Agritourism Farms and the Web. An Exploratory Evaluation of their Websites

M. Platania

University of Catania, Italy

Abstract

In the last few years, the contribution of the agricultural sector to tourism has been increasingly evident. Agritourism provides the possibility to have a green holiday experience and allows farmers to diversify their income. In the tourist sector, communication is decisive in determining consumption choices, and the Web plays an important role. Considering that the Internet can bring potential benefits and reach new customers, it is important that websites are complete and attractive. This paper evaluates agritourism websites in an Italian region (Sicily) to analyse the strategic choices made by farmers. This study uses the eMICA methodological approach to analyse the quality of the websites and a cluster analysis to find homogeneous groups of farms. The results indicate that there is a large group of Sicilian agritourism providers that have been slow in taking advantage of the new opportunities offered by the Web, whereas another group, which is less numerous, makes use of social networking tools, demonstrating web 2.0 communication.

Key words

Agritourism, websites, eMICA model, cluster analysis.

Introduction

Among the activities developed by agricultural farms, tourism is spreading with great speed. Today, agritourism has an international dimension, and it is present in various regions of the world (Van Huylenbroeck et al., 2006). In the European Union, the European Commission has been very supportive of this type of economic activity because it represents local development (Briedenhann, Wickens, 2004; European Commission, 2006; UNWTO, 2000). Agritourism allows the agricultural entrepreneur to diversify their income, and, at the same time, it is part of the activities related to the concept of agriculture multifunctionality (Renting et al., 2009). In Italy, agritourism is well developed. It is an Italian specificity in the panorama of rural tourism in Europe, and this is because of the particular legal order that regulates the matter. Italy's 1985 National Legal Framework for Agritourism states in its second article that agritourism activities "must remain connected and complementary to farming activities" (Sonnino, 2004).

Even if it is linked to agriculture, the hospitality offered by farmers is still a tourist activity, with all that implies. Often termed country hospitality or agritourism, according to several studies, this type of experience is becoming an important component in today's leisure society (Putzel, 1984; Nickerson et. al., 2001; Havlíček et al., 2013). During his holiday, the tourist has the opportunity to live in contact with nature, learn about and appreciate local products (Chinnici et al., 2014; Platania, Privitera, 2006) and learn about rural culture.

Even the way in which the tourist chooses the farm follows the prevailing trends in the tourism sector. Among the „decision places", the virtual place plays a dominant and growing role. More and more frequently in fact, the choices of tourists are made on the basis of the information they collect through the Internet, a place where the potential customer can compare and make more responsible choices (Buhalis, 1998; Wan, 2002). In the last decade, the development of the Internet has been well established and, without a doubt, created a competitive environment in the world of tourism. It has become an important distribution channel and a tool, especially for competition and tourism development (Kim et al., 2007).

To ensure the effectiveness of web pages, it is necessary that the information they contain is able to communicate the local identity and the specific nature that are the basis of the competitive advantage of the farm.

The competitive advantage of a „place" is not, therefore, only communicated via natural resources but also by the dissemination of information and the image that it is able to project, which also creates a virtual experience for the surfer (Hanna, Millar, 1997). It is obvious that the choice of „how" and „what" to communicate are crucial to attracting tourists during trip planning.

The aim of the paper is to analyse how the farms present themselves on the web. The survey and analysis of the data were based on a sample of agritourism farms in the region of Sicily, which, by number can be defined as representative. The methodological point of view that has been adopted, albeit with the necessary adaptations, is an extension of the Internet Business eMICA (extension Model of Internet Commerce Adoption), originally developed by Burgess and Cooper (2000) and taken up by other studies and adapted to the tourism sector (Doolin et. al., 2002). The model was used to analyse the characteristics of the farm websites. On the basis of the scores obtained from the sites identified, a Cluster Analysis was applied that led to the identification of homogeneous groups of farms.

