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Rural tourism activities in mass tourism destinations: Residents' vs non-residents' perspectives.

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ABSTRACT

Purpose:

This paper examines rural tourism preferences as an alternative niche market to mass tourism destinations. The analysis discusses the differences in perceptions and willingness to pay for various packages of rural tourism activities in Gran Canaria Island among residents and non-residents.

Design/methodology/approach:

The analysis is based on a convenience sample of potential young customers who are familiar with outdoor recreational activities in nature. The study considers a discrete choice experiment that includes the type of accommodation as well as four types of rural tourism activities: active, passive, cultural and aquatic. The degree of preference for the considered attributes is obtained from the estimation of different discrete choice models.

Findings:

Results reveal that the inclusion of the investigated attributes in holiday packages increases tourists´ utility, which motivates the promotion of rural tourism for young residents and non-residents. The most significant differences in perceptions of attributes between residents and non-residents were found in the activities of diving/snorkelling and stargazing, as well as the type of accommodation and package price.

Originality:

To the best of the authors' knowledge, this is the first study evaluating the willingness to pay for rural tourism packages as a more sustainable alternative in mass tourism destinations and taking into account resident vs non-resident perceptions.

Practical implications:

The study will contribute to a better understanding of an alternative tourism market which will help key stakeholders in the tourism sector to better serve this important segment of the industry and to encourage more sustainable tourism in the future.

Keywords:

Discrete choice experiment, Willingness to pay, Rural tourism, Nature-based active tourism, Tourism demand, Global pandemic.

Type of paper:

Research paper

目的：

本文将乡村旅游偏好视为大众旅游目的地的替代利基市场。该分析讨论了居民和非居民对大加那利岛各种乡村旅游活动的看法和支付意愿的差异。

设计/**方法**/**方法**：

该分析基于熟悉户外休闲活动的潜在年轻客户的便利样本。该研究考虑了一个离散选择实验，包括住宿类型以及四种类型的乡村旅游活动：主动、被动、文化和水上活动。所考虑属性的偏好程度是从不同离散选择模型的估计中获得的。

发现：

结果表明，度假套餐中包含调查的属性增**加了游客的效用，从而促**进了年轻居民和非居民的乡村旅游。在潜水/浮潜和观星活动，以及住宿类型和套餐价格方面，居民和非居民对属性的认知差异最显着。

独创性：

据作者所知，这是第一项评估农村旅游套餐的支付意愿作为大众旅游目的地更可持续的替代方案的研究，并考虑了居民与非居民的看法。

实际影响：

该研究将有助于更好地了解替代旅游市场，这将有助于旅游业的主要利益相关者更好地服务于该行业的这一重要部分，并鼓励未来更可持续的旅游业。

关键词：

离散选择实验、支付意愿、乡村旅游、基于自然的主动旅游、旅游需求、全球流行病。

纸张类型：

研究论文

Objetivo:

Este trabajo examina las preferencias del turismo rural como nicho de mercado alternativo a los destinos turísticos de masas. El análisis discute las diferencias en las percepciones y la disposición a pagar por varios paquetes de actividades de turismo rural en la isla de Gran Canaria entre residentes y no residentes.

Diseño/metodología/enfoque:

El análisis se basa en una muestra de conveniencia de potenciales clientes jóvenes que están familiarizados con las actividades recreativas al aire libre en la naturaleza. El estudio considera un experimento de elección discreta que incluye el tipo de alojamiento, así como cuatro tipos de actividades de turismo rural: activo, pasivo, cultural y acuático. El grado de preferencia por los atributos considerados se obtiene a partir de la estimación de diferentes modelos de elección discreta.

Resultados:

Los resultados revelan que la inclusión de los atributos investigados en los paquetes vacacionales aumenta la utilidad de los turistas, lo que motiva la promoción del turismo rural para jóvenes residentes y no residentes. Las diferencias más significativas en las percepciones de los atributos entre residentes y no residentes se encontraron en las actividades de buceo/snorkel y observación de estrellas, así como en el tipo de alojamiento y el precio del paquete.

Originalidad:

Hasta donde los autores saben, este es el primer estudio que evalúa la disposición a pagar por paquetes de turismo rural como una alternativa más sostenible en destinos de turismo masivo y que tiene en cuenta las percepciones de los residentes frente a los no residentes.

Implicaciones prácticas:

El estudio contribuirá a una mejor comprensión de un mercado turístico alternativo que ayudará a los principales agentes del sector turístico a atender mejor este importante segmento de la industria y a fomentar un turismo más sostenible en el futuro.

Palabras clave:

Experimento de elección discreta, Disposición a pagar, Turismo rural, Turismo activo en la naturaleza, Demanda turística, Pandemia mundial.

Tipo de artículo:

Trabajo de investigación

'Declarations of interest: none'.

Introduction

Rural tourism represents an important approach for destinations to achieve income generation and sustainable development while the relevance becomes even clearer and more urgent in times of a global pandemic. According to a recent paper by Rahman *et al.* (2021) travel movement has become more selective since the pandemic and also independent travel has become more important. Many tourists avoid overcrowded destinations, which makes it necessary to evaluate their travel planning. Thus, the global travel and tourism industry could benefit from this transformation by paying attention to the fact that a higher proportion of tourists prefer to visit quiet destinations. Mulder *et al.* (2020) emphasize the importance of tourism as a fundamental component of the global economy in achieving the Goals of the 2030 Agenda for Sustainable Development, such as decent work and economic growth, life on land and water, and climate action. The development of domestic tourism, which is subject of this paper, could play an important role in reducing global greenhouse gas emissions. According to Mulder *et al.* (2020), transportation is the primary source of greenhouse gas emissions in the tourism sector, which can be significantly reduced by shortening travel distances. In this regard, the significance of alternative rural tourism concepts such as agrotourism is highlighted.

