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A Structural Equation Modelling for CRM Development in rural Tourism in the Catalan Pyrenees

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ABSTRACT

This paper investigates the interrelationships between customer relationship management development in rural tourism, information and communication technologies level in the territory, perceived economic impacts and rural tourism development. A total of 76 respondents completed a survey conducted in the Spanish Pyrenees Mountains in order to examine the structural effects of these impact factors. The results reveal that the support for customer relationship management development in rural tourism shown by rural tourism workers mainly depends on the level of development of information and communication technologies. A confirmatory factor analysis and structural equation modelling procedure were performed, respectively, using the AMOS software.

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Keywords: Rural Tourism, Customer Relationship Management, Teleworkers, Structural Equation Modelling, Catalonia.

Introduction

Tourists now have more experience and are more demanding. Nowadays they are more attracted by new experiences than by traditional beach holidays. They prefer individual forms of tourism (no overcrowding), flexibility, different types of accommodation, activity holidays and more contact with nature. The desire for greater flexibility, linked to the availability of "convenience" foods and more adventurous eating habits, suggests that the tendency towards self-catering will continue (Petrou, Pantziou, Dimara & Skuras, 2007). In this context the substantial and growing market should also be acknowledged. These emerging needs can be met via rural tourism. It involves more flexibility, it is not mass tourism and it offers rural houses and small towns to meet these emerging needs (Diamantis, 1998). Rural tourism offers a range of opportunities in economic, social and personal development. In addition, it may function as an active agent in agricultural and regional development policies as well as in promoting local community development (Royo, 2009), because rural tourism has reached the countryside at a time when agriculture is in decline. Moreover, the objective was to revitalise fragile rural economies without falling into the trap of seeing this tourism as a panacea for many rural problems (Sharpley & Vass, 2006; Royo, 2009). The intention was to complement rural agricultural income and diversify economic activity in the countryside with the new income benefiting the local population and promoting sustainable development (García, 1996; Andrés, 2000; Besteiro, 2006; McGehee, Kim & Jennings, 2007).

The interest in tourism in rural areas has been increasing in many countries over the last five or ten years and is expected to continue to grow. In some regions and countries this type of tourism is considered as most appropriate for families with several children, sometimes including those with lower incomes. Rural tourism involves tourism resources, activities, accommodation and services. However, rural tourism is not only a component of quality of life for urban consumers; it is also an opportunity to develop areas in order to look for resources, to increase employment and to restore traditional buildings and heritage (Crosby & Daries, 1993). The main characteristics of this tourism are: a) it is carried out in rural rather than urban areas; b) it is small in scale; c) it uses the natural and cultural resources of the local environment and is respectful towards these; d) it is an important factor in the development of local economies; and e) its principal customers are tourists who want to come into contact with the countryside (Petrou et al., 2007; Cawley & Gillmor, 2008).

The appropriate development of rural tourism is the planned use of resources for a countryside area; which will lead to an increase in the general welfare of the environment, the community and the tourist (Gilbert, 1989). However, rural tourism cannot enjoy the benefit of being too successful because success will change the nature of the product and this may be detrimental to the local inhabitants as well as to the long-term demand for the area. Success itself can gradually destroy the distinctive character of an environment. Marketing can supply guidelines as regards image creation and protection but it is up to local public agencies such as planning

departments to ensure that the long-term interests of an area are protected (Cawley & Gillmor, 2008).

Traditionally, marketing expertise is concerned with maximising the areas of demand, and earning a profit for organisations. However, with rural tourism the dilemma is that marketing has to take into account the fragile nature of the product it is promoting, and marketing strategies to improve the social benefits of rural areas for the host, the tourists and the environment (Middelton, 1990) need to be designed. First the product "rural tourism" needs to be defined as an alternative product in order to adapt it to the changing needs of consumers in travel tourism. Marketing involves researching and understanding what consumers require, creating products that may satisfy the potential demand, promoting those products effectively and then searching the results of any development in order to improve the product on offer. It is assumed that any rural development plan has to be underpinned by the philosophy that its goal is to maximise the general area welfare (Gilbert, 1989). Rural marketers should be actively engaged in countryside planning, advising on what products will be acceptable for the target audiences, which communications programme will be the most effective and what access systems will be optimal (Santesmases, 1996). This is the marketing-mix for rural tourism. Besides, sustainable tourism and development has been viewed as essential to finding a balance between economic prosperity, environmental protection and social equity (Isaksson & Garvare, 2003).

In order to learn about consumer behaviour (in variables such as attitudes, motivations and emotions, satisfaction and in the decision process in this type of tourism), the differentiation and positioning of destinations and rural tourism products, relational marketing and loyalty to the tourist, taking advantage of the expansion of the new in the rural sector, a specific customer relationship management (CRM) software can be very useful for rural tourism establishments. With regard to the latter point, the literature reviews of Bigné (2004) and Oh, Kim & Shin (2004) reveal that the research methodologies most used in tourism marketing are descriptive (factor-cluster-discriminant analysis, logistic regression, analysis of variance-covariance, structural equation modelling, time series, neural models, data mining) or the reliability of scales. The application of some of these techniques can already be seen in research in rural tourism marketing (Yague, 2002). It would be interesting to promote this expansion, especially the use of structural equation modelling as a technique that is becoming increasingly important in marketing research to identify causal relationships between variables, with the implications this may have for the management and marketing of destinations and rural tourism enterprises.

