Information Technology for Management and Promotion of Sustainable Cultural Tourism

Marija Valčić and Lana Domšić
College of Business and Management "B.A. Krčelić"
V. Novaka 23, 10240 Zaprešić, Croatia
E-mail: marija.valcic@vspu.hr, lana.domsic@vspu.hr

This paper suggests that many of the negative effects of globalization and inadequate tourism growth can be compensate by the use of intelligent ICT solutions in the development of heritage tourism. The encounter between cultural tourism and information and communication technologies represents an opportunity to preserve national culture, create partnership and enhance destinations value in information society. To this aim, we propose a model for local Destination Management Systems of heritage destinations (DMS) which could help to achieve a more globally responsible paradigm for the tourism industry and facilitate the management of destinations and the coordination of the local suppliers. DMSs provide interactive demonstrations of local amenities and attractions and enable consumers to build their own itinerary based on their interests and requirements. All the stakeholders within the destination are linked with each other in order to create collaborative action and a genuine, sustained growth in heritage tourism. An example is given of the Croatian World Heritages Sites and their status on the Web.

Povzetek: Predstavljene so informacijske tehnologije za podporo trajnostnemu turizmu.

1   Introduction

The globalization and changes in modern society represent both opportunity and threat for national cultures, heritage and identity. Cities and regions are losing their traditional heritage and keeping up with global trends and fashions rather than reviving local traditions, history and values. By doing so they become less attractive places to live, work, visit, and invest in. Therefore, economic development driven by international tourism, especially in smaller communities, may be short lived and have many negative effects.

The tourism industry, facing its everlasting dilemma of growth versus sustainability, can be regarded as contributing to critical trends in world development rather than an instrument of world peace and tolerance (as praised by international organizations like UNESCO). It is clear that the traditional approach pursued by the tourism business is in need of fundamental revision. The increased cultural diversity of today's world, together with the growing access to the heritage through the Internet, is likely to result in strong pressure for its fundamental restructuring. A technological link should be established between heritage and a sustainable tourism economy based on the cultural richness of places. Heritage should be considered as a bridge between the past and the future of a community, a reflection of founding values, history, and identity [3]. The cultural capital embodied in buildings, artefacts, sights, songs, and rites permits the transmission of the culture of a people through time and space. The heritage industry, small in size, information-intensive and creative provides a means to interact and to learn about host communities.

ICTs and Internet can favour the reconciliation of heritage and tourism, supporting a process of the empowerment of local stakeholders and of creative encounter between host and guest communities. This progress should support creativity, collaboration and appreciation of national and world heritage, taking into consideration the cultural and social capital that is necessary for sustainable community economic development.

2   Globalization and its Impacts on Tourism

Globalization has profound implications on competitiveness, trade and tourism policy. In an increasingly global and competitive market characterized by standardization, cultural crisis and pollution, tourism is today more than ever regarded as a "problem area," something to constrain and regulate, rather than a strategy to pursue cross-cultural integration across the world [3]. Technical progress in transportation has enhanced the physical accessibility of destinations, but this has not been matched by an equal increase in cultural access, the subjective capacity to recognize and attribute a value to the cultural features of the visited places.

There has been shift toward commercialization and short-term decision making at the expense of conserving cultural heritage and, most often, tourism development has resulted in increased strain from tourist pressure on host communities. It fails to contribute to the elevation of their economic status and shows to be a short-lived option for development. There are many negative effects of tourism for the socio-cultural environment of community: loss of identity and culture wich in many cases takes form of westernisation; modification of traditional art forms and culture (building, styles, systems, clothing, events); commodification of performances and ceremonies in order to appeal to tourists; environmental concerns, pollution and loss of natural and architectural heritage; seasonal and unstable jobs for locals.

For the area of heritage tourism, a new model is necessary that joins contributions from local institutions and private enterprises that are looking for ways to build on their existing potential, organizing them developing and enhancing local cultural assets, emphasizing the unique character of the place [3].

