Evaluating the Effectiveness of Destination Marketing Organisations' Websites: Evidence from China

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ABSTRACT

Despite the extensive use of the Internet as a marketing tool by Chinese destination marketing organisations (DMOs), few studies have been conducted to measure the effectiveness of Chinese DMOs' websites. This study attempted to fill the gap by constructing a conceptual website evaluation model consisting of five dimensions of information, communication, transaction, relationship and technical merit. The proposed framework was tested to evaluate the effectiveness of each of the dimensions of 31 Chinese Provincial Tourism Administrations' (PTAs) websites. The results indicated that overall, the PTAs in China were not using their websites effectively. Among the five dimensions, transaction and relationship dimensions were the weakest areas of Chinese PTAs' websites. Great variation exists in the website effectiveness among different provinces. Suggestions and implications were provided and discussed. Copyright © 2010 John Wiley & Sons, Ltd.

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INTRODUCTION

The information-intensive nature of the tourism industry dictates a pivotal role for the Internet in marketing- and promotion-related activities (Doolin *et al.*, 2002). The importance of the Internet in the tourism industry has greatly increased in recent years because of its ability to provide economical global accessibility, real-time information service, unique customisation capabilities and an unprecedented capacity to communicate with consumers (Bender, 1997; Feng *et al.*, 2003; Baloglu and Pekcan, 2006; Wang and Fesenmaier, 2006; Yuan *et al.*, 2006). In today's competitive tourist market, creating a website is no longer an option but a necessity for destination marketing organisations (DMOs). DMOs' websites have become an information gateway to their destinations (Choi *et al.*, 2007). In fact, most of the CEOs, presidents and directors of DMOs in the United States agreed that the Internet had the most significant impact on destination marketing in the past 15 years (Wang, 2008b). The web-based destination marketing system has been widely used as a distribution channel and marketing tool by DMOs (Anckar and Walden, 2001; Yuan *et al.*, 2003; Wang and Fesenmaier, 2006). However, utilising the Internet is no guarantee of successful marketing activities (Bell and Tang, 1998; Vrana and Zafiropoulos, 2006; Yuan *et al.*, 2006). Research suggests that DMOs' websites are often no more than electronic versions of their printed brochures. Marketing on the DMOs' websites is limited only to providing and distributing information (Özturan and Roney, 2004; Wang and Russo, 2007). Considering the maturity of the Internet users, it is not sufficient for DMOs to

simply put products or service information in their websites (Hudson and Lang, 2002; Wang, 2008a). To satisfy the Internet users with their online experience, DMOs must evaluate their websites periodically.

In China, the development of Internet commerce has great potential. By the end of June 2008, China had become the world's largest online market. It has been reported that there are 1 919 000 websites and 253 000 000 netizens in China (China National Network Information Center, 2008). The increasing number of online consumers offers both challenges and opportunities for the Chinese tourism industry. The World Tourism Organisation (WTO, 2000) estimated that by 2020, China will be the largest destination and the fourth largest tourism source of outbound travellers in the world. As a rising star of world tourism, the Chinese tourism industry has developed its online services and gained some experience. Tourism E-commerce in China has been studied with a focus on online marketing by hotels and travel agents. Little research is related to DMOs' activities, and research into the evaluation of Chinese DMOs' websites is scarce. This study attempts to fill the void by assessing all the websites of Chinese Provincial Tourism Administrations (PTAs). The objectives of this research are: (i) to present a five-dimension model to evaluate DMOs' website; (ii) to investigate the effectiveness of Chinese PTAs' websites using the five dimensions; and (iii) to compare the websites' effectiveness among different provinces. The findings of the study are expected to assist Chinese tourism administrative departments in understanding the current performance of PTAs' websites and in identifying major problems in future website development.

