Research note

Evaluating the use of the Web for tourism marketing: a case study from New Zealand

Bill Doolin[a,*], Lois Burgess[b], Joan Cooper[c]

[a] Department of Management Systems, University of Waikato, Private Bag 3105, Hamilton, New Zealand
[b] School of Information Technology and Computer Science, University of Wollongong, Australia
[c] Faculty of Informatics, University of Wollongong, Australia

Abstract

The information-intensive nature of the tourism industry suggests an important role for the Internet and Web technology in the promotion and marketing of destinations. This paper uses the extended Model of Internet Commerce Adoption to evaluate the level of Web site development in New Zealand's Regional Tourism Organisations. The paper highlights the utility of using interactivity to measure the relative maturity of tourism Web sites. © 2002 Elsevier Science Ltd. All rights reserved.

1. Introduction

Tourism is an unusual product, in that it exists only as information at the point of sale, and cannot be sampled before the purchase decision is made (WTO Business Council, 1999). The information-based nature of this product means that the Internet, which offers global reach and multimedia capability, is an increasingly important means of promoting and distributing tourism services (cf. Walle, 1996). The ease of use, interactivity and flexibility of Web-based interfaces suggests an allied and important role for World Wide Web technology in destination marketing, and indications are that tourism Web sites are constantly being made more interactive (Gretzel, Yuan, & Fesenmaier, 2000; Hanna & Millar, 1997; Marcussen, 1997; WTO Business Council, 1999).

Moving from simply broadcasting information to letting consumers interact with the Web site content allows the tourism organisation to engage consumers' interest and participation (increasing the likelihood that they will return to the site), to capture information about their preferences, and to use that information to provide personalised communication and services. The content of tourism destination Web sites is particularly important because it directly influences the perceived image of the destination and creates a virtual experience for the consumer. This experience is greatly enhanced when Web sites offer interactivity (Cano & Prentice, 1998; Gretzel et al., 2000).

The purpose of this paper is to present an approach for benchmarking the relative maturity of Web sites used in the tourism industry. The approach involves applying an Internet commerce adoption metric developed by Burgess and Cooper (2000), the extended Model of Internet Commerce Adoption (eMICA). The eMICA model was used to evaluate the extent of Web site development in New Zealand's Regional Tourism Organisations (RTOs). The findings of the study contribute to a better understanding of the functionality used in regional tourism Web sites, and confirm the usefulness of the eMICA model for evaluating Web sites in industries such as tourism.

2. The extended model of Internet commerce adoption

Commercial Web site development typically begins simply and evolves over time with the addition of more functionality and complexity as firms gain experience with Internet technologies (Poon & Swatman, 1999; Van Slyke, 2000). The eMICA model developed by Burgess and Cooper (2000) is based on this concept. The eMICA model consists of three stages, incorporating three levels of business process—Web-based *promotion*, *provision* of information and services, and transaction *processing*. The three levels of business processes are similar to those

*Corresponding author. Tel.: +64-7-858-5021; fax: +64-7-838-4270.

E-mail addresses: wrd@waikato.ac.nz (B. Doolin), lois_burgess@uow.edu.au (L. Burgess), joan_cooper@uow.edu.au (J. Cooper).

Table 1
The extended model of Internet Commerce Adoption (eMICA); adapted from Burgess and Cooper (2000)

EMICA	Examples of functionality
Stage 1—promotion	
Layer 1—basic information	Company name, physical address and contact details, area of business
Layer 2—rich information	Annual report, email contact, information on company activities
Stage 2—provision	
Layer 1—low interactivity	Basic product catalogue, hyperlinks to further information, online enquiry form
Layer 2—medium interactivity	Higher-level product catalogues, customer support (e.g., FAQs, sitemaps), industry-specific value-added features
Layer 3—high interactivity	Chat room, discussion forum, multimedia, newsletters or updates by email
Stage 3—processing	Secure online transactions, order status and tracking, interaction with corporate servers

proposed by Ho (1997) and Liu, Arnett, Capella, and Beatty (1997). The stages of development provide a roadmap that indicates where a business or industry sector is in its development of Internet commerce applications.

As sites move through the stages of development from inception (promotion) through consolidation (provision) to maturity (processing), layers of complexity and functionality are added to the site. This addition of layers is synonymous with the business moving from a static Internet presence through increasing levels of interactivity to a dynamic site incorporating value chain integration and innovative applications to add value through information management and rich functionality (Timmers, 1998). In order to accommodate the wide range of Internet commerce development evidenced in industries such as tourism, eMICA incorporates a number of additional layers of complexity, ranging from very simple to highly sophisticated, within the identified main stages of the model. The eMICA model is summarised in Table 1.