Information and communication technologies are developing and expanding extremely quickly and have a huge impact on tourism. Rapid advances in ICTs challenge the tourism and travel industry at many levels because they deeply affect the organization and governance of tourism and travel value chains and thus the economics of the industry [4]. The transition to an information society creates new opportunities and threats and offers individuals a range of choices to be eclectic. Both information technology experts and social scientists should show interest in these issues, because the long-term success of their field of inquiry depends largely on its ability to bring about integration at the host community level, enabling the public and private sectors to cooperate and use local resources for development efficiently.

3   ICT Solutions in Achieving Sustainable Heritage Tourism

A key challenge for the enhancement of cultural heritage is to bridge the different perspectives of how tourism organizations and service providers can present their cultural heritage in a way that appeals to the interests of the international tourism audience. The goal is to generate value from local knowledge and information and make it available to consumers worldwide: virtually, via the Internet, and direct physical access. The use of ICT is necessary and it involves various stages of the operation of the heritage industry like content creation and communication, value enhancement, and market strategy. A basic prerequisite for sustainable tourism is allowing individuals and communities an opportunity to be included and connected. There is a need to develop the aspects concerning the use and development of tools, technologies, and methodologies to facilitate the efficient networking of information and communication systems in tourism. Utilizing the ICT infrastructure, communities

are helped to become more strategic and entrepreneurial in managing their heritage [3].

New technologies can produce an essential contribution to tourism development. Cultural heritage tourism is increasingly depending on ICTs for purposes of promotion, distribution and delivery of products and services. It also provides a tool for communication between tourism suppliers, intermediaries and consumers. Web-based visitation is becoming commonplace as the tourism industry adopts networked interactive multimedia technologies. The adoption of Web technologies is affecting the ways that tourists become aware of destinations, the ways they select and experience destinations.[5] Multimedia is becoming one of key areas of development that influences tourism. Tourism information needs an extensive representation of photos and graphics in order to provide a tangible image or experience to travel planners. Using animations or video clips can enhance information richness and interaction [6].

E-Tourism is maturing fast as a mainstream distribution mechanism, therefore establishing Internet presence and e-commerce strategies will become critical for destinations to remain competitive. It is clear that cultural heritage is not well represented in existing e-destination platforms and e-tourism services. Establishing close links between the cultural heritage and ICTs is crucial to innovation in heritage destination management. Electronic reservation systems used in today's tourism industry are being transformed into integrated Destination Management System (DMS).

DMS is a set of available interactive digital information about the destination and its related products and services which provide "total tourism product" or "travel experience" [7].

It gives users an access to a comprehensive picture of a destination touristic product, through different channels and platforms, providing extensive information on destinations and attractions, as well as the ability to perform search and booking in real time. DMS also serves as a destination management tool, a tool for marketing and promotion, and support for small and independent providers of tourist services [8].

Furthermore, technological developments can be expected to lead to multichannel multimedia DMS

Figure 1: Destination Management System.

serving purposes not only of travel information distribution, planning, and fulfilment, but also of travel-related education and entertainment.

ICT also enables heritage sites to expand their activities in the geographical, marketing and operational sense and play a particularly important role in managing relationship with customers [9]. Much information about cultural heritage already exists in publicly available resources, but can also be incorporated into more structured promotional and educational programs and platforms. The objective is to provide e-content for travel planning and education. Technical partners need to be brought together with local tourism organizations to design and implement Internet sites and portals that will aggregate information and services related to the cultures of each host city in terms of historical perspective, architecture, landscape, fashion, cuisine, and public culture. This joint-venturing process needs to be actively stimulated and supported by the local and regional governments and other nongovernmental organizations, in particular in regions that are now "disconnected." A further feature would be to elicit comments from tourism clients that navigate these online materials as to how they could be improved. In this way, guidelines for evolutionary improvement can be obtained [3].

Web page of the site can be used in various ways and for different purposes including preservation, education and site management. It educates visitors about the site and need for its protection. It enables market segmentation and gives a costumer relevant information, contextualized and supplemented with history facts, stories and related objects and sites. Hypertext links can channel the different parts of the audience to different places on the page (for example, parts specifically designed for children. The sites often have limited space for exhibition and must choose the artefacts that will be exposed while the rest remain in storage. Unlike the real-space sites, web site virtual space is infinite and can be used to display objects that are not exposed at the site. Virtual visit allow access to the site for those audiences who have no possibility to travel to the destination and

thus the sites better meet its mission of enabling public access. A unique attribute of heritage consumption is that its benefits are experiential and may be divorced from the place itself [10].Virtual travel experiences are especially appropriate in the case of heritage sites in which physical visitation is discouraged in order to conserve the resource or is not possible for financial or other reasons.

