travelers process information in order to

make travel decisions etc. Studies on traveler pre-trip information search behavior is one of the appealing areas to be experimented in order to understand how travelers make decisions about their visit and those information are very much needed by the destination marketers to properly cater their customers. Destinations, in particular, embrace this approach by producing marketing-oriented information such as brochures, maps, videos, magazines, and newspaper advertisements, as well as participating in editorial communications including guidebooks, destination publications, magazines and newspaper articles (Vogt and Fesenmaier, 1998). With all these marketing oriented external information sources, it is important to study various information sources and how travelers use them in order to understand their external information search behavior.

This study was conducted using Sri Lanka as ecotourism destination with following study objectives;

1. A primary objective of this paper is to identify consumer segments for forest-based ecotourism market in Sri Lanka based on traveler external information search behavior
2. Develop traveler profiles of each segment in terms of demographic, socio-economic, and actual travel decisions

Rest of this article describes the study sample, sampling procedure, analysis procedures of collected data which used to achieve study objectives. Latter part of the paper discusses the major study findings and conclusions derived based on study findings.

### Research design

To obtain the information outlined in the statement of objectives off site information material were considered for offsite survey. Since traveler decisions, their attitudes and behaviors for the sample selected cannot be exactly extracted from offsite information sources such as reports, data bases, books etc on-site survey method was selected. Since desired information primarily relates to characteristics of the individual's visit as length of stay, expenditures related to the visit, etc. the person-visit was considered as the sampling unit.

In order to understand a representative picture of forest based destination travelers' in Sri Lanka questionnaire survey was carried out in three selected primary forest based destinations in Sri Lanka. In behavioral studies, survey research is the widely used method to analyze attitudes and characteristics of a large population. A well designed survey will enhance researchers understanding on human behavior including tourist information search behavior. Surveys are efficient in collecting many variables at a relatively low cost. Data were gathered by conducting face to face interviews using pre-tested questionnaires. Questionnaire was pre-tested at same selected study locations before conducting the original survey. Corrections and amendments were done to the questionnaire accordingly before implementing the project. Face to face interview method has been selected over mail surveys since the response rate from personal interviews is greater than that of a mail survey (Dillman, 2000).

The current study selected three publicly-managed, forest-based, protected areas in Sri Lanka with diverse ecological variations and differing ecotourism settings. Sri Lanka has been selected as a study destination since its huge ecotourism potential as discussed in the introduction as well as lack of focused studies to develop the sector. The three selected study sites were, Sinharaja Rain Forest, Horton Plains National Park, and Yala Wildlife Sanctuary. Sinharaja Rain Forest is a wet zone evergreen rain forest and has been designated as a world's biosphere reserve while Horton Plains National Park can be considered as a montane grassland stretches up to an elevation of 2100-2300 m and Yala national park which has been designated as a wildlife Sanctuary located in downsouth Sri Lanka in association with the beach. According to the Sri Lanka Tourist Board statistics (2009), in 2009, visitor records of the Yala National Park and Horton Plains National Park evidenced a considerably high visitor records relative to the other extant forest-based destinations in Sri Lanka. Though past visitor records from Sinharaja Rain Forest were not high as other two destinations, as a world heritage site and the largest remaining primary forest in Sri Lanka, Sinharaja has been recorded significant visitor arrivals. Author believed that selecting destinations with high foreign as well as domestic visitor arrivals may facilitate to obtain a more representative sample across domestic and foreign travelers. In addition, choosing destinations with substantially high visitor records may provide an opportunity for a speedy data collection. The survey sampled 600 visitors to above three destinations. Population of interest is the total number of visitors to three study sites during the period of data collection.

The sample population consisted of domestic and international travelers from age 18 years or above, who visited the three study sites during October 2009 to February 2010. The study interviewed every third tourist exiting from the sites. The sampling design was determined, based on the number of tourists per day during the study season, destination statistics/annual reports, and weather conditions. The response rate can be considered as the percentage of respondents who respond to the survey (Dillman, 2000). Out of 600 respondents targeted, 472 responded, for a response rate of 79 percent. However, the usable response rate was 71 percent.

A survey questionnaire was used as the research instrument. According to Swait and Adamowicz (2001), response efficiency for choice-based experiment questions may be significantly affected by the length and difficulty of the choice tasks. In order to avoid that problem, Adamowicz et al., 1998, (as cited in Aguilar, 2007) suggested that a large number of choice scenarios be organized into smaller, more desirable size sections/subsets. According to Dillman et al. (1993), (as cited in Aguilar, 2007), the response rate can be relatively low when a questionnaire includes items related to personal information, such as name and residence. The survey instrument was developed with the consideration of above facts in mind.

The 5-point scaling questions, anchored by 1 = strongly disagree to 5 = strongly agree, measured the respondents' level of agreement with various listed external information sources. In addition, the questionnaire includes scale, fixed, and open-ended questions to measure respondents' actual search outcomes, demographics, and socio economic variables.

