Citation for published version

Fernández-Cavia, J., Rovira, C., Díaz-Luque, P. & Cavaller Reyes, V. (2014). Web quality index (WQI) for official tourist destination websites: proposal for an assessment system. Tourism Management Perspectives, 9(), 5-13.

DOI
https://doi.org/10.1016/j.tmp.2013.10.003

Document Version

This is the Accepted Manuscript version.
The version in the Universitat Oberta de Catalunya institutional repository, O2 may differ from the final published version.

Copyright and Reuse

Enquiries

If you believe this document infringes copyright, please contact the Research Team at: repositori@uoc.edu

Web Quality Index (WQI) for official tourist destination websites. Proposal for an assessment system

José Fernández-Cavia[1]

Department of Communication
Universitat Pompeu Fabra
jose.fernandez@upf.edu
C/ Roc Boronat, 138
08018 Barcelona (Spain)

+34935421332

Cristòfol Rovira

Department of Communication
Universitat Pompeu Fabra
cristofol.rovira@upf.edu
C/ Roc Boronat, 138
08018 Barcelona (Spain)

Pablo Díaz-Luque

Business Organization and Marketing Department
Universidad Pablo de Olavide
pdialuq@upo.es

Víctor Cavaller

Department of Information and Communication Sciences
Universitat Oberta de Catalunya
vcavaller@uoc.edu

Abstract

Tourism is a vital economic activity in many countries. Cities, regions, countries and destinations of all categories vie for securing tourists and to do so they employ communication and promotion channels such as official websites. Despite the importance of these websites, no comprehensive method of assessment exists to enable communications managers and directors to find out whether their destination's website is effective and where it ranks in comparison to its competitors.

This paper presents a hitherto unseen assessment system aimed at meeting this need. Using a host of indicators, grouped into twelve parameters, a Web Quality Index (WQI) has been specifically established for tourist destination websites which, as well as

---

[1] Corresponding author

1

determining an overall index, makes it possible to draw comparison between parameters or spheres of analysis.

The assessment system is illustrated using the result of a pilot sample of official websites from ten destinations to confirm the validity and potential of the model put forward.

1. Introduction

Tourism is one of the key economic activities in many regions. According to data from the OECD, in 2008 tourism accounted for 10.7% of GDP in Spain, 10.5% in Portugal, 8.2% in Mexico, 5.5% in Austria, 3.7% in France and 2.6% in the USA (OECD, 2010). Nations, countries, regions, cities and all manner of destinations vie to draw in tourists (in greater numbers or of greater quality where quality of the tourist refers to their purchasing power or spending capacity).

These destinations are backed by promotion bodies (commonly known by the abbreviation DMO – Destination Marketing Organisation – Blain, Levy, Brent Ritchie, 2005; Gretzel et al., 2007) from the public sector, the private sector or public-private partnerships and they invest large sums of money into promotion and communication actions in the mass media (television, radio, the press), on the Internet and via official promotion websites.

Specifically, the Internet has become the main channel on which tourists search for information (Lehto, Kim and Morrison, 2006); therefore, destinations should benefit from an appealing, efficient official website in persuasive terms (Choi, Lehto and Oleary, 2007), and from a strategy whereby an active presence is ensured within the various tools afforded by the social web (Xiang and Gretzel, 2010; Hvass and Munar, 2012).

Nowadays, most tourists from any part of the globe plan their holidays, make their bookings and service purchases, and share their experiences over the Internet. For instance, according to the Spanish Institute for Tourist Studies, (IET, 2010) "60% of tourists who visited Spain used the Internet as the tool for planning their holidays".

Indeed, official websites serve as an essential tool for several aspects (Fernández-Cavia and Huertas, 2009; Díaz-Luque, 2009):

   a) for providing information to potential or current tourists who are looking to find out about places of interest, what's on, the destination location, ways of planning their journey, opening hours and prices for museums, attractions and tourist trails, accommodation, and so on;

   b) for destination branding, in other words, for conveying the values and basic features of the brand for the specific destination which in advertising and marketing terms is known as brand equity (Sartori, Mottironi and Corigliano, 2012);

   c) as an instrument for persuading potential tourists;

   d) as a channel for marketing related services and products; and

   e) as a platform for sharing information and experiences among destination managers and tourists, or simply between tourists themselves.

These functions are essential upon unanimously acknowledging the profound changes that have taken place in the behaviour of today's consumers and travellers: the generalisation of communication technologies has given rise to a new type of tourist who is less interested in the traditional holiday packages, less accustomed to waiting or delays, more demanding and sophisticated and used to addressing the suppliers directly (Buhalis and Law, 2008: 611).

At present, every major tourist destination has an official website for branding purposes. However, is this site appealing to the user? Does it provide the tourist with

the information required? Does it make the most of the full potential afforded by the Internet? Is it persuasive, convincing the tourist to visit the destination?

Despite the rapid evolution of digital communication, the quality and suitability of official destination websites is far from homogenous. As a result, it is important to benefit from a suitable assessment tool that can provide DMOs with guidelines and suggestions for improvement.

This paper sets out an original, hitherto unseen system for assessing official tourist destination websites. It consists of an integrated, interdisciplinary model combining quantitative and qualitative data in order to encompass all aspects that are of importance in any website:

1. **Technical** aspects such as usability and positioning.

   Several studies have already made clear the importance of the ease of use for destination websites. Park & Gretzel (2007) established that 60% of papers referring to destination website effectiveness dealt with this attribute. Kim and Fesenmaier (2008) also found that "destination Web sites must be user-friendly so that information searchers can easily navigate sites with no (or a minimum level of) mental effort". Besides that, a destination website must not only be easy to navigate but also easy to find, otherwise users using a search engine could end browsing non official sites. Web positioning, thus, becomes fundamental for DMOs and destination brands (Morrison, Taylor and Douglas, 2004). Another technical aspect that must be assessed is the information architecture (Yeung and Law, 2004), that is, the way information is organized, structured and labelled in order to facilitate its retrieving.

2. **Communicative** aspects such as the amount and quality of content or language selection.