The purpose of this work-paper is to construct an integrated structural model to examine the causal effects of various factors in the development of CRM in rural tourism, including the positive and negative perceived economic impacts of CRM, the level of development of rural tourism and the information and communication technologies (ICT) in the territory. Economic dependence is chosen because the more people depend on tourism for their economic welfare, the more they will collaborate in tourism development (Lankford & Howard, 1994). In addition, ICT development in the local community can be conceptually defined as the extent and pattern of social

participation and integration into the community (McCool & Martin 1994). Community attachment is found to affect the host community's perception of impacts and their support of tourism development (Gursoy & Rutherford 2004). Therefore, the educational level of rural tourism business-people is chosen as an antecedent of the perceptions of perceived CRM impacts. The support for rural tourism development is specified as the consequence of a perception of rural tourism impacts.

Past studies have identified the following factors: community attachment, length of residence, levels of participation in recreation, level of ICT and rural tourism knowledge, personal economic reliance on tourism, proximity to the tourist zone or contact with tourists, socio-demographic characteristics, political and demographic position in society, type and form of rural tourism, the level of contact with tourists, and the economic benefits derived from this industry (Gursoy, Jurowski & Uysal, 2002; Gursoy & Rutherford 2004). Similarly, Jurowski, Uysal & Willams (1997) investigated the influential factors, including perceived potential economic gains, use of the tourism resource base, rural tourism business-people's attitudes and perceived economic, social and environmental impacts on support for rural tourism development.

1. From "houseworkers" to "telehomeworkers"

The economy of Europeans has witnessed considerable restructuring in recent decades. Farming-related employment, the traditional base of the rural economy, has been in continuous decline, being replaced by manufacturing and, especially, service sector employment. Research into rural employment has tended to focus on the importance of service jobs, particularly amongst small businesses and self-employment (Cloke, Goodwin & Milbourne, 1997). Of particular interest has been the introduction of technology-led service jobs, responsible for the ICT development in traditionally inaccessible places (Clark, 2000). This increase of ICT activities expertise in rural areas reflects the quality of life and residential attractiveness of the countryside to people (Keeble, 1993). Rural tourism has come to encompass a range of new work practices associated with this spatial reorganisation and rural employment. Essentially, by integrating mass media information and communication telematic technologies, such as free journals, tourism brochures, tourism offices, personal computers, Internet and social networks. This has enabled the rural tourism spaces to be created in more flexible workspaces, located outside more traditional workspaces and sometimes in people's homes. This new type of work appears to have relevance for rural areas due to its associated special and temporal local development (Clark, 2000).

However, it is also important to recognise that limiting the definition to just those rural tourism workers who use telecommunications technology to work at home might be too restrictive. Therefore, definitions of this new "telehomework" should be based on a broader concept of remote communication between the client and the rural tourism worker (Clark, 2000). It is important to locate this work development in rural areas within a broader context of economic restructuring and changing patterns of work at a national and international level. The economies of advanced capitalist societies are

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clearly undergoing fundamental changes and this is linked to the shifting importance of non-material commodity production processes, exemplified most clearly in the increasing proportion of the workforce that is no longer involved in making tangibles (Burrows & Curran, 1989). Society is in the information age, where the acquisition and manipulation of information and knowledge is the predominant economic paradigm (Clark, 2000).

The understanding and practice of marketing might be considered a weakness in the development and management of rural tourism, and factors such as limited budgets, poor coordination of marketing expertise, the variety of stake-holder interests, and the misconception of marketing as a discipline equating to promotion, all contribute to this generality (Clarke, 1999). In terms of the growth of small business, with rural tourism being one of these, clients have increased the use of Internet in order to obtain information about rural tourism offers. In addition, the number of rural tourism establishments with a website is increasing every day. They can present a lot of information on the characteristics, activities, natural resources and prices of their offer. Furthermore, websites have been associated with increasing market opportunities, giving rise to new customers. For a product such as rural tourism, which is spatially isolated from its markets, websites and other ICTs reduce remoteness through global electronic distribution, thereby reducing reliance on intermediaries. This is especially important for rural tourism where independent markets like to pick and choose and where individual brands are often poorly developed. ICT systems offer an alternative to the traditional paper-based literature of direct mail practices; "click and brick" ICT behaviour may mean that potential tourists use the web for information, before turning to the traditional telephone system (the "brick" element) (Greenberg, 2003). In fact, ICT can be used creatively to support rural tourism initiatives, both as a source for improving business practice, and for reaching the consumer (García-Henche, 2003).

However, whilst the last three decades have witnessed a considerable interest in rural tourism, CRM which principally involves information and knowledge based activities in which tasks can be processed and transmitted via Internet to a lot of people around the world, generally has not been used in this type of tourism (Fleischer & Felsenstein, 2000). Because CRM in rural tourism relies heavily on the goodwill of visitors, their support can be necessary for the development, successful operation, and sustainability of this tourism. If the customers have a positive perception of CRM, they will support additional activities concerning this tourism and, therefore, will be willing to participate in an exchange of information with the "telehomeworkers". However, if they believe that CRM has more costs than benefits they are likely to oppose CRM development in rural tourism, because the success of any CRM development project is threatened by the extent to which the development is planned and constructed without the knowledge and support of the customers. Therefore, it is important to know how clients perceive the total impact of CRM development.

