

Determining factors influencing use of caravanning tourism apps

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Abstract

Purpose: This study identifies the factors that affect intention to use applications (apps) to plan your travel in a caravan, motorhome or camper indistinctly and to test a conceptual model based on the literature to assess the intention to use apps to plan a trip in a caravanning sector. This is a very interesting aspect to analyse because this type of tourism is characterized by the freedom of choice and improvisation of users on their trips. However, when traveling, these types of tourists have traditionally relied on printed editions, which have evolved in different ways and results to the digital world.

Design/methodology/approach: This study analysed the data obtained from caravanning users using partial least squares (PLS). The model used in this paper is based on a review of the literature.

Findings: This study showed that perceived value, perceived ease of use and satisfaction had an influence on intention to use apps related to caravanning. The key predictors of satisfaction were hedonic motivation and perceived ease of use.

Research limitations/implications: The results are based on users of motorhomes, caravans and campers who have visited Andalusia as caravanning users. The study should

be expanded to more regions and countries to determine if such expanded samples would field different results and conclusions. Furthermore, there is a lack of studies of caravanning in the literature.

Practical implications: This study could be useful for app developers because of the lack of studies in this specific sector in order to develop marketing strategies.

It would also be convenient for them to have a knowledge of the effect of moderating variables such as gender, marital status and age on the intention to use caravanning apps to develop their strategies in apps.

Originality/value: This is a pioneering study in the field of caravanning and apps. It also offers practical implications for app developers. It is the first paper to use a model based on the literature to test the intention to use apps related to caravanning.

Keywords Tourism; Caravanning; Apps; PLS; Spain.

Resumen

Objetivo: Este estudio identifica los factores que afectan la intención de usar aplicaciones (apps) para planificar su viaje en una caravana, autocaravana o camper indistintamente y probar un modelo conceptual basado en la literatura para evaluar la intención de usar aplicaciones para planificar un viaje en un sector del caravanning. Esto es un aspecto interesante a estudiar debido a que este tipo de viajes se caracterizan por la libertad de elección e improvisación de los usuarios en sus viajes. Sin embargo, a la hora de viajar, este tipo de turistas tradicionalmente se han apoyado en ediciones impresas, que han evolucionado de diferente forma y resultado al mundo digital.

Diseño/metodología/método: Este estudio analiza los datos obtenidos de los usuarios de caravanning utilizando la técnica de mínimos cuadrados parciales (PLS). El modelo que se ha usado en este artículo está basado en estudios previos de la literatura.

Resultados: Este estudio muestra que el valor percibido, la facilidad de uso percibida y la satisfacción influyen positivamente en la intención de usar las apps relacionadas con el caravanning. Los predictores claves de satisfacción fueron la motivación hedónica y la facilidad de uso percibida.

Limitaciones/implicaciones de la investigación: Los resultados de este estudio se basan en las opiniones de los usuarios de autocaravanas, caravanas y autocaravanas que han visitado Andalucía como usuarios de caravanas. Por lo tanto, este estudio debería ampliarse

a más regiones y países para determinar si tales muestras ampliadas arrojarían resultados y conclusiones diferentes. Además, hay una falta de estudios sobre caravanning en la literatura.

Implicaciones prácticas: Este estudio podría ser útil para los desarrolladores de aplicaciones debido a la falta de estudios en este sector específico para desarrollar estrategias de marketing. También sería conveniente que los desarrolladores conocieran el efecto de variables moderadoras como el género, el estado civil y la edad sobre la intención de utilizar apps de caravanning para desarrollar sus estrategias en aplicaciones.

Originalidad/valor: Este estudio es pionero en el campo del caravanning y las apps. También ofrece implicaciones prácticas para los desarrolladores de aplicaciones. Además, es el primer artículo que utiliza un modelo basado en la literatura para estudiar la intención de utilizar apps relacionadas con el caravanning.

Palabras clave: Turismo; Caravanning; Apps; PLS; España.

1 Introduction

We live in an era of globalization marked by new information and communication technologies (ICTs). During the last decade, we have witnessed a great development in tourism that has been supported by the evolution of new technologies (Liébana-Cabanilla et al., 2020). This has greatly affected the lifestyle of a wide variety of people and is clearly reflected in the tourism sector.

