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IMPROVING DMOS' LOCAL COORDINATION EFFORTS THROUGH WEB 2.0

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ABSTRACT
This paper investigates the role that Web 2.0 technologies and applications can play in helping Destination Management Organisations coordinate local tourism stakeholders. It illustrates the structure of an online platform which allows Destination Management Organisations to combine and display the contents developed by a wide range of local tourism players. The way such a platform enhances coordination and a number of related implementation issues are then discussed. Further research on the topic is finally suggested.

KEYWORDS
DMOs, coordination, Web 2.0, mash-up

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1. INTRODUCTION

Tourism destinations are characterised by a plurality of actors – both public and private – with a more or less direct stake in tourism development. In this context, Destination Management Organisations (hereinafter “DMOs”) are expected to involve all the local actors for a specific destination, promote their active participation in tourism-related projects and foster the coordination between them. The process of setting up a successful collaboration at the local level must be structured in such a way that: a) on the one side, all the tourism stakeholders dealing with a specific destination are potentially able to share materials and resources about that destination, and b) on the other side, the tourist does not struggle to access the information about the products and services offered by the destination.

This paper explores the ways in which Web 2.0 technologies can support the DMOs in their coordination function at the local level. In particular, it focuses on the integration of the informative and promotional contents that have been elaborated by different typologies of local actors; it also provides a Literature Review section that comprehends tourism and computer science research works on the interaction between stakeholders and web contents. This is followed by the illustration of an online platform combining different sources of tourism information at the level of the destination. The platform’s potential advantages in fostering DMOs’ coordination function are eventually discussed.

2. LITERATURE REVIEW

A tourism destination can be looked at as a complex and fragmented environment with a number of different actors (DMOs, private tourism operators, local tourism boards, residents, etc.) that can affect or be affected by the overall tourism development process (Augustyn and Knowles, 2000; Bramwell and Sharman, 1999; Fyall and Garrod, 2005, Jamal and Getz, 1995; Palmer and Bejou, 1995; Pan and Fesenmaier, 2006; Wang and Xian, 2007). Such fragmentation is strictly linked to the heterogeneous character of the tourism product itself, which consists of “a gathering
of numerous different micro tourism products, such as transportation, accommodation, shopping, attractions, events, drinks, and so on” (Van der Borg, 2008:13).

The variety of players involved in tourism planning and tourism development may be at the root of problems and issues like the “overlapping between strategic marketing of the destination as a whole and of each individual supplier at the region” (Buhalis, 2000:99). This is why collaboration between stakeholders “can assist in bringing together all of the various fragments and enabling them to work effectively together” (Fyall and Garrod, 2005:143), thus allowing the actors of a specific destination “to achieve outcomes that were unattainable by one organisation working on its own” (Fyall and Garrod, 2005:143).

DMOs standing for “the selling of a destination as a whole in the broader sense” (Presenza et al., 2005:6), the primary function of this type of tourism organisations becomes the coordination of different categories of local actors (Morrison et al., 1998; Presenza et al., 2005; Sheehan and Ritchie, 2005). As Pearce observes, DMOs can be interpreted as “the translation of stakeholders’ willingness to get united in order to achieve common goals” (Pearce, 1992:5).

A lot of theoretical approaches encourage the public sector entities – and DMOs are generally considered part of this category (Sheehan and Ritchie, 2005; UNWTO, 2004) – to play a prominent role in the set-up of an effective collaboration process at the local level. New Public Management and Managerialism literature (e.g., see Box et al., 2001; Denhardt and Denhardt, 2000; Elliott, 1997; Hall, 2011; Vigoda, 2002) suggests strongly that public sector organisations collaborate and create partnerships with external actors (e.g., private entrepreneurs and local communities). From a more public policy oriented perspective, the same indication is given by the theorists of Networked Government and Governance (see Agranoff, 2007; Bommert, 2010; Hartley, 2005). Eventually, the need to actively engage all categories of stakeholders in the definition and implementation of public policies turns out to be the key to both subsidiarity – horizontal subsidiarity (Briassoulis, 2002; Powell, 2007; Reinicke, 1998) in particular (i.e., public sector actors delegating part of their functions to non-state players) – and sustainability (Bahaire and Elliott-White, 1999; Bramwell and Sharman, 1999; Murphy, 1985).
As suggested by existing literature, DMOs are expected to act as a “network organisation” (Van der Borg, 2008) which integrates inputs and contributions from external actors in an effective way – and the same is true for all types of public sector organisations, no matter their domain of activity. This results in the implementation of a “collective marketing approach” (Naipaul et al., 2009:463): “the benefits of tourism activity is shared fairly between all stakeholders and that sustainable practices safeguard the regeneration of resources utilized for the production of tourism” (Buhalis, 2000:99). Furthermore, thanks to this collaboration with local external stakeholders, DMOs will have the possibility to share the risks of the business initiatives that they will be embarking on (UNWTO, 2003); their actions and decisions will also have gained in authority and legitimacy (Elliott, 1997).