   The same article mentioned before (Park & Gretzel, 2007) pointed out that information quality is the most prominently used concept in tourism website evaluation. Li and Wang (2010) explain that destination websites must provide accurate and timely information. But we have also included among these aspects the home page, analysed separately due to its importance -in fact, destination website homepages are the only unit of analysis of some other studies (Luna-Nevarez and Hyman, 2012)-, and the use of languages and cultural adaptations, so essential in the tourism sector.

3. **Relational** aspects such as interactivity or use of 2.0 tools.

   Interactivity has been considered one of the most important features for brand websites (Macias, 2003). It helps users to process information, makes navigation to last longer and improves the attitudes toward the brand (Sicilia, Ruiz and Munuera, 2005). Moreover, the new interactive platforms and channels of communication, known as social media play a major role in the selection of a tourist destination (Sigala, 2009; Xiand and Gretzel, 2010), so they have to be examined in detail. Finally, mobile marketing is expanding its influence, so every destination should be prepared for it, just offering mobile version of the website (Stienmetz, Levy and Boo, 2012) or developing specific mobile applications (Fernández-Cavia and López, 2013).

4. **Persuasive** aspects such as brand image and options for marketing the products and services provided by the website.

Persuasion is a facet often underestimated when it comes to assessing commercial websites. The goal of an official destination's website is not only to inform about the place but to convince potential tourists to visit it. The narrative use of text and pictures has been identified as crucial (Lee and Gretzel, 2012) as well as the creation of a strong brand image able to convey the differentiating features and distinctive offer of the place (Choi, Lehto and Morrison, 2007). Users' first impression has been analysed too and considered critical in the process of online information search (Kim and Fesenmaier, 2008). Last but not least a destination's website can be also conceived as a virtual point of sale where the user can browse, compare, book or buy tourism products and services (Buhalis, 2000). This function has been analysed in recent academic works under different labels such as "fulfilment" (Park and Gretzel, 2007) or "transaction" (Li and Wang, 2010).

To do so, with the cooperation of an extensive group of experts[2] specialising in the various fields of study, a template for analysis has been developed incorporating twelve parameters or topic areas, each with their own indicators. The aim of this paper is to provide a detailed overview of the methodology and illustrate some examples of results in order to demonstrate the potential afforded by the model[3].

2. Methodology

Context

In the sphere of documentation science there is a long tradition of assessing documentary resources, initially in paper format and subsequently in digital format. The valuation and assessment of websites in these disciplines began during the 1990s. It was at that time that the early databases and directories were set up categorising resources available on the Internet according to quality. Some examples of such initiatives include the British directories BUBL and SOSIG and the Tecnociencia, Darwin and Cercador websites in Spain.

The choice of resources was essentially made according to content and authorship. By the end of the 1990s, assessment methods had to adapt to the new demands

---

[2] Specifically, during the initial stage (2009-2011) the group of experts was formed by the following researchers: Pablo Díaz Luque, Assumpció Huertas, Cristòfol Rovira, Jordi de San Eugenio, Lorena Gómez, María Isabel Míguez, María Sicilia, Mila Gascó, Rafael Pedraza, Samuel Martín-Barbero, Sebastián Bonilla, Teresa Torres, Víctor Cavaller and José Fernández-Cavia; during the second stage (2012-2014), relating to the current research project, the group of experts is formed by the following researchers: Pablo Díaz Luque, Cristòfol Rovira, Lorena Gómez, María Isabel Míguez, Rafael Pedraza, Víctor Cavaller, Carlos Scolari, Gloria Jiménez, Anna Pallerols, Sara Vinyals and José Fernández-Cavia.

[3] This research was funded by the project "Online communication of tourist destinations. Development of an instrument to comprehensively assess efficiency: websites, mobile devices and the social web" (CODETUR) (CSO 2011-22691), from the Ministry of Economy and Competitiveness (Spain). Further information is available at: www.marcasturisticas.org. The main goal of the project is to establish an assessment methodology that helps tourist destination communications managers to improve and optimise the online promotion of their brands.

stemming from the preparation of audits and quality hallmarks on the Internet. The outcome was the incorporation of new sections to assess, specifically information architecture, usability, accessibility, visibility and, more recently, web positioning.

Moreover, the process was streamlined with a formalisation based on indicators, parameters and procedures (Codina, 2000). The result was a firm methodological tool that has been adapted and applied to a variety of differing websites, such as health sites (Louro, 2001); scientific information websites (Aguillo, 2006); institutional repositories (Vives, 2005; Rovira, 2007); free web resources (Estivill, 2000); database consultation interfaces (Abadal, 2002); e-magazines (Rodríguez-Gairín, 2001); digital newspaper libraries (Guallar, 2009); museum websites (Badell, 2010); city websites (Fenoll 2001; Moya 2003; Rovira, 2010); free meta search engines (Sastre-Suárez, 2011) and web 2.0 (Rodríguez-Martínez, 2012), to name a few examples.

With regard to tourism, research aimed at analysing the quality of websites began more than ten years ago, as detailed by Law, Qi and Buhalis (2010). Nonetheless, as these authors mention, there is still no universally accepted definition of what the assessment of tourist websites is and what it should entail.

After reviewing academic articles on the subject published between 1996 and 2009, Law, Qi and Buhalis identify five types of assessment systems:

1. Counting methods, which consist of assessing website performance or determining the wealth of content on the website by verifying whether a host of attributes, defined in a new, adopted or amended model by a group of assessors or experts, exist.

2. User judgement methods, which consist of assessing various levels and aspects of satisfaction and perception shown by a group of users which may include researchers and consumers.

3. Automated methods, which consist of assessing websites using software systems that analyse visits and browsing methods, making use of techniques such as content mining, data envelopment analysis (DEA), etc.

4. Numerical computation methods, which consist of using mathematical functions to define assessment models which incorporate functional performance, the relative importance of the website's attributes, the website's network of links, etc.

5. Combined methods, which consist of a combination of the above methods and can incorporate performance computation, expert verification of attributes, automated website assessment, integration of mathematical models, etc.

