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## **Consumer Preference for Sustainable Tourism Certifications: A Choice Modeling Approach**

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### **ABSTRACT**

*Certifying tourism businesses as sustainable has been proposed as a means to connect the academic goals of ecotourism to the industry. One obstacle that impedes the development of widely recognized sustainable tourism certifications is the lack of knowledge regarding consumer preferences for these certifications. A better understanding of consumer desires is needed in order to create sustainable tourism certifications that will generate price premiums for certified businesses and thus accelerate the growth of certified businesses. This study uses a stated-preference choice modeling approach to examine consumer preference for sustainable tourism certifications amongst international tourists in Tanzania. Results suggest that certifications that emphasize environmental sustainability are more important to tourists than certifications that emphasize cultural or economic sustainability. Additionally, the more stringent certifications provide relatively little increase in consumer utility. The implications of the findings on the development of sustainable tourism certifications are discussed.*

**Keywords:** *Certification, choice modeling, sustainable tourism*

### **INTRODUCTION**

Over the past twenty-five years, the idea of ecotourism swept through the field as a potential means of promoting sustainable tourism development. The first widely cited definition of ecotourism defines the concept as “traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing manifestations (both past and present) found in these areas” (Ceballos-Lascuráin, 1987 p.14). The idea of ecotourism became popular as a reaction to the often undesirable impacts of mass tourism such as environmental destruction,

inequitable distribution of economic benefits, and cultural commodification. Ecotourism was then generally defined as tourism that would educate tourists, protect the environment, and provide economic benefits to locals. In the late 1980's and early 1990's, the idea was approached with a great deal of enthusiasm as an idea that could revolutionize the tourism industry and marry the ideals of economic benefits to conservation and sustainability (McKercher, 2010). Despite the best efforts of numerous academics, NGOs, and governments, ecotourism has experienced a "crisis of legitimacy" (Lawrence, Wickins & Phillips, 1997 p. 307) over the past 15 years as the term "ecotourism" has become practically embraced more as a marketing ploy than a commitment to sustainable development (Jamal, Borges, and Stronza, 2006). The result is that destinations and businesses labeled as ecotourism are often not sustainable environmentally (Buckley, 2004; Stonich, 1998), economically (Mbaiwa, 2005; Walpole & Goodwin, 2000), or socially (Belsky, 1999; Southgate, 2006).

As scholars and practitioners began to realize that the simple idea of ecotourism would not lead to sustainability, the idea of having auditors certify tourism businesses as sustainable began to take hold (Font, 2002; Sasiharana, Sirakaya, & Kerstetter, 2002). Some certification schemes such as the Eco-management and Audit Scheme and the International Standards Organization certifications have been adopted by large hotel chains and the cruise industry. However these are difficult for smaller companies to join, so the tourism industry has generally preferred to use its own schemes (Font, 2002). The development of such sustainable tourism certifications has been slow. Chief among these obstacles is a circular problem: for consumers to have demand for sustainable certifications, there needs to be a widely known system adopted by numerous companies, but most companies would prefer to see proof of consumer demand for certifications before they invest the time and effort in earning a sustainable certification. Part of overcoming this obstacle will be understanding consumer preferences for sustainable tourism certifications. Additionally, there is a lack of understanding of consumer preferences for sustainable tourism certifications. Businesses and certifying bodies do not have a clear understanding of what consumers expect from a certification, for instance, are consumers interested in all three spheres of sustainability, or are they only interested in environmental sustainability? Research into this issue is lacking and there is currently no comprehensive study of consumer preferences for sustainable tourism certifications (Font & Epler-Wood, 2007; Rainforest Alliance 2002). In sum, there is a lack of understanding of consumer preferences for sustainable tourism certifications and this lack of understanding may be impeding the growth of sustainable tourism certifications.

This study will attempt to add to the understanding of consumer preferences for sustainable tourism certifications. To our knowledge, this study represents the first major academic effort on the subject. Two main objectives are pursued: 1) to examine consumer preferences for sustainable tourism certifications, specifically the different preference for environmental, cultural, and economic aspects of sustainability certifications, and 2) to evaluate tourists' willingness-to-pay (WTP) for different types of sustainable tourism certifications.