However, the implementation of an effective collaboration approach at the level of the destination needs to be carefully prepared (Augustyn and Knowles, 2000; Bramwell and Lane, 2000; Fyall and Garrod, 2005; Jamal and Getz, 1995; Naipaul et al., 2009; Wang and Xiang, 2007). One of the major challenges in this context consists of enabling the partners “to share their specific strengths, bringing together a wide range of sources of support in order to provide an integrated service” (Augustyn and Knowles, 2000:342). In this sense, online technologies and, more specifically, Web 2.0 applications could actually operate as major facilitators.

Since Web 2.0 was launched, participation, collective intelligence and the possibility to mix and re-mix online contents have become a major Internet feature (O’Reilly, 2005). In facts, there is no need for the user to set her/his own website anymore, as she/he can now express comments and ideas directly through microblogging, social networks and other collaborative platforms (over the past decade, Facebook and Twitters’ smashing success stories have proved the effect of new participatory communication systems (Ellison et al., 2011; Susarla et al., 2012).

In addition to stimulating interaction and collaboration between Internet users, Web 2.0 also facilitates the design and creation of large online systems where a number of small components are integrated and mixed up. This is how mash-up applications play a prominent role.

While the expression “mash-up” is used in music to mean a song created by blending two or more pre-recorded songs, in computer science it describes an
application that combines and integrates a series of data (graphics, texts, videos, etc.) taken from diverse online sources (Beemer and Gregg, 2009; Homung et al., 2008; Murugesan, 2007). At the end of a mash-up process, the user is capable of creating innovative services and original solutions or more simply presenting data in a different way. Such a process is made possible by the source’s Application Program Interfaces (hereinafter “APIs”): APIs provide the structure of the source’s content, so that the content itself can be read, interpreted and manipulated. For instance, Flickr APIs allow online users to access the website’s images and metadata.

It is such simplicity that makes mash-up applications an important instrument for End-User Development (hereinafter “EUD”). Experts from different fields who are not professional computer developers can easily use the Web 2.0 tools to create or modify software solutions and organise complex data structures (Celentano and Maurizio, 2011; Costabile et al., 2006). It is documented, for instance, that EUD tools have already found a successful application in culture-related domains such as art guides [Celentano and Maurizio, 2011].

When applied in the field of tourism, Web 2.0 technologies and mash-up applications make it possible to put together different sources of information and type of user-generated contents (blogs, Facebook pages, Youtube videos, etc.) for promotion purposes. This leads to a complete overview of a destination or route that includes also the tourist’s feedback and opinions (Antonioli Corigliano and Baggio, 2011; Linaza et al., 2008; Sigala, 2007). As a consequence, tourism operators would better meet the needs of their consumer – the tourist – who clearly tends to use collaborative online tools more and more often while planning her/his vacations (Antonioli Corigliano and Baggio, 2011; Kim and Fesenmaier, 2008; Linaza et al., 2008). This last point applies also to the type of language used, which in Web 2.0 technologies is more immediate and less institutional than the one found in traditional channels (Pan and Fesenmaier, 2006).
3. METHODOLOGY

This paper is based on an interdisciplinary project which was jointly carried out by the Department of Economics and the Department of Environmental Sciences, Informatics and Statistics of the Ca’ Foscari University of Venice, Italy. Its ultimate aim is to promote cultural tourism routes in off-the-beaten-track towns and villages in the Veneto Region, Italy.

Through desk research, quantitative analysis and interviews with local operators, the Department of Economics examined the potential of Veneto’s towns and villages for cultural tourism and defined a number of thematic itineraries. In parallel, the Department of Environmental Sciences, Informatics and Statistics were in charge of identifying the most suitable online solutions for promoting these thematic itineraries. The academic collaboration resulted in the creation of the platform presented in this paper.

No external publicity has been sought for the platform so far. However, informal talks—discussing the potential further implementation of this online tool were held with those local stakeholders (e.g., regional and provincial authorities) that had been contacted by researchers while drawing the new cultural routes. This first informal qualitative assessment proved to be especially important in view of the identification of some open issues that will be presented in this paper’s final section.