### Data analysis

Mean responses were used to analyze the data on external information sources. Cluster analysis and analysis of variance were used to describe the consumer segments with different information needs and make marketer important travel decisions. The purpose of clustering is to categorize subjects into homogeneous groups, based on similarities and differences. Cluster analysis has wide implications in marketing research. It is often used to identify market segments in the marketing environment. For instance, Ozanne and Vlosky (2000) used cluster analysis to identify consumer market segments, based on consumer perceptions on forest certification. Researchers often use clustering to study different behaviors of groups for the same variable. Furthermore, grouping of numerous subjects into a few groups expands the ability to explore of group characteristics, rather than those of each individual (Hair et al., 1998, Ozanne and Vlosky, 2000).

### Profile of Respondents

The respondent's socio demographic variables were analyzed to examine their profiles and results are listed in Table 1. The demographic characteristics of age, income, marital status, gender, and education were examined in this study to provide a descriptive profile of the survey respondents. According to the observed total values given in Table 1, most respondents fell in to the age group of 36-45 years followed by 46-55 years, and 56-65 years. The majority of respondents were unmarried. Although the married individuals were the dominant in foreign visitor group, local visitors were dominated by singles.

Respondents were asked to include their monthly household income in an open-ended question. Significant percentage of respondents left this question blanks than for any other question on the survey, with only 277 of the 430 respondents providing information regarding their annual household income. For those who did answer this question, their mean monthly income was US \$ 2517. A greater discrepancy of mean monthly income was observed among respondents from various countries. In fact, mean monthly incomes greatly differed between local and foreign travelers. Of the 430 individuals who provided gender information, more than 60 percent of respondents were males. Males were the dominant in both local and foreign categories.

Table 1: Demographic characteristics of respondents

	Local visitors (n=286)	Foreign visitors (n=138)	Total (n=424)
<b>Age</b>			
18-25 years	14.3%	9.4%	12.7%
26-35 years	16.4%	11.6%	14.9%
36-45 years	28.7%	26.8%	28.1%
46-55 years	17.8%	23.2%	19.6%
56-65 years	15.7%	18.8%	16.7%
66 or older	7.0%	10.1%	8.0%
<b>Gender</b>	<b>(n=278)</b>	<b>(n=138)</b>	<b>(n=416)</b>
Male	61.2%	62.3%	61.5%
Female	38.8%	37.7%	38.5%
<b>Education</b>	<b>(n=278)</b>	<b>(n=138)</b>	<b>(n=416)</b>
High school or below	27.7%	24.6%	26.7%
Diploma	38.5%	23.2%	33.4%
Bachelor's degree	21.2%	31.2%	24.5%
Some graduate education	11.2%	15.9%	12.7%
Graduate degree	1.4%	5.1%	2.6%
<b>Marital status</b>	<b>(n=272)</b>	<b>(n=138)</b>	<b>(n=410)</b>
Married	37.9%	53.6%	43.2%
Unmarried	68.7%	29.0%	50.0%
Separate/divorced	1.5%	13.8%	5.6%
Widow/widower	0%	3.6%	1.2%
<b>Mean monthly income in \$ U.S.</b>	<b>(n=189)</b>	<b>(n=88)</b>	<b>(n=277)</b>
	<b>357.72</b>	<b>7153.98</b>	<b>2516.82</b>