### **THE NEED FOR CONSUMER DEMAND RESEARCH**

A variety of organization and academics have stressed the need to better understand consumer demand for sustainable tourism certifications. The Rainforest Alliance has emphasized the need to demonstrate the positive impacts of certifications to businesses as certifications are currently not seen as a good investment of time and money (Rainforest Alliance, 2010). The UNWTO (2002) emphasized the need for ecotourism certifications to

effectively market themselves to potential businesses interested in certification. Knowing consumers' willingness-to-pay (WTP) for these certifications would help certifications market themselves. Chafe (2007) notes that "a significant number of organizations are considering the benefits of ecotourism" (p.188), however, the consumer demand for these products has not been well studied so the benefits in terms of a price premium may be difficult to gauge.

There is a need for research on the consumer demand for sustainable tourism in order to support the development of successful certification schemes. This need has been noted in academic literature with Fairweather, Maslin, and Simmons (2005) noting that "ecolabeling initiatives will require paying attention to visitors' demand for ecolabels and, in particular, that they target different types of visitors" (p. 95). Ion and Ana-Maria (2008) similarly state that "customer surveys show a deliquescent interest on the part of tourists in patronizing ecotourism suppliers, but to date, this interest does not often translates into actual demand for ecotourism certification programs. The challenge, therefore, becomes a 'chicken and egg' issue. For producers to go through the process of becoming certified, they want to be guaranteed that there is consumer demand" (p. 1). Rivera (2002) notes that earning price premium is a primary motivator for engaging in certification schemes, despite the lack of "empirical evidence that directly links enrollment in voluntary environmental programs with price premiums or enhanced sales" (p. 340). In sum, there is a lack of understanding of consumer preference for sustainable tourism certifications and this lack of understanding may be impeding the growth of sustainable tourism certifications.

While consumer demand for environmentally friendly tourism has been explored (Baral, Stern, & Bahttarai, 2008; Brau, 2008; Kelly, Haider, Williams & Englund, 2007), the topics of consumer demand for certifications has not been addressed in more than a simple and cursory manner (for example Lubbert, 2001). Font, one of the foremost academic experts on the issue, with Epler-Wood (2007) has similarly noted, "to date the market for certified sustainable tourism has not been intensively researched and there are not statistically valid studies" (p. 151), and that "[i]n the absence of more robust certification demand data, other survey work is often quoted to support the introduction of standards" "(p. 152); and finally, "conducting market research where consumers are asked to make alternative choices... such as conjoint analysis... is necessary"(p. 152).

## **Objectives**

This will address previous calls for research and will be the first in-depth evaluation of consumer demand for sustainable certifications. Specifically, two research objectives are pursued:

- O<sub>1</sub>: To examine consumer preferences for sustainable tourism certifications. Specifically, the different preference for environmental, cultural, and economic aspects of sustainability certifications, and preference for more stringent certifications
- O<sub>2</sub>: To evaluate the willingness-to-pay (WTP) for different types of sustainable tourism certifications

## **METHODS**

### **Study Site**

The study took place in the United Republic of Tanzania. Tanzania is an ideal location for this study due to the countries' unique cultural and natural resources and the government's

commitment to sustainable development. Tourism is one of Tanzania's major industries, and the government views tourism as a major means of poverty alleviation in rural areas and Tanzania has made a commitment to tourism development that alleviates poverty and spurs economic growth while being culturally and environmentally benign. Specifically Tanzania National Parks states that they are "committed to low impact, sustainable visitation to protect the environment from irreversible damage while creating a first class ecotourism destination" (TANAPA: corporate information).

