

---

# *ICTS INTEGRATION INTO DESTINATION MARKETING ORGANIZATIONS (DMOS) TOURISM STRATEGY*

**Katsoni Vasiliki**

Assistant Professor

Dept. of Hospitality and Tourism Management

School of Business and Economics

Technological Education Institute of Athens, Greece

**Venetsanopoulou Maria**

Dept. Of Public Administration

Panteion University of Political and Social Sciences

Athens, Greece

## **ABSTRACT**

Given that the development of ICTs infrastructure and use has positive effects on economic growth and that tourism often acts as a driver of economic and social development, especially in developing areas, the exploitation of technology is critical for the tourism industry to achieve competitive advantage and to provide economic benefits for their locality, by reducing the asymmetric distribution of economic, political, and cultural capital globally. This study argues that the gap between the “ICTs – included” and “the ICTs-excluded” widens, further jeopardizing the social, cultural, and economic development at the global level; the consequently created digital divide may lead to digital

and social exclusion—when individuals, communities, and organizations are unable to fully participate in the network society and determine their own destiny. For tourists and destinations, this means being unable to participate in the emerging electronic market and benefit from arising opportunities.

The authors assert that in this newly evolving production environment the most efficient relationships are based on the creation of alliances, partnerships and networks among firms and that learning, collaboration, and the active sharing of online experience become extremely important in the process of knowledge creation. Only DMOs and other tourist stakeholders with an ability to learn quickly and to translate that learning into action rapidly will be able to gain competitive advantages in these high velocity marketplaces. Destination communities and regions rely on network formation (between businesses, between the private and public sectors) for the development of competitive tourist products. These can be attained through a number of mechanisms including mutual dependency and adaptation, discussion and negotiation, honesty, long-term commitment, quality control and shared knowledge. Networks may also be created and enhanced by the emergence of new information and communication technologies (ICTs). Virtual networks, which can be defined as permeable structures without physical borders of separation from the environment, comprising a multiplicity of autonomous, interdependent, and self-organizing actors that rely on the internet infrastructure to integrate and exchange value, are an example of these new concepts.

## **1. INTRODUCTION**

Over the last decade, investments in ICT in the tourism and hospitality industry have substantially increased. The challenge for the tourism operator is the provision of accurate, localised data, increasingly via ICT, whilst maintaining a trust relationship with the tourist. Developing destinations face increasing disadvantages in establishing links with their clientele, promoting their resources, distributing their products, and collaborating with industry partners, especially in high- and upper-digital access markets. This has considerable effects, as not only do they fail to fulfil their full potential and then to gain sufficient economic and socio cultural benefits but also they are unable to build their resources and expertise in order to improve their competitiveness and ensure their future prosperity.

ICTs have the potential to upgrade the quality of life by providing new tools for better access to information, knowledge management as well as sharing. A shift of power to the buyer is also evident in that the modern day tourist has ready access to the World Wide Web and a store of information. The tourist consumer has more choice when buying travel products also because of the options provided by on-line travel agents and direct marketing by airlines. Sterne, (1997) adds getting management support, assigning

responsibilities, establishing procedures, and setting standards against which the efforts are measured to this list.

In tourism, the ability of destination organizations and businesses to select, to aggregate, and to distribute information to the right consumer at the right time and in the right place is critical. ICT-skilled tourism enterprises and destination marketing organizations (DMOs) have huge opportunities to apply ICTs for communicating their offering, enhancing their visibility on the market and strengthening their competitiveness (Gretzel, Yuan, and Fesenmaier 2000; Buhalis 1998). Design, content, and production access can be achieved through appropriate training, which stimulates the development of specific skills and also trigger staff behavioural intention to use ICTs. In addition, institutional and governmental incentives can support businesses' decision to invest in innovative tools and applications.

The integration of IT into the organizational fabric of the destination marketing organization (DMO) is an important key to success. It is difficult for most DMOs, however, to keep pace with the evolution of new technologies, the emergence of innovative advertising strategies, the changes in the consumer market, and the growing competition due to increasing globalization. They often have to struggle with limited financial and human resources, a lack of technological expertise, and time constraints. The question of how to move from the current way of doing business to one that is responsive to these changes becomes a vital concern.