THEORETICAL FOUNDATIONS

DMOs in China

Destination marketing organisations are defined as organisations that have been established to promote a specific destination to potential travellers (Gartrell, 1988). Morrison *et al.* (1998) suggest five primary functions of a DMO: (i) economic driver; (ii) community marketer; (iii) industry coordinator; (iv) quasi-

public representative; and (v) builder of community pride. Geographically, DMOs generally fall into one of the following categories: (i) national tourism authorities/organisations; (ii) regional, provincial or state DMOs; and (iii) local DMOs who are responsible for management and marketing of tourism based on a smaller geographic area or city/town (WTO, 1999). Although provincial/state and local DMOs provide important travel information for travellers in their decision-making, much of the literature on DMOs focuses on the national and city level, and less attention has been given to the provincial/state and local DMOs (Feng *et al.*, 2003, Wang and Fesenmaier, 2007).

In China, each level of destination (national, provincial, municipal) has corresponding DMOs responsible for marketing the specific areas (Feng *et al.*, 2003). In other words, China National Tourism Administration (CNTA) markets China as a destination, Provincial Tourism Administrations (PTAs) market provinces and Municipal Tourism Administrations (MTAs) market cities. These DMOs have traditionally been government agencies. They are responsible for the following functions: (i) formulating and implementing tourism legislation, policy and business standard; (ii) developing tourism products and markets; (iii) presenting tourism image; (iv) conducting tourism research; (v) handling tourists' complaints and maintaining their legitimate interest; (vi) supervising tourism education and training; (vii) guiding local tourism administration; and (viii) organising the survey of tourism resources and tourism planning (CNTA, 2008). Moreover, the DMOs act as both leaders and mediators in their destinations to meet the needs of professionals, tour operators and individual visitors. PTAs in China are geographically and administratively based DMOs, which play a coordinating role between CNTA and MTAs. On the one hand, CNTA relies on the PTAs' support to implement tourism legislation and policy. On the other hand, it is through PTAs that MTAs obtain funding and guidance from CNTA.

In order to successfully market tourism products and services to a wider audience both at home and abroad, China initiated its Golden Travel Project in 2001, which aimed to deploy

a nationwide network for DMOs at all levels (CNTA, 2001). So far, all 31 PTAs have established a tourism website. However, Lu *et al.* (2002) find that these websites are a part of an e-government initiative and are not geared to business purposes. Many websites only provide basic and static information. Very few can perform online transactions. Feng *et al.* (2003) conclude that DMOs' websites in China are inferior to those in the USA in terms of marketing strategies and information. PTAs' websites in China target only browsers and do not pay enough attention to shoppers. In addition, most of the foreign language versions of the PTAs' websites are much simpler than their Chinese version counterparts.

Tourism website evaluation

Website development has a great impact on the success of online marketing activities (Wang, 2008b). With the increase of online travellers, more and more researchers and practitioners are trying to understand how to effectively build and assess tourism websites (Han and Mills, 2006). Website evaluation is needed because millions of dollars have been invested in the development, maintenance and advertising through web-based mechanisms (Tierney, 2000). Website evaluation helps organisations track the performance of their website over a period of time (Morrison *et al.*, 2004). Morrison *et al.* (2004) also suggested that website evaluations are necessary to facilitate continuous improvements and compare site performance against competitors and industry peers. In addition, the traditional way of measuring website performance through online sales are not applicable to DMOs, because many DMOs' websites do not have that function and generate little or no revenues (Tierney, 2000). Thus, it is essential to evaluate the current status of DMOs' websites and provide valuable input to the organisations.

Website evaluation studies for hospitality and tourism include airline (Benckendorff and Black, 2000; Law and Leung, 2000; Chu, 2001), hotel (Wan, 2002; Wong and Law, 2005; Law and Hsu, 2006), ski resort (Perdue, 2001), travel (Park, 2002; Cai *et al.*, 2004) and tourism organisations (Doolin *et al.*, 2002; Wöber, 2003;

So and Morrison, 2004; Myung *et al.*, 2005). In the Chinese context, most of the research has focused on the websites of hotels and travel agents (e.g. Limayem *et al.*, 2003; Yeung and Law, 2006), and DMOs' websites have not received enough attention (Feng, *et al.*, 2003; So and Morrison, 2004). There is no consensus on the website evaluation standard (Morrison *et al.*, 2004; Law and Bai, 2006). Scholars have used different approaches to evaluate tourism websites and a multitude of evaluation factors have been identified (Park and Gretzel, 2007). For instance, Morrison *et al.* (1999) identified four dimensions for hotel website evaluation; whereas, Wan (2002) mentioned three dimensions.