### **Stated Preference Choice Modeling**

This study uses a stated preference choice modeling (SPCM) approach. Stated preference choice modeling uses hypothetical choice sets to elicit consumers' preferences for different attributes of a good or service. SPCM commonly makes use of paired choice sets in which respondents are presented with two (or more) products and asked to indicate which they prefer (or if they prefer neither). SPCM is relevant for this study because it evaluates trade-offs that consumers must make when deciding whether or not to patronize businesses with or without certifications. Certified businesses may have to either increase their prices in order to earn a certification, creating tradeoffs that consumers must evaluate. SPCM is ideal for evaluating these types of complex trade-offs and the lack of a SPCM analysis of ecotourism certification has been previously suggested as a major gap in the literature (Font & Epler-Wood, 2007). The SPCM method is still frequently employed and considered a valid method by reputable organizations such as the National Oceanic and Atmospheric Administration (Arrow et al., 1993).

### **Choice Sets and Final Design**

Choice sets presented to the survey respondents revolved around the desire to engage in certified tours on a future trip to Africa. The choice sets were designed around the idea of understanding the spheres of sustainable development (environmental, cultural, and economic) that consumers most desire in sustainable tourism certifications and if consumers are interested in how stringent a certification is.

Three focus groups of 5-8 people each were held to aid in survey design, the first focus group was conducted with colleagues from outside the tourism discipline, and the second two were conducted with individuals that had been on safari in Africa in the last 10 years. These focus groups were used to make the SPCM design both easier to understand and make the attributes and levels meaningful to the participants. Potential levels and attributes were initially drawn from the Global Sustainable Tourism Criteria (Global Sustainable Tourism Council, 2011), a widely accepted set of principles for the operation of sustainable tourism businesses, and refined in focus groups. In its final form the SPCM section appeared as follows (see Figure 1).

**Section 3: These questions will help us learn about consumer preferences for sustainable tourism certifications that might be available to you.**

In questions 10 through 14, you will be presented a series of tables (see the two tables on the next page) involving different choices you might make about sustainable tourism certifications for package tours. These certifications would be given by a national government to tour companies that operate in a manner that is environmentally, economically, and/or culturally responsible to the host community. After the business applies for the certification, the government would evaluate the company based on defined guidelines and award or deny certifications as appropriate. We are interested in knowing if, on **future** vacations to Africa, you would prefer traveling with tour companies that have been certified as sustainable. Please **imagine a future trip** in which you are choosing between 3 package tours that offer very similar travel packages (they go to the same locations, are the same number of days, offer similar accommodations, etc.) in Africa that you are interested in. Please carefully read the following definitions of the attributes before completing the section.

- Environmental Certification – potential environmental certification levels are:
  - ❖None – The company has not qualified for a environmental certification
  - ❖Silver – The company follows procedures for minimizing adverse effects of interactions with wildlife and disturbances of natural ecosystems
  - ❖Gold – In addition to the silver standard, the company implements practices to reduce pollution from noise, light, runoff, erosion, and air and soil contaminants
  
- Cultural Certification – potential cultural certification levels are:
  - ❖None – The company has not qualified for a cultural certification
  - ❖Silver – The company follows established guidelines to ensure that local cultural norms are respected and that negative impacts on culturally or historically sensitive sites are minimized
  - ❖Gold – In addition to the silver standard, the company contributes to the protection of local historically, archeologically, culturally, and spiritually important properties and sites
  
- Economic Certification – potential economic certification levels are:
  - ❖None – The company has not qualified for an economic certification
  - ❖Silver - The company offers the means for local small entrepreneurs to develop and sell sustainable products that are based on the area’s nature, history, and culture
  - ❖Gold – In addition to silver standard, the company offers free training for local residents interested in working in the tourism industry and ensures that all employees are paid a living wage
  
- Extra Cost – The certification may require the company to perform actions that require additional effort to earn the certification and thus the trip is more expensive than a comparable noncertified trip. Potential extra cost amounts are:
  - ❖€5 per person per day
  - ❖€10 per person per day
  - ❖€20 per person per day
  - ❖€40 per person per day

Please imagine choosing between 3 package tours that offer very similar trips in Africa that you are interested in. We want to know whether you would prefer companies with the various sustainable tourism certifications or companies without a certification. Note that there are no right or wrong answers to these questions. We are simply interested in knowing your personal preferences. Finally, **if you are not interested in any of these certifications, please check “Tour company C - a company without a certification”** for each question.

