IS THERE RURAL SMART TOURISM? A SPANISH EXPERIENCE

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Smart Tourist Destination is a term of high academic relevance, but what happens in rural tourism? Smart regions and smart villages projects are interesting for rural tourism, but it is necessary to support more research. This paper studies the perceptions and interests of rural tourists for technological applications in two time periods (2016 and 2019). The results indicate that the rural tourist value the technological innovation of rural destinations, especially those ICT utilities that increase the value of their tourist experience. That is the "during" stage of the rural trip. It presses on the smart developments that rural tourism demands.
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1. Introduction

Nowadays concepts and terms such as "e-tourism", "connected" tourist, "social" tourist, "prosumer", "ewom", "e-commerce", "tourist apps", "geo-location" or all those concepts related to intelligence or "smart": "smart cities" "smart destination" "wired cities" "smart destinations" have become benchmarks in the study, planning, and management of destinations, as well as in business tourism (Upkabi and Karjaluoto, 2017).

Smart Tourism is a concept derived directly from the Smart City literature (Mora et al., 2017). Greztel et al. (2015) clearly distinguish Smart Tourism from eTourisme; this emphasizes the connection between the physical attributes of the destination and the smart digital ecosystem. Smart Tourism has a socio-technical perspective, Yigitcanlar et al. (2018) suggests three dimensions smart: Technological, Human and Institutional.

The technological dimension establishes links with the physical infrastructure, and also provides the fundamentals for tourist front-end solutions: an experience enriched with technologies and data (Gretzel et al., 2018).

The Smart Tourism concept is mostly applying in the destination ambit (Gretzel, 2018): Koo et al. (2016) points to ICTs as a fundamental pillar for the competitiveness of destinations; Jovicic (2017) highlights how, without the use of ICTs, destinations are unable to achieve a substantial value of their geographical attributes in the tourist market; and Femenia et al. (2018) indicate that destinations use ICTs primarily to change the tourist's relations with the destination.

However, there are widespread urban biases in the topic of Smart Tourism Destinations (Gretzel, 2018). With this "urban" burden, it will be complex to apply the concept of Smart Tourism to other types of destinations. But, from the different needs and approaches used in tourism (Saarinen et al., 2017) as well as in the framework of sustainable planning (Moscardo and Murphy, 2014) ICTs play an essential role on all in the case of tourism, including rural tourism, due to the interactions between consumer and producer (Hjalager, 2010).

The usability of the rural destination and its services multiplies the role of the inseparability of the tourist that be handled with greater ease and reliability in an intelligent, interconnected, and real-time technology environment (Berné et al., 2013). Therefore, the trend is towards the entrepreneurs that allow by offering new ICTs approaches to added value to the experiences of tourists (Cooper, 2016). An especially important issue in rural tourism (Weindenfeld, 2018).

Consequently, ICTs offer to rural areas to achieve visibility, communication, integration into tourist flows, marketing of products, and services of higher quality (Garau, 2015, Sedmak et al., 2016). Rural tourism consumers are very aspirational, in the sense that they are very proactive in the search for information, and many places, about rural destinations (Bethapudi, 2015). The profile of rural tourism is someone well informed, sophisticated, and aware of the importance of their active role in rural tourism (Rodrigues and Virtudes, 2019).

Consequently, the concept of Smart Tourism must exceed the limits of smart cities to begin to develop in all tourist spaces. In this sense, McCann and Ortega (2013) were the first to indicate that regions must develop a smart specialization. Boschma (2014) also analyzes the competing of smart specialization, with emphasis on specific sectors. Smart specialization involves working on the development of innovative ideas in a specific area, which allows generating knowledge about the future value of a direction of change (Weindenfeld, 2018). Then, in 2014 start of the concept of Smart Regions (Garau, 2014).