When it comes to tourist destinations specifically, although there is no methodology in place to analyse destination websites in a comprehensive manner (in other words, assessing all major aspects of an official website's performance), which is also broadly accepted by the experts (Law, Qi and Buhalis, 2010), there are some approximations that are worthy of noting.

Park and Gretzel (2007) conducted a review on academic articles published on the subject to identify nine success factors that repeatedly appear in the proposed tools for assessing destination websites: information quality, user-friendliness, response capacity, security, visual appearance, trust, interactivity, customization and satisfaction.

Nonetheless, they do note, and rightly so in our view, that the systems observed tend to overlook an assessment of the persuasive capacity of the websites, similarly pointing out that the suitability of these systems depends "on the goals the DMO determines for its website".

In their analysis of official Chinese destination websites, Li and Wang (2010) focus on five areas: information, communication, transaction, relationship and technical quality. Each area is assessed based on specific items or elements which, in their proposal, come to a total of forty-eight gauged using a five-point Likert scale, the results of which are subsequently weighted according to the importance of the element assessed.

The results of the study lead the authors to establish that tourist promotion bodies in Chinese provinces do not make effective use of their official websites.

Luna-Nevarez and Hyman (2012) state that DMOs need to perfect their official websites for two reasons: in users' eyes they represent the destinations and they enable potential visitors to assess the products, services and experiences the destinations offer. However, their assessment methodology is somewhat limited as it solely focuses on the website home page. They analyse twenty-six variables on said page grouped into six categories: primary focus, visual and presentational style, navigation and interactivity, textual information, advertising and social means/assistance for travel.

Parameters

In this paper we present our own system for assessing official tourist destination websites. Using the terminology applied by Law, Qi and Buhalis (2010), it is a combined method incorporating certain characteristics of the counting technique, an assessment of other indicators subject to a scale, a qualitative valuation of aspects such as graphic design or the website's persuasiveness, certain automatic measurements concerning user-friendliness, accessibility and positioning, and a simple mathematical calculation based on weightings and averages, whereby the outcome consists of general and topic-based indexes for each website examined.

The system is based on an analysis template formed by indicators grouped into twelve topic areas. The topic areas relate to what Codina (2004) refers to as "parameters" and they represent the aspects of study on which the observation is centred.

The parameters used for our analysis are not all new. "Home Page", "Content amount and quality", "Information architecture", "Usability", "Marketing" and "Interactivity" have been used before in other studies –using the same label or a similar one. Parameters such as "Languages", "Branding", "Discourse analysis", "Social web" or "Mobile communication" are totally or partially new.

The twelve parameters for analysis are as follows:

   a. **Home page**. In this parameter the suitability and appeal of the website's home page is assessed. The home page is particularly important in promoting destinations as it acts as a covering letter for the location. It invites the tourist to continue to browse and if it does not seem appealing it has a negative bearing on their decision to travel. For instance, this section assesses details such as whether the destination is clearly identified, whether or not there are introductory videos, the choice to select the language before viewing the content, the presence of useful sections such as what's on, a map or FAQs or

indeed whether there is the option to register. The section assesses a total of 13 indicators.

b. **Content amount and quality**. In this parameter the informational content presented on the website is assessed both in terms of variety and its suitability to tourists' needs. This section assesses the existence of directions to locate the destination and how to get there, the weather, what's on and events, commercial information, information on specialised tourism or contact details for the destination promotion body. The section assesses a total of 15 indicators.

c. **Information architecture**. This parameter examines the manner in which the website is organised and structured in order to enable users access to information. This section assesses issues such as the significance of tabs, the suitability and clarity of links, user-oriented navigation and the existence of an internal search engine. The section assesses a total of 10 indicators.

d. **Usability and accessibility**. This parameter looks into user-friendliness on the website and suitability for use by people with sensory difficulties. This section assesses aspects such as the suitability of the URL, how up-to-date the website is, how easy icons are to understand, help in context, font size, compatibility with browsers and the existence of information regarding the accessibility regulations met by the website. The section assesses a total of 17 indicators.

e. **Web positioning**. This parameter verifies whether the website is designed to assist in suitable positioning within natural search results and it examines the position of the website in search engines. This section assesses the presence of keywords in the URL, titles or metadata and the website's PageRank and TrafficRank. The section assesses a total of 8 indicators.

f. **Marketing**. As early as 1993 Archdale (1993) noted that, owing to the Internet, DMOs had the potential to establish themselves as specialist agents in marketing their destinations. This parameter looks into the options for distributing tourist products and services afforded by the website, that is, booking and purchasing systems alike. Certain products and services may be provided directly by the DMO while in other cases the DMO may serve a simple role as go-between for independent suppliers. This section assesses the presence of information and accommodation booking systems, the possibility of purchasing transport tickets, making bookings for shows and the existence of a "shopping basket" or integrated "check-out" system. The section assesses a total of 7 indicators.

g. **Languages**. A special, highly important characteristic of official destination websites is the choice of languages because if a destination wishes to promote itself on international markets it needs versions in the languages of the main countries of origin. Given globalization in present day tourism only having an English version may not be enough and it may be detrimental to the number of views the web page receives and, accordingly, to the destination. This section assesses the existence of several languages aside from the official languages of the destination in question, along with the existence of cultural adaptations according to the various countries provided for. The section assesses a total of 6 indicators.

h. **Branding**. This parameter assesses how the destination's brand image is conveyed and managed via the website's content. This section examines the

explicit description of the goals and values of the brand, the way emotional and functional elements are handled, the presence of a logo and its coherence with the page design, and the role of text and image in conveying the main features of the brand. The section assesses a total of 12 indicators.

i. **Discourse analysis**. This parameter looks into the website's persuasive capacity, that is, its capability to convince visitors that the destination is worth seeing. In qualitative terms using a specific methodology, this section assesses rhetorical and argumentative procedures used by websites in the image and text that make up their content. Aspects such as argumentative structure, rhetorical figures and enunciative strategies are taken into consideration. The section assesses a total of 8 indicators.

j. **Interactivity**. This parameter examines the two-way communicative relationship between the user and the website content, between the user and the destination managers and between the user and other users. This section reviews aspects such as the option for free downloads, interactive maps, online games, the existence of a community of users from the destination or the presence of user-generated content. The section assesses a total of 9 indicators.

k. **Social web**. This parameter studies the presence of 2.0 tools on the official destination website. This section assesses the scope enabled to users to include their own remarks and to rate content, the existence of a journey planner, participation in social media, content hosted on photograph or video platforms and links to external tourist recommendation social media. The section assesses a total of 13 indicators.

l. **Mobile communication**. This parameter considers whether the official destination website is adapted for mobile communication using smartphones or tablets. This section examines aspects such as the existence of a version of the website adapted for browsing using smartphones or the existence of applications for mobiles, the number of operating systems with which it is compatible and the variety of functions it offers. The section assesses a total of 5 indicators.