In view of the issues currently being tackled in marketing research and the research priorities therein, and observing the needs and demands of the rural tourism sector, it seems plausible to direct the focus of research attention to three main areas (Greenberg, 2003): operational marketing, strategic marketing and research

techniques. Operational marketing means becoming involved in the study of the marketing mix and the potential of new technologies in marketing is incalculable. Not only the Internet but also PDAs; BlackBerry, iPhones or Smartphones in general; iPads or tablets and computer software for these devices, in conjunction with Web 2.0 and social networks, are all having a major impact on tourism. The application of new technologies in this subsector represents a major step forward in the management of businesses and destinations that have to deal with an increasingly technologically advanced tourist. Strategic marketing provides a product that is fully tailored to the needs of the tourist, the study of their behaviour is essential, and their attitudes, satisfaction, motivations and emotions, decision processes and perception of quality of service offered are basic in this regard. It is a proven fact that it is easier, cheaper and more profitable for companies to make existing customers loyal than to find new ones. Relationship marketing strategies are of particular interest here, especially in a tourism subsector where the relationship between tourists, local people, businesses and the environment is so close and enriching and the development and application of simple CRM could have good results. The image of tourism destinations is an issue of increasing relevance in rural tourism as well as their association with travel brands (Loureiro & Miranda, 2008) and a key role is to perform the planning and coordination of strategies and agencies to improve the performance of small organisations and tourist destinations in rural areas. Research techniques are methodological proposals that have been made regarding techniques being used in tourism marketing research especially in relation to the use of structural equations.

In practice, small rural tourism firms traditionally lack capital, research and development resources, as well as the scale of operation required to justify investment in CRM, with their size being their main disadvantage because small suppliers usually have little knowledge about marketing and technology, and limited access to distribution channels (Werthner & Klein, 1999). However, the diversity of rural tourism products and environments within which business may be sustained is wide, and such diversification may be seen to be healthy, stimulating and indeed, vital for a dynamic sector. The fragmentation of this sector and the intangibility of many of its characteristics represent both its essence and its challenges (Clarke, 1999).

2. Theoretical proposed model

Figure 1 displays the hypothetical model. Each component of the model is selected based on the literature review. In this model, "ICT level", "CRM economic impacts", "rural tourism development" and "CRM development in rural tourism" are the items measured directly. In addition, the level of ICT expansion around the territory is based on the level of ICT local development (X1) and the education level of the rural "telehomeworkers" (X2). CRM economic impacts are based on the positive impacts obtained through the use of CRM in rural tourism (benefits) (X3) and the negative impacts (costs) (X4). Rural tourism development is based on the local development of rural tourism (X5) and the tourism resources (social, cultural, environmental,

economic) (X6). CRM development in rural tourism is based on the support of CRM in rural tourism (X7) and the "telehomeworkers' " use of ICT (X8). ICT community attachment has been defined as the level of social bond and social participation. It has a positive effect on perceived benefits and a negative effect on perceived costs. In addition, it also directly promotes support for tourism development. Economic dependency is defined as when rural telehomeworkers' income and/or their family household income are dependent on tourism-related business (Perdue, Long & Allen, 1990). Past studies have established the relationship between tourism impact and support for tourism development (Yoon, Gursoy & Chen, 2001; Gursoy & Rutherford, 2004; Sharma & Dyer, 2009).
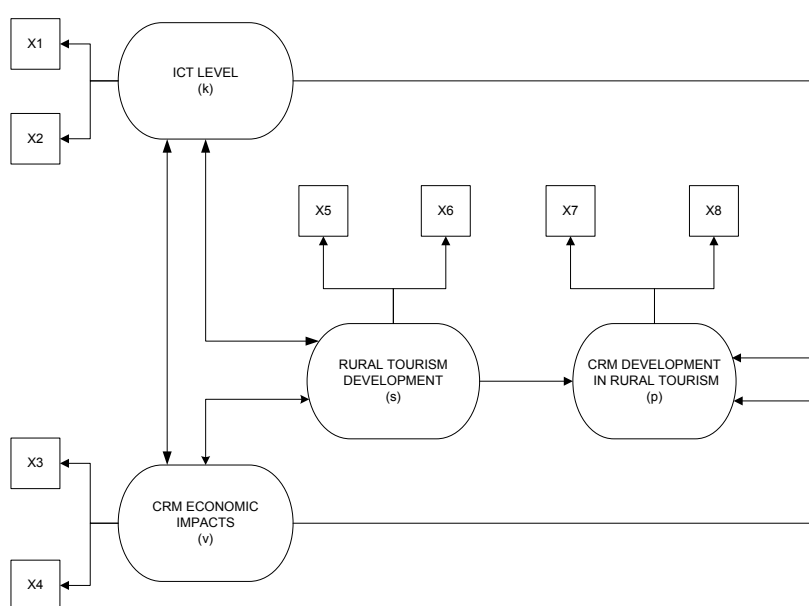

Figure 1: Model proposed).

3. Method

A self-instructed questionnaire was developed for the purpose of this study (Table 1). The questionnaire was designed as a survey instrument that included all the constructs of the proposed model to investigate the hypotheses of interest. The questions were based on a literature review and the questionnaire consisted of five parts. Part 1 dealt with the perceptions of the level of expansion of ICT in the territory. It consisted of eleven items, eight concerned the level of development of ICT in the territory (X1) and three concerned the education level of the managers of the rural tourism establishments (X2). Part 2 dealt with the economic impacts of CRM. It consisted of eleven items, six of which (X3) concerned the positive impacts (benefits) obtained from the use of CRM (X2) and five concerned the negative impacts (costs) from the use of CRM (X4). Part 3 dealt with the development of rural tourism in the territory. It consisted of thirteen items, seven of which concerned the development of rural tourism in the territory (X5) and six concerned the existing tourism resources (X6). Part 4 dealt with the development of CRM in rural tourism. It consisted of eight items, five

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of which concerned the support of CRM use in rural tourism (X7) and three concerned the support for ICT use (X8). A five-point Likert scale was used as the response format for these items, with assigned values ranging from 1 to 5 (1 = strongly disagree; 5 = strongly agree).

