

# Developing Regional Tourism Using Information Communications Technology

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## INTRODUCTION

Tourism and hospitality industries are heavily reliant on the effective exchange of information between suppliers, intermediaries, regulatory and marketing agencies, and consumers (Sheldon, 1999). Many technologies may be employed to facilitate this exchange, with the selection of the most appropriate technologies in any given circumstance depending on issues such as the proximity of agents; the extent to which information is dynamic; and the application of information as part of business or decision-making processes.

In regional tourism [i.e., that which occurs outside major capital cities, domestic source markets, or international tourism gateways (Kelly, 2003)], suppliers, intermediaries, facilitators, and consumers are likely to be highly dispersed (Carson, Sharma, & Waller, 2003). Information is likely to be dynamic, as tourists respond to seasonal changes in product offerings. A lack of critical mass of products and consumers in regional areas (Carson, Richards, & Rose, 2004) heightens the importance of effective information exchange, as businesses have fewer opportunities to draw on local markets to make up for any market instability that may result from poor communication.

Information and communications technologies (ICT) and, specifically, online technologies, offer potential for improving communication effectiveness, which may be defined to include accuracy, reliability, timeliness, and accessibility of information exchange (Carson & Sharma, 2002). While these technologies may be employed by businesses operating in regional destinations, it is important to recognize that regional destinations tend to operate as tourism systems (Leiper, 1995), with close connections between organisations in the private, public, and community sectors required to take advantage of the economic, social, and environmental benefits of tourism while minimizing the negative consequences. As an ICT issue, then, the question is not simply how can tourism businesses best employ the technologies for their individual sustainability, but how can regional tourism systems as a whole effectively employ ICT (Carson & Richards, 2004)?

Despite the substantial potential, and the growing role played by ICT (particularly online technologies) in the regional tourism destination development, Alford

(2004) provided strong evidence that many systems have failed to meet expectations. Project costs, particularly in the implementation phase, have been poorly assessed, and there has been a high rate of project failure. Alford suggests that technology-driven approaches to decision making have a poor record of success and proposes the use of critical theory to increase the understanding of ICT issues. This approach recognizes that technology inevitably interacts with “the real world” and that real-world constraints are more important to the outcome of technology projects than their technical merits.

This article is concerned with proposing a framework that may assist regional tourism destinations to incorporate some real-world thinking in making decisions about what types of ICT to implement and support. It also describes some of the broad international trends in ICT and tourism that may influence the adoption of technology. The article is based on a five-year research program in Australia that has included case studies of technology adoption by a variety of organisations that participate in regional tourism systems in Australia (see, for example, Carson, Taylor, & Richards, 2003; Carson, Sharma, & Waller, 2003; Sharma & Carson, 2002), and a review of the international literature addressing tourism and ICT adoption generally. The article argues from the standpoint that regional tourism systems and their component organisations need to make careful decisions about what technologies to implement, and how these may best be employed. Furthermore, substantial barriers to technology adoption persist in many regional areas, and these will need to be addressed to allow tourism to reach its potential as an economic driver, particularly in developing countries and depressed rural economies (Kelly, 2002).

## A FRAMEWORK FOR REGIONAL TOURISM TO EMPLOY ICT

Throughout the late 1980s, researchers such as Buhalis (1998, 1997), Sheldon (1999), and Werthner and Klein (1999) suggested that ICT and, in particular, online technologies, would become more widely depended upon by tourism businesses, consumers, and intermediaries to manage relationships between these agents. ICT may

therefore facilitate relationships between business and consumer, business and business, and business and government. There are additional relationships between government and government and consumer and consumer (for example, chat rooms) that have been facilitated by ICT but are not considered in this paper. Likewise, consumer and government relationships have been enhanced through initiatives such as Australia's Electronic Travel Authority System, which allows for online processing of visa applications for many international visitors (Sustainable Tourism Cooperative Research Centre, 1999).

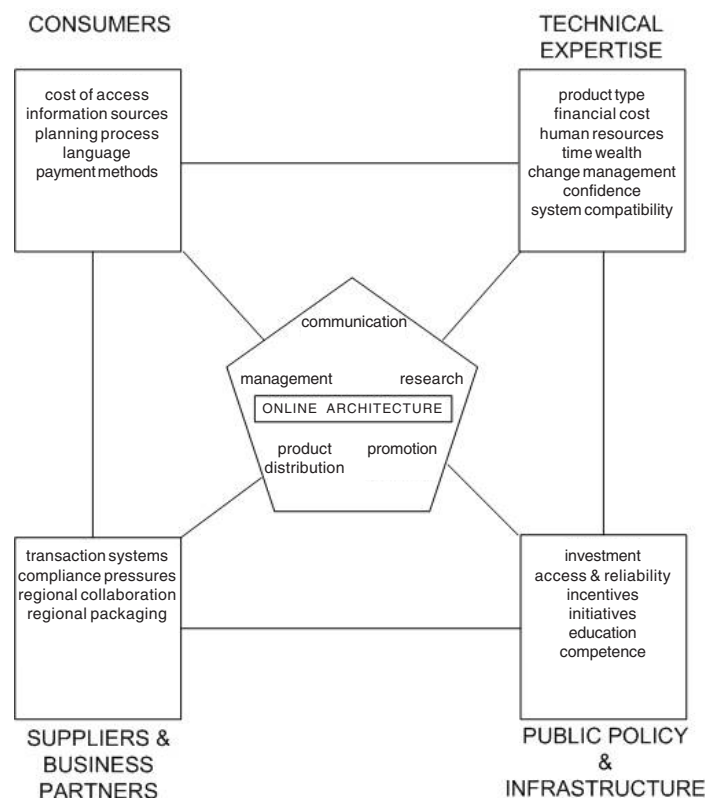
Carson and Sharma (2001, p. 121) proposed an online architecture as a guide for tourism businesses in assessing their ICT needs, and then matching tools and applications to those needs. The online architecture suggests that organisations (primarily, but not exclusively, private firms) need to consider their information exchange needs in relation to communication, research, promotion, product distribution, and management functions. The online architecture emphasizes that technology can only be effective if its use enhances the ability to perform business functions. The best technology is not necessarily that which is newest to market or that which contains the greatest number of features. The best technology is that which most closely matches the business needs of the

purchasing agent. The online architecture provides a framework for assessing that match.

Figure 1 is a refinement of the online architecture proposed by Carson and Sharma (2001). It encompasses the five components of technology application described by Carson and Sharma, and also includes a set of influences on the specific technology mix for an enterprise or, in the context of this article, a destination. Four influences are identified as being consumers, technical expertise, public policy and infrastructure, and suppliers and business partners. Within each influence are conditions that act upon the capacity for regions to choose an online architecture. Conditions may include financial, human, and time costs (technical expertise), public investment and access to infrastructure, the nature of regional collaboration, as well as the preferences of consumers.

It may not be that each of the four influences described in Figure 1 have equal weight in implementation of a regional online architecture. Some of the conditions (for example, access to adequate infrastructure) may be prerequisite, while others (such as the compatibility of online systems of business operation with offline systems) may exert degrees of influence. While the framework in Figure 1 may assist regions in scoping their general online architecture requirements, decisions about specific tech-

*Figure 1. Influences on the online architecture*



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