In this context of smart specialization, Smart Village Initiative launched by the EU in 2017. This term had already been used by Gu (2012), first to analyze the importance and how to build smart rural villages. The basics of Smart Village are identical to those of Smart City: the use of traditional and new networks through digital, innovation technologies, innovations, and better use of knowledge (Zavratnik et al., 2018). The main difference is that, initially, these are specialized smart projects. The only way to take advantage of rural tourism is the development of Smart Village Tourism, as a mix of traditional rural culture and the utilities of ICTs (Shen and Wang, 2018). The objective will be to balance competitiveness with social and environmental sustainability (Perles-Ribes et al., 2017; Luque et al., 2017). Several initiatives in the world to promote the concept of Smart Village (see Table 1).

Table 1. Projects of Smart Village in Sustainability and Tourism

Country	Project	Topic
China	Rural Smart Travel	Tourism
Germany	Digital Dorfer	Sustainability
Hungary	Hungarian Turistvandi	Rural Tourism
Italy	Smart Basilicata	Sustainability
	Tuscany	Cultural Tourism
	Sardinia	Rural Tourism
Norway (Lapland)	Artic Smartness Project	Sustainability
Portugal (Madeira)	Calheta	Tourism
Slovenia	Youth Drain	Sustainability

There is a total consensus that there is very little research on smart rural tourism, even less empirical evidence (Yan, 2018). The development of technological infrastructure has the focus in the majority of papers. There are many small organizations that participate in Rural Tourism; then, it is reasonable to assume a low capacity to adapt ICTs (Zavratnik et al., 2018). The high ICTs volatility, continually changing, adds difficulties of adaptation in rural tourism (Nkosana et al., 2016). Moreover, recently, the need to study deficiencies of rural smart tourism mobile (Yan, 2018).

Sedmark's work (2016) faces the critical issue: the adoption of ICTs in rural tourism. He has researched how rural managers perceive the influence of ICTs in their micro-enterprises. He used three variables: ICTs skills, Benefits (saving time and money), and Market analysis in a Linear Regression that finds how adoption depends significantly on the Benefis (1,162 coefficient) and the Skills (0.692 coefficient).

This paper has a different and complementary approach. Study the use, knowledge, and interest of ICTs in rural tourism from the perspective of demand. The importance of rural tourists is central: their behaviors include their daily technological uses (Cunha et al., 2019). Consequently, the push for demand is principal for the development of smart rural tourism.

The widespread acceptance of the commitment to universal tourist connectivity and the maximization of technological utilities for it may not be so real from the rural tourism perspective (Weinstein, 2011). It should be the starting point of the investigation.

The technological usability must be to analyze, not as a dichotomous issue yes/no, but as a structured element depending on the different types of applications, utilities, and use of social networks according to the rural tourism experience.

Therefore, this work aims to determine the critical ICT attributes for rural tourists. For this purpose, the results obtained in two studies carried out at two different time points have been analyzed to study the relationships between technological applications and social networks. The comparison of the use and interest in ICTs between two moments can prove to be a useful method to study whether the process of digitalization of citizens moves to rural tourism. Besides allowing to observe the existence of qualitative changes in the types of technologies and utilities that rural tourists are interested in or not.

All this will allow us to present some clues as to the smart tourism process in rural areas, particularly useful to improve the management of smart rural tourism in the context of smart specialization.

2.   Methodology and Hyphotesis

To deepen the question of the role of new technologies in the tourist experience, a part of the database of smart tourist destinations (STD) project carried out in rural area of Taramundi (Asturias), a Spanish referent of the rural tourism destination. The information refers to data provided by tourists, exclusively holiday-type, and all of them of the medium season type, through a personal survey carried in 2016 and 2016. Table 2 presents the technical characteristics of the fieldwork.

Table 2. Methodology Table

Population and Sample Unit	Holidays Tourists
Area	Councils of Taramundi (R) and Gijón (U)
Date of Work	Mid and the low season: • October to December 2016 • Mars to May 2019
Method of Information Collection	Personal survey carried out in tourist establishments
Sampling Procedure	Discretionary
Number of Surveys	226 • 108 (2016) • 118 (2019)
Sample Distribution	Proportional to the number of tourist places in the area.
Sampling Conditions	Z at 5%, P = Q = 0.5
Sample Error	+/- 3.81%

The analysis of the data obtained has focused on issues related to the use of communication technologies, in the form of five conceptual topics, integrators of different variables (table 3).