Materials and methods

The evaluation of the websites of Sicilian farmhouses was developed through an exploratory survey through which the data were collected on the characteristics of the sites according to the eMICA model. This model allows analysis of the complexity of a website in which it is possible to perform a commercial transaction, assuming the presence of several „moments" of interaction with the consumer gradually more evolved from a „static" site designed based on simple description of the information to a website that is inclusive of information and offers services with high interactivity.

The formulation of the model, which was originally called „MICA", is related to the contribution of Burgess and Cooper (2000). This methodology describes the adoption of electronic commerce, as applied to the industrial sector, through an evolutionary process of Web sites, depending on the variables of time, complexity and functionality. The model clearly demonstrates how sites evolve, moving from a „static" state to a „dynamic" and finally „integrated" state, and which variables determine their optimal level of functionality.

The methodology is based on three main stages of recognition of the sites: promotion, functionality (in terms of interactivity with the user) and maturity of the process (transactions). Each stage includes variables that allow analysis of the characteristics of the site.

In subsequent years, the MICA model has been integrated into the study of the variables that characterise a website, and the model has been applied in other industries such as tourism (Doolin et al., 2002; Hashim et al., 2009), revealing an alternative to simple exploration sites and aiding analysis of the development of technological applications on the Internet. In particular, Doolin et al. (2002), studying the application of MICA in tourism, have reworked the model (defined eMICA). They have a greater number of „layers" within the three main stages, with the aim of deepening, in terms of functionality and sophistication, the process by which we come apply electronic commerce (Platania, Privitera 2011).

In fact, the eMICA model, because of its special characteristics, is very useful for evaluating the functionality of a website and allows judgments not only of the commercial function but also of the informative functionality and, in general, an understanding of the type of market strategy the farm is using.

In this study, the eMICA model was adapted for application to the websites of agritourism farms.

The design of the research provided, at an early stage, the development of survey sheet information. In total, 54 variables were defined, and their composition differs from the eMICA model because of the additions, some typical and some functionally related to the agritourism sector (figure 1).

Subsequently, the number of agritourism sites to apply the model to was decided with the application of quota sampling. This is a non-probability sampling technique wherein the sample has the same proportions of individuals as the entire population with respect to known characteristics. Initially, the population analysed should be divided in groups based on some structural variables, and then, based on information available from official sources, the weight percentages of each group should be decided (Marbach 1992). In this study, the overall population was those on a list of farms licensed by the Region of Sicily to engage in agritourism activity (available online at http://pti.regione.sicilia.it/). The population was divided by provinces, and we chose to define a representative sample of 16% of the regional total (Table 1).

eMICA	Examples of functionality
Stage 1 - promotion	
Layer 1 - basic information	Company name, physical address and contact details (links, map, GPS coordinates), product and service images
Layer 2 - rich information	Email contact, information on company activities, news, links to institutional sites of the territory
Stage 2 - provision	
Layer 3 - low interactivity	Basic product catalogue (farms, rooms, restaurant, services), websites in English language
Layer 4 - medium interactivity	Higher-level product catalogues (e.g., tourist trail), customer support (e.g., FAQs, sitemaps, weather)
Layer 5 - high interactivity	Social tools (e.g., vCard, Facebook page), discussion forum, multimedia, RSS feed, accessibility (SSL certificate)
Stage 3 - processing	
Layer 6 - processing	Secure online transactions, interaction with corporate servers, booking

Source: adapted from Burgess and Cooper (2000)

Figure 1: The extended model of Internet Commerce Adoption (eMICA).

Province	Total number of farms authorised by the Region of Sicily (2012)		Sample (16%)	
	n.	%	n.	%
Agrigento	31	5	5	5
Caltanissetta	22	4	4	4
Catania	90	15	14	15
Enna	40	7	6	7
Messina	102	17	16	17
Palermo	90	15	14	15
Ragusa	62	11	10	11
Siracusa	108	18	17	18
Trapani	43	7	7	7
Total	588	100	94	100

Source: own processing based on Region of Sicily data.

Table 1 : Quota sampling counting scheme.