According to Law and Bai (2006), prior website evaluation studies can be categorised into either with or without user involvement. The first approach places more emphasis on website evaluation from the user's perspective. For example, Lee *et al.* (2008) presented a model of measuring user satisfaction with a trade show website and empirically tested it with trade show attendees. The second approach to evaluating websites involves expert judgments. For example, Rachman and Richins (1997) performed a content analysis of websites of New Zealand tour operators to determine their development status. Han and Mills (2006) developed a website evaluation tool called the online promotion evaluation instrument to examine 25 national tourism organisation websites worldwide.

DMOs' website evaluation

Research on the use of the Internet by DMOs in general is limited to date. The only few available studies pertaining to this area were mostly directed to DMOs' websites in the United States, leaving a huge void in research on DMOs' websites evaluation in the East Asia region, which the WTO (2000) has estimated will be the second largest region in international tourism by 2020. In the extant studies, different approaches have been applied, such as the modified Balanced Score Card (BSC) (Morrison *et al.*, 1999; Ismail *et al.*, 2002; Feng *et al.*, 2003; So and Morrison, 2004; Myung *et al.*, 2005), the extended Model of Internet Commerce Adoption (eMICA) (Doolin *et al.*, 2002),

and the Information, Communication, Transaction and Relationship (ICTR) model (Wang and Russo, 2007; Wang, 2008a; Wang, 2008b). The modified BSC approach suggests evaluating websites by using multidimensional factors. For example, Feng *et al.* (2003) applied the modified BSC approach to compare DMOs' websites between the USA and China. They assessed 30 US DMOs and 34 Chinese DMOs consisting of 16 PTAs and 18 MTAs. In their study, four dimensions including website marketing strategies, web page designs, marketing information and technical qualities were evaluated. However, the study only focused on the technical aspect of a website, falling short of clearly demonstrating what major functions DMOs' websites should possess (Wang and Russo, 2007). Doolin *et al.* (2002) used the eMICA to evaluate the level of website development in New Zealand's Regional Tourism Organisations. The eMICA consisted of three stages incorporating three levels of business process: web-based promotion, provision of information and services, and transaction processing. However, it should be noted that the development of the functions of commercial websites is not linear; rather, it tends to demonstrate a hierarchical structure progressing along with the level of sophistication and interactivity of each of the functions (Wang and Russo, 2007 p. 189). As sites move through the stages of development from promotion of a company through provision of consolidated information to processing of business transactions, layers of complexity and functionality are added to the site (Palmer and McCole, 2000). 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 (Palmer and McCole, 2000; Doolin *et al.*, 2002; Wang and Russo, 2007 p. 189). Furthermore, the model failed to recognise the importance of customer relationship management programme within the overall web marketing strategies. No matter what model is employed, websites should include the well-recognised key marketing principles of market segmentation, positioning and relationship building (Kotler *et al.*, 1999).

Wang and Russo (2007) argued in their study that a successful DMO's website depends on the integrative application of the following four components as its major function: (i) up-to-date and accurate destination information provision; (ii) effective and constant communication with consumers; (iii) reliable and seamless electronic transaction; and (iv) appropriate and sustainable relationship building programmes. Moreover, the relationships between the four functions are dynamic rather than static, and each of the components demonstrates a hierarchical level of technological sophistication and interactivity which implies that the successful deployment of a lower level application is the prerequisite of the effective implementation of its higher level application.