### Use of External Information Sources

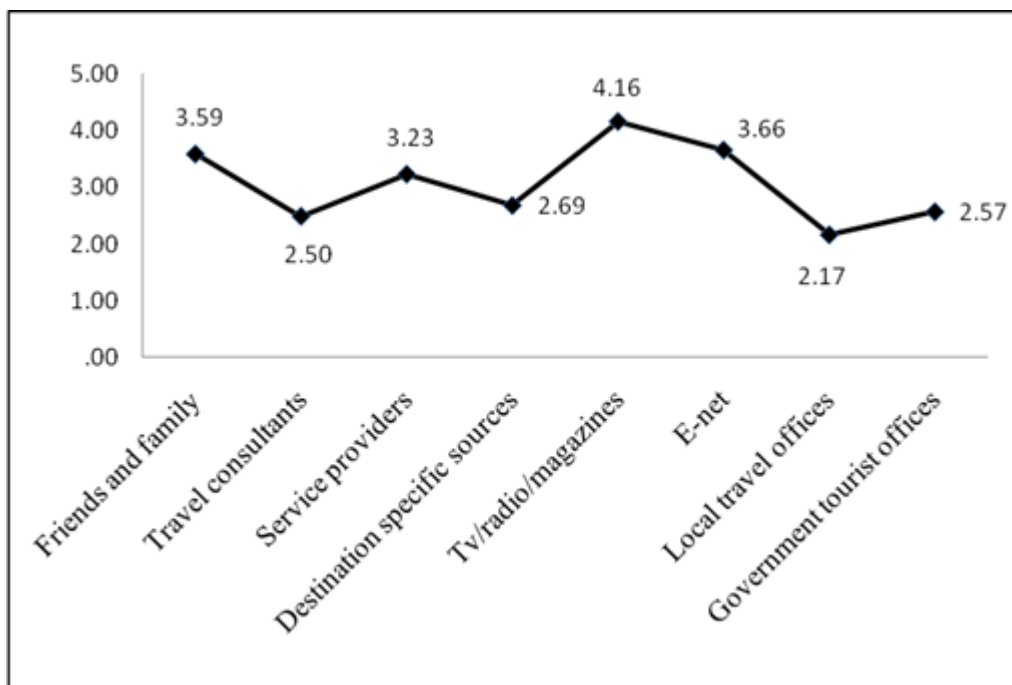
Understanding the information search behavior of an ecotourist, particularly in relation to external information search is the primary objective of this study. International leisure travelers often search information by means of a variety of sources and channels, and thus spend more time than retail purchasers before making purchasing decisions (Schul and Crompton, 1983). In other words, international leisure travelers acquire information from secondary and tertiary information sources, and this involves more sources of information than in consumer product purchases from a retail store. The sources of information that are used in external information search can be classified into several types, such as market-controlled (advertising, product/service information package, product brochures), reseller information (catalogs by sellers, information charts, travel consultants), third party independent organizations (TV, newspapers, magazine articles), interpersonal sources (friends, acquaintances), and direct inspection (observation, inference).

In order to examine the most popular external information sources, rather than types/categories of external information sources used by visitors to forest-based recreational destinations in Sri Lanka, respondents were given a choice for each external information source. For example, instead of asking “information from reseller (i.e., catalogs by sellers, information charts, and travel consultants)” respondents were given two different choices: “information from destination specific sources,” and “information from travel consultants”. The researcher believed that giving a choice for all possible external information sources may enhance managerial implications of this study by understanding the most demanding external information source/s for the forest based ecotourism destinations in Sri Lanka.

Respondents were asked to state their level of agreement in 1-5 Likert scale on a given list of external information sources they used in planning their trip. The given list of information sources are as follows: 1) From friends and family 2) From travel consultants (i.e., travel agents), 3) From tourism service providers (i.e., Hotel, Airline, Tour operators. etc.), 4) From destination specific sources (e.g., Convention and Visitors Bureau and/or Chamber of Commerce), 5) From TV, radio, newspaper, and/or magazine advertisements, 6) From the Internet, 7) From local travel offices near the travel destination, and 8) From national government tourist offices

Figure 1 illustrates mean values of respondents’ utilization of the eight specified external information sources before they plan their trip. Results showed that respondents had used several different sources of information during their pre-trip planning process. As seen in Figure 1, TV/radio/magazines followed by e-net, and friends and family were the most commonly utilized external information source by respondents. Local travel offices followed by travel consultants and government tourist offices were the least favored information sources.

Figure 1: Level of utilization of external information sources by study respondents (N=430)



#### Use of External Information Sources: Domestic vs. Foreign Visitors

In order to identify the most popular information sources for local and foreign visitors, mean responses were analysed by grouping respondents in to 2 groups, based on their country of residence. Respondents from countries other than Sri Lanka were collectively grouped in to “foreign visitors” category.