ICTs have been rewarding for tourism (Pierdicca et al., 2019), with smartphones being a determining catalyst (Fang et al., 2017; Gupta and Dogra, 2017), and the functionalities of sharing opinions on platforms and websites have been decisive (Afzaal et al., 2019). Many users increasingly desire to access review information to make decisions (Do et al., 2020), and apps increasingly play an important role in helping consumers have a better travel experience (Dickinson et al., 2014). Many apps are offered as free downloads or at a minimal cost through smartphones, assuming a significant increase in their users (Fong et al., 2017).

Currently, smartphones have become a useful tool in all areas with great acceptance (Wang, 2019). Thanks to mobile apps, it has been possible to offer location-related information (Mayordomo et al., 2019), which is very important for apps in the caravanning sector because they provide access to key data for tourism (Egger, 2013) and allow the dissemination of information that supports decision-making in the choice of destination (Kramer et al., 2007).

Within the tourism sector, the birth of a new booming sector, such as caravanning, is notable and usually does not have an active presence in academic research. The term "caravanning" refers to an independent tourism that allows to move with a lot of autonomy during the holidays, in continuous contact with the rural and natural environment (Melgosa, 2002; Colom and Garcia, 2007; Grávalos et al., 2021). This allows the traveller to experience the feeling of freedom (Colom-Larrosa and Garcia-Guirrado, 2007) in their own vehicle and with their own comforts. The caravanning sector has been growing exponentially in recent years and is one of the least affected by the crisis in Spain (Aseicar, 2021a). It has become a thriving and resistant economic sector, and this fact, together with the importance this sector has in other European countries, makes it a new tourism modality with its own area of interest in European countries (Aseicar, 2021b).

According to a study presented by Grijalvo et al. (2020), we can affirm that this type of itinerant tourism has grown in recent years. Even considering the difficult year that we have lived with uncertainties caused by the COVID-19 crisis, the caravanning sector has been one of the few that have managed to survive the pandemic that began in 2020. This is due to the fact that the caravanning sector means an alternative safe and interesting compared to another type of tourist accommodation caused by the fear of many people of crowds during the holiday period (Aseicar, 2021a). In summary, this sector is committed to independence and “bubble trips, making this sector an important new tourist trend to expand the tourist offer and combat the seasonal adjustment of tourism.

In fact, according to Aseicar (2021), the registrations in Spain of this type of vehicle have survived the COVID-19 crisis with just a 3.6% drop in registrations compared to 2019, due to the fact that the caravanning sector has better been able to guarantee hygienic, sanitary and social distancing measures.

Currently there are various studies that analyse apps in the tourism sector on a general level (Buhalis and Molinaroli, 2002; Buhalis and Law, 2008; Castañeda et al., 2019), but there are currently no studies on caravanning apps, which represents a large gap in the research.

Traditionally, caravanning users chose management models that ranged from traditional paper, club or association editions to new business initiatives, some based on the collaborative economy concept. However, digitization has had a wide range of development in the caravanning sector, providing solutions based on apps that meet the demands of caravanning users. Many specialized applications in this sector have appeared in the apps market in recent years, where those aimed at locating overnight places stand out above the rest and provide valuable information on geolocation, available services, images and comments from other users (Hernández-Garrido et al., 2020). The market penetration of these specific apps mainly depends on the quality and quantity of information offered, as well as whether they are perfectly updated either by the editors or users. In fact, these apps offer useful information for users of caravanning in order to find a place to overnight. They allow users to write a review of the place that they had stayed in order to help other people. Besides, these apps even offer some discounts for your booking just for been an user of an specific app related to caravanning.

The motorhome is currently the most common aspect of the caravanning sector, and its special characteristics and specificity mean that the traditional camping offer does not fit

with the very specific caravanning user demands (CCDRA, 2008). It is thus very important that these applications facilitate motorhome travel for the users, as well as the activities of the hosts, so that communication goes in both directions.

This study therefore proposes a model to analyse the factors that have an influence on the intention to use apps in the caravanning sector. We focus on the caravanning sector because of the lack of studies in this sector, which is currently at its peak. This remainder of this paper is structured as follows: in the second section, we present the literature review and research hypotheses of the study. After that, in section 3, we explain the methodology used. Following that, in section 4, we discuss the results and conclusions. Finally, in section 5, the theoretical and practical implications, limitations and future lines of research are presented.