10. Please indicate whether you would prefer tour company A, tour company B, or a company without a certification.

Attributes	Tour Company A's Certification	Tour Company B's Certification
Environmental Certification	Gold	Silver
Cultural Certification	Silver	None
Economic Certification	Silver	None
Extra Cost	\$20 Per Person per Day	\$10 Per Person per day
Given these choices, I would prefer... <i>(check only one)</i> <input type="checkbox"/> Tour company A <input type="checkbox"/> Tour company B <input type="checkbox"/> Tour company C - a company without a certification		

**Figure 1: The SPCM Section as it Appears on the Survey Instrument (note that this is only one choice sets and each respondent was given 5)**

To generate an economical number of paired choice sets that can be inserted into printed surveys, fractional factorial designs with main effects was employed. Thirty different paired choice sets were created. These choice sets were further partitioned across six different versions of the survey (the only differences in the versions would be the choice sets) so that each respondent was responsible for answering five choice set questions. Finally, in order to reach a wider range of tourists, the survey was translated into French, German, Italian, and Spanish by a company that specializes in survey design for social science research.

**Data Collection**

The survey was conducted at Kilimanjaro International Airport. This airport serves predominately tourists, who have typically just been on the popular “Northern Circuit” of Tanzania National Parks which often includes visits to Kilimanjaro National Park, Arusha National Park, Serengeti National Park, Lake Manyara National Park , and Norongoro Conservation Area. The survey was conducted over eight days in late July 2011 and early August. This corresponds roughly with the summer high season for tourists. A member of the research team approached every group that entered the departure terminal. Once the group made it through passport control/security and has found a seat in the terminal, the group was approached and the team member requested that an individual in the group fill out a questionnaire.

**Analysis of SPCM**

A random utility theory framework was used to analyze the choice set data. Random utility holds that an indirect utility function is composed of a deterministic component and a random error component (Louviere, 1988; Louviere, Hensher, & Swait, 2000). The indirect utility function of a potential certification can thus be represented as

$$U_j = V_j + \epsilon_j \tag{1}$$

where  $U_j$  is the utility of certification  $j$ ,  $V_j$  is the deterministic component of utility to be estimated,  $\epsilon_j$  is the unobservable error component. and  $A$  is the vector of the attributes presented in the choice sets. Certification  $i$  will be chosen over certification  $j$  if  $U_j > U_i$ . Assuming error components are randomly distributed, the probability of choosing certification  $i$  is

$$P(i) = \frac{e^{V_i}}{\sum_{j \in M} e^{V_j}} \tag{2}$$

where  $M$  is the set of all certifications included in the choice set and  $\mu$  is the scale parameter, typically set equal to 1. This estimation method is known as the conditional logit model. Nested logit has recently become popular in analyzing SPCM data that includes a variety of products and an “opt out” option (the “company without a certification” option is the opt out in this case) as this analysis relaxes the independence of irrelevant alternatives (IIA) assumption of other logit models including conditional logit and multinomial logit. However, a likelihood ratio test did not reject the IIA assumption (analysis not included here for brevity), so the conditional logit model is more appropriate and is used here.

The dollars per person per day was entered into the analysis as their numerical dollar value, additionally, a second model using the natural log of the dollar values was created. Other

attributes of the choice sets were entered as dummy variables with the “none” level as the baseline level. An alternative specific constant (ASC) was included to measure the utility gained from a shift to “Tour company A” or “Tour company B” from “a company without a certification”. Dummy coding was employed for all attributes except extra cost, in which the dollar figure was used. The nominal per person per day dollars were entered into one model and an additional model using the natural log of per person per day dollars was also created. In order to help better understand tourist preference for each certification, the parameter coefficients can be converted to monetary values, called an implicit price or willingness to pay (WTP). The WTP can be obtained in a first by dividing the coefficient of the attributes by the coefficient of Per Person Per Day dollars as

$$WTP = (\beta_{attribute} / \beta_{PPD}) - 1 \tag{3}$$

In the LN model (Haab & McConnell, 2003). The survey was designed to be filled out by a variety of different nationalities so currency difference had to be accounted for. In the SPCM section, the English surveys included British pound conversion in parenthesis. For the SPCM section in the other languages, the dollars per day attribute were listed in euros, but still used the 5, 10, 20, 40 progression. These numbers were converted to USD before data analysis.