Table 1: Statements of CRM impacts in rural tourism

ICT local development (X1)
1. ICT has given economic benefits to local community
2. ICT has given economic benefits to small businesses
3. ICT has provided a lot of information about rural tourism
4. ICT is useful for promoting local heritage and resources
5. ICT is useful for promoting local products
6. ICT has created more jobs for your community
7. ICT has attracted more investment to your community
8. ICT has encouraged a variety of cultural activities by the visitors
Education level (X2)
1. I have realized workshops of computer science
2. I have tourist studies
3. I have studies of high school or university
CRM positive impacts (X3)
1. CRM is useful for promoting rural tourism
2. CRM is useful for promoting tourism activities
3. CRM can give economic benefits to rural tourism
4. CRM can give a lot of information to clients
5. CRM can give a lot of information about the clients
6. CRM can help to repeat the visits
CRM negative impacts (X4)
1. CRM can cause more inconvenience for customers
2. CRM implementation cost is higher
3. CRM needs time available
4. CRM needs discipline and perseverance
5. The costs of developing and maintenance of CRM facilities are too much
Rural tourism local development (X5)
1. Rural tourism has increased job opportunities for your community
2. Rural tourism has raised the level of life for residents
3. Rural tourism has given economic benefits to local people
4. Rural tourism has led to a balanced local community development
5. Rural tourism has increased local cultural identity
6. Rural tourism has created more jobs for your community
7. Rural tourism has resulted in more cultural exchange between tourists and residents

Tourist resources (X6)
1. Rural tourism is useful for promoting local products
2. Rural tourism has encouraged visitors' participation in cultural activities
3. Rural tourism has led to more understanding of local heritage
4. Rural tourism has raised more awareness of protection for heritage resources
5. Meeting tourists from other regions is a valuable experience to better understand their culture and society
6. Tourism has resulted in positive impacts on the cultural identity of our community
CRM use (X7)
1. I am familiar with CRM
2. I have had frequent contact and communication with customers in past years
3. Overall, I will support future CRM development in my establishment
4. I support rural tourism development in my community
5. I am agreed that the benefits of CRM are greater than the costs in your business
ICT use (X8)
1. I am familiar with ICT activities
2. I support ICT development in my community
3. ICT network in my community is very good

The main objective of the research project was to gain an in-depth understanding of the impact of CRM on rural tourism. For this reason, a quantitative only approach was not appropriate, and a flexible methodology, such as semi-structured interviews, avoids the pre-categorisations and pre-conceptions inherent in quantitative surveys. Quantitative methods separate the informant from the researcher by means of a formal questionnaire, preventing more complex interpretations and reducing information to a set of pre-selected variables. On the contrary, qualitative methods allow the researcher to make interpretations, and to gauge feelings, values, motivations and constraints which contribute to our understanding of people's behaviour. They also enable researchers to relate social structures to individual accounts by interpreting how individuals comprehend the structures in which they find themselves. It has been suggested that the aim of a qualitative-quantitative interview is to engage in a conversation, with a purpose, setting the respondents at ease, and thus reducing the distance between the researcher and the respondent (Burgess, 1992).

Such methods provide a flexible way of establishing experiences and interpretations by probing deeply, enabling the researcher to modify a line of enquiry, and allowing respondents to raise new issues that were not previously considered by the researcher, thereby guaranteeing vivid and accurate accounts based on personal experience. In this research the interviews were structured (the interview schedules and topics to be analysed reflected the key aspects of the research) but some questions were not structured in order to obtain new issues to be considered. The topics were the level of ITC in the territory (k), the level of development of rural tourism in the region (s), the

benefits and costs of CRM implementation in the rural tourism establishments (v) and the level of development of CRM in rural tourism (p).

4. Description of the case study areas

The development of rural tourism in Spain dates from the mid-1980s; considerably later than in much of Western Europe (Yagüe, 2002). This date is of particular significance as it has brought specific consequences, since by then, tourism legislation had become the responsibility of the individual Autonomous Communities within the Spanish state. In addition, spontaneity was crucial in the initial stages of the development of rural tourism during the 1980s, as the product was allowed to develop and legislation ensued (García-Henche, 2003). Moreover, the objectives of the development of tourism in rural areas vary from one Autonomous Community to another (Cànoves & Villarino, 2002). Spain is a leading country in sun and beach tourism but the future of inner tourism is gaining increasing importance (cultural and nature tourism). Now Spain has to adapt its offer to the new preferences of tourists, with new products like rural tourism (Fuentes, 1995). The key is to see rural tourism as an alternative to sun and beach tourism and as an important formula to develop the local economics in rural areas. Empirical evidence shows that regulations for rural tourism in Spain are not the same in each region because rural tourism regions are not a homogeneous group, and the networks of rural houses are in different stages of evolution. Only the designation "casa rural" is accepted. The other designations are specific to each region and in some cases refer to typical buildings from each area. Increased coordination and basic principles of rural tourism development are required (Cánoves, Herrera & Blanco, 2005).