Table 3. Concept topics and their variables

Topics	Variables	Scale
Technology and Travel	▪ Social networks influence the opinion about a destination. ▪ Technologies help a more satisfying experience. ▪ Technologies are a fundamental part of travels. ▪ Technologies are a useful tool in travels. ▪ Opinions of portals such as TripAdvisor or Booking. ▪ Value of a destination technological and innovator	Likert (1 to 5)
Tourist Experience	▪ Smartphone ▪ Tablet ▪ Notebook ▪ Wearables	Nominal (Yes/No)
	▪ Find general information. ▪ Reservations. ▪ Seek opinions or criticisms about businesses. ▪ Seek opinions or criticisms about attractions. ▪ Photos and videos. ▪ Consult maps or use GPS. ▪ Share experiences. ▪ Talk with family and friends ▪ Pay ▪ Use apps from the destination ▪ Use Guides (Audio, Video…)	Likert (1 to 5)
Sharing	▪ Share the experiences (before/ during/ post).	Nominal (Yes/Not)
	▪ Facebook ▪ Twitter ▪ Instagram ▪ YouTube ▪ Snapchat ▪ WhatsApp ▪ TripAdvisor ▪ Telegram ▪ Booking ▪ Pinterest ▪ Flickr ▪ Vine	Nominal (Yes/Not)
Travel Characteristics	▪ Motivation ▪ Type of rural accommodation ▪ Reserve method ▪ Destination repetition ▪ Overnights	3 Nominal; 1 Ordinal; 1 Numeric (in this order)
Period	▪ 2016 versus 2019	Ordinal (First/ Second)

Source: Own and adaptation of Ivars et al. (2017)

The motivations and characteristics of the RT (Rural Tourism), mainly related to the attractiveness of nature, should mean less interest in the use of ICTs for tourists. Therefore, technological equipment and applications will not be relevant factors for the assessment and choice of rural destinations (Dolnicar, 2002 and Weinstein, 2011 versus Yan, 2018). Hypothesis 1 is:

- H1: The interest of tourists in rural technological destinations (rural smart tourism) is low.

In any case, the operating characteristics of the RT offer, away from the large distribution channels and operators (OTAs) and with small and independent accommodation companies, will require tourists to use ICTs related to the information of the destination, and its tourist services

(Zavratnik et al., 2018), in addition to the technological interrelation necessary to make the reservation of accommodation (Hay et al., 2012). Therefore, hypotheses 2 (Bethapudi, 2015) and 3 (Santos et a., 2016; Upkabi and Karjaluoto, 2016):

- H2: The interest of tourists is high for information ICTs before the rural smart tourism trip.
  - H2A: Specifically, the ICTs utilities of most considerable attention will be: the destination website, online opinion consultation, online booking systems, and travel maps / GPS.
- H3: The interest of tourists is low for the ICTs of use during the trip to rural smart tourism.
  - H3A: Tourists with a relative greater interest in rural smart tourism will prefer: Own apps of the destination, Audio or video guides for the attractions of the destination, and the use of photographs and videos to share on social networks.
  - H3B: Tourists with a relative greater interest in rural smart tourism will be interested in all ICTs.

3. Analysis and Results

The non-parametric tests carried out give validity to the sample, with only a few changes in a higher percentage of foreign tourism in period two and more significant contracting and booking in Airbnb, HomeAway or Wimdu also in period 2. All the tests performed (see table 4) confirm the adequacy of the scales of the variables.

Table 4. Validity Scales Test

Alfa de Cronbach		.798	Good
Prueba de Tukey	Intra elements	F = 11178.738	.000
	Statistical waste	F = 242.945	.000
Prueba de Hotelling		F = 1496.418	.000

The works of Ivars et al. (2016, 2017), Femenia et al. (2018, 2019) and Ballina et al. (2019) propose eight measures of tourist technological interest. This work has selected six of them (see table 3). The three variables most directly linked to the use of technologies obtain average values greater than 3.5. On the other hand, the variable of interest, which relates destination, technologies, and experience, is close to the amount 3.5 of the rest (see table 5).