## RESULTS

### Description of Sample

The data collection technique resulted in a total 603 surveys being collected and a very high response rate of 90%. 513 respondents completed the SPCM section. Slightly more respondents were female (55%). The average age of respondents was 41, 75% had a college degree, and 50% earned more than \$90,000 a year. Most tourists completed the survey in English (85%) and 47% of the respondents were from the United States of America. The mean group size was 3.2, and the mean trip length was 14 days (see Table 1).

**Table 1 Basic Demographics and Trip Characteristics of Sample**

Variable	Statistic
% Female	53.0
% with a college degree	74.8
% earning more than \$90,000	51.1
% from USA	46.1
Mean Age	40.2
Mean group size	3.2
Mean length of stay (nights)	14.2

### Results of Model

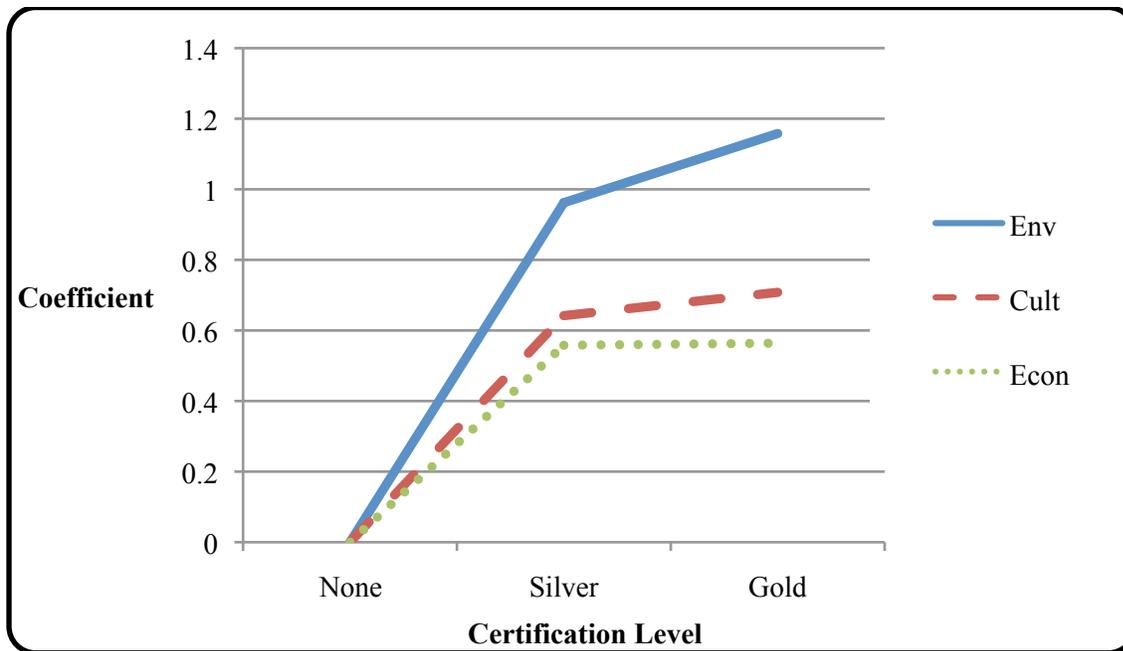
The models has a pseudo-R<sup>2</sup>s of 0.223 for the nominal dollars model, indicating a high explanatory value. The nominal dollars model has a slightly higher pseudo-R<sup>2</sup>. All variables were statistically significant (see Table 2). The positive value of the constant indicated that respondents preferred companies with certifications to companies without certifications. There are two major conclusions that can be drawn from the model. Tourists had the highest preference for companies that are environmental certified. The preference for a silver environmental certification was greater than the value of a gold cultural or gold economic

certification. This is not to say that cultural or economic certifications are not important to tourists, but they are not as important as environmental certifications. Second, there is not a high demand for the more stringent certifications; while the gold coefficients are all higher than the silver coefficients, the coefficients somewhat plateau at the silver level (see Figure 2). Increasing from silver to gold yields a relatively small increase in the coefficients: 20% for gold, 13% for cultural, and 1% for economic according to the nominal model. This indicates that tourists are only marginally interested in more stringent certifications.