Rural tourism represents an alternative market niche for 3S (sun, sea and sand) tourism destinations (Weaver, 2001). Many beach destinations are dominated by 3S mass tourism, but they also have other interesting attractions that not adequately exploited. Aside from the positive economic impact of 3S tourism in host countries, negative environmental, cultural, and economic aspects have been known for many years, as highlighted by Parsons (1973) when researching the impact of mass tourism on the Spanish coast. Not only do many visitors and buildings have a high environmental impact, but they also have irreversible effects on local society and culture. There is also very little income that stays in the regions and generates revenue for the people who live there (Fennell, 2008). The aforementioned negative consequences of 3S increase the importance of adopting other types of tourism in which nature, culture and the local population could benefit.

The establishment of alternative tourism in 3S destinations will also contribute to changing the destination image of mass tourism sites. This is, according to a study by Rao *et al.* (2022), vital to achieve a pro-environmental private behaviour in line with the relationship that should exist between destination-image and quality-coordination. In this regard, Dai *et al.* (2021) conducted research on diving activities in Taiwan and concluded that promoting environmentally friendly activities in a destination will adapt tourists to a

more environmentally conscious and sustainable lifestyle. Furthermore, residents will be more willing to participate in such activities. Changes in tourism are more likely to be positively accepted by residents during or after a crisis, according to Garau-Vadell *et al*. (2018), which supports Rahman *et al*. (2021) previously mentioned statement that the current pandemic is an opportunity to promote alternative tourism concepts. Another study by Garau-Vadell *et al*. (2019) is limited to p2p holiday accommodation, but clearly shows that new concepts are more supported by the local population when there are positive impacts for residents, particularly economic benefit, where understanding residents' perceptions and attitudes is critical for the sustainable development of tourism activities (Gutiérrez-Taño *et al*., 2019).

In this regard, the island of Gran Canaria in Spain, which is a paradigm of 3S tourism development, could be regarded as a good model for the research and promotion of more sustainable tourism products. In 2019, the island received over 4.25 million visitors and is a well-known tourism destination in Europe, offering warm weather and beaches all year long (Patronato de Turismo de Gran Canaria, 2019). Gran Canaria also has one of Europe's most extensive protected areas, with 42% of its surface designated as natural conservation areas (Espino *et al*., 2008). Fostering alternative tourism products is thus a regional opportunity that can be developed on the island in order to increase tourism diversity (Weaver, 1993). According to Muñoz (2007), promoting rural tourism is a good strategy for mitigating the volatility of mass tourism, which is more sensitive to price and income fluctuations.

There are several terms and definitions for alternative tourism approaches in rural areas, such as eco-, nature-, sustainable-, green-, or rural-tourism and the definition of rural areas itself is also a discussed issue (Šimková, 2007). In general, rural tourism allows tourists to experience rural lifestyles and connect with rural communities while also supporting the region's long-term development. (Pakurar and Olah, 2008). New rural developments can attract a diverse group of users with varying motivations and interests. (Confer *et al*., 2005; Neumann and Mason, 2019). Local residents and visiting tourists are likely the two most important segments to be analysed, which have mostly been studied separately so far (Hughes and Paveglio, 2019), with the literature comparing preferences of both segments being rather scarce. Mimbs *et al*. (2020) is one of the few studies that compares residents' and tourists' preferences for water-based activities using importance performance analysis. A better understanding of both groups' preferences is essential for developing successful rural tourism products (Boley *et al*., 2014; Erul *et al*., 2020).

In this paper, we conduct a discrete choice experiment to assess differences in preferences for various packages of rural tourism activities for two important customer groups of this type of tourism on Gran Canaria Island: residents and non-residents. The analysis is based on data gathered from a convenience sample of potential young customers who are familiar with outdoor recreation activities

in contact with nature. Participants in the experiment were asked to choose between two packages that included various outdoor activities that could be done in the natural protected area of Veneguera, in the south of Gran Canaria. To account for the potential dislike for the activities considered in the package, the experiment included the option of not selecting any of the alternatives. The activities were chosen in accordance with Pesonen (2015) classification of rural tourism clusters, which included actives, passives, nature, water, and winter activities. Similar clusters were obtained by Eusébio *et al*. (2017): active visitors, passive nature observers, inactives and summer family vacationers. In addition, data from a large study conducted by a German health insurance company on the most popular sports and leisure activities among German citizens was considered (Techniker Krankenkasse, 2016). The findings of these studies demonstrate the heterogeneity in rural tourism consumption, emphasizing the importance of researching preferences for various products and customer segments, as well as their willingness to pay.

Having in mind the aforementioned research and considering the information provided by the owners of the property regarding the activities that could be carried out and promoted in the area under analysis, the final set of attributes included active hikes, cultural trails, diving/snorkelling and stargazing workshops. Furthermore, different accommodation types were also included in the analysis. Following the collection of survey data, the degree of preference for various activities and accommodation types, as well as their corresponding willingness to pay, for both residents and non-residents, is obtained through the estimation of various discrete choice models.