At the basic level, a DMO's website must provide tourists with timely and accurate information about the destination. Most people visit DMOs' websites for information. Today, consumers become more discerning and demanding, and in-depth presentation of information to assist travel decision-making is a key component in tourism marketing. Quality and efficiency of information provision are becoming a differentiating factor for destinations (Sheldon, 1994). Once the information function has been sufficiently implemented, DMOs should then consider the communication function, which involves all areas of promotion and marketing research. At this stage, email and contact information are distributed, allowing a direct exchange of information between the DMOs and consumers which paves the way for future relationship building. The transaction function enables DMOs to generate revenue for both internal use and external stakeholders. A secure and navigable online system is required for a successful transaction to occur. The relationship component is the core of this model, which is probably the most difficult to implement because of the technological expertise and knowledge base required (Wang & Russo, 2007). As the number of websites is growing rapidly and consumers' attention to websites is much scarcer than website content, more and more websites are feeling the pressure of drawing and retaining consumers' attention. 'Although traffic building is significant

to Web marketing success, a more critical managerial challenge for Web marketers is how to keep and maintain the traffic generated' (Wang & Fesenmaier, 2006, p.241). As obtaining new visitors becomes more difficult, maintaining current users and converting visitors to repeat customers become more valuable, because website loyalty dramatically lowers the cost of retaining website traffic (Hanson, 2000). In addition, while maintaining loyal customers, DMOs have more opportunity to communicate with them, to expose the DMOs' advertising and to increase the customers' level of involvement. In turn, this may afford the DMOs the opportunity to improve the level of loyalty from those customers. Hence, it is necessary for DMOs to establish effective customer relationship management programmes. Nevertheless, the ICTR model did not include any technical aspects of the website.

Different from the traditional marketing tool, website marketing is based on information technology. 'The technical quality directly influences the performance by not only retaining the characteristics of traditional tools, but also taking full advantage of this medium's unique characteristics' (Feng *et al.*, 2003, p.48). Thus, websites must be technically eligible. Moreover, as a marketing tool, websites must conform to well-accepted marketing principles, such as market segmentation and relationship marketing. 'The key to successful destination marketing efforts depends primarily upon the application and integration of provisions of destination information, communication mechanism, ecommerce deployment, and relationship building' (Wang and Russo, 2007, p.188). In other words, an effective DMO's website depends on an integration of technology and marketing principles. Therefore, a website should be evaluated on the following five dimensions: technical merit, information, communication, transaction and relationship (Figure 1). All the five dimensions interlink with each other. The central position of the technical merit dimension indicates that it directly affects the performance of the other four dimensions. That is, the function of the other four dimensions relies on the support of the technical merit dimension.
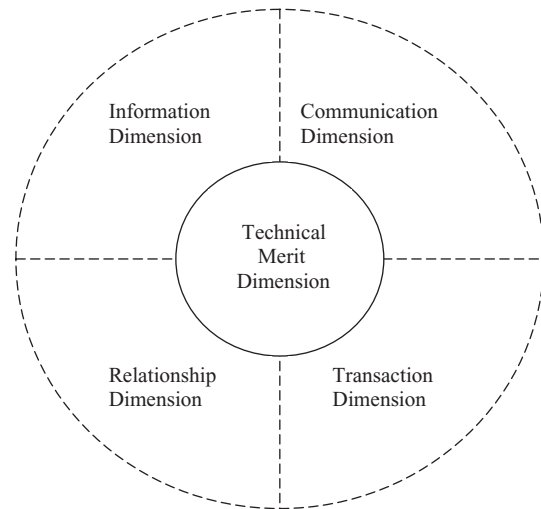

Figure 1. A conceptual model of destination marketing organisations' website evaluation.

METHODS

Development of an evaluation instrument

As proposed in the conceptual model, an effective DMO's website should be composed of five dimensions (i.e., technical merit, information, communication, transaction and relationship) and each of them contains multiple items. A list of items was identified for each of the five dimensions based on an extensive literature review mainly grounded in North American DMO website evaluation. Discerning the differences between the American DMO websites and their Chinese counterparts owing to differences in culture, business environment and e-commerce practices, the list was revised based on careful observations of Chinese PTAs' websites by the research team in order to make the items in the list more relevant to the Chinese context. A group of experts were then consulted to confirm the appropriateness of the list for each dimension. The expert panel was composed of three professors of Chinese origin (two of them are working in the US) who have been studying and teaching tourism marketing for many years and two professionals who have managed tourism websites in China for several years. Their review resulted in the identification of 48 items for the conceptual evaluation model consisting of 8 items for the

technical merit dimension, 18 items for the information dimension, 7 items for the communication dimension, 5 items for the transaction dimension and 10 items for the relationship dimension (Table 1). The results of their efforts were integrated into an evaluation instrument whereby the performance of each of the items in the five respective dimensions were measured on a 5-point Likert scale (1 = very poor, 5 = very good); 0 is recorded if the item does not exist.