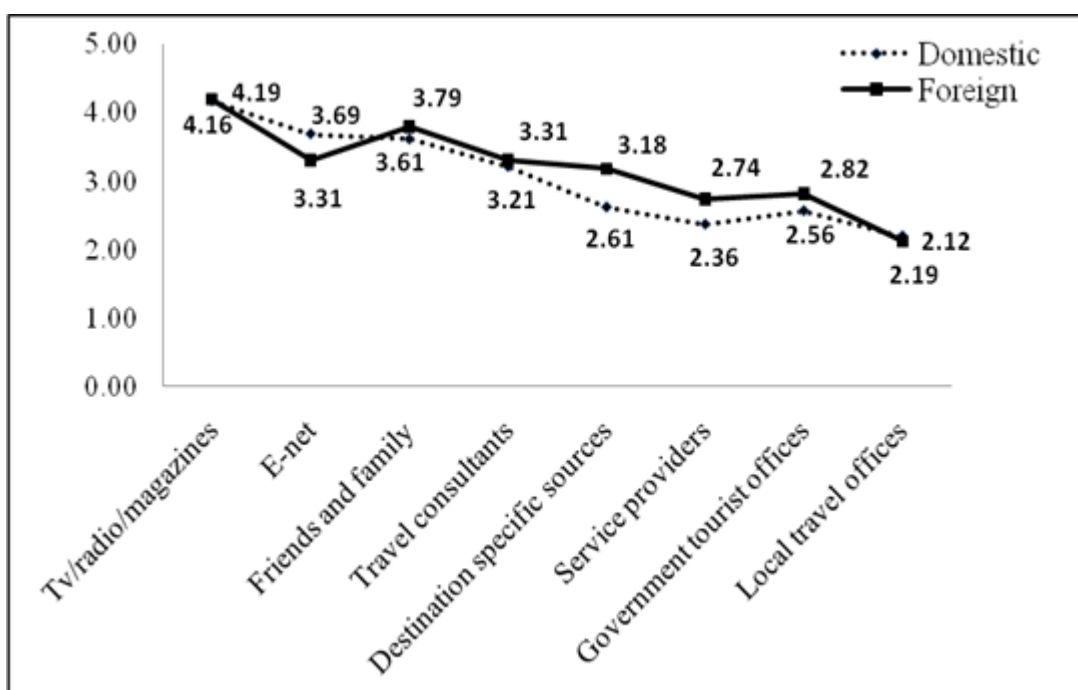


Figure 2, illustrates the mean level of agreement to different external information sources utilised by domestic and foreign respondents. For both domestic and international travellers, TV/radio/ magazines appear to be the most popular source for acquiring pre-trip information. This was followed by “friends and family” or word of mouth from friends or relatives who had been to the destination before. E-net and travel consultants were the other most frequently used information sources by both visitor groups. In general, relative importance of information sources for domestic travelers closely followed the pattern observed for foreign travelers (Figure 2). Interestingly, utilisation of e-net showed a mean value of (3.69) for domestic travelers, which in fact exceeded the mean value for foreign respondents. One possible explanation for this is the dramatic increment of the popularity of e-net in the recent past due to its availability and affordability in domestic market. Ranking the TV/radio/magazines as the most popular information source among domestic travelers may be possibly explained by the government’s post-war tourism promotional efforts. Eventhough destination specific sources seem to be less-frequently used by domestic travelers, destination specific sources seem to be a preferable information source among foreign respondents.

The mean values of different information sources used by domestic and foreign travelers emphasize that their country of origin may affect the selection of information sources. In order to examine the impact of country of origin (domestic or foreign) on the use of information sources a series of t-tests were conducted.

According to the test results, means of utilization of travel consultants were significantly equal at (p=0.05) significance level. Other than the utilization of travel consultants, the use of other given external information sources were significantly different among domestic and foreign travelers at (p=0.05) significance level.

Figure 2: Level of utilization of external information sources utilization by domestic vs. foreign respondents (N=430)



### Segmentation of Forest-Based Tourism Market in Sri Lanka Using Cluster Analysis

The purpose of clustering is to categorize subjects into homogeneous groups, based on similarities and differences. Researchers often use clustering to study different behaviors of groups for the same variable. Furthermore, grouping of numerous subjects into a few groups expands the ability to explore group characteristics (Hair et al, 1998, Ozanne and Vlosky, 2000).

Cluster analysis was employed to identify the homogeneous visitor clusters based on their information sources usage. The decision of choosing an appropriate cluster number depends on various factors, namely a-priori criteria, practical judgment, common sense, or theoretical foundation (Hair et al. 1992, Ozanne and Vlosky, 2000). Since cluster analysis does not provide clear guidelines for choosing a solution, solutions with different numbers of clusters are often considered. In this analysis, responses to utilization of external information sources were classified in to three, four and five segments using cluster analysis. A four-cluster solution was selected since it adequately differentiated each cluster, and was easily interpretable.

One Way ANOVA test was performed with Scheffe’s post-hoc analysis to see which variables are significantly different among different clusters. ANOVA table of cluster analysis shows that all the listed information sources used to categorize individuals are significant at (p=0.05) significance level (Table 2).

For the four clusters identified, means for each external information source was calculated. Cluster mean score for each information source is listed in Table 2. According to the results of cluster analysis, the first cluster accounted for 32.38% of respondents while second, third, and fourth clusters accounted for 22.85 percent, 21.19 percent, and 23.57 percent of respondents, respectively. Cluster 1 consists of relatively larger amount of respondents. Percentages of respondents in cluster 2, cluster 3 and cluster 4 were nearly equal.

Clusters were named based on the relative importance allotted on each external information source by members of each cluster. For the purpose of naming clusters, information sources with mean values greater than 4 were utilized. Since members of cluster 1 were more reliant on friends and family (4.51) followed by TV/radio/ magazines for their pre-trip information search, cluster 1 was named as “impulsive searchers”.

Members of cluster 2 highly related with 4 of the given 8 information sources: TV/radio/ magazines (4.58), friends and family (4.26), e-net (4.10), and travel consultants (4.27). Hence, they seem to be interested in variety of external information sources. Therefore, cluster 2 was named as “active seekers.” Since cluster 3 members did not use any of the information sources in to a greater extent, cluster 3 was given the name of “passive seekers”. Cluster 4, where its members were greatly dependant on service providers for pre-trip information, was identified as “provider dependants” (Table 2).