Indicators

Each indicator is assessed according to a scale, the shortest of which is 0-1 (if a specific characteristic is present or lacking, for example) and the longest is 0-3 (in the case of more concrete valuations such as poor, standard, good, excellent, for example).

Figure 1. Example of indicator, topic area "Marketing"

F7 *B*	Integrated booking and/or purchase systems for various products/services using a single "shopping basket".	0-1

Figure 2. Example of indicator, topic area "Languages"

G1. *H*	States what languages, aside from official destination languages, appear on each website. **Poor:** No non-official language is included. **Standard:** 1 or 2 non-official languages are included. **Good:** 3 or 4 non-official languages are included. **Excellent:** 5 or more non-official languages are included.	0-1-2-3

Not all indicators need to be traced in the same place on the website examined. In the case of indicator F7, for instance, shown in figure 1, the letter "B" appears under the indicator code. This means that the presence of this indicator should be traced throughout the entire website, at any depth, until it is found or its absence can be confirmed.

On the other hand, in the case of indicator G1, shown in figure 2, the letter "H" appears; this tells the analyst that the indicator should only be located on the website's home page. In other words, in the example given, if the choice of languages does not appear on the website's home page, the rating will be "0", even if the choice can be made in another section or another page on the website.

Other indicators need to be searched on the home page and two second level pages, while others need to be searched on the home page, on two second level pages and on two third level pages.

Some features are considered so important that they must be located at the home page: for example, the option for registration, a link to the web map or the choice of language. Some other features are general but their performance may be assessed in only three or five web pages, including the home: for example, the graphic design coherence, or the correct translation of the contents in the different languages version. And some other features could be so specific that it is accepted that the user has to spend some time searching for them: for example, information about where to eat or the possibility of downloading brochures. The idea behind all of this is to achieve homogenisation and also simplify analysis.

Accordingly, in certain aspects, the indicators are assessed using a simple criterion based on the presence or absence of a characteristic, while for others techniques are used to count elements which through addition and valuation give rise to the indicator (for instance, in the "Marketing" and "Language" topic areas); for some specific indicators, on certain occasions external sources of valuation are used (for instance, in the "Usability and accessibility" and "Positioning" topic areas); for other indicators a criterion of expert valuation is used whereby, based on suitable training and knowledge, a characteristic is valued according to the scale defined (for instance, in the "Marketing", "Branding" and "Information architecture" topic areas); lastly, there are factors that are examined using our own methodologies linked to a rhetorical-argumentative analysis (in particular, in the "Discourse analysis" topic area).

Indexes

Subsequently, having completed the analysis, the indicators are weighted; in other words, each indicator is assigned a relative weight according to its importance within the parameter analysed. The process of assigning a weight to each indicator is made

by discussing and negotiating the value among the experts in the research team, taking into account the importance of the indicator in the respective parameter and the range of its scale.

Then, a 1-based index is prepared for each parameter. The result of this is a score of between 0 and 1 for each of the twelve parameters and each of the websites analysed.

Based on the twelve scores for each parameter, a general combined index is then prepared (without weighting, using the arithmetical average) for each website, similarly 1-based. This combined index may be deemed as an overall assessment of the quality of the website analysed. The closer the score is to 1, the more satisfactorily the website meets the characteristics established in the analysis, whereas a score nearer to 0 would suggest that the website lacks elements and fails to fulfil certain areas assumed to be necessary or pertinent for an official tourist destination website.

As we will explain in further detail below, these indexes make it possible to: draw general comparisons between the websites analysed, identifying those which have attained a more positive valuation; make comparisons according to fields and within one single website observe which aspects are resolved with greater or lesser difficulty; identify examples of best and worst practices; and conduct an analysis as to which specific details (indicators) relating to a website bear scope for improvement.

3. Validation of the methodology based on the results of the pilot test

In order to assess the viability and validity of the methodology applied, an analysis was conducted on the pilot sample formed by ten national and international destinations. The sample of destinations was chosen combining several criteria: firstly, taking into account national and international destinations; secondly, incorporating different kinds of destinations (cities, regions, countries and nations); and lastly, seeking variability in terms of the geographical location, and the tourist-based potential, the maturity of the destination and the resources at hand to promote it. The final selection can be seen in the following table:

Table 1. Pilot sample. Official tourist destination websites

Destination	URL
Andalusia	http://www.andalucia.org/
Catalonia	http://www20.gencat.cat/portal/site/catalunya-act
Barcelona	http://www.barcelonaturisme.com/
Madrid	http://www.esmadrid.com/
Santiago de Compostela	http://www.santiagoturismo.com/
Rías Baixas	http://www.riasbaixas.depo.es/web2009/
Stockholm	http://www.visitstockholm.com/
Wales	http://www.visitwales.co.uk/
Rome	http://www.turismoroma.it/

Switzerland	http://www.myswitzerland.com/

The fieldwork was conducted in July 2012 by two previously trained analysts under the supervision of the research project director.

The analysis methodology afforded a wealth of information that can be processed in several ways. For instance, comparisons can be drawn between the results obtained by the websites for a specific topic area.

Table 2, shown below, details how each of the 13 indicators for the topic area "Social web" have been valued. The first row shows the indicator keys (K1, K2, K3…); the second row shows the place on the website where these indicators should be assessed (where "B" refers to a search throughout the site and "H" refers to a search solely on the home page); the third row shows the scale on which the indicator is assessed; and the fourth row shows the weighting made in order to give each indicator a specific weight when calculating the index for the topic area.