4. CASE STUDY

As suggested in previous paragraphs, the platform presented here aims at promoting route-based cultural tourism in not so well known towns and villages of the Veneto Region, Italy. It was the researchers’ intention to create a tool populated with contents that would be developed not only by local public and private tourism players but also by tourists, residents and web users. This envisages, inter alia, distinguishing this innovative platform from previous web-promotion tools. At present, a lot of cities and regions are actually resorting to existing web-promotion tools to attract and inform tourists (e.g., see Regione Toscana 2013); to the researchers’
knowledge, though, the information provided there is invariably developed and managed centrally.

In order for the inputs coming from different local actors to be effectively integrated into the platform, the working group (i) reviewed a wide range of sources and (ii) analysed from the first phases of the planning: public operators’ tourism websites (e.g., the regional tourism board’s portal), private operators’ websites (e.g., the webpage of hotels/restaurants); websites of local associations (e.g., the home page of an association devoted to the historical re-enacting of a medieval village); wiki contents (Wikipedia and Wikitravel pages of village events, etc.); social network pages (e.g., Facebook pages and/or Twitter twits dedicated to events taking place in a specific town); and user-generated visual contents (Youtube videos and Flickr photos regarding a specific town or village posted by web users).

A selection process was implemented for such online sources, the findings of which are structured and displayed as follows:

1. Three thematic routes – called “tours” – identified by the researchers: “The Living Middle Ages Route”, “The Venetian Painters Route” and “The Archeological Veneto Tour”. Each tour considers a minimum of five places picked from the Veneto’s less-known towns and villages;

2. Each place was attributed a set of “topics” – herein elements or activities that are likely to interest the visitor – e.g., “local cuisine”, “sport&relax activities”, “flea markets”, “local events”;

3. The topics are organised in a tree-like structure, intended to leave room for improvement and sub-topics.

Generally speaking, mash-up applications make it easier to integrate into the platform materials that have already been published. To give an example, when a list of events related to a specific destination is found in the local tourism board’s website, its content will be transferred into the platform under the title “Local Events” of that “Destination”.

At a more technical level, the project sticks as closely as possible to three modalities, depending on the place the contents were first stored: (a) for those web sources (e.g., Flickr) that supply data through APIs, the researchers made use of available wrapper libraries; (b) when no formal data extraction process is possible
(e.g., the majority of local tourism boards’ websites), it was decided to apply content parsing algorithms; (c) in the case of sources depending on web feeds (e.g., a RSS-formatted list of events), the data extraction process was implicit and did not require any further step.

As Figure 1 shows, the key protagonist of the mash-up process is the domain expert, that is to say the person, authority or institution in charge of selecting the sources which will be then combined and integrated into the platform. At this stage of the project the domain expert is still to be identified in the researchers themselves; nevertheless, once the project is put into practice, the most appropriate local actor to perform this task at the destination level is going to be the DMOs, due to their coordination role.

Figure 1. The mash-up process as it unfolds in the platform framework.

As far as the quality of the information is concerned, the use of Web 2.0 technologies and mash-up applications allow the platform to supply contents which are:
• integrated: different sources of information are put together and the original web page is always accessible by clicking on the link which appears automatically in the platform;
• complete: thanks to the integration of different tourism-oriented web resources, a comprehensive and detailed description will be available for each and single destination;
• up-to-date: the contents which are integrated into the platform are modified automatically, every time an update occurs in the original source.

Researchers have paid special attention to developing web pages that are tailor-made for mobile devices (e.g., smartphones, tablets, etc.). This will enable the tourist to search and interact even while moving from one place to another. Figure 2 gives an idea of how the platform's visual interface looks like when seen through a table (each number corresponds to a different source):

![Figure 2. Visual appearance of the platform when accessed via tablet.](image)

5. DISCUSSION
The platform illustrated above is meant to support DMOs in their coordination and aggregation efforts at the local level. The main idea is that all quality contributions to tourism planning and tourism development from all the stakeholders involved can be integrated into one single tool, thus avoiding re-editing the content centrally.

One of the major advantages is that DMOs will no longer need to write, edit and publish all the information the tourist might seek about a specific town or village. Thanks to the mash-up process, indeed, local tourism boards will be able to gather and treat promotional and informative materials after these materials have been previously developed by other local players. For example, if an association specialised in local traditional events has a quality website, the local DMO – in its role as domain expert – can decide to extract all contents concerning those events directly from the website and insert them in the “Flea Market” section of the platform. Even more energies and money will be saved by the real-time updating process that automatically takes place every time an original web source undergoes a change (see above). From the user’s point of view, all the tourists will have the possibility to autonomously gather information directly from the source website, without having to ask around or carry any brochure.