For the identification of the websites, we proceeded using the Internet. In particular, the selection procedure was to type the name of the province into the search engine followed by the Italian word „Agriturismo" (agritourism). The surveys, conducted in May 2014, continued until reaching the quota sampling set for each province.

To process the data, descriptive statistics were used, which allowed detection of the presence/absence of the variables examined. In particular, these were detected according to the three stages. For each detected variable, a progressive score was assigned, the same for each layer, starting with 0.5 (Layer 1 - basic information) up to a maximum score of 3 (Layer 6 - processing). Overall, a database of 5076 results (54 attributes for 94 sites) was prepared.

Subsequently, these data were processed using multivariate analysis techniques for grouping to analyse the behaviour of the agritourism farms in terms of strategic choices and orientation to the tourist market using the characteristics of their websites. In particular, a direct classification algorithm (non-hierarchical) around mobile centres (K-Means algorithm) (Molteni, 1993) was employed, using the Quik clusters present in the statistical package SPSS.

Results and discussion

The website evaluation allowed, first, the verification of the presence and/or absence of the variables included in the eMICA model. Specifically, the analysis of the variables belonging to the first stage, that of „Promotion", clearly indicated a good level presented by the total sites

examined, both within layer 1 (basic information) and in layer 2 (rich information) (Table 2). This first group of variables is essential in the first stage of contact with the Internet user, as it allows him to know with certainty the main references useful for planning any trip or for collecting information on the area.

Layer 1 - basic information	
Media gallery photo	100.0
Phone number	98.9
Owned URL	97.9
Map	91.5
GPS coordinates	42.6
Where to find us: links	39.4
Layer 2 - rich information	
Contact email	100.0
Logo	78.7
Information on the resort	36.2
News section	26.6
Links to the territory	21.3
Music background	8.5

Source: own processing

Table 2: Presence of the variables of Stage 1 „promotion" divided by layer (val %)

The websites of the selected farms were structured to provide the necessary information to the user, such as the presence of images of places (variable detected in 100% of sites), information relating to the telephone contacts (98.9%) and those of the localisation company through a map (91.5%). Information necessary to movement in the territory was less common, such as variables related to the presence of GPS for satellite navigation and the main links between the agritourism and the localities in the area. Even for „additional information", the second layer of this first stage, the results indicate good presence of these variables, such as email contacts (100%), a logo (78.7%) and information about the main tourist places in the territory. Other variables related o communication, such as the presence of news and information about the area the farm is located in and the presence of a news section, were scarcely present.

The variables belonging to the second stage of analysis (functionality) are characterised by their explanatory power on the level of interactivity and were the most common. In this group of variables, there are those instruments that seek to emphasise the quality of the tourist places and attempt

to decrease the distance between the „real supply" and „the virtual". The results indicate a varied presence of the variables examined (only one variable was found to be totally absent from the sites examined) but at lower percentages than in the first stage (Table 3).

Layer 3 - low interactivity	
Information on the building	84.0
Information on additional services	80.9
Information about prices	74.5
information about the rooms	69.1
Website in English	63.8
Information about restaurants	56.4
Information about farm	33.0
Available in a third language (besides English and Italian)	33.0
Links to more information	30.9
Advertising messages coherent	23.4
Layer 4: medium interactivity	
Quality mark issued by the regional government	89.4
Website update	72.3
Quality labels issued by associations of tourism	34.0
Itineraries	30.9
Slider images	24.5
Guest book	7.4
Downloadable brochure	6.4
Skype	4.3
Weather information	3.2
Group Purchase Deals	2.1
Sections: cooking recipes	1.1
Webcam	0.0
Layer 5: high interactivity	
Page on social networks (Facebook, Google+, etc.)	51.1
Write your own review on Tripadvisor or Trivago	28.7
Media gallery movies	28.7
Like button	26.6
Share button	13.8
Booking off-site with credit card	13.8
Mailing list	8.5
Media Gallery: 360 °	6.4
RSS feed	4.3
Booking off-site	4.3
W3C accessibility	4.3
vCard	2.1
Mobile version of the website	2.1

Source: own processing

Table 3: Presence of the variables of Stage 2 „provision" divided by layer (val %).