In order to evaluate the usefulness of the eMICA model for benchmarking Web site development in tourism marketing, the model was applied to 26 RTOs in New Zealand. RTOs are geographically based destination marketing organisations that form an important layer between central government and the local tourism industry, potentially providing a coordinated marketing effort and acting as a portal for visitor access to tourism operators and service providers. New Zealand's "Tourism Strategy 2010" envisages RTOs taking an enhanced role in domestic and international marketing, destination management, regional tourism planning and development, and facilitating provision of services to tourism operators in the near future (Tourism Strategy Group, 2001). It is estimated that the aggregate budget of all RTOs is approximately NZ\$25 million, although staffing and resources varies widely given their dependence on support from the local authorities and private sector in their region (Ryan, 2001; cf. Gretzel et al., 2000).

All 26 New Zealand RTOs have established a Web presence, and a list of the RTOs with links to their Web sites was obtained from the Tourism Industry Association of New Zealand's Web site (http://www.tianz.org.nz/tia/tia01.htm#rto). Each RTO link was verified, and the 26 Web sites were evaluated during May 2001. Each site was examined in detail and the various functions performed by the site were noted in a spreadsheet file. The functions and features across all the sites were then grouped according to their level of interactivity and sophistication. This resulted in some 14 levels of functionality, from basic to full electronic commerce. Each RTO site was matched against this ordered list, the results of which are shown in Fig. 1.

3. Evaluating the results

Each RTO site was assigned an appropriate stage and layer in the eMICA model based on the level of development of the site. The resulting data set was checked against the Australian regional tourism sites studied by Burgess and Cooper (2000), to maintain comparability of the results. A site needed to display functionality up to at least level 4 to be classified as Stage 2 of eMICA. Sites reaching level 8 functionality were classified as Stage 2, Layer 2, and those reaching level 11 functionality were classified as Stage 2, Layer 3. To be classified as Stage 3 of eMICA, a site required functionality at level 14. The results of the New Zealand study are shown in Table 2, together with the equivalent figures from the Australian study (of 188 identified Australian RTO sites, Burgess and Cooper were able to evaluate 145).

The majority of the New Zealand RTO sites were developed to Stage 2 of eMICA, and incorporated the standard functional attributes of the first stage of development, such as email contact details, the use of photographic images, and a description of regional tourism features. However, the level of functionality and sophistication varied greatly across the three levels
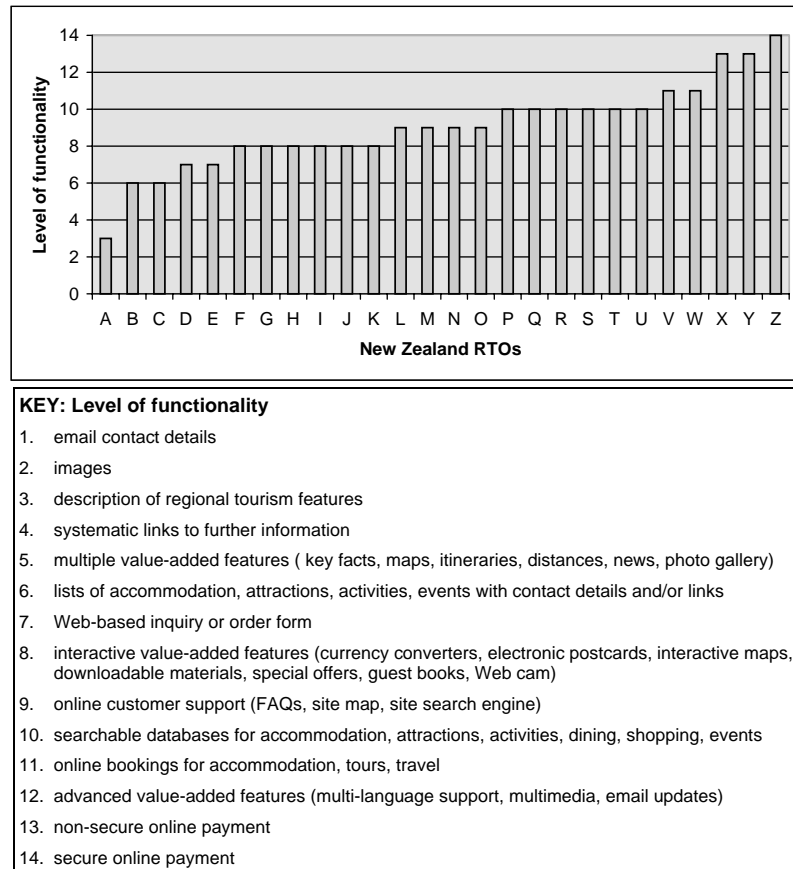
KEY: Level of functionality

