
Camping guests preferences for ecological procedures and willingness to pay for an ecocamping label. Evidence from a SP experiment in the Swiss context.

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Abstract

In recent years, a rise in consumers' awareness about climate change conducted to higher preferences for eco-friendly products and eco-conscious organizations. In order to understand tourists' willingness to support green initiatives of touristic organizations, researchers started to study the phenomenon in the hotel sector, with contrasting results. The camping sector, despite its guests' involvement to nature-sustainability related issues and results of recent studies showing that ecological standards of campsites are priority aspects in terms of satisfaction and loyalty, suffer from a lack of studies estimating camping guests' willingness to sustain ecological initiatives. This case study, conducted online to guests of the biggest camping in Ticino, investigates their preferences towards innovations in ecological procedures and their willingness to pay for an ecocamping label through a SP experiment. Results show that guests are strongly against a downgrade in the ecological procedure, but they are willing to support an upgrade only in absence of trade-off against their economical convenience. On average, respondents define themselves as environmental-friendly, but, as it is common in studies regarding ethical consumption, results show an attitude-behaviour gap. This evidence should be considered by regulators with respect of eco labels assignments.

Keywords

discrete choice, SP experiments, camping, ecocamping label, willingness to pay, ecological procedures

1. Introduction

In the last decades consumers' concern about the environment increased much faster than their adoption of green behavior or purchase of sustainable products (Joshi & Rahman, 2015). In order to understand possible ways to enhance a green consumerism, researchers started to study the impact of ecological labels on consumers behaviors (Gustin & Weaver, 1996; Creyer, 1997). Scholars have studied the role of eco labels on consumers' preferences in different fields of consumption such as food (Loureiro & McCluskey, 2000; Tanner & Wölfing, 2003; Ginsberg & Bloom, 2004; Zhou, Liu, Mao & Yu, 2017), energy (Bang, Ellinger, Hadjimarcou, & Traichal, 2000; Sundt & Rehdanz, 2015) and tourism (Kang, Stein, Heo, & Lee, 2012; Stefanica, 2013; Gregory-Smith, Manika & Demirel, 2017; Merli, Preziosi, Acampora, Lucchetti & Ali, 2019). In the tourism field, the camping sector is a compelling area of research given the interest of camping guests for nature and sustainability related issues (Garst, Williams, & Roggenbuck, 2009; Brooker & Joppe, 2013; Mikulić et al, 2017). Tourists of the camping sector are particularly interested in nature and very sensitive to sustainability issues, but received much lower attention with respect to the hotel sector (Mikulić, Prebežac, Šerić & Krešić, 2017) despite their relevance in the tourism industry. In fact, according to Eurostat (2018), the participation of tourists in the camping sector is around 405 million of overnights, the 17,1% of total accommodation demand. In Switzerland, the total accommodation demand generated by camping grounds, recreational vehicle parks and trailer parks is around 7,8%, while it is close to 23,3% in Ticino, which represents the most important touristic region for camping in Switzerland (Federal Statistical Office, 2018). Camping guests have a high interest for the ecological procedures adopted by camping owners (Mikulić et al., 2017), an element which can increase guests' satisfaction and loyalty (Hardy, Ogunmokun & Winter, 2005; Mikulić et al., 2017; Merli et al., 2019). However, there is still a lack of studies investigating camping guests' willingness to pay for ecological labels. Results from the literature in tourism show heterogeneous and controversial results regarding tourists' willingness to participate actively to sustain ecological procedures. In general, they have an environmentally friendly attitude which is not always accompanied by a green behavior, a phenomenon known as attitude-behavior gap (Bray, Johns, & Kilburn, 2011). While some qualitative studies show that people manifest a positive attitude towards buying green products (Gustin & Weaver, 1996; Creyer, 1997), they are not always willing to pay an additional premium to purchase them and, when facing trade-offs situations, they rarely sacrifice attributes such as convenience, quality

or performance to buy green products (Ginsberg & Bloom, 2004). Some research find that guests are willing to pay to sustain green initiatives in the hotel industry (Choi & Parsa, 2007; Kang, Stein, Heo, & Lee, 2012; Shen, 2012) and in restaurants (Dutta, Umashankar, Choi, & Parsa, 2008), while others not, especially in less developed countries with a high price sensitivity (Manaktola & Jauhari, 2007; Chia-Jung, & Pei-Chun, 2014; Yadav & Pathak, 2017). This case study, conducted to guests of the biggest camping in Ticino touristic region, the most important for the camping sector in Switzerland, investigates consumers' eco-friendliness and their accommodation choices with an experiment that measures their willingness to pay for green initiatives in the camping sector.