The existence of correlations is essential to accept the validity of the model. A linear regression (LR) allows determining the influence on the specific variable (T4: "Value of a destination technological and innovator."). Table 6 summarizes the results of LR: two independent variables are explanatory, T3 with a higher beta coefficient (.677); the second, T2 with a lower beta coefficient (.311); both with a significance of .000 (see table 6).

Table 5. Table 5: Values about ICTs Interest

	Mean		Standard deviation
	Statistical	**Standard error**	
Technologies are a useful tool in travels (T1)	3.73	.054	.807
Technologies are a fundamental part of travels (T2)	3.69	.057	.853
Technologies help a more satisfying experience (T3)	3.57	.055	.835
Value of a destination technological and innovator (T4)	**3.49**	**.055**	**.833**
Opinions of portals such as TripAdvisor or Booking (T5)	3.07	.061	.912
Social networks influence the opinion about a destination (T6)	2.81	.085	1.287

Table 6. Linnear Regression T4 (dependent) / T1, T2, T3, T5 y T6 (independents)

Model	R	R quadratic	R quadratic adjusted
1	.926	.857	.856
2	.944	.892	.891

Model		Non-standardized coefficients		Standardized coefficients	t	Sig.
		B	Standard error	Beta		
2	(Constant)	.080	.085		.951	.343
	Technologies help a more satisfying experience (T3)	.679	.037	.677	18.514	.000
	Technologies are a fundamental part of travels (T2)	.304	.036	.311	8.493	.000

The comparison of the values on the interest in ICTs between the two periods offers interesting results. Only the T1, Technology as a tool, lacks explanatory validity. All valid variables increase the values from 2019 to 2016. The increases in variables T3 and T4 stand out for their size. Likewise, variables T2 and T3 present values greater than four for the 2019 period of the study (see table 7).

The use of technological devices is another critical perspective on the vision of ICTs in rural destinations. The smartphone is widely used, in a figure close to 90%. Other devices, such as PC books and tablets shows a significant reduction in their use for the second period of 2019, while wearables increase their use by rural tourists. There is just a relationship between the use of smartphones and other more developed devices, such as wearables, and the interest of rural tourists for innovative destinations in technology (T4). A t-test has verified this relationship (see table 8).

Table 7. t-Test ICTs Interest and Study Period

	SURVEY Time	Mean	t	Sig. (bilateral)
Technologies help a more satisfying experience(T3)	Nov2016	3.04	-11.624	.000
	April2019	4.06	-11.635	.000
Value of a destination technological and innovator (T4)	Nov2016	2.96	-11.341	.000
	April2019	3.97	-11.381	.000
Opinions of portals such as TripAdvisor or Booking(T5)	Nov2016	2.55	-9.728	.000
	April2019	3.54	-9.686	.000
Technologies are a fundamental part of travels(T2)	Nov2016	3.29	-7.620	.000
	April2019	4.06	-7.575	.000
Social networks influence the opinion about a destination (T6)	Nov2016	2.41	-4.759	.000
	April2019	3.18	-4.753	.000
~~Technologies are a useful tool in travels(T1)~~	~~Nov2016~~	~~3.72~~	~~-.083~~	~~.934~~
	~~April2019~~	~~3.75~~	~~-.083~~	~~.934~~

Table 8. Use devices and t-Test of T4

Value of a destination technological and innovator	No Use	Yes Use	t-Sig.
Use Smartphone	3.04	3.64	.001
Use Wearables (Smart watch. Google Glasses...)	3.52	4.11	.003

3.1.   Types of ICTs used in Rural Tourism

The study of the utilities of ICTs for rural tourists is a central issue for this work. A part of the model assumes the existence of more relevant technological utilities for RT. Five of the utilities (U1, U5, U7, U9, and U3) have positive and significant values (see table 19).