However, it would be problematic if the performance results were aggregated and used directly as a measure of website effectiveness because the marketing function of each item was different. Some items would be more important than others in destination marketing efforts. In addition, variance exists in the degree of complexity of technology applications associated with the four marketing functions. The more important items with more complex applications should be given more weight compared with their less important and complex counterparts. As a solution, the importance and complexity of each item/application in the website were also taken into consideration in measuring the effectiveness of the website. The expert panel rated the relative importance of all 48 items in the five website evaluation dimensions on a 5-point Likert scale (1 = not important at all, 5 = very important). Further, the degree of complexity of the four marketing functions (i.e., 40 items in information, communication, transaction and relationship) was measured on a 5-point Likert scale (1 = not complex at all, 5 = very complex). The effectiveness score in each item of the four marketing functions was calculated by using the product of the rated value of performance, importance and complexity (i.e., effectiveness = performance × importance × complexity). As for the items in the technical merit, their effectiveness was determined only by the rated performance value and importance value. It is important to point out that from a marketing perspective, the three aspects of performance, importance and complexity associated with each of the applications should be taken into consideration when evaluating the effectiveness of Chinese PTAs' websites. For instance, if one website performs fairly well only in comparatively less important and less complex items, its overall effectiveness score should not be very high from the perspectives of overall marketing and resource allocation effectiveness. In comparison, websites implementing more important and complex applications should obtain high effectiveness scores.

Sampling and data collection procedures

To understand the effectiveness of Chinese PTAs' websites, this study includes all 31 mainland Chinese PTAs' websites. A list of the PTAs with links to their websites was obtained from the website of the China National Tourism Administration (http://www.cnta.gov.cn). Each site was examined in detail in December 2008. Sixteen evaluators assessed website performance using the evaluation instrument specifically designed for this study. The evaluators include the expert panel (three Chinese professors and two website practitioners) and 11 Chinese graduate students, who were from a prestigious tourism programme in the northwest of China, and all of them were native speakers of Chinese. They were all interested in research on tourism information system and had already taken several graduate classes on tourism and information technology. Therefore, they were relatively knowledgeable on the topic and were perceived as the best candidates to be expert evaluators.

RESULTS AND DISCUSSION

The aim of this study was to evaluate the effectiveness of Chinese PTAs' websites in each of the five areas of the proposed framework: information, communication, transaction, relationship and technical merit. Several procedures were applied to answer the research questions and the results are presented in the following sections.

Assessment of the effectiveness of PTAs' website functions

First, the effectiveness score of each item in each of the five dimensions shown in Table 1 demonstrated that Chinese PTAs were not effective in the use of most of the functions as scoring ranged from the highest score of 53.2 in attraction information to the lowest score of

Table 1. Importance, complexity, performance and effectiveness scores of Chinese Provincial Tourism Administrations' websites by item