2. Research method

In order to understand camping guests' preferences for ecological procedures and willingness to pay for ecolabel, a SP experiment has been conducted at camping "Campofelice" in Tenero.

2.1 SP experiment

A SP experiments asking respondents preferences for a future holiday has been submitted. The choice set is composed of a status quo alternative, two innovative packages (package 1 and package 2) containing new randomly assigned characteristics and a no choice option. Two preliminary filter questions regarding typology of accommodation (bungalow or campsite) and the real price that tourists paid for their holiday have been asked before the experiment in order to adapt the choice tasks to a real status quo option.

Figure 1: Choice task

	current package	package 1	package 2
reservation in advance	.	.	yes
pool and wellness area	.	yes	.
private bathroom	.	.	yes
mini club	.	yes	.
ecological procedures	eco label	no	eco label 100% RES
package price (CHF)	1000	1150	1400

2.2 Econometric model

Camping guests' preferences have been estimated through Discrete Choice Models, in particular with Multinomial Logit McFadden (1973), Integrated Choice and Latent variable (Walker, 2001), which allows to jointly estimate both observable characteristics and psychological factors as drivers of people's choices, and Latent class (Hess, Stathopoulos & Daly, 2012) considering a lexicographic approach (Tversky, 1969; Luce, 1978).

3. Results

Data have been collected online during summer 2018 to tourists who had visited the camping in the last solar month. Sample statistics are depicted in figure 2.

Figure 2: Sample results

Type of accommodation	bungalow		camping		total	
Total respondents	141		121		262	
Travel companionship						
Solo	0	0%	3	2,5%	3	1,1%
Couple	29	20,6%	39	32,2%	68	26,0%
Family	111	78,7%	78	64,5%	189	72,1%
Group	1	0,7%	1	0,8%	2	0,8%
Income						
less than 40'000 CHF	8	5,7%	6	5,0%	14	5,3%
40'001 - 60'000 CHF	18	12,8%	13	10,7%	31	11,8%
60'001 - 80'000 CHF	26	18,4%	19	15,7%	45	17,2%
80'001 - 100'000 CHF	27	19,1%	28	23,1%	55	21%
100'001 - 120'000 CHF	19	13,5%	16	13,2%	35	13,4%
120'001 - 140'000 CHF	11	7,8%	10	8,3%	21	8%
140'001 - 200'000 CHF	4	2,8%	2	1,7%	6	2,3%
more than 200'000	0	0%	3	2,5%	3	1,1%
prefer not to answer	28	19,9%	24	19,8%	52	19,8%
Education						
Lower education level	17	12,1%	10	8,3%	27	10,3%
Diploma	87	61,7%	73	60,3%	160	61,1%
Bachelor degree	23	16,3%	24	19,8%	47	17,9%
Master's degree	14	9,9%	13	10,7%	27	10,3%
PhD	0	0%	1	0,8%	1	0,4%
Age						
20-29 years old	5	3,5%	1	0,8%	6	2,3%
30-39 years old	35	24,8%	17	14%	52	19,8%
40-49 years old	58	41,1%	40	33,1%	98	37,4%
50-59 years old	25	17,7%	35	28,9%	60	22,9%
60-69 years old	7	5,0%	18	14,9%	25	9,5%
70-79 years old	10	7,1%	9	7,4%	19	7,3%
Mean of transport						
car	136	96,5%	91	75,2%	227	86,6%
caravan	0	0%	28	23,1%	28	10,7%
train	4	2,8%	2	1,7%	6	2,3%
moto	1	0,7%		0%	1	0,4%
Country of residence						
Switzerland	133	94,3%	109	90,1%	242	92,4%
Germany	2	1,4%	7	5,8%	9	3,4%
Netherlands	2	1,4%	2	1,7%	4	1,5%
Other	4	2,8%	3	2,5%	7	2,7%