Choice experiments have been successfully applied in other tourism contexts, such as, preferences for hotel room attributes (Masiero *et al.*, 2015), hotel choice (Román and Martín, 2016), horse riding lessons (Tienhaara *et al.* 2017), trail running (Ribet and Brander, 2020), wildlife watching (Kubo and Shoji, 2016) and glamping attributes (Lyu *et al.*, 2020), among others. They represent an interesting method for gathering the data set required to estimate discrete choice models. Unlike other widely used methods in tourism, such as structural equation modelling (SEM), which aim to find causal relationships between observable and latent variables, the ultimate goal of discrete choice methods is to predict the choice between a set of discrete alternatives. Regarding the obtaining of willingness to pay figures in tourism, there exist a vast literature using direct methods such as contingent valuation as in León *et al.*, (2003) and Cheung and Jim (2014), where survey respondents are directly asked about their willingness to pay. Nevertheless, Hole and Kolstad (2012) pointed out the difficulties of using these methods since direct questions are cognitively more difficult to answer and respondents may answer more strategically. Instead, discrete choice methods solve this cognitive burden by inferring willingness to pay indirectly from model parameter estimates.

The use of discrete choice models to analyse tourism demand is not new in the literature (see e.g. Crouch and Louviere, 2001 and Kemperman, 2021 for extensive literature reviews) and represents a methodology with a solidly grounded microeconomic basis that, in general, yields reliable results. Our findings attempt to shed some light on the preferences for rural tourism activities in a context of a mature mass tourism destination where 3S based products are strong competitors. Results obtained represent an interesting managerial instrument for assisting decision-makers in setting pricing policy, product selection, and marketing strategies when promoting rural tourism packages. These results are especially significant in the context of the current global pandemic, in which most mass tourism destinations are facing a major crisis due to a drop in demand. In this regard, it is deemed critical to promote alternatives to 3S tourism that are perceived not only as more sustainable but also as safer options.

The rest of the paper is organised as follows. The second section describes the data and the context of the research. The methods applied in the analysis are presented in section three. Model results, willingness to pay estimates and the validation of results through the analysis of attributes' importance are presented in sections four, five and six, respectively. Finally, the last section concludes and presents interesting policy implications.

Data and context of the research

The case study takes place is the authentic and natural protected area of Veneguera, in the south of Gran Canaria, close to 3S tourism hotspots, such as Maspalomas or Playa Ingles. The area has a wide range of landscapes and attractions, including mountains, ravines, local food, fresh fruits, and pristine local culture, as well as lakes and remote beaches within hiking distance. This versatility allows for the testing of rural activities with various orientations, as well as the exploration of opportunities to develop alternatives to mass tourism. As stated in the preceding section, this type of tourist product is aimed not only at international visitors but also at local residents. As a result, the analysis of both perspectives, residents versus non-residents, is deemed critical to the initiative's success.

The heterogeneity in preferences for rural tourism attributes was evaluated through two convenience samples of respondents composed of residents and non-residents of the island. The sampled individuals were aged between 18 and 35 years[1] and had in common the characteristic of being familiar with the context of the study, since around 60 percent of the interviewees (50 percent of residents and 78 percent of non-residents) declared that they carried out outdoor activities, in contact with nature, more than 6 times a year.

The residents sample was made up college students from the University of Las Palmas de Gran Canaria who were intercepted at the different campuses locations. Although authors are aware that this sample is not representative of the total population in the aforementioned age range, they could represent an interesting group of potential visitors of the area, since active tourism and nature-based activities are very popular among young island residents[2]. Non-residents sample was made up of a group of German tourists participating in a sport summer camp in the holiday-village Carcans Plage in South West of France. They were interviewed during their vacation on a camping site very close to the ocean and lakes, but also inside a natural protected area. An interesting difference that needs to be considered when comparing the two samples is the fact that non-residents were preselected as active tourists, as they were participating in a great variety of active tourism nature-based activities. Germans were selected because they represent the most important group of inbound tourists in Gran Canaria. In fact, 21 percent of tourists who entered Gran Canaria in 2019 were Germans and around 42 percent were under 44 years old (Patronato de Turismo de Gran Canaria, 2019). Thus, participants in the non-residents sample could represent a group of potential visitors.

A face-to-face survey was conducted during August 2017 and March 2018 and a total of 476 valid questionnaires, equally distributed between residents and non-residents, were obtained. The questionnaire was divided into five sections. The first two sections, which are not required for the present research, collected information about environmental concerns, as well as attitudes of the individuals

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[1] The majority of the sample is made up of millennials, also known as Generation Y (i.e. those born between the early 1980s to the late 1990s). It should be noted that some of the participants also belong to the first cohorts of Generation Z.

[2] Gran Canaria had a population of 843,159 inhabitants in 2017, with 16.23% of them aged between 18 and 31 years; and a total population of 19,251 university students in the 2017-18 academic year (ISTAC, 2017a).

towards a sustainable behaviour. The third section consists of a discrete choice experiment with twelve different scenarios that confronted the individuals with the choice between two hypothetical alternatives defining rural tourism packages, as well as the non-choice option. In the fourth section respondents were asked to rate the importance given to the different attributes in the choice experiment. Finally, the last section collected the main socio-economic characteristics of the individual.

The alternatives in the choice experiment were defined in terms of a set of attributes with different levels, and the choice scenarios were generated by an efficient design using the software package N-Gene (Choicemetrics, 2018). The attributes considered in the analysis are the *price* of 2-days holiday, the type of *accommodation* (shared by 4 people), and different activities that can be offered in the package, which include *cultural trails*, *active hikes*, *diving/snorkelling* and *stargazing workshops*. Depending on the scenario, the package could include two or three activities. The range of price levels was defined considering prices of rural houses in Gran Canaria published in different internet portals, official statistics about average prices of extra-hotel accommodations, including tourist apartments, rural houses and camps (55.68 €/day), as well as some information provided by the property owners (ISTAC, 2017b).