Website items	Importance	Complexity	Performance	Effectiveness
Information dimension				
Attraction information	5.00	2.67	3.99	53.20
Activities information	5.00	3.00	3.54	53.17
Maps and directions	4.33	3.67	3.31	52.63
Destination background information	4.67	2.67	3.74	46.56
Themed products	4.00	3.00	3.69	44.25
Transportation information	4.33	2.67	3.65	42.12
Events calendar	4.00	3.33	3.13	41.72
Restaurant information	3.67	2.67	3.75	36.62
Travel guides/brochures	3.67	2.67	3.49	34.08
Travel agents	4.00	2.33	3.56	33.26
Accommodation information	3.67	2.33	3.88	33.19
Travel packages	3.33	3.00	3.06	30.64
Entertainment information	3.67	2.33	3.44	29.44
Local weather information	4.00	2.33	3.02	28.15
Shopping information	3.33	2.33	3.52	27.40
Travel tips	3.67	2.33	3.17	27.08
Trip/vacation planner	2.67	3.33	2.79	24.82
Linked to regional/city/area pages	3.33	2.00	3.57	23.77
Communication dimension				
Search function	4.00	3.67	3.36	49.23
Interactive communication tools	3.33	4.33	2.59	37.48
Online forum	4.00	3.67	2.55	37.43
Comment box	4.00	3.33	2.33	31.05
Online survey	3.00	4.00	2.17	26.03
Frequently asked questions	3.00	2.67	2.43	19.45
Email newsletter	3.33	3.00	1.48	14.76
Transaction dimension				
Online reservation	4.33	4.33	2.04	38.28
Secure transaction	4.00	4.67	1.70	31.79
Attraction tickets	4.00	4.67	1.69	31.54
Events tickets	3.67	4.67	1.60	27.39
Shopping carts	3.67	4.67	1.10	18.85
Relationship dimension				
Personalisation	4.00	4.67	3.02	56.46
Complaints handling	3.67	4.00	2.94	43.12
Best deals	4.00	2.67	3.71	39.61
Virtual tours	3.33	5.00	1.94	32.32
Cross-selling opportunities	3.33	4.33	2.01	29.07
Privacy policy	3.67	3.33	2.27	27.76
Special offers	4.00	3.33	1.99	26.56
Web seal certification	3.00	2.67	2.38	19.05
Customer loyalty programmes	3.00	4.33	1.21	15.79
Incentive programmes	3.33	3.67	1.23	15.00
Technical merit dimension				
Search engine recognition	4.33	N/A	3.46	15.01
Webpage design	4.33	N/A	3.44	14.91
Link check	4.00	N/A	3.67	14.69
Load time	4.00	N/A	3.61	14.43
Navigation	4.00	N/A	3.54	14.15
Visual appearance	4.00	N/A	3.37	13.46
Site map	3.33	N/A	2.97	9.89
Multiple languages	3.67	N/A	2.56	9.39

15.00 in incentive programmes in the four functional areas. For nearly all of the items in the five dimensions, the ratings for importance were always higher than the ratings on performance, and the difference in transaction dimension was the most prominent. The results indicated that there was always a gap between the importance of the functions and their actual performance. Therefore, measures have to be taken by Chinese PTAs to improve the performance of these applications. Further, the only five items whose rated performance was higher than importance were located in the information dimension. They were restaurant information, accommodation information, shopping information, links to regional/city/area pages and trip/vacation planner.

Second, a comparison of effectiveness was made for each of the items in each of the four marketing functions. The majority of the PTAs used their websites mainly for information provision rather than interactive activities. The transaction and relationship building functions were rather weak. The results indicated that Chinese PTAs were making limited use of their websites. As a matter of fact, Chinese DMOs used to be part of the government whose mandated charge was to supervise business operations in the tourism industry. Thus, DMOs did not compete for sales with other tourism suppliers within their own specific areas. In short, these effectiveness scores suggested that Chinese PTAs' websites are not effective as an online marketing tool and further improvements are needed in all five dimensions.

Comparison of PTAs websites effectiveness

Table 2 shows the comparison of the 31 Chinese PTAs' websites. There are variations among DMOs' websites in different provinces. The results indicated that Shanghai PTA had the highest score (39.25), followed by Yunnan PTA (34.73), Guizhou PTA (34.56) and Shandong PTA (34.20). However, Gansu PTA had the lowest score (24.41), followed by Heilongjiang (22.18) and Xinjiang (22.58). In addition, among the 14 PTAs whose effectiveness scores were above the average, half of them were located in the east of China. In comparison, 17 PTAs had relatively low effectiveness scores.