Table 2. Indicators and scores obtained in the sample for the topic area "Social web", July 2012

Social web														
Indicators	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12	K13	**TOTAL**
Analysis sample	B	B	B	B	B	B	B	B	H	H	H	H	H	
Valuation	0-1-2	0-1-2	0-1-2	0-1-2	0-1-2	0-1-2-3	0-1-2-3	0-1	0-1-2	0-1-2	0-1-2	0-1-2	0-1-2	Max.
Weighting	**3**	**2**	**3**	**5**	**3**	**4**	**3**	**3**	**3**	**3**	**3**	**4**	**2**	86
Autonomous Community brand														
Andalusia	0	2	1	2	0	2	2	1	1	1	1	2	0	**0.59**
Catalonia	0	0	0	0	1	0	0	0	2	0	2	2	0	**0.27**
Autonomous Community capital brand														
Barcelona	0	0	0	0	1	1	3	0	0	1	2	1	2	**0.38**
Madrid	0	1	2	1	2	1	3	0	0	1	1	1	0	**0.49**
Santiago de Compostela	2	2	0	2	2	1	3	1	2	2	2	2	2	**0.84**
Region brand														
Rías Baixas	2	0	1	1	0	0	3	0	0	1	1	1	1	**0.41**
International brand														
Stockholm	2	2	0	0	1	0	2	1	0	0	0	2	0	**0.35**
Wales	0	1	0	0	1	1	3	1	0	1	1	1	0	**0.36**
Rome	0	0	0	0	0	1	2	0	0	0	1	1	0	**0.20**
Switzerland	2	2	1	0	2	1	3	1	1	1	2	2	0	**0.64**

Compiled by authors

Table 2 enables us to recognise which websites stand out due to being adapted to the social web (namely, the one pertaining to Santiago de Compostela with a score of 0.84) or which destinations need to review their website along these lines (Rome, for instance, which only obtained a score of 0.2 or Catalonia, with a score of 0.27).

Likewise, by adding the data from the 12 areas assessed, the general scores can be compared, a combined index which is an average of the score obtained for each parameter which we will call "Web Quality Index" (WQI):

Table 3. Average scores or "Web Quality Index" (WQI), July 2012

	A	B	C	D	E	F	G	H	I	J	K	L	TOTAL
	Home page	Cont.	Arch.	Use/Acc.	Posit.	Mark.	Lang.	Brand	Discourse	Inter	Social	Mobile	WQI
Autonomous community brand													
Andalusia	0.94	0.78	0.79	0.60	0.67	0.70	0.41	0.82	0.80	0.43	0.59	0	**0.63**
Catalonia	0.67	0.55	0.74	0.57	0.39	0.3	0.49	0.67	0.60	0.26	0.27	0	**0.46**
Autonomous community capital brand													
Barcelona	0.85	0.78	0.68	0.89	0.71	0.88	0.54	0.82	0.30	0.52	0.38	0.77	**0.68**
Madrid	0.79	0.90	0.79	0.78	0.69	0.5	0.62	0.51	0.30	0.48	0.49	0	**0.57**
Santiago de Compostela	0.79	0.82	0.74	0.59	0.71	0.90	0.62	0.69	0.40	0.72	0.84	0.50	**0.69**
Region brand													
Rías Baixas	0.52	0.39	0.63	0.40	0.45	0.20	0.35	0.47	0.80	0.17	0.41	0	**0.4**
International brand													
Stockholm	0.73	0.78	0.84	0.81	0.71	0.76	0.76	0.63	1	0.39	0.35	0	**0.65**
Wales	0.55	0.76	0.84	0.59	0.69	0.46	0.57	0.65	0.50	0.24	0.36	0	**0.52**
Rome	0.70	0.69	0.84	0.75	0.61	0.32	0.49	0.57	0.50	0.24	0.20	0	**0.49**
Switzerland	0.58	0.93	0.74	0.71	0.86	0.72	0.95	0.92	0.60	0.57	0.64	0.73	**0.74**
Average	0.71	0.74	0.76	0.67	0.65	0.57	0.58	0.68	0.58	0.40	0.45	0.20	**0.58**

The WQI tells us the level of development of an official tourist destination website taking into consideration a host of aspects, perspectives and approaches from which it can be analysed. It assesses the general quality of the site without contemplating the topic areas for which it stands out or falls below the average.

Indeed, if the overall average for the ten destinations in the sample is 0.58, we can see that some figures are well above that (Switzerland 0.74, Santiago de Compostela 0.69 and Barcelona 0.68), while others fall short of the average (Rías Baixas 0.4, Catalonia 0.46 and Rome 0.49). However, this general statistic does not suffice to indicate the aspects for which the destination website managers need to improve communication over their websites.

In order to identify the aspects in which the website is above or below the average we need to refer to the specific index for each parameter. For instance, table 4 shows that the official tourist website for Switzerland receives the greatest average score in the sample, but we can also see that its stands out in particular owing to the quality and quantity of its content (obtaining the greatest score for this parameter, 0.93, highlighted in black), its positioning (0.86), the use of languages (0.95) and the handling of the image brand (0.92).

However, the same website falls below the average for two parameters, the home page (where Switzerland obtains 0.58 compared to the average of 0.71) and architecture (where Switzerland obtains 0.74 compared to the average of 0.76). Accordingly, the

analysis highlights potential problems for the website and possible scope for improvement.