Cultural trails focus on cultural and knowledge acquisition, whereas the *active hiking*, which may include visits to natural pools and even bicycle riding, is more action-oriented. The attribute *diving/snorkelling* focuses on water sports and the ocean environment, whereas the last attribute, a *stargazing workshop*, makes better use of the great opportunity of a remote and natural protected area by exploiting the potential of the Canary Islands skies to observe the stars. A summary of the attribute levels considered in the experiment is presented in Table 1.

Table 1. Attribute levels

Attribute	Level 0	Level 1	Level 2
Price per person of 2-days holiday	80€	60€	40€
Type of accommodation	Tent	Rural house	-
Active hiking	Not included	Included	-
Cultural trail	Not included	Included	-
Diving/snorkelling	Not included	Included	-
Stargazing workshop	Not included	Included	-

Figure 1 presents an example of the first choice scenario in the experiment. Many authors (see e.g. Strazzera *et al.*, 2010 and Hurtubia *et al.*, 2015) have recognized the advantages of using images in discrete choice experiments because they offer a better representation of the physical characteristics of the choice scenario and complement the semantic description of particular attribute levels. As a

result, some images were shown to respondents to help them better understand the rural tourism packages considered in each choice task, in order to make the hypothetical setting more realistic. In addition, some extra information describing each of the activities available is provided.

Figure 1. Example of choice scenario

SCENARIO 1		
ATTRIBUTES	**OPTION 1**	**OPTION 2**
PRICE PER PERSON 2 NIGHTS (FOOD NOT INCLUDED)	60.00 €	40.00 €
TYPE OF ACCOMMODATION	TENT	RURAL HOUSE
CULTURAL TRAIL Duration of the activity: 3 hours Guided route where you can see native species of fauna and flora and heritage sites (Group 12 people maximum)	NOT INCLUDED	NOT INCLUDED
ACTIVE HIKING Duration of the activity: 3 hours Guided tour to Veneguera Blue Pools. The route includes a bath in natural pools. Optional race/mountain-bike circuit. (Group 12 people maximum)	INCLUDED	INCLUDED
DIVING / SNORKELLING (Duration of the activity: 1:30 hours) Scuba diving or snorkeling activity with monitor in the Beach of Veneguera. (Group 12 people maximum)	INCLUDED	NOT INCLUDED
STAR GAZING WORKSHOP Duration of the activity: 2 hours (Group 24 people maximum)	NOT INCLUDED	INCLUDED

☐ Choose option 1
☐ **Choose option 2**
☐ None of the two (option 3)

The greatest differences in choice scores between residents and non-residents were observed in scenarios 1, 8, and 9. In scenario 1, 59% of non-residents preferred option 1 (60€, tent accommodation, active hiking, and dive/snorkeling), whereas 64% of residents preferred option 2 (40€, tent accommodation, active hiking, and stargazing). In scenario 8, 48% of non-residents preferred option 1 (80€, tent accommodation, cultural trail, active hiking, and stargazing), whereas 54% of residents preferred option 2 (60€, rural house accommodation, cultural trail, and stargazing). Finally, in scenario 9, 53% of non-residents preferred alternative 2 (80€, tent accommodation, cultural trail, active hiking, dive/snorkelling), while 50% of residents preferred alternative 1 (60€, rural house accommodation, active hiking, and stargazing). In the remaining scenarios, the majority of the individuals in both groups preferred the same option.

Table 2 shows the socio-demographic characteristics of the respondents in the two samples. The proportion of residents and non-residents is the same, and gender proportions are balanced in both groups. The female proportion in the resident sample is slightly lower (43.7%), whereas females (55%) are more prevalent in the non-resident sample.

Table 2. Socio-demographic characteristics of the sample

Characteristics	Residents		Non-residents	
	Number of respondents	*Percent*	*Number of respondents*	*Percent*
Origin	238	50	238	50
Gender				
Female	104	43.7	131	55
Male	134	56.3	107	45
Others				
Having a job/work	59	24.8	195	81.9
Car for leisure activities	168	70.6	124	52.1
Live independently	43	18.1	195	81.9
Live with Family	195	81.9	43	18.1
Age	Years			
Age mean	22.79		24.49	
Age-range	18 - 31		16 - 37	
Income per month	Euro			
Income mean	221.23		740.49	
Income-range	20 - 1800		40 - 4000	

The average age and age range differ slightly between the two samples. The average age of the residents is 22.79 years, which is 1.7 years younger than the average age of the non-residents, which is 24.49 years. Residents' age range (18-31 years) is narrower than that of non-residents (16-37 years)[3]. Young residents have a significantly lower monthly income of 221.23 Euro which is 519.26 Euro less than the German sample with 740.49 Euro. This could be attributed to Spain's overall lower income level, but it could also be explained by the fact that the majority of local students on the island (81.9%) still live with their families. This could also explain why

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[3] Only an extremely small number of participants doesn´t fulfill the requested age-range of 18-35 years

only 24.8% of residents work while attending university, whereas the majority of non-residents work (81.9%) and live independently (81.9%). The slightly older age of non-residents may also have an impact on the aforementioned characteristics. In addition, the non-residents sample contained a high proportion (87%) of students/or academics.

Methods

The empirical analysis is theoretically grounded in random utility theory (Domencich and McFadden, 1975) where the utility of alternative j in choice scenario s for individual q, U_{jsq}, is made up the sum of two components; a systematic or measurable utility V_{jsq}, represented by the attributes of the alternatives as well as some sociodemographic characteristics of the individual, all accompanied by a set of unknown coefficients, and a random error term, ε_{jsq}, which explains the unobserved effects. Thus, under the utility maximization decision rule, and assuming hypothesis about the distribution of the error terms, different discrete choice models can be derived yielding the choice probabilities of the alternatives included in the choice set. Train (2009) provides an interesting reference guide for this methodological approach.