The pioneer region in the regulative process was Catalonia, where legislation was first introduced in 1983. It includes large stretches of the Pyrenean mountains bordering France, where the scenery is spectacular but where rural depopulation was advancing rapidly, with "agritourism" being the original form of rural tourism. However, other forms of accommodation have been introduced, and regulations have also been adjusted to match this reality (Cànoves & Villarino, 2002). A notable growth in rural tourism can be observed in Spain, and Catalonia, as a spontaneous development over recent years (Figure 2). In 2003, there were approximately 35,000 beds available in over 6,500 establishments in Spain. This tourism in rural areas is growing rapidly (Table 2) but it must be recognised that it constitutes only a minor sector in Spanish tourism, amounting to approximately 3% of all registered accommodation (Cànoves & Villarino, 2002). The importance of rural tourism in Catalonia is demonstrated by the rural tourism numbers in 2011. According to Idescat, rural tourism has catered for 312,800 tourists (Table 2), which represents 11.52 % of Spain's tourism. The average stay was three days and 2,099 rural establishments and 16,428 beds were available. The quarterly distribution throughout the year is indicated in the following table (Table 2).
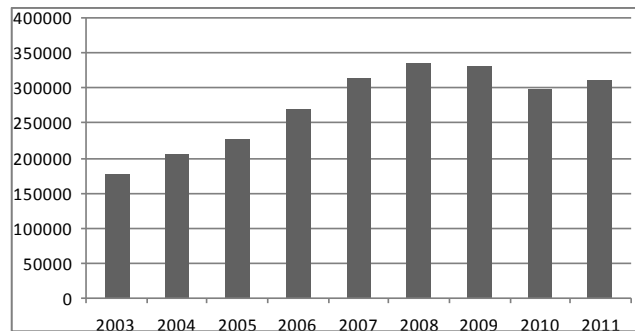
Figure 2: Rural tourism evolution in Catalonia

Table 2 : 2011 Rural tourism: Spain and Catalonia

	Rural tourists (Catalonia)	Rural tourists (Spain)	Catalonia vs Spain	% vs same quarterly in 2010 (Catalonia)	% vs same quarterly in 2010 (Spain)
2011/Q1	52,600	404,300	13.01%	-7.6%	-11.7%
2011/Q2	84,200	735,100	11.45%	11.9%	9.1%
2011/Q3	94,700	936,800	10.11%	8.9%	7.5%
2011/Q4	81,300	637,800	12.75%	1.8%	-3.8%

After much consideration, the regions of Alt Urgell, Cerdanya and Pallars Sobirà (Figure 3, Figure 4 and Table 3) in the Spanish Pyrenees Mountains, were chosen as the remote rural case study area as they exhibited a very high concentration of rural tourism establishments (Cànoves, et al., 2005; Albadalejo & Díaz, 2009), and as such provided an ideal area in which to explore the effectiveness of CRM in influencing the development of rural tourism in the territory.
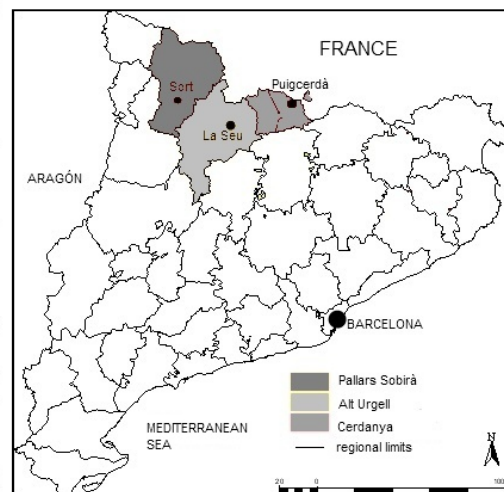
Figure 3: Map os study area In Europe   Figure 4: Map of study area in Catalonia

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Table 3: Study area statistics

		Alt Urgell	Cerdanya	Pallars Sobirà
population		22,008	18,783	7,548
population density	(hab./Km^2)	15.2	546.7	5.5
rural tourism beds		362	479	334
personal computer at home	% homes	73.2	75.1	75
Internet connection	% homes	65.3	66.1	66.7
informatics' courses (last 3 years)	% people	48.4	52.4	47.3
e-mail (last 3 months)	% people	68.6	66.7	68.6
buy by Internet	% people	45.1	45.7	47.1
broad band	% homes	61.2	68.3	65.4

5. Results

Due to time and cost restraints, the study sample was selected by the convenient sampling technique. A total of 98 potential interviewees were contacted during the period from March 2011 to October 2011. To achieve a more qualitative result, several indicated that the most effective method of acquiring new clients was by networking with contacts via face-to-face interaction and in more informal situations, such as Internet websites and regional newspapers. In this work, the most important method of acquiring initial contacts for the survey was through tourism office networks in every region, free regional tourism newspapers, tourism brochures and rural tourism websites. In the end, 76 interviewees answered the survey, yielding a 77.55 % response rate (to see the profile in Table 4).