Table 9. Use ICTs and t-Test of Study Period

Period	Mean			t-Test
	Total Study	**Period1**	**Period2**	**Sig.**
Destination Apps (U1)	3.76	3.12	4.32	.000
Consult Maps/GPS (U5)	3.48	2.96	4.12	.000
Use Guides (Audio. Video...) (U7)	3.52	1.90	4.04	.000
Photo/ Videos (U9)	3.68	3.44	3.88	.050
Family/Friends Communication (U3)	3.36	1.90	3.84	.000
Reserve Activities (U10)	2.84	2.32	3.16	.000
Seek General Information about Destination (U4)	3.00	3.60	2.48	.008

But the comparative results between periods (2016 versus 2019) are more attractive. First, because the majority of profits, mostly, have lower values in their earnings in the period 2016 than in 2019. Second, because the value increases are high in many cases: U3 doubles its value; U1, U5, and U7 have increments higher than one point, reaching the level of 4 over 5; also U10 and U9 have higher values; while U4 significantly reduces interest for rural tourists. T-Test provides statistical validity to all the results cited.

An LR allows deepening the relations of the Utilities and the Interest of the ICTs in RT. The three significant utilities are, in this order: Destination Apps (U1); Consult Maps / GPS (U5) and to Use Guides (Audio. Video ...) (U7) (see table 10).

Table 10. Linnear Regression T4 (dependent) / {U1… U11} (independents)

Model	R	R quadratic	R quadratic adjusted			
1	.948	.907	.907			
2	.957	.915	.915			
3	.968	.938	.937			
Model		**Non-standardized coefficients**		**Standardized coefficients**	**t**	**Sig.**
		B	**Standard error**	**Beta**		
3	(Constant)	.038	.069		.550	.583
	Use Guides (Audio. Video...) (U7)	.455	.032	.483	14.048	.000
	Consult Maps/GPS (U5)	.302	.028	.310	10.677	.000
	Destination Apps (U1)	.220	.025	.251	8.907	.000

3.2.   ICTs and Share in Rural Tourism

The results indicate that participation in the RRSS is higher during the realization of the RT trip, practically doubling the Share before and after the trip (see table 11). Also, the evolution between the two periods (2016 versus 2019) is conclusive: the percentage of rural tourists who share in RRSS during the trip increases by 42%.

Table 11. Share and t-Test of Study Period

	TOTAL	Period1	Period2	Chi_Sig.
Share during the travel	64.6	52.8	75.4	.000
Total SSNN to Share	1.78	1.47	2.06	.015

The number of social networks used by the rural tourist has also changed between periods: from 1.5 different SSNN in the first period 2016 to 2 in the second 2019, an increase of more than 40%, statistically significant. The results show substantial differences in the use of the different Share systems according to the moment of the trip. Thus (see table 12):

- Facebook, Instagram, and Twitter have used in the three moments of the trip (before, during, after). Instagram much in the second period.
- WhatsApp is used more before and during the trip. Specially in the second period.
- Snapchat and YouTube during the trip and afterward.
- The opinions on Booking and TripAdvisor have used only at the end of the tourist trip.

Finally, the interest in ICTs (variable T4) presents a satisfying relationship with the moment of sharing in the tourist trip. Certainly, there are no significant differences for the moments before and after the trip, but there is a significant increase in interest in sharing their experiences in the SSNN during the rural tourism trip itself (see table 13).