In total, 6 models are estimated. Model 1 provides coefficients for the preference about upgrade and downgrade on ecological procedures. Model 2 and 3, with integrated choice and latent variable, investigate the heterogeneity of preferences across the sample with respect of respondents' ecological attitude. Model 4 disentangles the effect of changes in ecological procedures in the case of same price or higher price. Model 5 controls for heterogeneity in decision rules, identifying two additional classes with respect to the classical RUM in which respondents choose with a lexicographic approach for price or ecological procedure. Model 6 includes the latent variable capturing respondents' behavior on holiday in the latent class model. Models 2, 3 and 6 are estimated with 500 MHLS draws. Model 5 shows the best fit in terms of loglikelihood (-1575.56) and in terms of AIC and BIC criterion (3183,12 and 3268,51). Thus comments and conclusions are based on model 5 results.

Figure 3: Estimation results

	Model 1 MNL 1		Model 2 ICLV (eco attitude)		Model 3 ICLV (eco behaviour)		Model 4 MNL 2		Model 5 LC		Model 6 ICLV-LC	
	coeff	std err	coeff	std err	coeff	std err	coeff	std err	coeff	std err	coeff	std err
	signif.		signif.		signif.		signif.		signif.		signif.	
Parameters												
price	-0,085	0,020	-0,079	0,018	-0,079	0,018	-0,087	0,020	-0,046	0,021	-0,047	0,021
price_elast_camp	-0,459	0,348	-0,434	0,363	-0,477	0,365	-0,469	0,336	0,215	0,726	1,378	1,831
price_elast_bung	-1,096	0,094	-1,094	0,094	-1,102	0,089	-1,094	0,091	-1,144	0,147	-1,270	0,242
pool	0,389	0,114	0,400	0,115	0,393	0,117	0,391	0,117	0,333	0,128	0,215	0,132
eco-label_downgrade	-0,673	0,126	-0,686	0,127	-0,668	0,127	-0,423	0,162	-0,529	0,208	-0,346	0,203
eco-label_upgrade	-0,157	0,107	-0,159	0,107	-0,202	0,109	0,348	0,175	0,060	0,214	0,115	0,286
eco-label_downgrade (higher price)							-0,179	0,182	-0,144	0,207	-0,131	0,171
eco-label_upgrade (higher price)							-0,572	0,152	-0,391	0,172	-0,669	0,285
miniclub_fam	0,059	0,163	0,064	0,163	0,070	0,163	0,085	0,167	0,069	0,179	0,010	0,174
current	0,489	0,264	0,501	0,263	0,504	0,264	0,533	0,272	-0,593	0,324	-0,676	0,309
bung_nochoice	-1,667	0,550	-1,159	0,330	-1,159	0,330	-1,657	0,555	-0,946	0,643	-0,801	0,422
bung_breakfast	0,239	0,158	0,245	0,158	0,249	0,160	0,276	0,161	0,090	0,179	-0,070	0,177
bung_linen	0,212	0,109	0,216	0,109	0,218	0,112	0,223	0,111	0,039	0,120	-0,110	0,130
camp_nochoice	-0,560	0,420	-0,515	0,417	-0,511	0,417	-0,552	0,426	0,079	0,481	0,280	0,436
camp_reservation	0,283	0,143	0,288	0,143	0,283	0,146	0,320	0,146	0,382	0,163	0,256	0,156
camp_privatebath	0,323	0,155	0,327	0,156	0,332	0,156	0,406	0,162	0,505	0,180	0,483	0,172
lv_eco-label_downgrade			-0,257	0,185	-0,165	0,222					-0,323	0,242
lv_eco-label_upgrade			0,048	0,176	0,464	0,183					0,387	0,168
gamma_lexicographic_eco-label									-3,863	0,542	-3,796	0,506
gamma_lexicographic_price									-0,879	0,138	-0,878	0,138
Prob (MNL)									69,6%		69,5%	
Prob (LEX_eco-label)									1,5%		1,6%	
Prob (LEX_pricel)									28,9%		28,9%	
Model fit												
Decision makers:	256		256		256		256		256		256	
Observations:	1536		1536		1536		1536		1536		1536	
Draws:			500		500		500		500		500	
Estimated parameters:	12		46		42		14		16		46	
Estimated parameters (choice model):	12		14		14		14		16		18	
LL(0):	-2129,35		-2129,35		-2129,35		-2129,35		-1761,79		-1761,79	
LL(final)	-2042,82		-4194,85		-3677,08		-2037,13		-1575,56		-2738,62	
AIC:	4109,64		8481,70		7438,16		4102,25		3183,12		5569,24	
BIC:	4173,68		8727,20		7662,31		4176,97		3268,51		5609,30	
LL(choice model):			-2039,22		-2026,18						-1574,48	
AIC (choice model):			4106,44		4080,36						3184,96	
BIC (choice model):			8727,20		7662,31						3281,02	
Estimation time	<1 min		18 hrs		16 hrs		<1 min		<1 min		29 hrs	