Two mixed logit (ML) modes are estimated for the analysis of preferences for these rural tourism activities using the software BIOGEME 2.0. (Bierlaire, 2009). Since we are dealing with stated choice data, in which each interviewee provides several statistical observations corresponding to the 12 choice scenarios included in the experiment, the mixed logit specification includes an error component to test for potential correlation in choices made by the same respondent (Ortúzar and Willumsen, 2011; Bliemer and Rose, 2010; Train, 2009). Thus, the error term should include a random variable μ_{jq} following a distribution with zero mean, with the standard deviation σ indicating the degree of said correlation. In this regard, the specification of the utility function for the mixed logit is defined as follows:

$$U_{jsq} = V_{jsq} + \mu_{jq} + \varepsilon_{jsq}$$

Where μ_{jq} are random variables iid $N(0, \sigma)$, and ε_{jsq} are random variables iid following the Gumbel distribution with location parameter 0 and scale parameter β.

For the utility of the first two alternatives in the choice set, we considered a linear-in-the-parameter specification, with the unknown coefficients represented by a set of fixed parameters. The utility of the third option, the non-choice option, included an alternative specific constant and an error component that accounted for the panel correlation effect.

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A first base model, ML1, examines the preferences for rural tourism activities without making any distinction about the origin of the decision makers, whereas a second model, ML2, was examines whether residents' preferences differ from those of non-residents. Thus, for the first model ML1, the systematic utility of alternative j is expressed as:

$$U_j = \theta_P P_j + \theta_{AC} AC_j + \theta_{AH} AH_j + \theta_{CT} CT_j + \theta_{DS} DS_j + \theta_{SG} SG_j \quad j = 1, 2$$

Where P_j is the *price* of alternative j, $AC_j = 1$ if the *accommodation* offered in alternative j is a rural house instead of a tent ($AC_j = 0$); $AH_j = 1$ if the alternative j offers *active hiking* activities, $CT_j = 1$ if the alternative j offers *a cultural trail*, $DS_j = 1$ if the alternative j offers *diving/snorkelling* activities, $SG_j = 1$ if a *stargazing workshop* is offered in the alternative j, and θs are the unknown parameters representing the marginal utilities.

The second model adds the interaction of the attributes and the dummy NR=1 if the individual is non-resident to the base model. The systematic utility of the alternative j for ML2 in this case is represented by:

$$U_j = \theta_P P_j + \theta_{AC} AC_j + \theta_{AH} AH_j + \theta_{CT} CT_j + \theta_{DS} DS_j + \theta_{SG} SG_j$$

$$+\theta_{P\_NR} P_j \cdot NR + \theta_{AC\_NR} AC_j \cdot NR + \theta_{AH\_NR} AH_j \cdot NR + \theta_{CT\_NR} CT_j \cdot NR + \theta_{DS\_NR} DS_j \cdot NR + \theta_{SG\_NR} SG_j \cdot NR \quad j = 1, 2$$

Which can be rewritten as follows:

$$U_j = (\theta_P + \theta_{P\_NR} NR) P_j + (\theta_{AC} + \theta_{AC\_NR} NR) AC_j + (\theta_{AH} + \theta_{AH\_NR} NR) AH_j + (\theta_{CT} + \theta_{CT\_NR} NR) CT_j$$

$$+(\theta_{DS} + \theta_{DS\_NR} NR) DS_j + (\theta_{SG} + \theta_{SG\_NR} NR) SG_j \quad j = 1, 2$$

In this case, the marginal utilities of the two groups differ. Thus, the impact of including a specific activity K on utility would be $\theta_K + \theta_{K\_NR}$ for non-residents and θ_K for residents.

Willingness to pay (WTP) figures express the variations in an individual's utility caused by changes in the explanatory variables in monetary units. They can be directly derived from the estimated choice model by considering the ratio between the marginal utility of the corresponding attribute and the marginal utility of income (λ), which is obtained as the negative of the marginal utility of the cost (price) attribute ($-\partial U_j / \partial P_j$) according to the discrete choice theory (McFadden, 1981). Since the attributes in the experiment are

qualitative variables, the marginal utility is defined as the difference in the utility obtained when the activity K is included in the package (U_j^1) and when it is not included (U_j^0), while all other variables remain constant. Thus, for model ML2, the WTP for including activity K in the package is expressed as:

$$WTP_K = \frac{U_j^1 - U_j^0}{\lambda} = \frac{U_j^1 - U_j^0}{-\partial U_j / \partial P_j} = \begin{cases} -\dfrac{\theta_K}{\theta_P} & \text{for residents} \\[2ex] -\dfrac{\theta_K + \theta_{K_{NR}}}{\theta_P + \theta_{P_{NR}}} & \text{for non-residents} \end{cases}$$

Confidence intervals for the WTP figures are obtained by adapting the asymptotic t-test proposed in Armstrong *et al.* (2001) when considering the null hypothesis $H_0 : \left[\left(U_j^1 - U_j^0 \right) + WTP_k \frac{\partial U_j}{\partial P_j} \right] = 0$, where WTP_k is true WTP for including activity K. Given that parameter estimates and any linear combination of them distribute asymptotically Normal (as in the case of non-residents), the

$(1 - \alpha)$ confidence interval is determined by the set of values with WTP_k satisfying $-z_{\alpha/2} \leq \dfrac{\left(\hat{U}_j^1 - \hat{U}_j^0 \right) + WTP_k \frac{\partial \hat{U}_j}{\partial \hat{P}_j}}{\sqrt{var \left(\left(\hat{U}_j^1 - \hat{U}_j^0 \right) + WTP_k \frac{\partial \hat{U}_j}{\partial \hat{P}_j} \right)}} \leq z_{\alpha/2}$, where

α is the significance level.