Table 4: Respondent profile

		frequency	*%*
gender		76	
	male	31	40.79%
	female	45	59.21%
age			
	<21	5	6.58%
	21-35	23	30.26%
	35-50	42	55.26%
	>50	6	7.89%
education			
	basic education	12	15.79%

high school	51	67.11%
graduate	13	17.11%
marital status		
married	56	73.68%
unmarried	20	26.32%
other occupation		
agriculture	6	7.89%
housewife	17	22.37%
manufacturing	2	2.63%
services	51	67.11%
time of residence		
<5 years	22	28.95%
5-10 years	48	63.16%
>10 years	6	7.89%

In the survey, 59.21% are female residents, 26.32% are unmarried and approximately 85% are aged between 21 and 50. Some 67% of respondents work in services, followed by 22% who work at home. Most respondents (82.2%) possess a secondary school degree or university degree and 71% have resided in the same territory for over 5 years. The model proposed (Figure 1) has twenty-one variables, twelve exogenous (X1 to X8, s, v, k, p) and nine endogenous (e1 to e9). Eight variables are observed (X1 to X8) and thirteen are unobserved (s, v, k, p, e1 to e9). The properties of the eight research observed variables in the proposed model were tested with AMOS 5.0.1 software (copyright 1983-2003 James L. Arbuckle, Spring House, PA19477, USA). Data analysis was performed in two stages. In the first stage, a confirmatory factor analysis of the measurement model was conducted to test the reliability and validity of the constructs. In the second stage, the evaluation of the goodness-of-fit indices for the proposed structural equation model and the testing hypotheses was performed.
The summary of the confirmatory factor analysis used to evaluate the measurement model is the following (Table 5).

Table 5: Overall CFA for the measurement model

constructs	error variance	standard errors	construct reliability (CR)	indicator realiability	average variance extracted (AVE)	p
s		0.051	1.129		0.53	0.059
v		0.04	2.618		0.63	0.009
k		0.014	3.467		0.51	
e1	0.003	0.003		0.948		0.043
e2	0.019	0.003		5.7		
e3	0.039	0.008		4.65		
e4	0.016	0.016		2.934		0.003

e5	0.083	0.083	2.586	0.01
e6	0.094	0.094	4.472	
e7	0.07	0.07	1.422	0.055
e8	0.13	0.13	3.43	
e9	0.004	0.004	1.051	0.043

In this model, the convergent validity of the confirmatory factor analysis results (Table 5) should be supported by item reliability, construct reliability and average variance extracted (Hair, et al. 2006). These authors propose construct reliability over 0.7, and here all construct reliability estimates range between 1.129 and 3.467, which are satisfactory. In addition, in the model, the indicator reliability estimate ranges between 0.948 and 5.7, and they are also satisfactory. The average variance extracted should be above 0.5; in this model it measures between 0.51 and 0.63, which is satisfactory (Kerlinger, 2000; Creswell, 2008). Overall, the results indicate that the measured items have high reliability and validity. The evaluation of the goodness-of-fit indices for the proposed structural equation model is the following (Table 6).

Table 6: Model Fit Summary

Absolut Fit Mesures		indicator	criteria
$\chi 2$	chi-square	14.333	$p < 0.05$
pl	probability level	0.425	
nds	number of district sample moments	36	
NPAR	number of district parameters to be estimated	22	
df	degrees of freedom (nds-ndp)	14	
$\chi 2$/df	chi-square/degrees of freedom	1.0237	<2-3
CMIN	chi-square statistic comparing the tested model and the independence model with the saturated model	14.333	
GFI	Goodness-of-Fit Index	0.952	>0.9
RMR	Root Mean Square Residual	0.005	<0.05
AGFI	Adjusted Goodness-of-Fit Index	0.878	>0.95
AIC	Akaike's Information Criterion	58.333	smaller the better
ECVI	Expected Cross-validation Index	0.778	smaller the better
Hoelter .05	Hoelter .05 Index	124	>sample size
Hoelter .01	Hoelter .01 Index	153	>100
Relative Fit Mesures			
NFI	Bentler-Bonett Normed Fit Index	0.919	>0.90

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RFI	Relative Fit Index	0.839	>0.08
Parsimonious Fit Indices			
PRATIO	Parsimony Ratio	0.5	sensitive to model size
PNFI	Parsimony Normed Fit Index	0.46	very sensitive to model size
PCFI	Parsimony Comparative Fit Index	0.499	sensitive to model size
PGFI	Parsimony Goodness-of-Fit Index	0.370	>0.5
NCP	Noncentrality Parameter	0.333	sensitive to model complexity
Noncentrality-based Indices			
CFI	Comparative Fit Index	0.998	>0.95
RMSEA	Root Mean Square Error of Approximation	0.018	<0.05

Recently controversy has flared up concerning fit indices as some researchers believe that fit indices do not add anything to the analysis (Barrett, 2007) and that only the chi square (χ^2) should be interpreted. The worry is that fit indices allow researchers to claim that a miss-specified model is not a bad model. Others (Bentler & Bonet, 1980; Hayduk, Cummings, Boadu, Pazderka-Robinson & Boulianne, 2007) argue that cut-offs for a fit index can be misleading and subject to misuse. Although in this model χ^2 = 14.333 (df = 14, p < 0.0001) was significant because χ^2/df = 1.0237, which is less than the cut-off value of 3 (Hair, et al., 2006). The Root Mean Square Residual is an index of the amount by which the estimated variances and covariance differ from the observed variances and covariance, and a smaller number is better. In this model is 0.005. The Adjusted Goodness-of-Fit Index is analogous to a squared multiple correlation corrected for model complexity and Goodness of Fit Index is similar to a squared multiple correlation in that the amount of variance/covariance can be explained by the model under consideration (Kline, 1998; Tanaka, 1993). Goodness of Fit Index indicates what proportion of the variance in the sample variance-covariance matrix is accounted for by the model. This should exceed 0.9 for a good model. It is 0.952 in the model.