Furthermore, Web sites play an important role in the creation of sustainable tourism. An essential element of sustainable development of cultural tourism is the behavior of visitors at the site. There are different channels for raising awareness. Quality of information about heritage encourages visitors to understand the characteristics of heritage and the need for its protection and helping visitors to enjoy the site appropriately. On the other hand, the promotion can significantly help in achieving financial and educational goals. Good presentation on the Internet can attract more visitors, if the site carrying capacity allows it. Then it increases the profit that can be used to fund educational activities, solve management problems and reach the goals and objectives of the site.

ITC solutions are not necessarily expensive for a heritage destination. Joining with other destinations in a common web page can significantly reduce costs and also better respond to customer needs. Typical heritage destination DMS should include interactive maps, 3D applications, virtual tours, online exhibitions, interactive learning resources, games and fun tools, online collections and databases, user communication, community aspects, personalization and online shops. It can be developed in the collaboration with educators, art historians, historians, artists, museum specialists, etc. It should also provide accommodation reservation and events bookings, personalized navigation, interactive maps, travel journey planner about local weather and public transport.

These identified e-Services can vary in their technological development, from some simple interactive structures to more complex interconnected e-services, not only using different media, but also linking and

WEB SITE FUNCTION	CONSERVATION	EDUCATION	DESTINATION MANAGEMENT
DESTINATION AWARENESS	Increases awarness to reduce negative impact	Supplements knowledge before, during and after the visit	Reduces staff's time answering the publics' questions
INFORMATION PROVISION	Opportunity to present conservasion message	Visitors can access the information they choose according to market segments	Site managers restrict access to fragile areas
INVENTORY AWARENESS	Using digital image instead of fragile artefacts	Shawcase entire inventory and relate with relevant context, stories, sites	Addresses accessibility issues and provides better capacity management
VIRTUAL TOURS	Restrict public from fragile areas	Provide edutainment, entertainment and education combined	Ensures every visitor sees the same reconstuction

Table 1: Heritage Web Site function (adapted from Buhalis, 2008).

displaying the different e-services together. These portals perform two functions. Firstly, they can be seen as a marketing tool that projects the region in perspective to the rest of the world. Secondly, by means of educating tourists about the prevailing culture of the region, a more satisfactory travel experience can be offered.

The value enhancement process is expected to produce a number of outcomes, which can be categorized as "guest satisfaction," "profitability," and "sustainability." These three categories result from the encounter of tourism demand with the supply of local culture. The centre of attention is still the tourist; yet he or she is no longer a passive participant in preconceived itineraries, but rather an aware, active player in the process of codetermination and reward of cross-cultural experiences. Guest satisfaction results from the intensity and quality of the cultural experience [3]. Satisfaction is also clearly connected with profitability, through the mediation of perception and commercial strategies—hence the importance of cooperation at different levels in destination marketing.

This kind of development should lead to more sustainable and responsible tourism that will be able to maximise economic benefit to local people and enhance their quality of life and at the same time build local pride and confidence. It will develop quality tourism products by supporting small and micro industries and involving local people in decision-making. Finally it will lead to promotion of understanding and better interaction between local people and tourists and promotion of ethical values common to humanity.

The main goals are to achieve eco-tourism on the basis of carrying capacity of the sites, respect to artistic, archeological and cultural heritage. Financial resources from tourism industry should be used for maintenance of sites and monuments, encouraging survival of traditional cultural products, crafts and folklore

4   Example of World Heritage Sites in Croatia

For the purposes of this paper we conducted a research of the Web presence of Croatian cultural heritage tourism based on UNESCO World Heritage sites, showing the heterogeneity of this segment of the travel industry and the diverse origins and forms of its presence on the Internet. The analysis showed that most of the destinations are largely invisible on the Web and few provide web-based access to travel planning services. The visibility of a World Heritage Sites on the Internet is key factor in their emergence as a virtual heritage destination that influences the actual physical visitation. The cultural heritage tourism sector in Croatia seems slow to adopt new technologies. There are a number of barriers such as the low level of cooperation between stakeholders, the lack of the strategic vision and business planning and the limited levels of understanding of the eTourism potential. This is affecting the presentation of the country on-line as there is currently no Destination Management System or a comprehensive portal that promotes cultural heritage destinations in Croatia.