Model results

Estimation results corresponding to these two models are presented in Table 3. The majority of the parameters resulted significant at the 99% confidence level, with the exception of the interaction $(SG_j \times NR)$ that was significant the 95% confidence level, as well as $(AH_j \times NR)$ and $(CT_j \times NR)$, which had low significance levels. These results suggest that the attributes included in the experiment were relevant in the selection of a holiday package of these characteristics. In addition, all parameters corresponding to the rural tourism activities were estimated with a positive marginal utility, indicating that including these activities in the package increases the utility of tourists. The marginal utility for *accommodation* was also positive, suggesting a preference for staying in a rural house rather than a tent. In contrast, the price effect was negative, indicating that increasing the cost of the holidays reduced utility. The alternative specific constant included in the non-choice option resulted also negative, indicating a preference for the options offering a vacation package (alternatives 1 and 2, in this case) even if the effect of the attributes included in the experiment were negligible. The panel correlation among the choices made by the same respondent is confirmed by the high significance found for the standard deviation of the error component (σ).

Additionally, the estimation results for ML2 demonstrate the disparities in perception of the attributes considered in the analysis between residents and non-residents. The sign obtained in the interaction terms and their significance level are used to interpret these differences. Therefore, the difference between residents and non-residents for *active hiking* and *cultural trail* did not result significant, indicating that both groups perceive the same levels of satisfaction from engaging in these activities. In contrast, *diving/snorkelling* produces more utility to the non-residents group, whereas the *stargazing* workshop and the *accommodation* in a rural house are more preferred by locals. Non-residents were recruited while they were attending a camp, so it is likely that they took into account their current experience when evaluating this attribute. This last result can be largely explained by this fact. In addition, the negative sign obtained for the interaction term (θ_{P_NR}) indicates that for the group of non-resident tourists, an additional monetary unit in the cost of vacations results in greater disutility. The reason for this is that, even with a higher income level, non-residents often incur extra costs for travel and accommodation on the island if the rural tourism package is combined with another type of vacation.

Table 3. Preferences for rural tourism attributes. Estimation results

Attributes (coefficient θ)	ML1		ML2	
	Estimate	t-test	Estimate	t-test
Accommodation (θ_{AC})	0.489	10.34***	0.697	11.68***
Accommodation×Non-resident (θ_{AC_NR})	-	-	-0.447	-5.85***
Active Hiking (θ_{AH})	1.010	15.23***	0.997	11.94***
Active Hiking×Non-resident (θ_{AH_NR})	-	-	0.096	0.90
Cultural Trail (θ_{CT})	0.646	8.33***	0.733	7.03***
Cultural Trail×Non-resident (θ_{CT_NR})	-	-	-0.158	-1.17
Diving/Snorkelling (θ_{DS})	1.520	25.40***	1.310	16.57***
Diving/Snorkelling×Non-resident (θ_{DS_NR})	-	-	0.497	4.57***
Price (θ_P)	-0.045	-20.92***	-0.041	-14.43***
Price ×Non-resident (θ_{P_NR})	-	-	-0.011	-3.08***
Stargazing Workshop (θ_{SG})	0.501	7.19***	0.638	7.00***
Stargazing Workshop×Non-resident (θ_{SG_NR})	-	-	-0.269	-2.33**
ASC₃ (θ_{ASC_3})	-3.220	-11.61***	-3.200	-11.54***
Sigma (σ)	2.260	14.08***	2.210	13.95***
Number of observations:	5712		5712	
Number of individuals:	476		476	
Null log-likelihood:	-6275.273		-6275.273	
Initial log-likelihood:	-5611.137		-5611.137	
Final log-likelihood:	-4113.742		-4044.368	
Likelihood ratio test:	4323.064		4461.81	
Rho-square:	0.344		0.356	

Confidence level of significance: *** 99% , ** 95% , * 90%

Willingness to pay figures

The WTP figures obtained for both models are presented in Table 4. Considering the ML1 results, the activity for which individuals are willing to pay the most is *diving/snorkelling* (33.70€), followed by *active hiking* (22.39€), *cultural trail* (14.32€) and *stargazing* (11.11€). Despite a lower income level in the Spanish sample, residents are willing to pay more for the different activities, as shown by the estimates obtained from ML2. The only exception is *diving/snorkelling,* where non-residents are willing to pay 2.67€ more than residents. These results can be explained by the highest negative impact that the price has on visitors coming from abroad, where some extra expenditure must be done in order to pay for travelling expenses. In the case of *accommodation* facilities, non-residents are willing to pay approximately € 12 less than residents to stay in a rural house instead of a tent; and, as we have already pointed out, this result could be explained by the fact that all of them were sampled when they attended a summer camp.

In order to test for the accuracy of the WTP point estimates, the 95% confidence intervals were obtained according to the procedure explained in the methods section. Observing ML2 results, the greatest overlap between the resident and non-resident intervals is obtained for *active hiking* and *diving/snorkelling*, suggesting that the discrepancy in the WTP for these two groups can be obtained to a lesser extent. In contrast, the intersection is null or very small for *accommodation*, *cultural trail* and *stargazing*, indicating that the probability of obtaining a similar figure for the WTP is very low.