Adjusted Goodness-of-Fit Index is an alternate Goodness of Fit Index in which the value of the index is adjusted for the number of parameters in the model. The smaller the number of parameters in the model relative to the number of data points, the closer the Adjusted Goodness-of-Fit Index will be to the Goodness of Fit Index (Bentler & Bonet, 1980). It is 0.878 in the model. Moreover, the Comparative Fit Index must be higher than 0.9. It would be better if it was higher than 0.95 (Hair, Anderson, Tatham & Black, 2006), and here it is 0.998 (it is a good fit). However, Comparative Fit Index should not be calculated if the Root Mean Square Error of Approximation of the null model is less than 0.158. Otherwise one will obtain too small a Comparative Fit Index value (Gerbing & Anderson, 1993). The Root Mean Square Error of Approximation estimates lack of fit compared to the saturated model. A Root Mean Square Error of

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Approximation ≤ 0.05 indicates a good fit, and 0.08 or less indicates an adequate fit (Browne & Cudeck, 1993; Jöreskog & Sörbom, 1996). In this model Root Mean Square Error of Approximation = 0.018 (it is a good fit). The Normed Fit Index is the very first measure of fit proposed in the literature (Bentler & Bonett, 1980) and it is an incremental measure of fit. A value of between 0.90 and 0.95 is considered to be marginal (in the model it is 0.919), above 0.95 is considered to be good, and below 0.90 is considered to be a poor fitting model.

Parsimony Ratio is the ratio of how many paths have been dropped to how many could have been dropped (0.5 in the model). Parsimony Ratio is not a goodness-of-fit test itself but is used in goodness-of-fit measures such as Parsimony Normed Fit Index and PCFI which reward parsimonious models (models with relatively few parameters to estimate in relation to the number of variables and relationships in the model) (Jackson, Gillaspy & Purc-Stephenson, 2009). The Parsimony Normed Fit Index is the product of NFI and Parsimony Ratio, and Parsimony Comparative Fit Index is the product of Comparative Fit Index and Parsimony Ratio. The Parsimony Normed Fit Index and Parsimony Comparative Fit Index are intended to reward those whose models are parsimonious (contain few paths). In addition, the Parsimony Goodness-of-Fit Index, which is adjusted to reward simple models and penalise models in which few paths have been deleted (Bentler, 1990; Hu & Bentler, 1999). It is smaller in this model (the value is 0.37).

Akaike's Information Criterion and Expected Cross-validation Index are used to select one or more model(s) from a set of plausible depictions and identify those likely to perform best with future samples of the same size drawn from the population in the same way. Small values of Akaike's Information Criterion and Expected Cross-validation Index are associated with a better fit of the models involved (Jöreskog & Sörbom, 1993). The Akaike's Information Criterion value in the model is 58.333, with 72.0 being the saturated model and 193.742 being the independence model. The Expected Cross-validation Index (Hu & Bentler, 1999) value in the model is 0.778, with 0.96 in the saturated model and 2.583 in the independence model. It is a good fit. The Relative Fit Index is not guaranteed to vary from 0 to 1. A Relative Fit Index of close to 1 indicates a good fit (0.839 in the model). Also, "Hoelter .05" index largest sample size for accepting that the model is correct (124 vs 76 in the model). However, the "Hoelter .01" index is better around 200 for a satisfactory fit and values of less than 75 indicate a very poor model fit. In the model it is 153.The Non-centrality parameter, also called the McDonald non-centrality parameter index, is chi-square penalising for model complexity (Hu & Bentler, 1995; 1999; Sivo, Fan, Witta & Willse, 2006). In this model it is 0.333.

In general, the indicators of goodness of fit indicate an adequate fit and the results present a well-fitting model. According to the goodness-of-fit indices, the model revealed a well-structured dimensionality. Immediately afterwards (with AMOS 5.0.1) the standardised regressions weights were calculated (Table 7), reporting the effects of variables (ICT level, rural tourism development, CRM economic impacts) on the development of CRM in rural tourism (Figure 5).