## **2. DIGITAL DIVIDE IN THE TOURISM INDUSTRY**

Many countries are having a two-tiered structure (Werthner, 1999) in which Tier 1 is made of a small number of large, often global, players, and Tier 2 is made up of a much larger collection of small and medium tourism enterprises (SMTEs). Larger players are well versed in current management practices, including information technology applications. Large enterprises are keen on facilitating the uptake of online technologies because they have a critical mass of infrastructure, personnel, and related experience to undertake this transition. These enterprises are generally high up the distribution chain and undertake a large percentage of their communication with other businesses in the chain; hence, they are primarily concerned with business-to-business applications for online technologies. They involve information exchange, inventory management, and alliance facilitation, like for example, association with Travelport, Sabre and Amadeus GDSs.

In contrast, Tier 2 enterprises have mostly limited technological infrastructure and financial power, the level of marketing know-how is generally low, and direct access to the market is limited and they tend to be located in regional and rural areas. Tourism businesses (especially small to medium enterprises (SMEs)) and DMOs with low use of ICTs are often cut off from electronic distribution channels and eCommerce (Buhalis and Kaldis, 2008; Collins, Buhalis, and Peters, 2003). Tourism destinations and SMEs in peripheral, low

digital- access regions are even more disadvantaged than their colleagues located in developed countries (Buhalis, 1998, 2003; UNCTAD 2004). Not only are they excluded from the considerable set of their prospective customers but they also struggle for access to expertise, capital, and technologies that could enable them to promote their products and develop suitable tools for attracting new markets (Minghetti and Buhalis, 2010). Their online presence often reflects the level of ICTs deployment in their own location rather than the expected level of use by their clientele, which often operates in high-ICT regions. These destinations and businesses have a high dependence on external traditional intermediaries (i.e., tour operators and incoming agents) to promote and sell their products (Bastakis, Buhalis, and Butler, 2004; Buhalis, 2000).

According to Warschauser (2004), "What is most important about ICTs is not so much the availability of a computing device or the Internet line, but rather people's ability to make use of that device and line to engage in meaningful social practices." Awareness of the functionality of the Internet, as well as resources and expertise necessary to take advantage of this functionality may be lacking, especially with respect to SMTEs. The nature of the Web provides new opportunities but also poses serious threats, especially to small tourism organizations. Naisbitt, (1994) refers to this phenomenon as the "global paradox." This ambiguous situation calls for risk taking and at the same time requires careful management. It is not clear that individual SMTEs are able to use this intelligence, or recognise its value. Information potentially available therefore is lost. Also infrastructure issues, such as access to broadband, may impede its use. Disparities in possessing, controlling, processing, communicating, and distributing information have a greater impact on tourism production and consumption than in other economic sectors. These disparities are determined by both the technological tools available to provide and distribute accurate information widely, and the ability to use these tools effectively (Minghetti and Buhalis, 2010).

Paradoxically, as technology progresses, the gap between the "ICTs – included" and "the ICTs-excluded" widens, further jeopardizing the social, cultural, and economic development at the global level. Highly developed tourism markets and destinations that systematically use and benefit from advanced computer-based and Internet applications will continue to strengthen their position and affect the evolution of the sector. Conversely, others who are able to use basic or simple electronic applications, or those that do not use them at all, will stay behind and be excluded from the first tear of the global tourism community. They will inevitably be more dependent on offline and online tour operators and travel agencies for putting their offerings forward to the marketplace.

Digital divide may lead to digital and social exclusion—when individuals, communities, and organizations are unable to fully participate in the network society and determine their own destiny (Selwyn, 2004). For tourists and destinations, this means being unable to participate in the emerging electronic market and benefit from arising opportunities. Recent

studies carried out in Thailand (Vatanasakdakul, Tibben and Cooper, 2004) and in the tourism sector (Cosh and Assenov, 2007) have shown that although the government has funded projects to improve ICTs infrastructure and widen Internet and e-Commerce functionalities, their use in firms is still very limited. The reason is that immediate social and cultural expectations of e-Commerce users in the country are not met by current technologies.

In addition, the high dependency of the local industry on external trade operators and, in the case of tourism, from intermediaries located in highly developed markets, does not give incentives to Thai travel agents to modify their business model. Local agencies generally show a lack of knowledge of e-Commerce and poor Web design capabilities (content management, security issues, etc.). Many of them also feel "that the online channel is already overpopulated, while they are already busy in satisfying physical customers" (Cosh and Assenov, 2007:499). Consequently, digital divide initiatives should be combined with development policies for tourism in order to support the welfare of destinations.

Although the diffusion of ICTs has a great potential for ensuring sustainable global and tourism development, especially in less developed areas (UNCTAD, 2004), disparities still exist in access, skills, use of ICTs, and services. Many infrastructural and above all knowledge barriers have to be overcome therefore to support a wide use. This also applies to the developed regions of the world, which face the challenge of ensuring that everybody has the opportunity to benefit from Internet services. (Minghetti and Buhalis, 2010).