Table 2: Final cluster centers for external information search questions

Source of information	Cluster 1	Cluster 2	Cluster 3	Cluster 4	F value	Sig.
	(n=118) Mean <sup>a</sup>	(n=146) Mean <sup>a</sup>	(n=65) Mean <sup>a</sup>	(n=101) Mean <sup>a</sup>		
Friends and family	4.51	4.26	2.11	2.65	114.472 <sup>c</sup>	0.000
Travel consultants	1.81	3.05	2.34	2.51	19.746 <sup>d</sup>	0.000
Service providers	2.16	4.1	1.51	4.24	169.47 <sup>e</sup>	0.000
Destination specific sources	1.86	3.59	2.48	2.37	51.866 <sup>f</sup>	0.000
TV/radio/magazines	4.12	4.58	3.92	3.77	14.813 <sup>g</sup>	0.000
E-net	3.93	4.27	2.29	3.37	49.431 <sup>h</sup>	0.000
Local travel offices	2.18	2.34	2.2	1.94	3.599 <sup>i</sup>	0.014
Government tourist offices	2.15	3.29	2.11	2.3	27.972 <sup>j</sup>	0.000

<sup>a</sup>Mean value of agreement using a 5-point Likert scale: 1=strongly disagree; 3=neither disagree nor agree; 5=strongly agree

<sup>b</sup>A Scheffe one-way analysis of variance

<sup>c</sup>1 differs from 3,4; 2 differs from 3,4; 3 differs from 1,2,4; 4 differs from 1,2,3.

<sup>d</sup>1 differs from 2,4; 2 differs from 1,3,4; 3 differs from 2,4.

<sup>e</sup>1 differs from 2,3,4; 2 differs from 1,3; 4 differs from 1,3.

<sup>f</sup>1 differs from 2,3,4; 3 differs from 1,2; 4 differs from 1,2.

<sup>g</sup>1 differs from 2; 2 differs from 1,3,4; 3 differs from 2; 4 differs from 2.

<sup>h</sup>1 differs from 3,4; 2 differs from 3,4; 3 differs from 1,2,4; 4 differs from 1,2,3

<sup>i</sup>2 differs from 4.

<sup>j</sup>1 differs from 2; 2 differs from 1,3,4; 3 differs from 2; 4 differs from 2.

### Identified Market Segments and Segment Profiles

In order to develop socio demographic profiles, respondents’ socio demographic variables of each cluster were analyzed. Resulted profiles are listed in Table 3. Based on the results, clusters could be visually identified using their socio demographic variables. Study findings suggest that more than 55 percent of travelers in cluster 1 (impulsive searchers) are married males, have a diploma, and approximately half of the respondents lie in the age group of 36-55 years. Therefore, “impulsive searchers” are characterized by middle aged, married males with somewhat higher education level.

According to the study findings, nearly 72 percent of members in cluster 2 were unmarried males. Eventhough the age distribution of cluster 2 members was scattered among the age groups, approximately 40 percent of respondents were in the age group of 36-45 years. Close to 70 percent of respondents has either a bachelor’s degree (42.3 percent) or a diploma (26.8 percent). A typical “active seeker” is a middle aged married male with a high education level.

Cluster 3 was predominantly consists of young individuals in the age group of 18-25 years (35.4 percent) and 26-35 years (47.7 percent). Nearly half of the respondents are married (52.5 percent) while 43 percent of respondents are unmarried. Individuals with higher educational levels were less in this cluster 3 and approximately 60 percent of respondents were high school graduates. “Passive seekers’ are characterized by relatively young females with moderate education.

According to the Table 3, cluster 4 respondents can be described as older individuals since approximately 68 percent of respondents were 56 years or older. Education levels of most of the cluster 4 members were relatively higher than that of other

clusters. Approximately 60 percent of respondents had a higher education including a bachelor's degree (21.0 percent), some graduate education (33.0 percent), or a graduate degree (7.0 percent). "Provider dependents" pre dominantly represent highly educated males, who are mostly over 55 years old.