2 Literature review and research hypotheses

2.1 Perceived ease of use, satisfaction, perceived value, hedonic motivation, behavioural intention and their relationships

Behavioural intention is an indicator that represents a person's willingness to perform a specific behaviour (Ajzen, 1991). It is considered to be best predicted, by far, by the subjective norms and attitude towards a person's behaviour (Liao *et al.*, 2007). Behavioural intention is crucial in the context of new ICTs and tourism.

Perceived value is defined as the general evaluation of a service based on consumer's perception of what is received and what is given (Zeithaml, 1988). Perceived value has been considered a relevant factor for understanding behavioural intention. In fact, many studies have considered this factor as an antecedent of behavioural intention (Liébana-Cabanillas *et al.*, 2020; Kim and Han, 2011; Venkatesh and Brown, 2001). Thus, if consumers use apps related to caravanning, it is because they perceive those apps as being of value. For this reason, the following hypothesis is proposed:

H1: The perceived value of the information obtained through apps related to caravanning has a positive effect on intention to use such apps.

Perceived ease of use is defined as 'the degree to which a person believes that using a particular system would be free of effort' (Davis, 1989). Therefore, perceived ease of use is vital for the use of ICTs like apps. Perceived ease of use has also been studied as a significant predictor of behavioural intention (Davis, 1989; Kim *et al.*, 2009; Venkatesh and Davis, 2000), and has been analysed in the tourism and new technologies context (Casaló *et al.*, 2010;

Chen and Tsai, 2019). Perceived ease of use is crucial for usage of information technologies like apps, as it is regarded as a determinant of customer satisfaction by enhancing the efficiency of service use (Xue and Harker, 2002). Therefore, the following hypothesis is formulated:

H2: The perceived ease of use of apps related to caravanning has a positive effect on user satisfaction.

Satisfaction is the degree to which a person thinks that an experience could create positive feelings for him- or herself (Bitner *et al.*, 1994). Several studies have demonstrated the importance of satisfaction in the context of new ICTs (Wang *et al.*, 2012). Some researchers have found a significant effect of satisfaction on consumers' purchase intention (Do *et al.*, 2020; Kim *et al.*, 2011; Kim and Qu, 2014; Uslu, 2020). Previous studies have analysed the antecedent of satisfaction and most of them found that perceived ease of use has a direct influence on satisfaction (Chang and Wang, 2007; Shah and Attiq, 2016; Stoel and Lee, 2003). In fact, consumers have positive feeling if they perceive the app as easy to use.

Hedonic motivation can be defined as "fun or pleasure derived from using technology" (Venkatesh, 2012) and it is a factor that has been demonstrated as a crucial antecedent of technology acceptance and use (Bhatiasevi and Yoopetch, 2015; Brown and Venkatesh, 2005; Gupta *et al.*, 2018). According to Hirschman and Holbrook (1982), it is also a key factor in consumer behaviour. Therefore, hedonic motivation has a direct influence on behavioural intentions to use a new technology (Venkatesh *et al.*, 2012).

Therefore, the following hypotheses are formulated:

H3: The satisfaction of using apps related to caravanning has a positive effect on intention to use.

H4: The hedonic motivation of using apps related to caravanning has a positive effect on satisfaction.

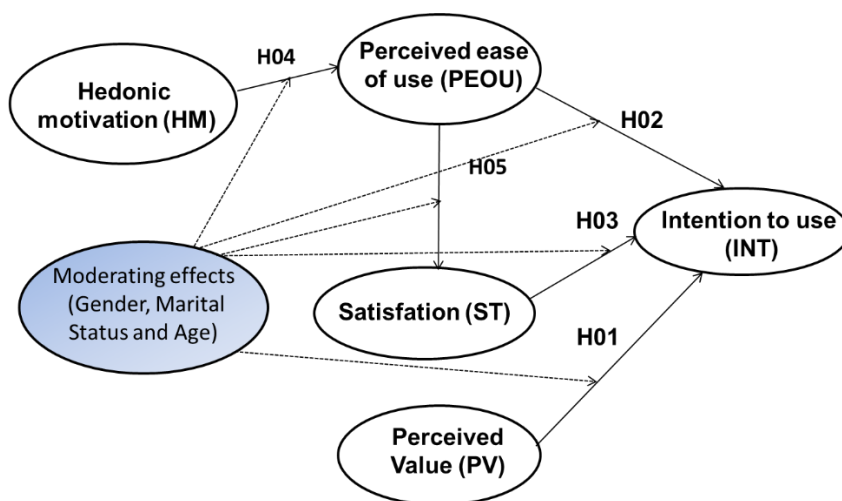
H5: The perceived ease of use of apps related to caravanning has a positive effect on satisfaction.