### **3. USE OF INNOVATION SYSTEMS AND ICTS IN TOURIST DEVELOPMENT**

The innovation process thus demands a selective collection, use, and dissemination of information, as well as an intensive interaction among multiple actors. And so, innovation would seem to call for a systematic reorganization of how society and economies function, aiming to enhance the creation and development of social and economic networks, supported by trust and structured around the sharing of common interests, languages, and knowledge. Being able to integrate global knowledge and networks into local innovative processes is of crucial importance, and the existence of an absorptive capacity and learning atmosphere is therefore needed in a contemporary innovation system (Asheim and Isaksen, 2002).

ICTs are driving the innovation process by reducing distance and time constraints in inter-personal and inter-institutional contacts and by reducing the complexity of exchanging and acquiring information (Santinha, Castro, and Sobral, 2006). However, while it is important to acknowledge their important role, these technologies only play a part in enabling the many processes and relationships that characterize the patterns of socioeconomic development. An efficient use of ICT-based services demands the existence of dense

immaterial networks, related to social interactions that occur within and between places and socioeconomic activities, allowing in turn the constant production of innovation.

Innovative solutions are the key to the promotion of tourist regional development. Rapid developments in mobile telephony, cable, fibre-optics, and wireless applications as well as in the field of computer hardware and software products appear to offer excellent opportunities to tourism development. (Santinha and Castro, 2010; Batlle et al., 2009; Bell, 2008; Van der Meer and Van Winden, 2003). Numerous empirical studies of innovation systems and industrial districts indicate advantages in terms of adaptability and viability. As a consequence, single enterprises, when interlinked to collaborative relations, tend to be more shielded from the exposure to immediate competition (Markusen, 1996). However, the individual and collaborative actors in innovation systems need to address external pressures continuously, such as, for example, shifts in technological paradigms or changed regulatory environments (Hjalager, 2010). If innovations systems slide into a 'comfort' zone and lose their ability for rapid catch-up, their vulnerability may increase (OECD, 2006). This perspective is perhaps most important in environments with many small enterprises, as is the case in tourism. (Hjalager, 2010).

In the newly evolving production environment the most efficient relationships are based on the creation of alliances, partnerships and networks among firms (Castells, 2004). Destination communities and regions rely on network formation (between businesses, between the private and public sectors) for the development of competitive tourist products. These can be attained through a number of mechanisms including mutual dependency and adaptation, discussion and negotiation, honesty, long-term commitment, quality control and shared knowledge. Networks may also be created and enhanced by the emergence of new information and communication technologies (ICTs). Virtual networks, which can be defined as permeable structures without physical borders of separation from the environment, comprising a multiplicity of autonomous, interdependent, and self-organizing actors that rely on the internet infrastructure to integrate and exchange value, are an example of these new concepts (Romano, Eliva and Passiante, 2001; Pollock, 1998).

Tourist places have often been treated as more or less territorially bounded destinations with the focus laid on organizational and marketing strategies. The destination is seen as a 'container' of attractions and various facilities such as transport, accommodations and food and hence the tourism experience (Tinsley and Lynch, 2001). As a result, the complexities of tourism practices disappear behind dualistic categorizations; on the one hand are tourists, on the other tourist organizers working within destinations. However, the territorial model of industrial districts, where tourism networks are made of relations between fixed nodes in one-dimensional time-space and resting on the physical proximity of homogeneous actors, does not seem to be successfully implemented in tourism. (Bærenholdt et al., 2004). Studies based on this understanding of networks have shown

that tourism industries are rather weak in networking, at least in the same way as traditional production industries (Hjalager, 2000; Tinsley and Lynch, 2001). Instead, the concept of networks is in line with much of economic geography and innovation theory, which has focused on the significance of inter-firm relations and learning economies.

The apparent association of growth in regions and of industries with conspicuous networking activity has encouraged suggestions that successful tourism regional economies in the world economic system must be 'intelligent' or learning regions (Feldman, 1994). Networks are thus part of the dynamics of organizational creativity, directed towards building and maintaining competitive links to the global economy, and based on strengthening existing competitive activities (Hansen, 1992; Castells, 2004). At the same time, the sustainability of the industry may well be tied to creating effective alliances between the private and public sectors. Thus, networks become fundamentally based not on spatial proximity, or shared interests, but on notions of trust and reciprocity. The future competitiveness of destinations, and the development performance of tourism, will not simply depend on a destination's natural and cultural resource base, its ability to harness new technologies, or its depth of human capital.