Table 3: Socio-demographic profile of each cluster

	<b>Clu 1-Impulsive searchers</b>	<b>Clu 2-Active seekers</b>	<b>Clu 3- Passive seekers</b>	<b>Clu 4-Provider dependants</b>
Marital status	(n=112)	(n=139)	(n=61)	(n=98)
Married	58.0%	21.6%	52.5%	51%
Unmarried	33.9%	71.2%	42.6%	42.9%
Separate	6.3%	5.0%	4.9%	6.1%
Widow/widower	1.8%	2.2%	0.0%	0.0%
Age	(n=112)	(n=146)	(n=65)	(n=101)
18-25 years	8.0%	11.0%	35.4%	5.9%
26-35 years	7.1%	13.7%	47.7%	4.0%
36-45 years	44.6%	39.0%	9.2%	5.9%
46-55 years	32.1%	18.5%	4.6%	16.8%
56-65 years	6.3%	10.3%	3.1%	46.5%
66 or older	1.8%	7.5%	0.0%	20.8%
Level of education	(n=109)	(n=142)	(n=65)	(n=100)
High school or below	19.3%	24.6%	61.5%	15.0%
Diploma	56.0%	26.8%	24.6%	24.0%
Bachelor's degree	11.8%	42.3%	12.3%	21.0%
Some graduate education	9.2%	6.3%	1.5%	33.0%
Graduate degree	3.7%	0.0%	0.0%	7.0%
Sex	(n=106)	(n=146)	(n=65)	(n=99)
Male	64.2%	68.5%	47.7%	57.6%
Female	35.8%	31.5%	52.3%	42.4%
Country of origin	(n=106)	(n=146)	(n=65)	(n=101)
Sri Lanka	66.1%	69.9%	75.4%	62.4%
Germany	11.0%	18.5%	0.0%	5.9%
France	1.7%	0.7%	3.1%	1.0%
Phinland	3.4%	4.8%	0.0%	4.0%
UK	17.8%	6.2%	21.5%	26.7%

### Identified Market segments and Their Travel Related Decisions

Clusters were further examined for their travel related decisions, such as estimated expenses at the destination per day per person, number of nights spent, or are going to spend at the destination, and the number of forest-based destinations that respondents are planning to visit or already visited during the trip (Table 4).

More than 50 percent of respondents in cluster 1 have spent or are planning to spend 40-60 US \$ per day per person at the destination. More than 70 percent of respondents have spent or planning to spend either 1 night (41.7 percent) or 2 days and one overnight (34.8 percent) at the destination. Estimated expenses of members in cluster 2 are dispersed among given expenses categories. Approximately 70 percent of respondents have spent or are planning to have one day, no overnight (37.0 percent) or 1 day, 1 night (31.5 percent) trips. Almost 50 percent of cluster 3 respondents have spent or are planning to spend 20 US \$ or less at the destination and more than 50 percent are interested in a 1 day, no overnight trips. Approximately 55 percent of the



respondents' estimated expenses at the destination in cluster 4 is over 80 US \$ and it is the highest recorded level of spending. Almost 32 percent of respondents in cluster 4 have stayed or planning to stay 2 nights or more at the destination.

Other than the estimated expenses at the destination and nights spend at the destination, respondents were asked to choose how many other forest based destinations in Sri Lanka they are going to visit during the particular trip. Almost 75 percent of cluster 1 members are planning to visit/visited another one (38.1 percent) or two (36.4 percent) destinations.

A few number of cluster 1 members (12.7 percent) stated that they will not visit any other forest based destinations during this trip. The response of cluster 2 members regarding destination choice seems to be dispersed as they were for many of the other travel decision questions. With regards to destination choice in cluster 2, percentage of respondents agreed with each of the given choices of none, one more destination, two more destinations, and 3 more destinations were about 20 percent. Also, 13 percent of respondents in cluster 2 are planning to visit/visited more than 3 other forest based destinations in Sri Lanka. Approximately half of the respondents in cluster 3 will not visit any other forest based destinations while 23.1 percent of respondents will visit/visited one other forest based destinations in Sri Lanka during this trip. Cluster 4 members tend to visit more forest based destinations other than the particular destination where data were collected during this trip. Approximately 65% of members in cluster 4 are planning to visit/visited 2 more (33.7 percent) or 3 more (30.7 percent) forest based destinations.

Table 4: Travel related decisions of each cluster

	Clu 1- Attentioners (n=115)	Clu 2-Active seekers (n=135)	Clu 3- Passive seekers (n=62)	Clu 4-Provider dependants (n=92)
<b>Estimated expenses at the destination (per day per person)</b>				
Equal or less than 20 \$ US	13.9%	21.5%	48.4%	15.2%
> 20-40 US \$	16.5%	23.7%	21.0%	12.0%
> 40-60 US \$	53.9%	22.2%	16.1%	10.9%
> 60-80 US \$	7.8%	20.0%	9.7%	6.5%
> 80 US \$	7.8%	12.6%	4.8%	55.4%
<b>Nights spend at the destination</b>	(n=115)	(n=146)	(n=65)	(n=98)
1 day, no over night	18.3%	37.0%	55.4%	24.5%
1 day, 1 over night	41.7%	31.5%	27.7%	32.7%
2 days, 1 over night	34.8%	13.0%	6.2%	11.2%
2 days, 2 over nights	3.5%	13.7%	6.2%	15.3%
More than 2 over nights	1.7%	4.8%	4.6%	16.3%
<b>Destination choice</b>	(n=108)	(n=144)	(n=65)	(n=94)
None	12.7%	21.9%	53.8%	9.9%
1 more	38.1%	19.9%	23.1%	13.9%
2 more	36.4%	27.4%	12.3%	33.7%
3 more	9.3%	17.8%	7.7%	30.7%
More than three destinations	3.4%	13.0%	3.1%	11.9%

## Discussion and conclusion

A primary objective of this study was to identify consumer segments for forest-based ecotourism market in Sri Lanka based on traveler external information search behavior. Fulfilling the objective this study identifies four distinct market segments of ecotourists visiting forest based ecotourism destinations in Sri Lanka based on their information search behaviors. Derived segments are: 1) impulsive searchers, 2) active seekers, 3) passive seekers and, 4) provider dependants.