Another way of presenting data that provides useful information is to group the topic areas into four main blocks. We have referred to the website architecture, positioning, and usability and accessibility as "technical aspects"; to the home page, languages and content amount and quality as "communicative aspects"; to interactivity, social web and mobile communication as "relational aspects"; and, lastly, to discourse analysis, handling of branding and marketing options as "persuasive aspects". Figure 3 shows a chart with the topic areas grouped:

Figure 3. Assessment of the official tourist website for Wales
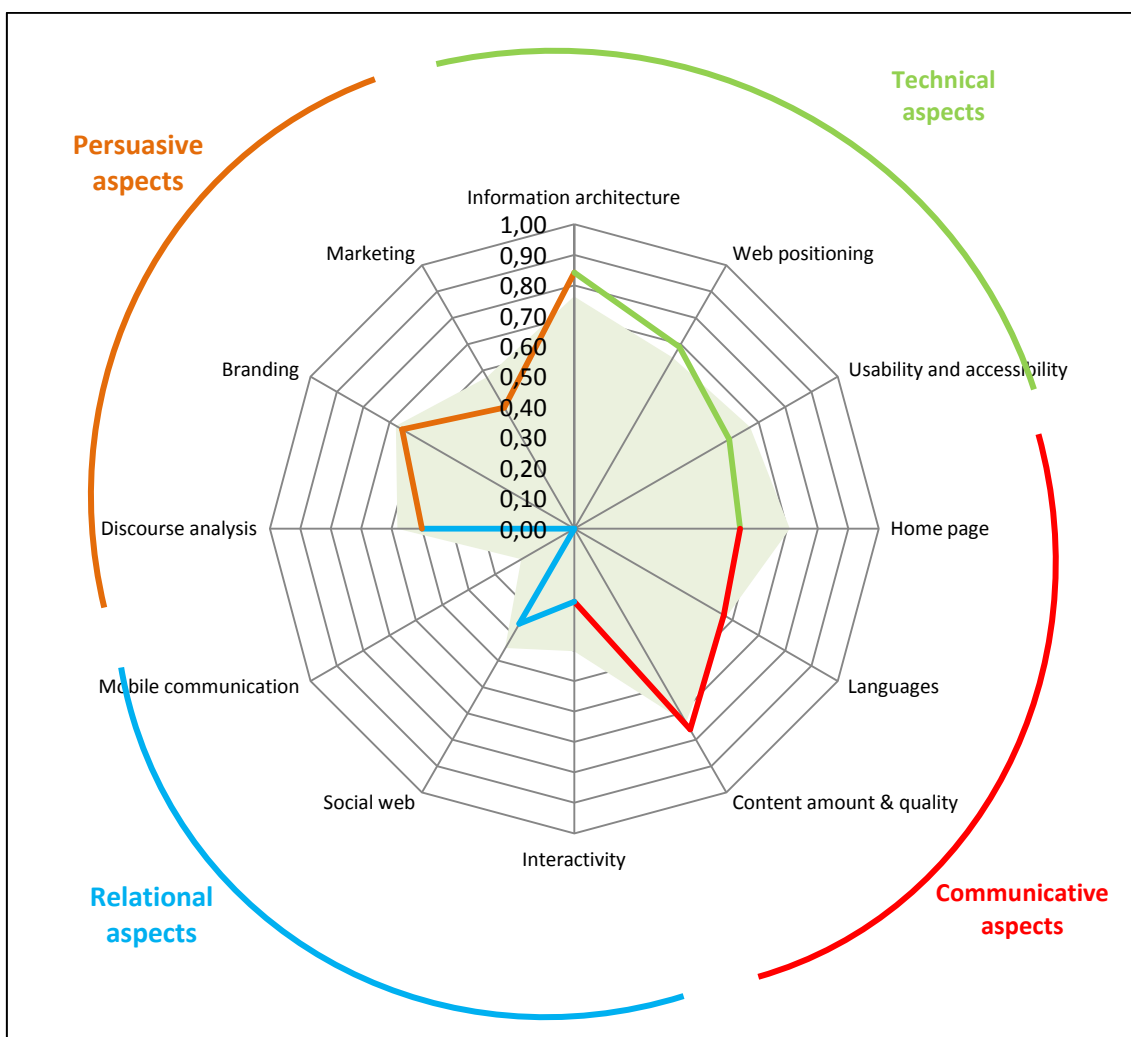

Figure 3 uses coloured lines to depict the results obtained for the official website for Wales, while the shaded area shows the average obtained for the entire sample. We

can see that Wales is well above the average in aspects such as architecture, positioning and content amount and quality, while it obtains patently poorer than average scores for interactivity, social web and mobile communication.

Accordingly, it can be deduced that the official tourist website for Wales has to a certain extent addressed technical and communicative aspects (with the exception of usability and the home page) while it falls somewhat short of the target when it comes to engaging with users.

However, we shall not prolong the presentation of results as the purpose of this paper is solely to describe the methodology used and the potential uses it affords.

We do wish to highlight two further issues. The analysis shows that the most traditional and most intensely addressed areas of development (architecture, usability, home page, content) obtain notably higher scores than areas that are somewhat more overlooked (discourse analysis) or those that are newer (interactivity, social web, mobile communication). Accordingly, the methodology validates both the results of other areas of research on specific issues and indeed the opinion of experts.

Furthermore, it also shows that the more firmly established tourist destinations with the most resources (Switzerland and Andalusia) obtain higher scores than the more modest ones (Rías Baixas), although there are notable negative exceptions (for instance, with Rome's website or Catalonia's website, which was renewed shortly after our analysis) and positive exceptions (Santiago de Compostela, an example of how interesting results can be achieved with limited resources).

4. Conclusions

Official websites are a vital promotional tool for tourist destinations as they constitute a means of introducing all potential tourists using them to the destination, acting as an information channel on which to base their decisions.

Nevertheless, despite the investment destinations place in setting up and maintaining their websites, there is no comprehensive assessment system in place to enable them to gain an insight into the quality of their websites, at least from the standpoint of the message the site conveys.

Therefore, we are putting forward this assessment system which combines general and specific aspects of tourism and destination promotion, an *ad hoc* system set up specifically for this particular sphere of industry.

The system for analysis we have presented proves to be a firm, useful assessment tool that can provide destination communications managers with useful information regarding the quality of their websites while making comparisons with other competing destinations, identifying strengths and weaknesses.

It is an assessment system with an all-inclusive calling which seeks to address those technical, formal and content-related aspects which affect the performance of a tourist destination website.