Table 4. Willingness to pay figures.

Attributes	Willingness to pay (€) Point estimate; [Confidence interval]			
	ML1	Residents	ML2 Non-residents	Difference
Accommodation (AC)	10.84; [8.44 , 13.55][1]	17.21; [13.63 , 21.52]	4.84; [2.34 , 7.96]	12.36
Active Hiking (AH)	22.39; [18.78 , 26.49]	24.62; [19.78 , 30.39]	21.18; [17.01 , 27.58]	3.43
Cultural Trail (CT)	14.32; [10.89 , 17.96]	18.10; [12.79 , 24.08]	11.14; [8.68 , 14.56]	6.96
Diving/Snorkelling(DS)	33.70; [30.22 , 37.69]	32.35; [27.07 , 38.83]	35.02; [28.92 , 44.52]	-2.67
Stargazing (SG)	11.11; [7.94 , 14.52]	15.75; [11.11 , 20.98]	7.15; [5.07 , 9.91]	8.60

[1]*Confidence intervals in brackets*

Importance of attributes

The aim of this section is to validate the model results of the previous sections. To do so, participants were asked to rate the importance given to the attributes in the choice experiment in an additional section of the questionnaire. The assessment was made

using a five-point Likert scale, ranging from not at all important (1) to very important (5). In this way, participants evaluate the attributes according to their own judgements. Figure 2 summarises the scores obtained for the attributes analysed. The results indicate that most individuals rate the price of the holiday package as well as the two attributes, *active hiking* and *dive/snorkelling* to be fairly or very important. In contrast, *cultural trail* and *stargazing* activities obtain this score for less than 25.45% and 33.6% of the sampled individuals, respectively.

To analyse whether residents evaluate attributes differently from non-residents, a Pearson Chi-square test was performed to examine a possible association between the tourist origin (residents/non-residents) and the importance score of the investigated attributes. Test results suggest significant differences between observed and expected frequencies for *accommodation* (χ^2=19.40, *df*=4, *p*=0.001), *diving/snorkelling* (χ^2=9.96, *df=4, p=0.041*) and *stargazing workshop* (χ^2= 29.28, *df*=4, *p*=0.000) when considering a 95% confidence level. Therefore, for the aforementioned attributes independence cannot be assumed, validating the model results obtained from the choice experiment.

In contrast, the distinction between residents and non-residents did not result significant for *active hiking (χ^2=8.96, df=4, p=0.062)*, *cultural trail (χ^2=7.61, df=4, p=0.107)* and *price (χ^2=9.10, df=4, p=0.059)* which means that both groups perceive equivalent levels of importance when analysing these attributes in the experiment. Only the result obtained for price does not validate the model results from the choice experiment, which resulted in a higher disutility for non-residents. Notwithstanding, it is worth noting that, for this attribute, the hypothesis of independence would be rejected at the 94.1% confidence level, which suggests the presence of differences in the importance of the price to a lesser extent than with the rest of the attributes.

To assess the strength of association between the variables, the Cramer's V test is performed, where the association is measured on a 0-1 scale, with 1 corresponding to the perfect association (McHugh, 2013). Test results show the existence of weak associations between residence and the importance given to the attribute under analysis as V is < 0.25 in all the cases. The effect size for *stargazing workshops* is higher (V=0.248) than the value for *accommodation* (V=0.202) and *diving/snorkelling* (V=0.145). A lower association for *diving/snorkelling* in comparison to *stargazing workshops* and *accommodation* validates the results from the previous sections.

Figure 2. Importance of attributes considered in the choice experiment.
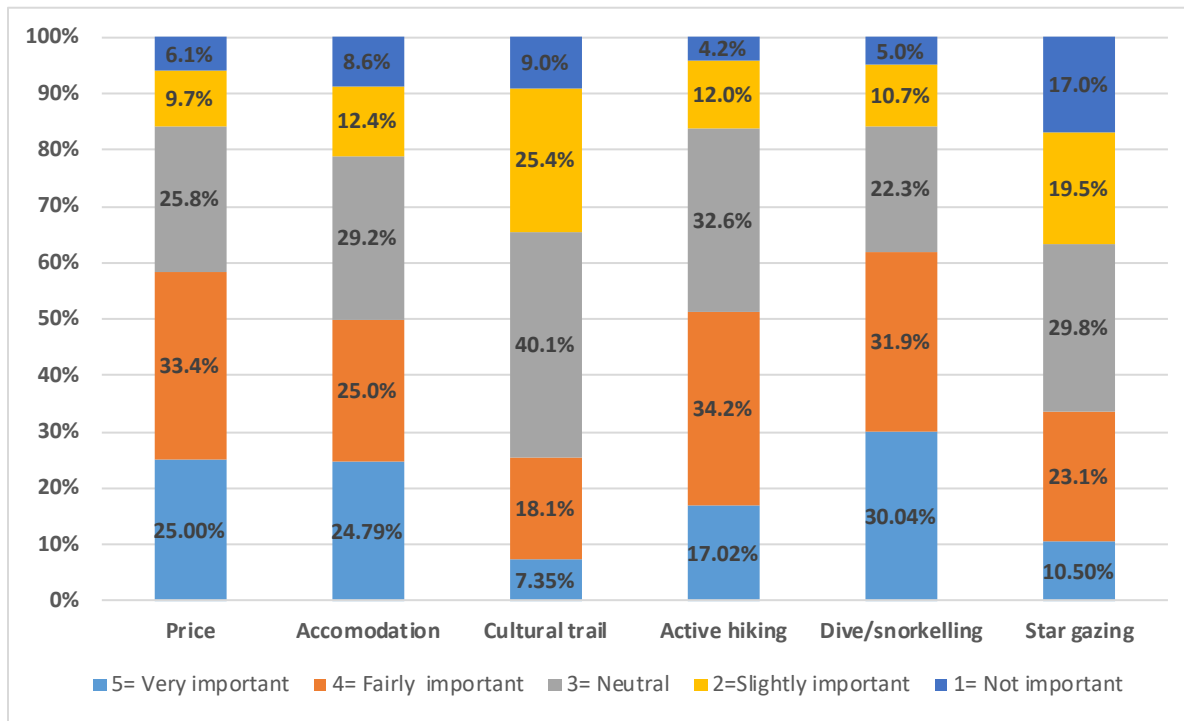
Conclusion, limitations and policy implications