2.2 The effect of moderating variables on the research model

Behavioural intention models normally suppose a homogeneous population; however, this can change in practice because people are likely to be heterogeneous in their perceptions and behavioural intentions (Sarstedt, 2008). The use of moderating variables has recently

increased in both theory and practice in the tourism context. According to Skogland and Siguaw (2004) and Liébana *et al.* (2015), it is crucial that the tourism industry take into consideration demographic factors such as gender, marital status and age, because these have an impact on behavioural intention. Taking into account such considerations, behavioural intention models could become more realistic.

Figure 1: Proposed research model and hypotheses.



Source: author elaboration

3 Methodology

A set of measurement items related to information and telecommunication technology acceptance, e-commerce and tourism were adapted to the intention to use apps in the caravanning sector. Following the procedure described, we obtained 16 items that are presented in the table 1. These items have been measured using multi-item scales for the constructs of the current research. The items of the questionnaire were validated taking into account the opinions of a panel of academics and tourism professionals. They were asked about the appropriation of the items to study the intention to use apps in the caravanning sector. Considering the opinions of the experts, we carried out some changes in order to increase clarity further. After that, a previous test was made with 30 selected individuals of different ages, genders and civil status that had already use caravanning apps. Considering the obtained results of the previous test, we made same changes to the wording of some items to make it clearer. The small changes were just made in few words that the users of caravanning apps considered not too clear. Although the questionnaire was for Spanish individuals who had used apps related to the caravanning sector, the original questionnaire

was written in English. Therefore, the original questionnaire was translated into Spanish not only by a professional native English translator but also researchers. Having translated the questionnaire, we analysed carefully the main differences between both questionnaires and we agreed a definitive version of the Spanish questionnaire. Finally, another native English professional translator translated the final version into English to check the consistency between the the Spanish and English versions (Brislin, 1970; Venkatesh et al., 2012).

Table 1. Construct measurement

Construct	Item	Literature
Intention to use	INT1 I have a strong intention to use the information provided by apps related to caravanning	Zarmpou et al., (2012) Zhang et al. (2012) Alkhunaizar and Love (2012)
	INT2 I choose a specific area using the information provided by apps related to caravanning	
	INT3 I intend to continue staying overnight using the information provided by apps related to caravanning	
	INT4 Would you recommend to other people the use of apps related to caravanning to choose an area?	
	INT5 I would encourage my friends and family to use apps related to caravanning	
Perceived ease of use	PEOU1 Learning to use apps in caravanning is ease for me	Davis, 1989 Davis et al., 1989
	PEOU2 Interaction with the specialized apps in caravanning devices does not require much mental effort	
Satisfaction	ST1 I am pleased with the experience of using apps related to caravanning for organising trips	Chen and Tsai, 2007
	ST2 I am satisfied with the capacity apps have to get the information that I need to organize trips	
	ST3 I am satisfied with the apps effectiveness for organising trips in a camper	
Perceived value	VAL1 Considering the effort I make in information search for organising trips by apps related to caravanning, the information provided is worthwhile	Kim et al., 2012

VAL2 Considering the risk involved search for organizing trips by apps related to caravanning, the information provided is of value

VAL3 The information provided by apps for organizing trips in caravanning delivers me good value

	HM1 Using apps related to caravanning is fun	
Hedonic motivation	HM2 Using apps related to caravanning is enjoyable	Venkatesh et al., 2012
	HM3 Using apps related to caravanning is entertaining	

A seven-point Likert scale, ranging from 1 (= strongly disagree) to 7 (= strongly agree), evaluated the responses to all of the participants' objects. Because the population size of users of caravanning applications is uncertain, the study sample consisted of users of caravanning-related apps. To comply with the online questionnaire, the participants were recruited via various Facebook groups related to caravanning. We also asked participants to invite others, making use of snowball sampling.

A web-based questionnaire was also developed using Google forms and was circulated. This questionnaire included all items included in table 1 as well as some questions to get general information about participants (gender, age and marital status). The survey was performed during six months in the last holiday season (from April 1, 2020 to September 30, 2020). In total, 309 questionnaires were collected, and 289 responses were useable for the final sample. We removed 20 entirely incomplete questionnaires. Table II provides the demographic data for the quota sampling.