In this challenge, four specific criteria must be taken into account: to guarantee an integrated vision of the tourism regional development strategy, to include initiatives that spread the advantages of using virtual platforms so that ideas can be replicated and new initiatives stimulated, to assure the collection and spread of tourism information concerning the productive system and firms' needs, and to facilitate the access to information and supporting services by tourism stakeholders (Santinha and Castro, 2010). Regional tourism initiatives are driven by the need to maximize marketing penetrations for the region and its product, facilitate the entry of local enterprises into e-commerce and demonstrate comprehensiveness of coverage of product in the region, whether or not individual products have independent online presence.

Recently, in many countries, has emerged the need to establish a resource centre to develop education, training, and projects' facilitation, to support the move to online tourism business practices. The responsibilities of the National Online Tourism Resource Centre could include:

- maintaining a resource directory, including a directory of high-standard examples, to be accessed by industry for identifying opportunities and impediments to the uptake of online technologies;
- assisting industry associations to promote online technology among their members, including organizing and conducting workshops;
- developing national competency standards in online technologies
- developing a set of guidelines for minimum infrastructure needs for online business practices;

- monitoring and providing information about tax and legal issues relating to online tourism initiatives; and
- undertaking applied research and data gathering about the most effective online strategies for SMTEs.

While the resource centre will be online, it will have to be supported by considerable offline activities in its initial phases.

Web 2.0 brings a second generation of opportunities for collaboration and information sharing based on web-based communities and hosted services. For tourism the benefits include enhanced information sharing between consumers and between business and consumers. The Web gives tourist firms and organisations the ability to reach highly motivated customers with information-rich messages at a negligible cost. Nevertheless, competitive advantage on the Internet will not be realized by applying existing marketing models but, rather, by developing innovative concepts. Integrated approaches that build on the advantages and capabilities of technology need to be translated into concrete innovative marketing actions. The Internet, Dogac, et al (2004) argues, enhances the level of collaboration between tourist operators and brings about greater levels of interoperability with internal and external applications, previously available to technologically advanced tourism stakeholders via proprietary systems.

#### **4. CONCLUSIONS**

The emergence of innovative Web-based technologies has led to a reconfiguration of the environment in which tourism business is conducted. These fundamental technological shifts have a profound impact on the perception, consumption and construction of tourism spaces, and their local development outcomes. 'Traditional' regional communities have new tools through which to disseminate their concerns, and may, via global networks, gain new 'community members' that can represent their interests around the world (Gurstein, 2000; Rheingold, 2000). As Zeldin (1994:467) notes, the Earth is being 'criss-crossed afresh by invisible threads uniting individuals who differ by all conventional criteria, but who are finding that they have aspirations in common'. Understanding these changes is crucial for creating a vision in the tourism organization that things are going to evolve.

Tourism leaders need to convince stakeholders to come along on this move toward innovative strategies, knowing that it will cost money, require a lot of training, and take time. The problem with many current online tourism strategies is that organizations try to fit everything into existing structures and models. The co-evolution of innovative Web based technologies and communication strategies will lead to a quantum change in the way business is conducted, from business to consumer, from business to business, and internally. Understanding the medium, the customer, the business, and partners seem to be the key variables for the successful integration of ICTs in regional tourist development.



Understanding usually comes from knowledge. Since no expertise is readily available, learning, collaboration, and the active sharing of online experience become extremely important in the process of knowledge creation. Only DMOs and other tourist stakeholders with an ability to learn quickly and to translate that learning into action rapidly will be able to gain competitive advantages in these high velocity marketplaces.