Table 2. Chinese Provincial Tourism Administrations' websites effectiveness score and ranking by province

Provinces	Website effectiveness	Rank
Shanghai	39.25	1
Yunnan	34.73	2
Guizhou	34.56	3
Shandong	34.20	4
Guangxi	34.15	5
Guangdong	34.03	6
Tianjing	33.58	7
Beijing	31.22	8
Shanxi	30.67	9
Ningxia	30.15	10
Hubei	30.04	11
Jiangsu	29.13	12
Xizang	29.10	13
Henan	28.22	14
Hainan	27.47	15
Fujian	27.21	16
Jilin	26.87	17
Sichuan	26.67	18
Zhejiang	26.34	19
Jiangxi	26.19	20
Anhui	26.03	21
Qinghai	24.51	22
Hebei	24.21	23
Chongqing	24.17	24
Liaoning	23.83	25
Shaanxi	23.65	26
Hunan	23.46	27
Neimenggu	23.41	28
Xinjiang	22.58	29
Heilongjiang	22.18	30
Gansu	21.41	31

Approximately 41% of them were located in the western part of China. Compared with their counterparts in the middle and western parts of China, PTAs in the eastern area utilised their websites more effectively.

Figure 2 shows the effectiveness differences in the dimensions of information, communication, transaction, relationship and technical merit for the 31 Chinese PTAs' websites. For the technical merit dimension, there was minimal difference among the 31 provinces. Bejing PTA had the highest effectiveness score of 16.73 while Jilin PTA obtained the lowest score of 10.83. Most PTAs' websites had
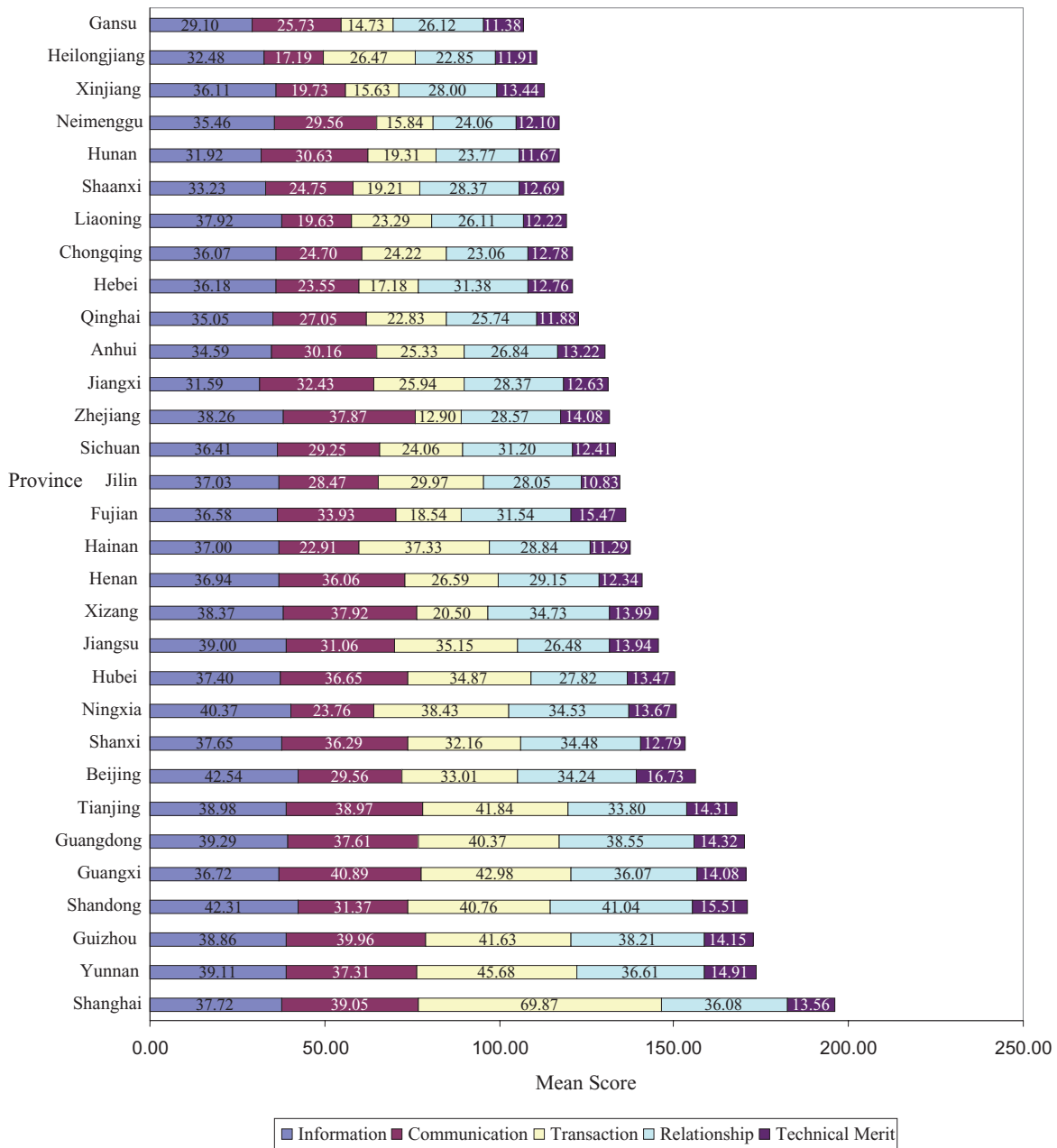
Figure 2. Chinese Provincial Tourism Administrations' website performance by dimension and province.