Table 2. Gender and age characteristics of the sample

		Sample (n)	Sample (%)
Gender	Male	123	42.56
	Female	166	57.44
	Total	289	100
Age	20-40	83	28.71
	41-60	177	61.24
	61-80	29	10.05
	Total	289	100

4 Data analysis and results

The objective of this research is to develop a model that explain the factors that have an influence on the use of apps in the caravanning sector. In order to get this aim, the data obtained were analysed using PLS, a technique that allow us to develop the model with the five construct proposed that represents the relationships between them. The reason to select this technique is because (a) our theoretical model is not well-formed; (b) the number of indicators is uneven; (c) there are different modes of reflective and formative constructs; (d) the data distributions are not normal and not highly demanding with respect to sample size, and (e) there is flexibility in modelling, beyond the first-generation techniques (Becker et al., 2012).

PLS is a multivariate approach for analysing structural models (Chin, 1998); the model parameters that minimize the residual variance of the entire model's dependent variables as calculated by the PLS method (Hsu *et al.*, 2006) do not require any parametric conditions (Chin, 1998) and are recommended for small samples (Hulland, 1999).

The data analysis was carried out through a two-stage approach in which the measurement model was first developed and then separately assessed from the complete structural equation model (Gerbing and Anderson, 1988). The first step therefore involved establishing the individual reliability of each item and the convergent and discriminant validity of the constructions. Loadings or similarities between the item and the construct provide the individual reliability for each item. Each item's convergent validity is appropriate for a load greater than 0.7 (Nunnally and Bernstein, 1994). Factor structure matrix of loadings and cross-loadings are shown in Table 3. Table 4 presents the loadings and t-values for each object, all of which comply with the requirements that have been created.

Table 3 Factor structure matrix of loadings and cross-loadings.

	HM	INT	PEOU	PV	ST
HM1	0.860	0.524	0.471	0.547	0.638
HM2	0.825	0.226	0.201	0.294	0.363
HM3	0.876	0.382	0.288	0.428	0.490
INT1	0.440	0.911	0.599	0.796	0.641

INT2	0.410	0.923	0.602	0.724	0.612
INT3	0.437	0.961	0.625	0.775	0.654
INT4	0.480	0.953	0.645	0.786	0.688
INT5	0.428	0.928	0.601	0.751	0.676
PEOU1	0.353	0.627	0.915	0.563	0.467
PEOU2	0.381	0.575	0.915	0.548	0.526
PV1	0.431	0.696	0.490	0.900	0.630
PV2	0.511	0.768	0.584	0.926	0.708
PV3	0.491	0.802	0.601	0.944	0.713
ST1	0.608	0.677	0.544	0.736	0.929
ST2	0.531	0.640	0.496	0.648	0.930
ST3	0.569	0.654	0.485	0.703	0.958

Table 4. Items loading and t-values

Construct	Item	Loadings	p-values
ST	ST1	0.929	<0.001
	ST2	0.930	<0.001
	ST3	0.958	<0.001
PV	PV1	0.900	<0.001
	PV2	0.926	<0.001
	PV3	0.944	<0.001
INT	INT1	0.911	<0.001
	INT2	0.923	<0.001
	INT3	0.961	<0.001
	INT4	0.953	<0.001
	INT5	0.928	<0.001
PEOU	PEOU1	0.915	<0.001
	PEOU2	0.915	<0.001
HM	HM1	0.860	<0.001
	HM2	0.825	<0.001
	HM3	0.876	<0.001

The Cronbach coefficient alpha (Cronbach, 1990) and the composite reliability coefficient (Werts *et al.*, 1974), ranging between 0 (no similarities) and 1 (maximum similarities), were used to check the reliability of the indicators. Both parameters are taken into account, as the first indicates that the contribution made by each indicator is identical, while the second considers the respective indicators. The value of each coefficient is shown in table 5. Composite reliability is above the appropriate minimum limit of 0.70 (Nunnally, 1978). The alpha levels for the Cronbach coefficient were all above the minimum recommended level of 0.70 (Churchill, 1979).

Table 5. Composite reliability, AVE and Cronbach coefficient alpha.