The variables of the third layer (low interactivity) were quite commonly present and provide information regarding the journey and, in particular, information on the structure (84%) of the farm and additional services (80.9%), prices (74.5%), rooms (69.1%) and food (56.4%). It is interesting to note that information on the farm was only present in 33.0% of cases. Therefore, it appears that many of these also farmers keep their two activities (the strictly agricultural and tourism) separate in terms of business strategy. In 63.8% of the cases observed, the website also featured a version in a foreign language (English), which thus ensures effective transmission of information for foreign demand, whereas the percentage of sites that provide information in a third language (33.0%) was lower. In addition, there was a low presence of advertising messages coherent with the vocation of the site (23.4%). This variable is very important because its presence is indicative of a website designed in a strategic manner, as coherent advertising, in addition to providing profit, provides services and generates networks with other operators.

Regarding the variables related to medium interactivity (fourth layer), some were quite commonly present and linked to business information, such as the presence of a brand that certifies the quality of the farm, as well as those related to issuances by the regional government (89.4%) and by organisations and associations operating in the tourism sector (34.0%). However, lower values for some instruments of „dialogue" were recorded, making it more expensive or complex for the user to manage, such as providing information on regional weather (3.2%), the presence of a guest book (7.4%), the possibility of downloading information and advertising material (6.4%) and the availability of a Skype number to use to contact the farm (4.3%).

This section concludes with the second stage variables related to high interactivity (fifth layer).

In this layer, there were variables related to linkages with the major social networks. There were several companies identified that manage their own page on Facebook or Google+ (51.1%), which invite users to click on the buttons, such as social network „like" (26.6%) or share (13.8%) buttons.

There are also a number of attributes, especially technical, with a low presence, such as more sophisticated website graphics with video (28.7%), RSS feeds (4.3%), and accessibility according

to the W3C standards (4.3%). Even lower values were recorded for vCards (2.1%) and mobile versions of the site (2.1%), as well as for the more sophisticated graphical functions (such as a 360° view of some farms).

The last stage observed was „Processing." At this stage, it was possible to assess the efficacy of the farm's strategy to approaching the demand (Table 4). In fact, the analysis revealed how the farms are lacking in this aspect. There were few agritourism websites examined that allow a complete transaction of a tour package (1.1%) or the possibility to book online using a credit card (1.1%).

Most of the agritourism sites (67.0%) offer a simple form to fill out, where the tourist provides the necessary information for reservations. In some cases, the website provides only the phone number and email of the farm.

Finally, there are only a few agritourism sites that allow surfers the opportunity to purchase local products from the same farm (1.1%).

Layer 6 – processing	
Availability request (form to be filled in)	67,0
Opportunity to purchase off-line products from company	3,2
Online booking with credit card	1,1
Opportunity to purchase products online from company	1,1
Booking payment online	1,1
Online booking without credit card	0,0

Source: own processing

Table 4: Presence of the variables of the Stage 3 – processing (val %).

The clustering of the agritourism websites

The use of cluster analysis allowed the obtainment of a more thorough analysis of the main strategies pursued by the agritourism farms through their websites. As already explained, the C.A. was applied to the scores obtained from the websites for each layer (Table 5). The identification of the number of groups is a classic problem of Cluster Analysis. Although there are some statistical tests that allow you to estimate the appropriate number (Beale, 1969; Marriot, 1971), the experience of the researcher remains the most appropriate yardstick. Therefore, assuming the risks arising from the subjectivity of the choices, we proceeded in the analysis of classification and eventually identified three groups.