1. email contact details
2. images
3. description of regional tourism features
4. systematic links to further information
5. multiple value-added features (key facts, maps, itineraries, distances, news, photo gallery)
6. lists of accommodation, attractions, activities, events with contact details and/or links
7. Web-based inquiry or order form
8. interactive value-added features (currency converters, electronic postcards, interactive maps, downloadable materials, special offers, guest books, Web cam)
9. online customer support (FAQs, site map, site search engine)
10. searchable databases for accommodation, attractions, activities, dining, shopping, events
11. online bookings for accommodation, tours, travel
12. advanced value-added features (multi-language support, multimedia, email updates)
13. non-secure online payment
14. secure online payment

Fig. 1. Functionality of 26 New Zealand Regional Tourism Organisations.

Table 2
Results of the New Zealand RTO sites evaluated

Stage of eMICA	Number of sites	% of total sites	% of Australian sites evaluated by Burgess and Cooper (2000)
Stage 1			
Layer 1	0	0	4.1
Layer 2	1	3.8	4.1
Stage 2			
Layer 1	8	30.8	36.6
Layer 2	12	46.2	40.0
Layer 3	4	15.4	15.2
Stage 3	1	3.8	0.7
Total	26	100	100

comprising this second stage of development, as discussed below. One RTO site was categorised as developed to Stage 1, Layer 2 of eMICA. This site was basically a single-page description of regional tourism features, but displayed limited evidence of higher interactivity in the form of a small number of unorganised links to external sites and maps. At the other end of the model, only one of the sites evaluated was developed to Stage 3, with the capability of offering secure online credit card payment for accommodation and travel bookings.

The major differentiation in the New Zealand RTO sites lay within Stage 2 of the eMICA model. Those sites located within the first layer of Stage 2 had some form of navigation structure such as buttons with links to different parts of the site. They had numerous internal and external links to further information, and incorporated value-added features characteristic of the tourism industry such as key facts (on location, climate, weather and services), maps, itineraries, news and media releases, and a photo gallery. Often, there would also be a more interactive feature such as a currency converter or a Web-based contact form. These sites also contained information on accommodation, attractions, activities and events in the region, usually in the form of a list organised by category and with contact details and/or links to the third-party operator (where available). Some of these lists appeared to be database-driven using technology such as "active server pages" (ASP).

At Layer 2 of Stage 2, the value-added tourism features became increasingly interactive, and included

electronic postcards, interactive maps, downloadable materials, special offers, guest books, and the use of Web cams. Sites at this layer incorporated some form of online customer support, such as FAQs, a site map or an internal site search engine. User interaction also included the use of Web-based enquiry or order forms. Information on accommodation, attractions, activities, dining, shopping, and events was provided via searchable databases, with searches available by type and/or location within the region. As sites progressed to Layer 3, the key feature was the facility to accept online bookings for accommodation, tours and travel. Two of these sites offered non-secure online payment of booking deposits by credit card. One of the sites had advanced value-added features that included multi-language support, multimedia, newsletter updates by email, streaming video, and a QuickTime virtual tour.

Comparing the results of the New Zealand RTO Web site evaluations with the Australian study, we find a good level of consistency. In both cases, most of the organisations in this industry sector are at a relatively advanced stage of adoption of Internet commerce. The majority have incorporated various levels of functionality consistent with the three layers identified at Stage 2 of eMICA. This is consistent with the focus of this industry sector on tourism promotion and the provision of information and services that enable potential tourists to the regions to make informed travel decisions and choices.

4. Discussion

The New Zealand RTOs generally displayed moderate to high levels of interactivity, consistent with their role in providing comprehensive destination marketing for geographic regions in which many local tourism operators lack an Internet presence. The eMICA model uses interactivity as the primary means of establishing the various stages of Internet commerce adoption, and this study confirms the usefulness of distinguishing tourism Web sites on the basis of the level of interactivity they offer to the consumer of tourism information and services. The results of the study suggest that in the tourism industry, major milestones in Internet commerce development are:

(1) Moving beyond a basic Web page with an email contact, to providing links to value-added tourism information and the use of Web-based forms for customer interaction.
(2) Offering opportunities for the consumer to interact with the Web site through (a) value-added features such as sending electronic postcards or recording their experiences and reading others' experiences in Web-based guest books, and (b) the provision of

online customer support via internal site search engines and searchable databases.
(3) The beginnings of Internet commerce transactions with the acceptance of online bookings for accommodation, travel, and other tourism services.
(4) Full adoption of Internet commerce, where consumers are able to complete transactions online through secure Internet channels.