The platform will most probably serve as a catalyst for social involvement and boost the number of spontaneous local stakeholders – including individuals – that can actually take part in the tourist promotion process. One of the most attractive novelties in this sense may be the inclusion of social networks’ pages – Facebook on the front line – a now very popular interface where residents can easily interact with visitors and share precious tips and feedback with them. Something similar would apply to DMOs, that could reach the tourist in a more immediate and familiar style. This is likely to be followed through by a substantial increase in visibility for small-scale groups like the cultural associations, which will be more and more encouraged to use the platform to disseminate information and raise awareness. Just like the residents, then, they could end up playing a direct and influential role in the tourism product development process. Last but not least, through a YouTube or Flickr account, among other user-generated sources, the new – individuals and local associations – or “improved” – DMOs – participants will be able to express themselves both in words and visually.
Despite the unquestionable advantages described here, the first informal round of talks with local tourism stakeholders was an occasion to discuss other aspects of the platform adoption and some implementation measures that could be taken.

Firstly, there was some concern about the quality of the information published in the platform. Some interlocutors expressed their skepticism about the quality and accuracy of Wikipedia contents that could possibly be integrated and eventually used by DMOs. Another weak point is apparently the linguistic variety and the well-known risks entailed by translation: the risk that imprecise or even wrong information will be conveyed to the user. Not to mention the residents are often held back in their efforts by the fear of not being fluent enough in a foreign language – this is often the case of Italian native speakers having to express themselves in English.

Secondly, local tourism operators may complain about or disagree with the not necessarily positive comments and feedbacks posted by residents and tourists. An unfavourable opinion on a particular hotel, for example, can generate conflicts between the hotel manager and the local DMOs, which is supposedly responsible for all platform contents – mashed-up social network pages included.

Thirdly, at the eyes of the tourism operators, the selection of the sources and contents to be combined and integrated into the platform will always benefit some stakeholders more than others or even at the expense of others – that is to say, smaller associations might feel excluded in the same way as some and private tourism operators might feel bothered by the additional visibility given to non-tourism operators.

It must be said that most of these implementation issues will only be tackled once the platform has been officially launched. Before then, what is critical to the success or failure of this web-based experiment, and therefore well worth immediate consideration, is the actual and full collaboration between local tourism stakeholders. No wonder that if the local DMO decide by themselves which sources to integrate and which not, prior to any consultations, this will most certainly create tension among the other stakeholders and distract their attention from the overall picture. In facts, the Web 2.0 platform is not quite an autonomous coordination mechanism. Quite the opposite: it was conceived as a support tool for DMOs, that should, in turn,
hold regular talks with all local stakeholders and select the contents following clear and solid eligibility criteria.

6. CONCLUSIONS

The paper illustrated the structure of an online platform that has been designed to assist DMOs in their efforts to coordinate the different categories of local tourism stakeholders.

Contrary to what happens in similar online promotion tools, though, in the case of the Web 2.0 platform contents are not created centrally: the information provided in the platform always results from the selection, combination, integration and editing of materials already published by the locals – public and private tourism actors or even residents – in a wide set of online sources – mainly web-pages and social networks. When efficiently implemented, this system can help optimise time and resources, with no need for a DMO to generate superfluous promotional materials.

At the same time, it is worth insisting on the supporting, back-up function of this online tool, which has to be seen as a precious information pool for DMOs rather than an autonomous coordination mechanism. That is the reason why the condition sine qua non for the whole system to work properly and make the difference in local tourism management is an actual, regular and full collaboration between all the local tourism stakeholders (see Literature Review section). In other words, the use of this new tool will have a positive impact on the tourism flows towards the area on the condition that all decisions concerning the platform are taken after consulting all the players involved. If this is not the case, the platform will have failed its mission.

On the basis of these remarks, the authors suggest further investigation into the subject, at both a practical and academic level. First and foremost, general implementation and assessment are required, in order to provide evidence of the feasibility and effectiveness of the project. Researchers could use the occasion to address the potential problems mentioned in the discussion section of the present paper, starting from the quality of the information; if need be, improved platforms could be designed and alternative or complementary solutions could be developed. From a more theoretical perspective, additional research should be eventually
conducted with regards to the role that Web 2.0 technologies can actually play in supporting local tourism governance. Indeed, it is the authors’ opinion that academic research so far has almost exclusively focused on the promotional benefits of ICTs as applied in the field of tourism. This paper shows that implications in terms of local decision-making and product development are worth analysing, too.

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**References**


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