## REFERENCES

- Asheim, B.T. & A. Isaksen, (2002), "Regional innovation systems: The integration of local 'sticky' and global 'ubiquitous' knowledge", *The Journal of Technology Transfer*, 27(1), pp. 77-86.
- Bastakis, C., D. Buhalis, and R. Butler, (2004), "The Impact of Tour Operator's Power on Small and Medium Sized Tourism Accommodation Enterprises on the Mediterranean Islands." *Tourism Management*, 25 (2), pp. 151-70.
- Battle, J.,R. Calderon, and J. Lopez, (2009), "Local E-Government Bench-Learning Survey", Final Report of the EURO CITIES Working Group.
- Bell, R., (2008), "Can E-Government Make Communities More Competitive?" Intelligent Community Forum.
- Buhalis, D., (1998), "Strategic Use of Information Technologies in Tourism", *Tourism Management*, 19 (1), pp. 409-21.
- Buhalis, D., and K. Kaldis, (2008), "eEnabled Internet Distribution for Small and Medium Sized Hotels: The Case of Athens", *Tourism Recreation Research*, 33 (1), pp. 67-81.
- Collins, C., D. Buhalis, and M. Peters, (2003), "Enhancing Small Medium Tourism Enterprises' Business Performance through the Internet and E-learning Platforms", *Education & Training*, 45 (8/9), pp. 483-94.
- Cosh, K., and I. Assenov, (2007), "Reviewing the Use of Online Service by the Tourism Industry in an Emerging Market: The Case of Thailand", In *Information and Communication Technologies in Tourism*, edited by M. Sigala, L. Mich, and J. Murphy. New York: Springer, pp. 493-502.
- Dogac, A, Y. Kabak, G. Laleci, S. Sinir, A. Yildiz, S. Kirbas, & Y. Gurcan (2007), "Semantically Enriched Web Services for the Travel Industry", *SIGMOD Rec.*, vol. 33, no. 3, 2004, pp. 21-7.

- Feldman, M.P. & Florida, R., (1994), "The geographic sources of innovation: Technological infrastructure and product innovation in the United States", *Annals of the Association of American Geographers*, 84(2), pp. 210–229.
- Gretzel, U., Y. Yuan, and D. Fesenmaier, (2000), "Preparing for the New Economy: Advertising Strategies and Change in Destination Marketing", *Journal of Travel Research*, 39 (2), pp.146-56.
- Gurstein, M., (2000), "Community informatics: enabling community uses of information and communications technology". In *Community Informatics: Enabling Community Uses of Information and Communications Technologies*, ed. M. Gurstein, pp. 1–31. London: Idea Group.
- Hjalager A., (2010), "Regional Innovation Systems: The Case of Angling Tourism", *Tourism Geographies*, 12, 2, pp. 192-216.
- Markusen, A. (1996), "Sticky places in slippery space. Towards a typology of industrial districts," *Economic Geography*, 72(3), pp. 293–313.
- Minghetti, V. and D. Buhalis, (2010), "Digital Divide in Tourism", *Journal of Travel Research* 49,(3), pp. 267–281.
- Naisbitt, J., (1994), "*Global Paradox.*", New York: Avon.
- OECD, (2006), "*Innovation and Knowledge-intensive Service Activities*", Paris: OECD.
- Pollock, A., (1998), "Creating Intelligent Destinations for Wired Customers", Conference Proceedings In Information and Communication Technologies In Tourism, Istanbul, Turkey. Wein: Springer.
- Rheingold, H., (2000), "*The Virtual Community: Homesteading on the Electronic Frontier*", Boston: MIT Press.
- Romano, A., Eliva, V. and Passiante, G., (2001), "Creating Business Innovation Leadership – An Ongoing Experiment", *Edizioni Scientifiche Italiane*, Napoli.
- Santinha, G, and Eduardo Anselmo de Castro, (2010), "Creating More Intelligent Cities: The Role of ICT in Promoting Territorial Governance", *Journal of Urban Technology*, 17,2, pp. 77-98.
- Selwyn, N., (2004), "Reconsidering Political and Popular Understandings of the Digital Divide." *New Media Society*, 6 (3), pp. 341-62.
- Sterne, J., (1997), "*What Makes People Click: Advertising on the Web*", Indianapolis, IN: Que Corporation.
- United Nations Conference on Trade and Development (UNCTAD), (2004), "UNCTAD'S eTourism Initiative", Doc. TD(XI)/BP/6), 26 April.

van der Borg, J., V. Minghetti, and L. Riganti, (1997), "The Attitude of Small and Medium-Sized Tourist Enterprises towards Information and Telecommunication Technologies. The Case of Italy." In *Information and Communication Technologies in Tourism*, edited by A. Min Tjoa. New York: Springer, pp. 286-94.

Vatanasakdakul, S., W. Tibben, and J. Cooper, (2004), "What Prevents b2b eCommerce Adoption in Developing Countries? A Socio-Cultural Perspective", Proceedings of the 17th Bled eCommerce Conference, Bled, Slovenia, June 21-24.

Warschauser, M., (2004) "*Technology and Social Inclusion. Rethinking the Digital Divide*". Cambridge, MA: MIT Press.

Werthner, H & Klein, S, (1999a), "ICT and the changing landscape of global tourism distribution", *Electronic Markets*, vol. 9, no. 4, pp. 256-62.