Composite reliability coefficients				
ST	PV	INT	PEOU	HM
0.957	0.945	0.972	0.912	0.890
Average variances extracted				
ST	PV	INT	PEOU	HM
0.882	0.852	0.875	0.838	0.729
Cronbach's alpha coefficients				
ST	PV	INT	PEOU	HM
0.933	0.913	0.964	0.806	0.814

The common variance between the measures and their structure reflects the convergent validity. The average variance extracted (AVE) has been calculated, and the appropriate threshold should be greater than 0.50 (Fornell and Larcker, 1981). For each of the five constructs employed, table 5 presents the AVE scores obtained, which exceed the minimum desirable value in all cases. The AVE square root must be superior to the correlation between the constructs to affirm their unequal validity (Fornell and Larcker, 1981). The square roots

of the AVE (in the diagonal) and the correlations between constructs are given in table 6. This implies the ample discriminatory validity of the measurements.

Table 6. Discriminatory validity of constructs.

Latent variable correlations

	ST	PV	INT	PEOU	HM
ST	0.939				
PV	0.740	0.923			
INT	0.699	0.818	0.935		
PEOU	0.541	0.605	0.657	0.915	
HM	0.583	0.497	0.443	0.376	0.854

Note: Square roots of average variances extracted (AVE's) shown on diagonal.

The structural model was analysed after determining the individual reliability for each object and the convergent and discriminant validity of the constructs. A PLS study was carried out to verify H1 through H5. The regression coefficients were based on 500 bootstrapped samples and not on a sample estimator. This allows the results to be generalized and the Student's t statistics to be computed for each hypothesis (Mangin *et al.*, 2009). The relationships between the various structures are summarized in Figure 2 and Table VII. The model's predictive ability is adequate because all R-Squares are superior to 0.10 (Falk and Miller, 1992). The Table 7 shows confirms the model fitness by the PLS assessment for standardized root mean residual (SRMR) criterion value (SRMR=0.074) because, according to Henseler *et al.* (2014), it is within acceptable range (SRMR<0.08).

Besides, the effect size (f2) measures the strength of independent (exogenous) variables in predicting the dependent (exogenous) variable in our model. Whether the effect size fell into following categories: $0.02 \leq f2 < 0.15$ represents small effect, $0.15 \leq f2 < 0.35$ represents medium effect and $f2 \geq 0.35$ represents substantial effect (Aguinis and Beaty, 2005). The table 7 shows that PV has the highest effect on INT ($f2 = 0.449$) followed by PEOU (0.116) and ST ($f2 = 0.039$) which have small effects on INT. Likewise, the effect size of HM ($f2 =$

0.346) and PEOU ($f^2=0.202$) on ST are also reported. According to Aguinis and Beaty (2005), moderators with even low effect must be considered.

Figure 2: Results of testing model.

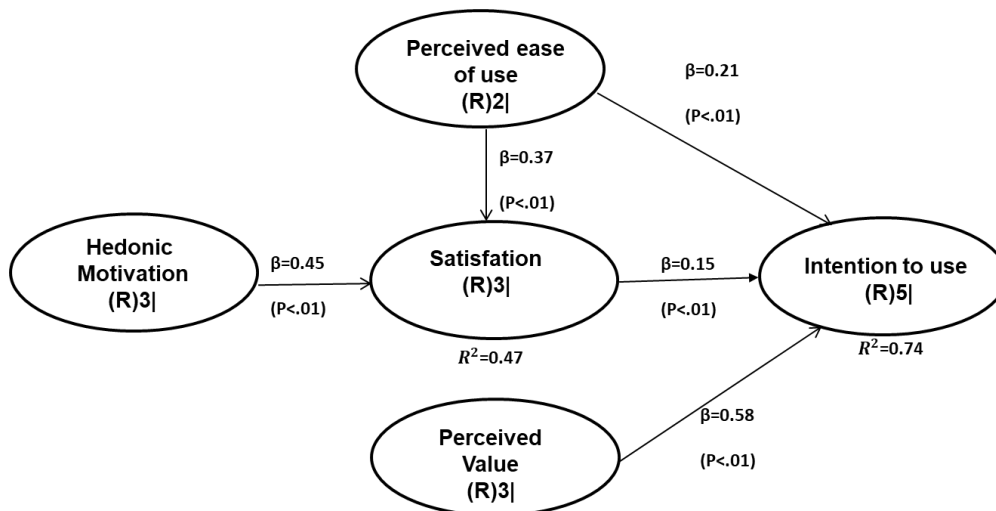


Table 7. Summary of test results for the structural model

Path	Hyp.	Path coefficient	Confidence intervals		p-values	Effect size (f^2)	R2-values	SRMR
			2.5%	97.5%				
PV ->INT	H01	0.58	0.437	0.677	<.01	0.449	0.74	0.074
ST -> INT	H02	0.15	0.058	0.264	<.01	0.039		
PEOU -> INT	H03	0.21	0.135	0.327	<.01	0.116		
HM-> ST	H04	0.45	0.365	0.554	<.01	0.346	0.47	
PEOU -> ST	H05	0.37	0.243	0.456	<.01	0.202		