**Table 2 Results of Conditional Logit Models for Preferences for Sustainable Tourism Certifications**

Variable	Nominal dollars Coefficient	LN dollars Coefficient
Environmental Gold	1.158**	1.156**
Environmental Silver	0.962**	0.927**
Cultural Gold	0.708**	0.695**
Cultural Silver	0.642**	0.624**
Economic Gold	0.564**	0.536**
Economic Silver	0.558**	0.561**
Per Person Per Day Dollars	-0.0215**	-
LN(Per Person Per Day Dollars)	-	-0.277**
Constant (ASC)	0.349**	12.20**

\*p< 0.05. \*\* p<0.01.



**Figure 2 Preference for Different Attributes at Different Levels (Nominal Model)**

WTP values ranged from a low of \$25.94.06 to a high of \$53.84 for the nominal model (see Table 3). These values are derived from the model coefficients and thus display the same pattern (environmental certification is the highest, there is little demand for more stringent

certifications). In the LN model, WTP values ranged from \$6.59 to \$64.08. In the LN model, all values except environmental gold are lower than the nominal model. Respondents are likely to report higher willingness to pay values in a hypothetical scenario than in a real life scenario; therefore, the values are likely higher than they would be in real life.

**Table 3 WTP Values**

	WTP (nominal model)	WTP (LN model)
Environmental Gold	53.84	64.08
Environmental Silver	44.71	27.43
Cultural Gold	32.9	11.32
Cultural Silver	29.85	8.53
Economic Gold	26.22	5.94
Economic Silver	25.94	6.59

### CONCLUSION

This study uses a SPCM approach to examine consumer preference for sustainable tourism certifications in Tanzanian Tourists. Consumers appear to be interested in sustainable tourism certifications in Tanzania. Tourists are primarily interested in certifications that will protect the environment and do not appear to have a high demand for more demanding types of certifications. This may indicate a preference for what Honey and Stewart (2002) call the “conventional” type of sustainable tourism certification; these are typically less stringent and focus on resource conservation and environmental sustainability. Honey and Stewart (2002, p. 59) discuss the drawbacks of this type of certification stating “In essence, this type of certification program for the conventional market entails taking useful, but minimal, ‘ecotourism lite measure that fall far short of sound practices and principles for sustainable development”. At the same time, the high WTP values may indicate a strong desire for these certifications amongst tourists. If the demand is genuinely this high, then perhaps they are interested in more than a trivial certification. Future research should determine the degree to which these results can be replicated in other destinations. Tanzania is noted for having excellent environmental and cultural attractions. Results may differ in an area that primarily relies on either environmental or cultural attractions. Additionally, this study focused on international tourists, tourists at domestic destinations may have a different set of preferences and different WTPs.

Two survey limitations are worth mentioning. One, the survey took place in one airport over eight days in the Summer of 2011. While this does represent the high season at the most popular tourist airport, it should not be considered representative of the entire tourist population in Tanzania. Two, as previously mentioned, the willingness to pay figures are likely inflated due to the hypothetical nature of the questioning. We would caution against considering them actual representations of consumers’ true WTP.

Ultimately, this study represents one part of what should be a three part (at least) dialogue between consumer, industry, and community. For sustainable tourism certifications to become both widespread through the industry and effective in fostering sustainability, a negotiation between the preferences of consumers, the abilities of the industry, and the needs of the community must be made. This preferences, abilities, and needs have all be illuminated to at least some degree; Academics and practitioners must work in the future to foster constructive comprise between these stakeholders as they move forward with the creation of a truly successful sustainable tourism certification system.

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