Only one of the New Zealand RTO sites displayed interactivity at this last transactional level. Perhaps, as Burgess and Cooper (2000) note, this is not an unusual finding, given that the organisations in this industry sector are in the business of promoting regions and their unique features and offerings primarily through the provision of value-added information and services. Further adoption of Internet commerce is likely to depend on the future role taken by RTOs in New Zealand (Tourism Strategy Group, 2001). However, this development may well occur on the supply side in facilitating the provision of services to tourism operators in their region, or in coordinating efforts between alliances of RTOs with perceived common interests. This would involve the deployment of more sophisticated Internet and Web technologies, such as intranets, extranets, electronic marketplaces and even mobile portals, consistent with the shift in emphasis from business-to-consumer electronic commerce to business-to-business electronic commerce observed in other sectors of the economy (Kalakota & Robinson, 2001).

The outcome of the research is a useful confirmation of the staged approach to development of Web sites proposed by the eMICA. Together with the levels of functionality of tourism Web sites identified in this study, the eMICA model offers a useful tool for individual organisations to evaluate and monitor over time their "Net-readiness". They also offer a way of assessing the development of the tourism industry in this area globally through comparative research on an international level. For example, the comparative results of the New Zealand and Australian studies suggest that RTOs in both countries are at a similar, relatively sophisticated stage of development on the Internet commerce roadmap.

References

Burgess, L., & Cooper, J. (2000) Extending the viability of MICA (Model of Internet Commerce Adoption) as a metric for explaining the process of business adoption of Internet commerce. *Paper presented at the International Conference on Telecommunications and Electronic Commerce*, Dallas, November.

Cano, V., & Prentice, R. (1998). Opportunities for endearment to place through electronic 'visiting': WWW homepages and the tourism promotion of Scotland. *Tourism Management*, 19(1), 67–73.

Gretzel, U., Yuan, Y.-L., & Fesenmaier, D. R. (2000). Preparing for the new economy: advertising strategies and change in destination marketing organizations. *Journal of Travel Research*, *39*, 146–156.

Hanna, J. R. P., & Millar, R. J. (1997). Promoting tourism on the Internet. *Tourism Management*, *18*(7), 469–470.

Ho, J. (1997). Evaluating the World Wide Web: A global study of commercial sites. *Journal of Computer Mediated Communication*, 3(1). Available at: http://www.ascusc.org/jcmc/vol3/issue1/ho.html.

Kalakota, R., & Robinson, M. (2001). *E-business 2.0: Roadmap for success*. Boston: Addison-Wesley.

Liu, C., Arnett, K. P., Capella, L., & Beatty, B. (1997). Web sites of Fortune 500 companies: facing customers through home pages. *Information and Management*, *31*(1), 335–345.

Marcussen, C. H. (1997). Marketing European tourism products via Internet/WWW. *Journal of Travel and Tourism Marketing*, *6*(3/4), 23–34.

Poon, S., & Swatman, P. M. C. (1999). xploratory study of small business Internet commerce issues. *Information and Management*, *35*(1), 9–18.

Ryan, C. (2001). The politics of promoting cities and regions: a case study of New Zealand's tourism organisations. Department of Tourism Management, University of Waikato, unpublished paper.

Timmers, P. (1998). Business models for electronic markets. *Electronic Markets*, *8*(2), 3–8.

Tourism Strategy Group. (2001). *New Zealand Tourism Strategy 2010*, Wellington: Office of Tourism and Sport. Available: http://www.otsp.govt.nz.

Van Slyke, C. (2000). The role of technology clusters in small business electronic commerce adoption. *Proceedings of the Fifth CollECTeR Conference on Electronic Commerce*, Brisbane, December (8 pp.).

Walle, A. H. (1996). Tourism and the Internet: opportunities for direct marketing. *Journal of Travel Research*, *35*, 72–77.

World Tourism Organization Business Council. (1999). Chapter 1: Introduction. In: *Marketing Tourism Destinations Online: Strategies for the Information Age*, Madrid: World Tourism Organization. Available at: http://www.world-tourism.org/isroot/wto/pdf/1133-1.pdf