Table 12. SSNN and t-Test of Travel Moment

Share	Before		During		Post	
	Chi-Sig.	How	Chi-Sig.	How	Chi-Sig.	How
BOOKING	ns		ns		.018	+
FACEBOOK	.008	+	.001	+	.001	+
FLICKR	ns		ns		ns	
INSTAGRAM	.012	+	.000	+	.007	+
SNAPCHAT	ns		.029	+	.030	+
TELEGRAM	ns		ns		ns	
TRIPADVISOR	ns		ns		.001	+
TUMBLR	ns		ns		ns	
TWITTER	.004	+	.000	+	.002	+
VINE	ns		ns		ns	
WHATSSAPP	.001	+	.000	+	ns	
YOUTUBE	ns	+	.050	+	.016	+

Table 13. t-Test of T4 / Travel Moment Share

Value of a destination technological and innovator			
	No	Yes	t-Sig.
Share before the travel	3.93	3.87	ns
Share during the travel	3.59	4.03	.007
Share post travel	3.87	3.88	ns

4. Results discussion

The work carried out allows us to obtain indicators on the improvement of tourist experiences based on the uses and utilities of information technologies and anticipates results to intervene in the development of the management of tourist destinations from a rural smart tourism approach.

The usefulness of ICTs is high in rural tourists. The values attributed as a tool and as a fundamental part of the trip are the highest (approx. 3.7 / 5). The role of ICTs as a factor in improving the tourist experience is also essential (3.5 / 5). However, the most crucial meeting of the paper has been to verify a temporary growth in all the useful attributes of ICTs, especially in terms of being a fundamental element and improving the tourist experience (values of 4.06 / 5 for the second period

2019). The value (appreciate) given to smart destinations, on the other hand, grows by more than one point (from 2.97 to 3.97 / 5).

The use of technological devices is high in rural tourism trips, especially from the smartphone, with a percentage of up to 90% of tourists. It is appearing, also, a significant increase in the use of wearables in the second period of 2019.

The most exciting results are related to technological utilities for rural tourism. Three utilities stand out for the entire period of the study: Destinations Apps, Taking photos/videos, and Guides (audio/video). In addition, there are evident changes in the time: in the period 2016 only the Photos / Videos and Destinations Apps utilities exceeded the 3/5 barrier; however, in the period 2019 are highlighted with higher values in the 2019 period, especially highlighting Destinations Apps (4.3 / 5), Consults Maps (4.1 / 5) and Use Guides (4/5). The changes in the utilities are interesting, but they are more the higher valuation of the rural tourists and the more significant number of utilities ICTs considered.

There is abundant evidence on the use of social networks before and after a tourist trip (the prosumer concept). This paper finds an essential use of the share during the travel, with a significant increase for the 2019 period (75.4% versus 52.8%). Also, rural tourists increase the number of RRSS with which they operate up to 2, highlighting the incorporation of the most visual ones, the case of Instagram, which is added to the cases of Facebook, Snapchat, Twitter, WhatsApp, and YouTube, as the leading platforms to share during the rural travel

Another interesting finding is the emergence of new formats of shared accommodation in rural tourism. Airbnb, HomeAway, Wimdu present very significant relative increases, highlighting their correlations with the demand for tourist technology utilities. In addition to the case of millennials in rural tourism, the practice of active tourism in rural areas stands out as another important element for smart rural tourism.

The appeal of smart tourism to rural tourism is the central issue of this paper. The results of the four regression analyses performed determine a set of explanatory variables thereof. First, who understand ICTs as the main component of the trip is using them to improve their tourist experiences. Consequently, the existence of interrelation between smart rural tourism and experience value. Second, the central role that the smartphone plays as a centralizer of ICTs for rural tourists. Third, the attractiveness of technological utilities in the rural destination itself: Apps, Maps, and Guides. Moreover, finally, the interest in sharing rural experiences during the rural trip. That is the importance of "during" versus previous studies on the role of pre and post share."