A t-test has been used to compare the differences among the results of the user subgroups. The results indicate the relationship among the different constructs for the segmented sample by gender (males and females), marital status (married and unmarried) and age (≤ 45 years old and >45 years old). For the age variable, following to Ananth *et al.* (1992) the median age (45 years) of survey respondents has been used to define the two segments under study (younger and the older users) because of the inconsistent definition of the mature travelers from past research.

However, according to Henseler *et al.* (2014) and Hair *et al.* (2017), when PLS is used, the measurement invariance test before conducting multi groups analyses between two or more groups ought to be used. Satisfactory measurement invariance results led to performing PLS to observe group differences for Gender, Marital Status and Age (Table 8). Table 9 summarises the moderating effects of gender, marital status and age using a comparative multi-group approach.

Table 8. Results of invariance measurement

	Gender		Marital Status		Age	
	Outer Loadings-diff	p-Value	Outer Loadings-diff	p-Value	Outer Loadings-diff	p-Value
HM1 <- HM	0.039	0.162	-0.039	0.066	-0.011	0.628
HM2 <- HM	-0.038	0.534	0.078	0.744	0.072	0.265
HM3 <- HM	0.017	0.670	-0.068	0.166	-0.007	0.901
INT1 <- INT	0.036	0.342	-0.081	0.104	-0.018	0.554
INT2 <- INT	0.016	0.613	-0.077	0.061	-0.013	0.631
INT3 <- INT	0.041	0.076	-0.042	0.081	-0.017	0.344
INT4 <- INT	0.015	0.550	-0.036	0.079	-0.007	0.736
INT5 <- INT	0.016	0.565	-0.06	0.096	-0.031	0.418
PEOU1 <- PEOU	0.068	0.141	0.026	0.947	-0.060	0.106
PEOU2 <- PEOU	-0.006	0.926	-0.026	0.575	-0.086	0.086
PV1 <- PV	0.078	0.114	-0.022	0.595	0.009	0.861
PV2 <- PV	0.013	0.613	-0.045	0.089	-0.016	0.505
PV3 <- PV	0.021	0.118	-0.016	0.365	-0.015	0.335
ST1 <- ST	0.025	0.253	-0.035	0.083	-0.041	0.068
ST2 <- ST	0.038	0.175	-0.001	0.869	-0.042	0.160
ST3 <- ST	0.025	0.062	-0.036	0.398	-0.027	0.068

Table 9. Moderating effects of gender, marital status and age.

Gender segmented						
Path	Hypotheses	Males (β1)	Females (β2)	β1 - β2	t-value	Supported?
PV -> INT	H01a	0.59076	0.51653	0.0742	-12.7852	Yes, p<0.001
ST -> INT	H02a	0.11202	0.22627	-0.1142	22.3583	Yes, p<0.001
PEOU -> INT	H03a	0.26514	0.16084	0.1043	-22.5213	Yes, p<0.001
HM -> ST	H04a	0.47624	0.47312	0.0031	-0.7237	No
PEOU -> ST	H05a	0.37234	0.29470	0.0776	-17.3254	Yes, p<0.001
Marital status segmented						
Path	Hypotheses	Married (β1)	Unmarried (β2)	β1 - β2	t-value	Supported?
PV -> INT	H01b	0.56560	0.71132	-0.14572	17.06252	Yes, p<0.001
ST -> INT	H02b	0.15793	0.13365	0.02428	-2.98624	Yes, p<0.001
PEOU -> INT	H03b	0.20269	0.14238	0.06032	-8.05003	Yes, p<0.001
HM -> ST	H04b	0.45641	0.56805	-0.11164	15.99084	Yes, p<0.001