The results of the pilot study confirm the validity of the tool, the data from which can be presented in a number of ways providing a general valuation, a valuation according to parameters or a detailed check by indicator.

The template for analysis constitutes a flexible instrument that can be developed and adapted in line with the continual new developments arising in the sector. Therefore, according to the work conducted by the experts in the project team the topic areas studied can be reviewed, indicators can be corrected or added and the weightings assigned to each indicator may be modified.

Indeed, the Web Quality Index (WQI) proves to be a simple assessment measure in terms of understanding and use, although it does prove complex and exhaustive when it comes to the manner in which it is built because it compiles and brings together a large body of highly varied information.

5. Study limitations and future development

After presenting this methodology we wish to point out what we consider to be the three main limitations posed:

- Firstly, official tourist destination websites are living, dynamic targets of study that in some cases develop rather swiftly. As a result, the analyses may soon become dated; in other words, the data obtained on a specific date may soon lose its validity. Consequently, it would be suitable to regularly monitor the chosen sample.

- Secondly, the analysis template, with a selection of parameters, indicators, valuation scales and weightings, is essentially dependent on the choices and consensus reached by the various researchers in the project team; therefore, a certain degree of subjectivity applies or, in the very least, the decisions are subject to deliberation.

- Lastly, and expressed in terms of the communication theory, the analysis solely focuses on the message without the potential to compare it to the intentions or goals of the issuer (in this case the various destination promoters) or indeed to the perceptions of the addressee (in this case the tourists or potential travellers browsing the official tourist websites).

Nonetheless, as we have sought to demonstrate, the instrument for analysis is based on firm foundations, it is methodologically sound and affords reliable, valuable and plentiful information.

On the context of the CODETUR project, research will continue with the application of the analysis methodology to a much broader sample formed by every Spanish province and autonomous community capital city along with a selection of twenty international destinations.

On the context of the project, it is also envisaged that a number of in-depth interviews will be conducted with destination communications managers to gain an acquaintance of their strategies and goals when planning and developing an official website, among other areas.

Similarly, the project team is working on adapting the methodology to establish a quality hallmark to certify best practices for destinations that benefit from a suitable, satisfactory website.

Lastly, the Web Quality Index (WQI) presented, specifically designed in order to assess official tourist destination websites, could be adapted to other types of websites specifically pertaining to other relevant sectors of activity.

References

Abadal, E. (2002): "Elementos para la evaluación de interfaces de consulta de bases de datos web". *El Profesional de la Informacion*, 11 (5), pp. 349-360.

Aguillo, I. F. (2009): "Problemas técnicos, metodológicos y documentales en la elaboración de rankings basados en indicadores web". *XI Jornadas españolas de documentación*. Fesabid.

Archdale, G. (1993): "Computer reservation systems and public tourist offices". *Tourism Management,* 14, pp. 3-14.

Badell, J.I. & Rovira, C. (2010): "Visibilidad de las sedes web de los museos de Cataluña*". Revista Española de Documentación Científica*, 33 (4), pp. 531-552.

Blain, C.; Levy, S. E. & Brent Ritchie, J. R. (2005): "Destination branding: Insights and practices from destination management organizations". *Journal of Travel Research*, 43, pp. 328-338.

Buhalis, D. (2000): "Marketing the competitive destination of the future". *Tourism Management*, 21, pp. 97-116.

Buhalis, D., & Law, R. (2008): "Progress in Information Technology and Tourism Management: 20 years on and 10 years after Internet. The state of e-Tourism research". *Tourism Management*, 29(4), pp. 609-623.

Choi, S., Lehto, X. & Oleary, J. (2007): "What does the consumer want from a DMO website? A study of US and Canadian tourist' perspectives". *International Journal of Tourism Research*, 9, pp. 59-72.

Choi, S., Lehto, X. & Morrison, A. (2007): "Destination image representation on the web: Content analysis of Macau travel related websites". *Tourism Management*, 28, pp. 118-129.

Codina, L. (2000): "Evaluación de recursos digitales en línea: conceptos, indicadores y métodos". *Revista Española de Documentación Científica*, 23 (1), pp. 9-44.

Codina, Lluís (2004): "Evaluación de calidad en sitios web: proyectos de estudios sectoriales y realización de auditorías". En: Jornades Catalanes d'Informació i Documentació (9º. 2004. Barcelona). http://www.cobdc.org/intranet/pdf_lliure.php?id=actes_jornades/9JCD/gestio/pag59-72.pdf [Accessed: 11/02/2013].

Díaz-Luque, P. (2009): "Official Tourism Web Sites and City Marketing". En: Gascó-Hernández, M; Torres-Coronas, T.: *Information Communication Technologies and City Marketing. Digital Opportunities for Cities around the World*. Hershey: Information Science Reference.

Estivill, A. & Abadal, E. (2000): "Acceso a los recursos web gratuitos desde las bibliotecas". *El Profesional de la Informacion*, 9 (11), pp. 4-20.

Fenoll Clarabuch, C. & Llueca Fonollosa C. (2006): "Ajuntaments a Internet: anàlisi a les comarques de Girona 2001-2006*". Item: revista de biblioteconomia i documentació*, 42, pp. 63-109.

Fernández-Cavia, J & Huertas-Roig, A. (2009): "City Brands and their Communication through Web Sites: Identification of Problems and Proposals for Improvement". In:

Gascó-Hernández, M; Torres-Coronas, T.: *Information Communication Technologies and City Marketing. Digital Opportunities for Cities around the World*. Hershey: Information Science Reference.

Fernández-Cavia, J. & López, M. (2013): "Communication, destination brands and mobile applications". *Communication & Society,* 26 (2): 95-113.

Gretzel, U., Fesenmaier, D., Formica, S. & O'Leary, J. (2006): "Searching for the future: Challenges faced by destination marketing organizations". *Journal of Travel Research*, 45, pp. 116-126.

Guallar, J. & Abadal, E. (2009): "Evaluación de hemerotecas de prensa digital: indicadores y ejemplos de buenas prácticas". *El Profesional de la Informacion*, 18 (3), pp. 255-269

Huertas A., Rovira, C. & Fernández-Cavia, J. (2011): " Interactivity as a key factor in city website visibility and place brand communication". *Journal of Town & City Management*, 2 (2), pp. 132-142.