Figure 1 shows the results scheme of the model proposed by the paper, and table 14, the final state of the hypotheses.
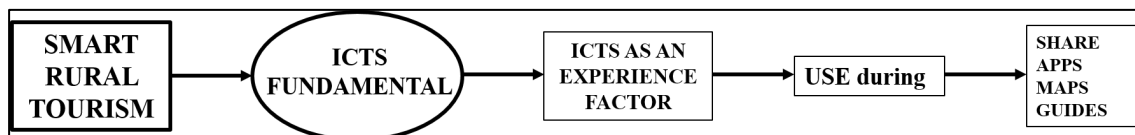
Figure 1. Results Model

Table 14. Hypothesis contrast

Hypothesis			Decision
H1	ICTs low interest to the rural tourist		Rejected
H2	Information ICTs more attractive		Rejected
	H2A	More to Web, Online opinions and booking, Maps	Partially accepted
H3	ICTs low use during the rural trip		Rejected
	H3A	During: more interest in Apps, Guides, Share	Accepted
	H3B	During: more interest in more ICTs	Accepted

5. Conclussions and practical implications

Smart tourism is an unstoppable concept, not only for the contributions it makes to public institutions and tourism services companies, but also for the permanent implementation of ICTs in the daily uses and habits of individuals, and therefore, of tourists.

The application of smart tourism in areas other than urban areas is very complex (Gretzel, 2018). It is essential to avoid the direct export of the operating principles of smart tourist destinations to all tourist areas. Therefore, the smart specialization (Weindenfeld, 2018) approach is exciting to guide development in heritage tourism (Garau, 2015) and rural tourism (Sedmak et al., 2016).

The Smart Regions and Smart Rural Villages formulas are still at the beginning of their designs. Also, they are developing for very different topics, for the sake of specialization. However, they can be accepted as concepts on which to promote the study and development of smart rural tourism (Zavratnik et al., 2018).

Studying the meeting point between the technological design of the rural destination is crucial. It is about relating the utilities of the ICTs developed by the tourism services institutions and companies, with the daily (general) and specific needs (at the tourist time) of the demand to give value to the experience of tourist co-creation based on the ICTs (Ballina, 2019).

This paper focuses on the second aspect, the study of ICTs by rural tourists. There have been other works dedicated to the study of ICTs in small tourism businesses (Sedmak et al., 2016). To do this, it studies the interest in ICTs and their specific applications of a consolidated rural tourism area as a national and foreign destination (Taramundi). It does this by comparing two moments separated by more than 27 months since the process of technological change is so rapid that it advises a regulatory study over time.

The citizen, with the use of mobile technology, can be classified as "mobile," and as a rural tourist is also "mobile," as observed in the results obtained. The relationship between technology and tourism is manifest, not only at a theoretical level but also for the creation of tourism experiences more value.

The rural destination should consider that the smartphone is not a means in itself, but an instrument that tourists use intensely to enjoy, in a broad way, the tourist experience of nature and rurality (Cooper, 2016). The smartphone is a permanent access tool to all the information they need to get the most out of such experience ever during the tourist trip. The "during" question is critical. This find is closer to the principles of smart tourism and exceeds the classic utilities of the most impregnated pre and post information in rural tourism.

The rural tourists' interest in ICTs utilities increases significantly in most of the items considered at work. There are also some qualitative changes in specific applications related to the evolution of ICTs over time. The critical consideration of smart, innovative destinations is one of the most exciting results. Also, the determination of the fundamentals of smart rural tourism is relevant: ICTs as engines of tourism experience (Apps, Maps, Guides, Share) during the trip.

This paper has practical contributions of interest to rural tourism. First, the perspective of smart specialization is a critical factor for the development of technological infrastructures and their specific applications. Moreover, second, because it allows public institutions and tourism services companies to direct their efforts towards the use of ICTs as a specific mechanism to improve the rural tourism experience, ignoring the traditional approach to promotional information.

All the agents interested in rural tourism, from the public administration to the researchers, logically going through the tourism application developers and the rural tourism entrepreneurs, must abandon the orientation of the Smart Tourism Destination, but look for the specificities of each rural area, tourist resources, and specific tourist experiences.

The limitations of this study are traditional in the surveys uses. Respondent biases are always difficult to control. Also, the need to work with the same questionnaire has prevented us from adding our existing ICT utilities such as Chatbots, beacons, internet of things, just existing in 2016.

To improve future results, within this same line of research, we are working with a rural Hiking Apps company, to obtain direct and objective data on its use by rural tourists.

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