	Stage 1- promotion		Stage 2 - provision			Stage 3 - processing
	Layer 1 - basic information	Layer 2 - rich information	Layer 3 - low interactivity	Layer 4 - medium interactivity	Layer 5 - high interactivity	Layer 6 - processing
First cluster (n. 11). Mean within the first cluster (a) mean	2.32	2.18	5.45	3.09	10.45	4.09
within the remaining sample (b)	2.36	2.78	8.60	4.05	4.13	5.35
PR (c= a/b)	0.98	0.78	0.63	0.76	2.53	0.76
Second cluster (n. 29) mean within the second cluster (a)	2.52	3.17	10.29	5.86	7.67	5.90
mean within the remaining sample (b)	2.28	2.51	7.32	3.08	3.62	4.89
PR (c= a/b)	1.11	1.26	1.41	1.90	2.12	1.21
Third cluster (n. 54) mean within the third cluster (a) mean	2.27	2.57	7.69	3.07	2.22	5.06
within the remaining sample (b)	2.46	2.90	8.96	5.10	8.44	5.40
PR (c= a/b)	0.92	0.89	0.86	0.60	0.26	0.94

Source: adapted from Burgess and Cooper (2000)

Table 5: Descriptive statistics (mean) of variable values within the clusters and corresponding statistics within the remaining population sample, prevalence ratios (PR).

To analyse the characteristics of the clusters, prevalence ratios (PR) were calculated as the ratios between the mean of every value layer in the segment and the mean of the same value layer in the remaining sample. Using the PR, it was possible to conduct an analysis in more detail, allowing demonstration of how it is possible to assume three clusters of strategic behaviour.

The first cluster, consisting of 11 websites, is formed by a set of farms that have given greater importance to the instruments connected to social networks. In fact, in that cluster, agritourism farms presented low PR for almost all levels, with the exception of high interactivity. The farms belonging to this cluster provide users with basic information, considering their presence on social channels more strategic and linking these to their website.

In the second cluster, consisting of 29 websites, the PR value is the highest for all stages, except for high interactivity. The group of farms belonging to this cluster have fairly complete websites from the point of view of information and with discrete levels of interactivity. Their presence on the Internet is based on the transmission of information including the use a variety of quite innovative technological aspects.

Finally, there is the third cluster, to which the majority of the companies (54 websites) belong. This cluster is in an intermediate position. The websites that belong to this cluster are not distinguished in any layer. The understanding of this cluster is quite easy. It identifies the most common strategic behaviour practiced by agritourism providers on the web, namely the presence of minimum technological, informative and commercial content.

Conclusion

Tourism activity can be an instrument to support the income of farms and allow local development. For this to be possible, it is very important that agritourism be presented to markets in an efficient manner, even those that are virtual. In fact, the process of buying the tourist product is completed increasingly more often on the web.

The farms cannot fail in this scenario. They must take advantage of the technological tools in a strategic way to inform the consumer and to bridge the gap between demand and supply.

Therefore, a website is strategically important to obtaining benefits in terms of lowering the asymmetry of information.

The analysis performed on the sample of sites of farms operating in the region of Sicily has highlighted some aspects that affect the choices of Internet use. If, on the one hand, the amount of information available appears to be sufficiently large and easily accessible, the majority of sites, with some exceptions, do not offer a complete online experience. The survey results, in fact, indicate that in terms of a strategic plan, most of the companies surveyed use the Internet only for communication of basic information, which is a web 1.0 communication style. There is also a small group of companies that use the website in a very light manner and have shifted their communication to social channels, which is closer to a web 2.0 communication style.

Overall, the characteristics of the web sites of these farms makes, therefore, very difficult to open in new markets. The simple static site (brochure site) in the medium and long term is certainly not competitive. In addition, openness to social channels should be a loyalty strategy rather than the main mode for transmitting information in the virtual market. We are faced, then, a situation that, with a few interesting exceptions, is still lagging behind in the tourism market online.

Corresponding author:
Marco Platania,
University of Catania, via della biblioteca 2, Palazzo Ingrassia, 95124 Catania, Italy
E-mail: marco.platania@unict.it

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