Hvass, K. & Munar, A. M. (2012): "The takeoff of social media in tourism". *Journal of Vacation Marketing*, 18 (2), pp. 93-103.

IET (Instituto de Estudios Turísticos) (2010): *Movimientos turísticos en fronteras. Informe anual 2009.* Available at: http://www.iet.tourspain.es/paginas/home.aspx?idioma=es-ES (consulta 7 de enero de 2011).

Kim, H. & Fesenmaier, D. R. (2008): "Persuasive design of destination web sites: an analysis of first impression". *Journal of Travel Research*, 47, pp. 3-13.

Law, R., Qi, S. & Buhalis, D. (2010): "Progress in tourism management: A review of website evaluation in tourism research". *Tourism Management*, 31 (3), pp. 297-313.

Lee, W. & Gretzel, U. (2012): "Designing persuasive destination websites: A mental imagery processing perspective". *Tourism Management*, 33, pp. 1270-1280.

Lehto, X., Kim, D. & Morrison, A. (2006): "The effect of prior destination experience on online information search behaviour". *Tourism and Hospitality Research,* 6 (2), pp. 160-178.

Li, X. & Wang, Y. (2010): "Evaluating the effectiveness of destination marketing organisations' websites: Evidence from China". *International Journal of Tourism Research*, 12, pp. 536-549.

Louro González, A. (2001): "Portales sanitarios para la atención primaria". *Atención primaria: Publicación oficial de la Sociedad Española de Familia y Comunitaria*, 27 (5), pp. 346-350.

Luna-Nevarez, C. & Hyman, M. (2012): "Common practices in destination website design". *Journal of Destination Marketing & Management*, 1, pp. 94-106.

Macias, W. (2010): "A preliminary structural equation model of comprehension and persuasion of interactive advertising brand web sites". *Journal of Interactive Advertising* 3 (2), pp. 36-48.

Morrison, A., Taylor, J. & Douglas, A. (2004): "Website evaluation in tourism and hospitality". *Journal of Travel & Tourism Marketing*, 17 (2-3), pp. 233-251.

Moya Martínez, G. (2003) "La Administración Pública en línea: estudio sobre los servicios públicos de los ayuntamientos de la Región de Murcia basados en web". *Anales de Documentación*, 6.

OCDE (2010): *OECD Tourism Trends and Policies*. Disponible en: http://www.oecd.org/document/24/0,3746,en_2649_34389_44607576_1_1_1_1,00.html (consulta 12 de enero de 2012).

Palmer, A. (2005). "The internet challenge for destination marketing organisations". En: Morgan, N., Pritchard, A. & R. Pride: *Destination Branding: Creating the Unique destination Preposition*. Oxford: Elsevier.

Park, Y. & Gretzel, U. (2007): "Success factors for destination marketing web sites: a qualitative meta-analysis". *Journal of Travel Research*, 46, pp. 46-63.

Rodríguez-Gairín, J. (2001): "Parámetros e indicadores de calidad en la evaluación de una revista electrónica. El caso de BiD: textos universitaris de biblioteconomia i documentació*". BiD: textos universitaris de biblioteconomia i documentació*, 6.

Rodríguez-Martínez, R.; Codina, L. & Pedraza-Jiménez, R. (2012): "Indicadores para la evaluación de la calidad en cibermedios: análisis de la interacción y de la adopción de la Web 2.0". *Revista Española de Documentación Científica*, 35 (1).

Rovira, C.; Marcos, M.C. & Codina, L. (2007): "Repositorios de publicaciones digitales de libre acceso en Europa: análisis y valoración de la accesibilidad, posicionamiento web y calidad del código". *El profesional de la Información*, 16(1), pp. 24-38.

Rovira, C., Fernández-Cavia, J., Pedraza-Jiménez, R. & Huertas A. (2010): "Posicionamiento en buscadores de las webs oficiales de capitales de provincia españolas". *El profesional de la información*, v.19, n. 3.

Sartori, A, Mottironi, C. & Corigliano, M. A. (2012): "Tourist destination brand equity and internal stakeholders: An empirical research". *Journal of Vacation Marketing*, 18 (4), pp. 327-340.

Sastre-Suárez, S. & Pastor-Ramon, E. (2011): "Evaluación de metabuscadores gratuitos especializados en ciencias de la salud". *El Profesional de la Información*, 20 (6), pp. 639-644.

Sicilia, M., Ruiz, S. & Munuera, J. (2005): "Effects of interactivity in a web site". *Journal of Advertising*, 34 (3), pp. 31-45.

Sigala, M. (2009): "Web 2.0, Social Marketing Strategies and Distribution Channels for City Destinations: Enhancing the Participatory Role of Travelers and Exploiting their Collective Intelligence". In: Gascó-Hernández, M; Torres-Coronas, T.: *Information Communication Technologies and City Marketing. Digital Opportunities for Cities around the World*. Hershey: Information Science Reference.

Stienmetz, J. L., Levy, S. E. & Boo, S. (2012): "Factors influencing the usability of mobile destination management organization websites". *Journal of Travel Research*, 52 (4), pp. 453-464.

Vives i Gràcia, J. (2005): "Aspectos de propiedad intelectual en la creación y gestión de repositorios institucionales". *El Profesional de la Informacion*, 14 (4), pp. 267-278.

World Tourism Organisation and the European Travel Commission (2008): *Handbook on E-Marketing for Tourism Destination*. Madrid: Europe-World Tourism Organization.

World Tourism Organisation and the European Travel Commission (2009): *Handbook on Tourism Destination Branding*. Madrid: Europe-World Tourism Organization.

Xiang, Z. & Gretzel, U. (2010): "Role of Social Media in Online Travel Information Search". *Tourism Management,* 31, pp. 179-188.

Yeung T. & Law, R. (2004): "Extending the modified heuristic usability evaluation technique to chain and independent hotel websites". *International Journal of Hospitality Management*, 23 (3), pp. 307-313.