Secondary objective of this study was to develop traveler profiles for each identified segments in order to understand customer segments thus facilitating their needs. By analyzing ecotravelers' actual decisions such as destination choice, estimated expenses at the destination and number of nights spend at the destination, which are important to marketers, study findings suggest that provider dependants is the ideal market segment to target for forest based ecotourism destination marketers in Sri Lanka. Provider dependants seem to spend more money and more nights at the destination, and visit more sites than other visitor clusters. Cluster 4 members primarily dependent on service providers for their pre-trip information. These findings suggest that destination marketers who want to reach cluster 4 should focus on service providers' information materials such as, travel guides, books, and tourist information leaflets. Sri Lanka Tourist Board and Tourism Promotion Bureau have to work closely with service providers to improve the quality, consistency, and the reliability of information provided by service providers. In addition, Sri Lanka Tourist Board and Tourism Promotion Bureau have to ensure that the information provided by service providers is appropriate, well designed/organized and attractive enough to convey the correct message in a pleasant way.

Responsible agencies can impose a certification system for promotion materials developed by destination marketers to standardize the information provided by different marketers.

In attempting to reach impulsive searchers, Sri Lanka Tourist Board and Tourism Promotion Bureau should design attractive audio-visual and magazine advertisements with a consistent and specific message to bring up the country as an ideal forest based ecotourism destination. Also, these institutions should conduct further studies to identify widely popular tourism magazines to publish their advertisements. Responsible agencies in Sri Lanka should coordinate and make necessary arrangements with major foreign tourist source countries to disseminate accurate information through mass media on ecotourism opportunities in Sri Lanka.

Other than TV/radio/magazines, impulsive searchers are likely to refer their friends and family before they make their travel related decisions. Therefore, customer satisfaction and complaint handling is more important for destination managers, especially if impulsive searchers are targeted. A good recommendation cannot be expected from dissatisfied customer who has a poor experience at the destination. Therefore, constant monitoring, problem identification, and necessary modifications to enhance customer satisfaction are important.

Active searchers (segment 2) seem to be a difficult segment to serve compared to the other 3 clusters. Segment 2 is comprised of individuals those who search information from variety of sources and their level of education, age distribution, and their estimated expenses are dispersed.

Segment 3 is least likely to use any of the information sources other than the TV/radio/magazines up to a certain extent, and it is the least profitable segment in terms of travel related decisions. Therefore, when responsible parties design TV/radio/magazine advertisements or articles, they can introduce relatively less expensive ecotourism packages for this group to encourage their arrivals in off seasons and to discourage them in peak seasons. This will provide opportunities for destination marketers to target other segments, and better cater to their needs in peak seasons and serve passive searchers in off seasons.

Consumer needs and behavior and the nature of tourism marketing environment may change with time. Replicating this study in certain time lapses will identify important trends in traveler information search behavior and increase our understanding on how Sri Lanka forest-based destination consumers behave with regard to pre-trip information search.

When look in to study limitations, some travelers are reluctant to participate for the survey since they are exhausted and wanted to relax at the exit point. Travelers from different parts of the world are not comfortable with English language and had to face some difficulties when administering the survey. One person cannot administer the survey for all the three study sites hence interviewer bias is incorporated in study findings.