World Heritage Sites (WHS) are considered to be the centrepiece of the global heritage tourism industry. The original purpose of designation as a WHS under UNESCO's Convention was to assist with management and preservation of the cultural heritage site and to encourage the development of management plans. However, it is believed to increase tourist visitation [11] and many WHS are becoming major cultural tourism attractions. The inclusion of heritage sites in the World Heritage List provides a powerful branding that helps to preserve and promote the destination and facilitate the development of their resources for tourism [12].

First of all, we wanted to see who puts the information about the Croatian World Heritage sites on the Internet, that is, who are participants in creating images of these heritage destinations. We used Google, currently the most common search engine on the Web, and the term "World Heritage Sites in Croatia" in both English and Croatian. We analysed the data collected from the first hundred pages that have appeared in Croatian and in English and we classified these pages in several categories of heritage tourism stakeholders. The result of the analysis is shown in percentages in the table below.

The analysis shows that the intermediaries have a predominate role in the dissemination of information on world heritage destinations in Croatia. Individual web sites offering information on WHS are set up by a wide variety of organizations with overlapping jurisdictions, including tour operators, national, regional and local organizations, and of course the operating agencies of the sites themselves. These actors are promoting destinations for different reasons, but their shared interest is to increase awareness of the WHS, although not necessarily to maximize physical visitation.

There are a major number of national tourism organizations web pages which are often devoted to their

Web Page	Search results In Croatian	Search results In English
Tour operators and agencies	16%	17%
Regional and local destinations	12%	2%
National portals, tourism associations and organizations	23%	15%
Media and publications	23%	9%
Events and conferences	2%	0%
Academic and educational sites (Universities, libraries, encyclopedias)	4%	10%
Social web (blogs, wikis, social networks)	4%	17%
Commercial service providers (hotels, restaurants, renting)	14%	10%
Individual attractions (sites, museums, monuments)	2%	0%
International tourism portals and on-line guides	0%	20%

Table 2: Composition of Heritage Tourism Web pages.

development plans, programs, and projects. There are also a large number of web pages of tourism and cultural web portals and various media. In second place we found, in almost equal proportion, local and regional tourist offices, tourist agencies and service providers that help promote the destination with the main goal to increase the number of visitors.

The biggest promoters of our heritage sites in English are different international portals and guides. A significantly large role has a social web where users themselves public information via blogs and social networks. An important fact is that only 2% of the web pages in Croatian and 0% of pages in English are dedicated to individual heritage sites, which means that the majority of destinations don't have their own websites. Also there is no major common web site devoted exclusively to World Heritage Sites in Croatia. The only two destinations that have their own web sites are Plitvice Lakes National Park and the Stari Grad Plain in Hvar. These two pages contain options in several languages, reservations systems, information on local weather and pictures or videos of the site. But they still lack a number of elements to become the real DMS.

To fulfill their function, these web pages will have to include elements such as internal search engines, information that allows easy organization of travel, references to local carriers, hotels, restaurants, activities and agendas of local events. Multilingual promotion is also necessary to position a site in specific travel markets.

The quality destination management system will depend, of course, on the maturity of a particular locality, the general awareness among the passengers of the heritage location brand and the degree of development of

Figure 2: Web page of Plitvice National Park, Croatia.

Figure 3: Web page of Stari Grad Plain in Hvar, Croatia.

heritage tourism industry and tourism products and services around the site. For example, Dubrovnik as a historic city already possesses a well developed tourism infrastructure, specialized service providers and additional cultural attractions. Only the technology infrastructure lacks to form a DMS. It is important that persons responsible for site management embrace ICT as an important and necessary element in fulfilling the tasks of protecting, the public presentation and communication of heritage sites.