The LC model (model 6), captures one class of “traders”, thus respondents maximizing their utility by making trade-off between attributes in a classical RUM framework (69,6%) and two classes of “non-traders” using a lexicographic approach to make their choices: one class of respondents that consider only price (28,9%) and one class considering only ecological procedure (1,5%). In the traders class, a negative price parameter (-0.046) shows, in line with economic theory, that camping guests are price sensitive, so that, *ceteris paribus*, higher costs affect negatively their probability of choosing the accommodation. Price sensitivity is not the same across bungalow guests and campers, with differences in intensity depending on their real expenditure. Price sensitivity for campers is independent from the price they paid, while for bungalow guests, high spenders are less price sensitive with respect to low spenders ($\text{price_elast_bung} = -1.144$). With respect of ecological procedure, guests are strongly against a downgrade in the ecological procedure (-0.529), with no utility gain for an upgrade (and a disutility in the case of higher price for the upgrade). The economic value associated to eco-label can be obtained by a willingness to accept measure (WTA). Values of the WTA can be seen in figure 3.

Figure 4: Willingness to accept

	WTA (CHF)	WTA (CHF)	% respondents
M1 - MNL	7,94	0,7%	100%
M2 - ICLV (eco-attitude)	8,69	0,8%	100%
M3 - ICLV (eco-holiday)	8,48	0,8%	100%
M4 - MNL	4,86	0,4%	100%
M5 - LC	11,40	1%	69,6%
M6 - ICLV-LC (eco-attitude)	-	-	-

WTA ranges from 0,4% to 1% of the average price, in the latent class model, WTA correspond to 1% of the average price for camping guests and refers to 69,6% of the sample composed by “traders”, with a WTA being equal to 0 for those with a lexicographic preference for price. In the Integrated choice and latent variable model controlling for a lexicographic approach it is not possible to measure WTP as the cost parameter is not different from 0.

4. Discussion and conclusions

Results of the study show that camping guests seem to appreciate the presence of an eco-label, and are willing to pay a premium around 1% of their accommodation cost for such a certificate. However, they are not willing to economically sustain an innovation in green procedure for the provision of 100% of energy coming from renewable sources. An attempt to include attitudes towards green behavior to explain camping guest's choices has been made, with evidence of an attitude-behaviour gap (Bray, Johns, & Kilburn, 2011; Joshi & Rahman, 2015). Using a latent class, results show that camping guests' behavior is captured better when a lexicographic approach is taken into account, returning a very small percentage of guests choosing always the greenest option (1,5%), and almost a third of the sample opting always for the cheapest accommodation without considering other attributes (28,6%). Results of the research suggest that, given the strong camping guests' preference for eco-labels and unwillingness to sustain an ecological improvement when an eco-label is already present, a shift towards a greener behavior might depend more on stricter criteria selected by regulators for the assignment of eco-labels rather than on owners' investments.

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