The primary goal of this paper was to better understand the preferences of residents and non-residents regarding the demand for rural tourism on the island of Gran Canaria. Despite being known as one of Europe's most popular mass tourism destinations, Gran Canaria has a diverse range of natural attractions that make it an ideal laboratory for testing low-impact tourism proposals that could provide an alternative to 3S tourism in the future. The analysis used discrete choice modelling, which has been widely demonstrated as an appropriate method for comparing customer preferences and determining willingness to pay for goods and services. Data used in the models came from a discrete choice experiment aimed at a group of young customers, which allowed us to create different rural tourism packages with varying activities, types of accommodation, and prices.

The results of the analysis show that all the attributes considered increased the utility of the participants in the experiment, demonstrating the existence of an interest for a market niche focused on the development of more sustainable activities. In this regard, these findings provide an interesting tool for tourism service providers to use when developing rural tourism packages for younger

generation clients. Our results will also serve as useful information for key stakeholders, such as governmental organisations like the Gran Canaria Tourist Board, whose primary mission is to protect the island's tourism interests as a basis for economic development. The work is also valuable for academics and researchers in the field of outdoor recreation because our choice experiment can be easily adapted to a range of outdoor activities that can be developed in other geographical areas.

Research in the field of alternative tourism is required in order to contribute more to sustainable tourism and meet the goals of the 2030 Agenda for Sustainable Development (Mulder et al., 2020). Aside from the long-term necessity of rethinking the travel sector, other constraints such as unaffordable air travel rates exacerbated by crises like the Ukraine conflict can make changes in consumer behaviour critical. One method of reducing travel distance is to build man-made leisure and recreation venues in domestic tourism. When the number of man-made leisure and recreation attractions increases, regions become more appealing to domestic tourists (Camacho-Murillo et al., 2021).

The study presented here investigates preferences for natural attraction, which can include mountains, forests, coastline, lakes, landscape features, or native wildlife. The activities included in in the experiment represent various clusters of rural tourism activities (Pesonen, 2015). Potential visitors of both origins mostly preferred the ´Water activities´ cluster (represented by *diving/snorkelling*), followed by ´Actives´ (*active hiking*), ´Nature activities´ (*cultural trails*) and ´Passives´ (*star gazing workshops*). Decision-makers can use these preferences to meet the expectations and needs of both groups as well as develop concepts to make rural tourism for both nationalities more appealing. Moreover, the magnitude of the WTP differs (with varying statistical significance) between residents and foreign customers in these clusters. While non-residents are willing to pay 2.67€ more for the water activities, local tourists are willing to spend more on passive recreation (+8.60€) and accommodation in a rural house (+12.36€). Although it is worth noting that the survey was conducted prior to the pandemic crisis, these findings have interesting managerial implications for rural tourism operators looking to differentiate their prices.

Some limitations of the study should be mentioned when analysing the results. First, the non-resident investigation was limited to the German market. Second, the clusters are only represented by a limited number of attributes. Nevertheless, future research can replicate this type of study with different activities tailored to different markets in order to more accurately determine clusters for rural tourism. It would also be practical to include other man-made attractions in the investigation that go beyond the alternative niche markets in order to satisfy tourists closer to their home destination and reduce travel distances. Furthermore, another limitation resides on the sample characteristics. Non-residents were interviewed while on vacation in a rural area, whereas residents' information was gathered

around the University Campus of Las Palmas de Gran Canaria, assuming that nature-based activities are popular among the young island residents' sample.

Another limitation is the restricted age group of millennials which constitute a comparatively small proportion of the population. As a result, the chosen sample's intention is to engage a younger target group to help secure the destinations' long-term revenues. Such studies will aid in attracting and retaining above-average educated and affluent customers to destinations. Our findings show a link between rural tourism and higher levels of education, but it is important to note that our findings can only be extrapolated to the two population groups studied.

Despite the limitations mentioned above, the results obtained can have a significant impact on the development of rural tourism. The findings of our study are a first step toward analysing the demand for rural tourism vacation packages in mass tourism destinations, and they pave the way for future research. The experiment's goal is to encourage researchers to redesign research methods for tourism development based on novel thinking, and to use the pandemic as a transformative force to initiate change (Abbas *et al.*, 2021).

Even if the impact of mass tourism is unlikely to be reversed, research in alternative tourist products can help to reduce the dependence on low-cost mass tourism. In the long run, this can help to provide a broader range of products in destinations and address the issue of high price sensitivity in 3S (Muñoz, 2007). Finally, our findings can be applied to other 3S destinations that have natural resources that can be used for tourism development in a more sustainable manner. Studies like this one may also help decision-makers in other destinations achieve the dual goals of income generation and nature conservation (Hearne and Salinas, 2002).

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