5   Conclusion

Cultural tourism development currently presents some very definite unbalances. On one side, it depends on localized and hardly reproducible resources. On the other, it is governed by an industry that is increasingly both global in nature and disconnected from the sources of cultural capital. Like any industry, tourism needs profit and investment incentives to grow, but both commercial interests and government entities should work to achieve a reconciliation of the inherent conflict between heritage and tourism. The potential from tourist growth can only be fully exploited if both policy makers and businesses remove unnecessary structural barriers to growth, by capitalizing on the opportunities that are based on cultural heritage and identity [3]. In other words, a new strategy is required for developing cultural heritage as a viable economic sector. With time, there should be a change from the administered industrial economy to an entrepreneurial economy accompanying and institutionalizing the information society.

Heritage tourism is currently in the process of systematization of information, communication and multimedia as the means to achieve a competitive advantage and sustainability. Awareness and knowledge about a destination and perceptions about its quality and value are factors that influence the motivation of visitors and the selection of a destination. Destinations will gradually have to incorporate the online Destination Management System (DMS) that can improve promotion and management using integrated e-services. New Destination Management Systems can convey diverse, comprehensive and multimedia information on heritage destinations and surrounding products and services, and thus contribute to the destinations long-term competitiveness and sustainability.

In Croatia there are no DMSs at the national level or for the particular destinations, and cultural tourism in Croatia has not yet started to widely use information, communication and multimedia technologies. UNESCO sites are the main points of heritage tourism in Croatia. They don't have their own web pages, but are present at other web sites of special interests that provide limited information. The best solution would be a portal that would unite all destinations in one place and offer a complete information and experience as a base of heritage tourism. Collaborative networking should be established between all stakeholders and both the policy makers and the entrepreneurs should work together to

raise awareness of e-tourism through training and education.

References

[1] UNESCO. (2001). Message from the Director-General of UNESCO, Mr. K. Matsuura, at the Official Celebrations of World Tourism Day, September 27, 2001, on the theme: "Tourism, a tool for peace and dialogue among civilizations"[On-line document]; http://www.unesco.org/dialogue2001/en/dgtourism.htm

[2] Graham, B., Ashworth, G. J., and Tunbridge, J. E. (1998). A Geography of Heritage: Power, Culture and Economy. London.

[3] Go, F.M, Lee, R.M., and Russo, A.P. (2003). e-Heritage in the Globalizing Society: Enabling Cross-Cultural Engagement Through ICT. J. of IT & Tourism, 6(1), pp. 55-68.

[4] Buhalis, D. (1998). Strategic Use of Information Technologies in the Tourism Industry, Tourism Management, 19(5), pp. 409-421.

[5] Davis, A.,Prentice, R. (1995). Conceptualizing the Latent Visitor to Heritage Attractions, Tourism Management, 16(7), pp. 491 – 500.

[6] Buhalis, D. (2003). eTourism: Information Technology for Strategic Tourism Management, Pearson (Financial Times/Prentice Hall).

[7] Buhalis, D., Spada A. (2000). Destination Management Systems: Criteria for Success – an Exploratory Study. Information Technology and Tourism, 3, pp. 41-58.

[8] Frew, A.J. and Horan, P (2007). Destination Website Effectiveness – A Delphi Study-based on eMetric Approach, Proceedings of the Hospitality Information Technology Association Conference, HITA 07, Orlando, USA.

[9] Buhalis, D., Owen, R., Pletinckx, R. (2006). ICT applications for World Heritage Site Management, in Leask, A., & Fyall, A. Heritage Site Management, Butterworth-Heinemann, London, pp.125-144.

[10] Prentice, R., Duncan, L. (1994). Market-based Product Development in Heritage Tourism. Tourism Management, 15(1), pp. 27-36.

[11] Shackley, M. (1998). Visitor Management: Cases from World Heritage Sites. Oxford: Butterworth Heinmann.

[12] Drost, A. (1996). Developing Sustainable Tourism for World Heritage Sites. Annals of Tourism Research, 23(2), pp. 479-492.