## References

- Aguilar, F.X. (2007), Factors Influencing the Spatial Distribution of Natural Resource-Based Industries: The Case of the Softwood Lumber Industry in the United States South, School of Renewable Natural Resources, Louisiana State University.
- Beatty, S., & Smith, S. (1987). External Search Effort: An Investigation Across Several Product Categories. *Journal of Consumer Research*, 14:83-95.
- Diamantis, D. (1999). The concept of ecotourism: Evolution and trends. Les Roches Management School, *Tourism Research Centre*, Switzerland.
- Dillman, Don A. (2000), *Mail and Internet surveys: Tailored design method*. (2<sup>nd</sup> Edition), New York: John Wiley Co. 464 pp.
- Etzel, M. J., & Wahlers, R. G. (1985). The Use of Requested Promotional Material by Pleasure Travelers. *Journal of Travel Research*, 23, 2-6.
- Fesenmaier, D. R., & Vogt, C. A. (1992). Evaluating the Utility of Touristic Information Sources for Planning Midwest Travel. *Journal of Travel and Tourism Marketing*, 1,1-18.
- Fodness, D., & Murray, B. (1998). A typology of tourist information search strategies. *Journal of Travel Research*, 37(11), 108-119.
- Fodness, D., & Murray, B. (1999). A model of tourist information search behavior. *Journal of Travel Research*, 37(3), 220-230.
- Filiatrault, P. & Ritchie, J. (1980). Joint Purchasing Decisions: A Comparison of Influence Structure in Family and Couple Decision-making Unit. *Journal of Consumer Research*, 7, 131-140.
- Fodness, D., & Murray, B. (1997). Tourist Information Search. *Annals of Tourism Research*, 24, 503-523
- Gronflaten, O., (2005). An exploratory study of travelers' choice of information search strategies. Department of Tourism, Leisure, Hotel and Sport Management, Griffith University, Australia.
- Higham, J.E.S., & Carr, A.M. (2002) Profiling tourists to ecotourism operations. *Annals of Tourism Research*, 29.
- Hair et al. (1992) *Multivariate data analysis* (3<sup>rd</sup> Edition). New York: Macmillan.
- Hair et al. (1998) *Multivariate Data Analysis*, (5<sup>th</sup> Edition). Upper Saddle River, NJ: Prentice Hall.
- Jenkins, R. L. (1978). Family vacation decision making. *Journal of Travel Research*, 16(4),
- Kotler, P. (1991). *Marketing management: Analysis, planning, implementation, and control*, (7<sup>th</sup> Edition). Englewood Cliffs, NJ: Prentice Hall.

- Kotler et al. (2003) Consumer markets and consumer buying behavior. Marketing for hospitality and Tourism, Pearson Education, Inc.
- Lo et al. (2002). Information Search behavior of Hong Kong's inbound travelers- A comparison of business and leisure travelers. *Journal of Travel and Tourism Marketing*, 13(3)
- Luo et al. (2004). Information search behavior and tourist characteristics: The internet vis-à-vis other information sources. *Journal of Travel and Tourism Marketing*, 17(2/3), 15-25.
- Otto, G. E. & Ritchie, J.R.B. (1996). The service experience in tourism, *Tourism Management*, 7, No.3, pg 165-174.
- Ozane, L.K., & Vlosky, R.P. (2003). Certification from the U.S. consumer perspective: A comparison of 1995 and 2000. *Forest Products Journal*, 53.
- Perdue, R. (1993). External Information Search in Marine Recreational Fishing. *Leisure Sciences*, 15, 169–187.
- Pan, B., & Fesenmaier, D. R. (2000) A typology of tourism related web sites: Its theoretical foundation and implications. *Information Technology and Tourism*, 3(3/4), 155-176
- Qu, H., & Tsang, N. (1998) Service quality in China's hotel industry: A study of tourist perceptions and expectations. *Journal of Hospitality and Tourism Research*.
- Reichel, et al. (1999). Rural tourism in Israel: Service quality and orientation. *Tourism Management*, 451-459.
- Raitz, K. & Dakhil, M. (1988). Recreational choices and environmental preferences. *Annals of Tourism Research*, 15, 357-370.
- Snepenger, D.K. & Snepenger, M. (1993). Information search by pleasure travelers. In VNR's Encyclopedia of Hospitality and Tourism. Edited by M. A. Khan, M.D. Olsen and T. Var. New York: Van Nostrand Reinhold.
- Swait, J. & Adamowicz, W. (2001). The Influence of Task Complexity on Consumer Choice: A Latent Class Model of Decision Strategy Switching. *Journal of Consumer Research*, 28, 135-148.
- Snepenger, et al. (1990). Information search strategies by destination- naïve tourists. *Journal of Travel Research*, 29(1), 13-16.
- Schul, P. & Crompton J. L. (1983). Search behavior of international vacationers: Travel specific lifestyle and socio-demographic variables, *Journal of Travel Research*, 22 (3), 25-31.
- Steward, W.P., & Sekartjakrarini, S. (1994). Disentangling ecotourism. *Annals of Tourism Research* 21 (4), 840–841.
- Vogt, C. A. & Fesenmaier, D. R. (1998). Expanding the functional information search. *Annals of Tourism Research*, 25 (3), 551-578.
- Wight, P. (1993). Ecotourism: Ethics or eco-sell? *Journal of Travel Research*, 31 (3), 3–9.
- Woodside, A. G. & Ronkainen, I. A. (1980). Vacation planning segments: Self planning vs. users of motor club and travel agents. *Annals of Tourism Research*, 7, 385-93.
- Wall, G. (1997). Is ecotourism sustainable? *Environmental Management*. 21, 483-491.
- Weaver, D. (2001). Ecotourism. John Wiley and Sons Australia Ltd.
- Zeithmal et al. (2009). *Services Marketing*, (5<sup>th</sup> Edition), McGraw Hill publishers.
- Weaver, D. (2002) Asian ecotourism: Patterns and themes, *Tourism Geographies*, 4:2, 153-172,