Table 7: Standardized Regression Weights

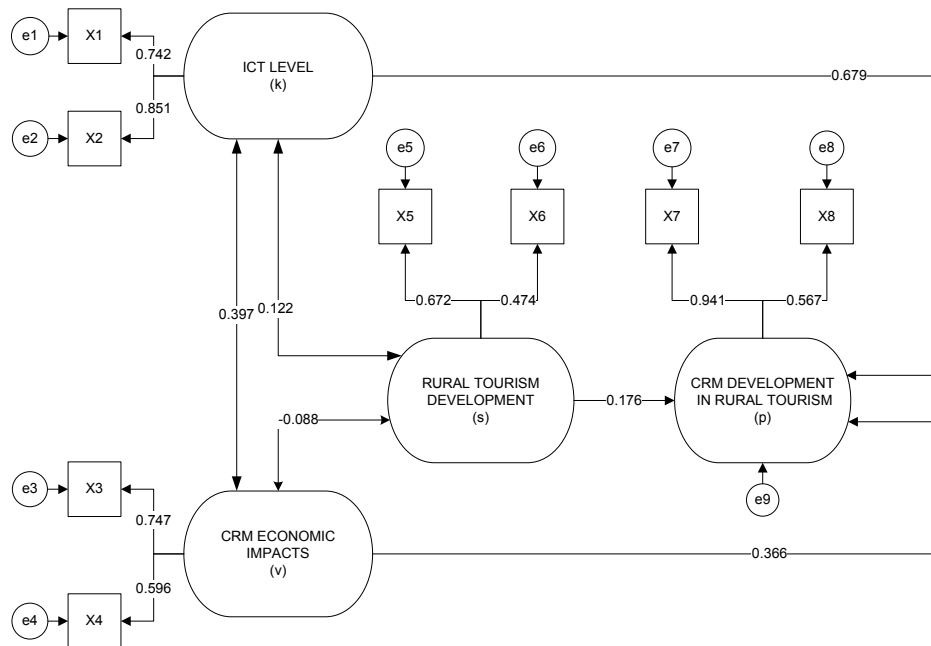| standarized regression weights		
from	*to*	value
ICT level	CRM development in rural tourism	0.679
rural tourism level	CRM development in rural tourism	0.176
CRM economic impacts	CRM development in rural tourism	0.366
rural tourism level	X6 (touristic resources)	0.474
rural tourism level	X5 (development level rural tourism)	0.672
CRM economic impacts	X4 (CRM negative impacts)	0.596
CRM economic impacts	X3 (CRM positive impacts)	0.747
ICT level	X2 (users education level)	0.851
ICT level	X1 (ICT development level)	0.742
CRM development in rural tourism	X7 (CRM use)	0.941
CRM development in rural tourism	X8 (ICT use)	0.567
correlations		
CRM economic impacts	ICT level	0.397
rural tourism level	CRM economic impacts	-0.088
ICT level	rural tourism level	0.122

Figure 5: Model with Standardized Regression Weights

The total effect of ICT level on the use of CRM in rural tourism is 0.679, whereas the total effect of economic impacts on CRM installation is lower (0.366) and the influence of the level of development of rural tourism in the territory is lower again (0.176). This suggests that CRM development in rural tourism relies much more on community level ICT than on the economic impact of CRM and the dependence on rural tourism. The benefits of CRM and ICT community level have not influenced the development of rural tourism in the territory. In addition, the contribution of perceptions of positive impacts

(0.747) of the use of CRM in rural tourism establishments is greater than that of negative impacts (0.596) (Figure 5).

Conclusions.

A tourism product finds success through promotion and communication, but it is also necessary to provide accommodation that is adapted to the demands. Rural tourism involves tourism resources, activities, accommodation and services, with an offer integrated in the rural areas and with rural people working and motivated to live in rural areas. Firstly, rural tourism provides an interesting and important source of supplementary non-agricultural income and therefore deserves the full attention of farmers, agricultural and tourism policy makers and regional planners. Secondly, qualitative improvements seem essential if a longer average annual occupancy and this profitability is to be achieved. In support training, investment assistance, management counselling and marketing help should be provided to the agricultural population. Thirdly, careful planning of farm tourism developments, including ecological and social aspects, is indispensable; positive interrelationships between agriculture and tourism are largely a consequence of proper allocation of resources and organisation at both the local and regional levels. Finally, since rural tourism is a relatively recent field of activity, an intensive exchange of ideas and experience at an international level is of great importance.

The complex problems associated with the development of tourism in rural regions as well as the fact that more and more countries are joining this development make it desirable to develop effective international cooperation. Traditional rural occupations (particularly agriculture) greatly help to preserve the natural environment and unexplored atmosphere. At the same time, they provide basic infrastructure (road, water, energy sources), accessibility and health products, all as a result of a reserve of self-renewing local manpower. Given proper support, farm tourism is the most suitable to enhance the above properties and services.   With CRM and Internet, the roles of marketing and rural areas can be effectively combined. This is to protect the essence and fragility of the countryside product as well as to provide more income for the rural region. This article has discussed the needs, both of the consumer and rural areas, the rural products, planning and marketing, and there is no doubt that rural tourism can benefit from the application of marketing theory. As verified by the model with the case study of the Pyrenean mountains in Catalonia (Spain), the results from SEM reveal that the level of development of rural tourism in the territory and the economic impacts of CRM are factors that promote the support of CRM development in rural tourism. However, the main factor is the level of development of ICT, the effect of which is much higher.

In addition, a positive significant relationship is found between the rural tourism workers and the use of CRM in rural tourism activities. Furthermore, the findings of this study also confirm that the support of CRM development in rural tourism shown by rural tourism workers depends on the trade-off between the benefits and costs created by these three factors (ICT, CRM and rural tourism). Rural tourism house-workers are

likely to participate in an exchange if they believe that they are likely to gain benefits without incurring high costs. If their gains from CRM development in rural tourism are higher than the costs incurred, then rural tourism house-workers tend to have a supportive attitude towards ICT and CRM development. On the other hand, if it appears that the costs outweigh the benefits, they are unlikely to endorse future CRM development. Moreover, this paper has emphasised the wider role of marketing for rural tourism, and, in particular, the use of CRM at an operational level. Market failure can result from the poor economic evaluation of externalities, a perpetual lack of necessary business and marketing skills including those of being able to work cooperatively, the diversity, dispersion and fragmentation that make it difficult to define sectors, identify their characteristics and needs. For most rural tourism businesses visitor management programmes may be efficient in terms of generating critical mass economies of scale in any one place, and limiting physical impacts outside of the honey-pot areas. For this to be a reality, we need to know much more about the motives and needs of rural tourists, and ICT applications, such as CRM, are the main support.

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