PEOU -> ST	H05b	0.32410	0.39822	-0.07412	9.70978	Yes, p<0.001
Age segmented						
Path	Hypotheses	≤45 years old (β1)	>45 years old (β2)	β1 - β2	t-value	Supported?
PV -> INT	H01c	0.6002	0.5125	0.0877	-15.8579	Yes, p<0.001
ST -> INT	H02c	0.1115	0.2047	-0.0932	19.7888	Yes, p<0.001
PEOU -> INT	H03c	0.2017	0.2620	-0.0603	12.8813	Yes, p<0.001
HM -> ST	H04c	0.5153	0.4519	0.0634	-15.9703	Yes, p<0.001
PEOU -> ST	H05c	0.3836	0.3151	0.0685	-16.0401	Yes, p<0.001

5 Conclusions

This study investigated the antecedents of intention to use apps related to caravanning. The results of the paper indicate that there are four significant factors that can explain the intention to use apps to plan a caravanning trip. More specifically, perceived value, perceived ease of use and satisfaction have crucial roles as predictors of intention to use. This was common for all segmented groups. The study showed that the perceived value to caravanning app users was the most vital antecedent of the intention to use such apps. The more perceived value in the use of apps related to caravanning, the more users have the intention to use these apps. Perceived value appeared, however, to be more important for females and the unmarried because males normally drive whereas women are checking useful information in caravanning apps. The second most influencing antecedent of the intention to use was perceived ease of use, and this was more relevant for males than females. This factor is crucial for caravanning apps because its users are not only young but also adults who does not birth with the new technologies. The third most important antecedent of intention to use was satisfaction. Regarding the predictors of satisfaction, hedonic motivation was the most influencing antecedent, and the intensity of this relationship was higher for the unmarried than the married. The second antecedent of satisfaction was perceived ease of use because the easier they consider these apps to ease, the most satisfied they will be.

Theoretical implications

This is the first paper in the field of caravanning and mobile applications. There are no studies that have studied this itinerant tourism sector from the point of view of new ICTs. Furthermore, this is also the first study to analyse the intention to use apps related to caravanning, and it demonstrated the influence of perceived value, satisfaction and perceived ease of use on the intention to use apps to plan a trip in the caravanning sector.

Practical implications

This study helps to clarify the factors that affect the intention to use apps in the caravanning market. This is crucial from the point the view of app developers, because there were previously no studies that focused on caravanning apps, which has meant app developers have lacked sufficient information to adapt these apps to this specific sector. Caravanning apps currently only offer information about overnight stays and parking without offering complete information about different services at the selected site. Knowledge about this sector and the behavioural intention to use such apps is vital to developing marketing strategies in the right form to meet the needs of caravanning tourists.

It would also be convenient to know the effect of moderating variables such as gender, marital status and age on the intention to use caravanning apps. This could help the app developer to adapt the caravanning app to the characteristics of each user group. Synthesizing the answers to the hypotheses, the factors which influenced intention to use these apps the most were perceived value, perceived ease of use and satisfaction. The key predictors of satisfaction were hedonic motivation and perceived ease of use.

The greater the perceived value and perceived ease of use, the more likely users will have a higher intention to use these apps. In order to improve the perceived value of these apps, apps developers ought to include for example information about the different services that tourists could use in the area for example restaurants, malls, museums and so on. When it comes to the perceived ease of use, it could be convenient that these apps were more intuitive in order to be used by people of all kind of ages and nationalities. It is therefore proposed that such apps should devise marketing communication strategies that address these two issues and thus help them to achieve greater intention to use. Satisfaction is seen as a major factor for why people use these apps, perhaps because hedonic motivation affects satisfaction. This may be because these apps are more engaging and enjoyable than traditional information-retrieval systems. Nonetheless, in order to improve the satisfaction perceived, apps developers could reward to users that interact with these apps and write a

review of the place that they have visited through the app. Perceived ease of use is also a driver of satisfaction, which means that consumers prefer to concentrate on the ease of use of caravan apps. Businesses should make clear their attempts to convey the comfort and ease of use of their apps to customers and emphasise that the apps require minimal effort.

Limitations and future research

The results and the implications of this study are based on users of motorhomes, caravans and campers and takes into consideration tourists who have visited Andalusia as caravanning users. It would be interesting to expand the research to users from more regions and countries to determine if such expanded samples would field different results and conclusions. Furthermore, this is a type of tourism for which there is a current lack of studies at the academic literature, so there is no previous research with which to compare the present results.

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