problems with the item of multiple languages. Nine PTAs' websites (29%) did not have multiple languages function at all. The rest of the PTAs' websites had the foreign language versions that were much simpler than the Chinese versions and provided only the basic information on destinations and tourism products. Thus, these foreign language versions of PTAs'

websites failed to meet the needs of international travellers. In addition, the item of site map posed a serious problem in the technical merit dimension. Nearly 55% of PTAs' websites did not provide a site map that could assist online travellers in understanding the structure of the website and searching for information more effectively. Although some

websites did have a site map, it was usually difficult to find because it was 'hidden' somewhere in the website. Further, many PTAs' websites had problems with visual appearance. The main pages of the PTAs' websites appeared very 'busy' and were loaded with an abundance of information. However, detailed information was lacking.

With regards to the information dimension, the website of Beijing PTA was again the most effective, providing rich and up-to-date information on activities, maps and directions, attractions, and event calendar. In fact, most Chinese PTAs' websites provided extensive information on attractions, activities, maps and directions, destination background, and themed products. However, they were lacking sufficient information linking them to regional/city/area pages, trip/vacation planner and travel tips. The website of Gansu PTA was the least effective because it lacked many information-related applications such as shopping information, entertainment information, etc.

For the communication dimension, there was a large variance among the 31 PTAs' websites. Guangxi PTA had the highest effectiveness score of 40.89; whereas, Heilongjiang PTA got the lowest score of 17.19. Most Chinese PTAs' websites did not use emails to distribute information or contact consumers. Further, the item of 'frequently asked questions' was neglected by many websites.

The transaction dimension was the least effective among the five dimensions. This was probably because of the fact that utilisation of this function was very complicated and required both internal technology expertise and external cooperation and support from industry and business. Out of the five transaction items, two of them (shopping carts and events tickets) could not be found in most websites. For example, shopping cart existed only in three websites (Guangxi, Guizhou and Shanghai). These results implied that Chinese PTAs did not focus on e-commerce transactions, which is consistent with the attitude shared by Chinese DMOs that PTA is a marketing organisation rather than a sales organisation. Additionally, the discrepancy among the 31 Chinese PTAs' websites was the most pronounced in the transaction dimension. Shanghai PTA obtained the highest score of

69.87; whereas, Zhejiang PTA had the lowest score of 12.90.

The effectiveness analysis for the relationship dimension raised some issues of concern. Building long-term relationships with customers through website marketing is one of the most important functions of a DMO (Wang and Russo, 2007). However, it has been largely misunderstood and ignored by many Chinese PTAs' websites. Most applications in this dimension could not be found in the PTAs websites, especially the items of 'customer loyalty programs,' 'incentive programs' and 'web seal certification.' Out of the 31 PTAs' websites, only two (Shandong and Henan) offered the function of 'customer loyalty programs.' The PTA website of Shandong ranked first in this category with an effectiveness score of 41.04, while Heilongjiang obtained the lowest score of 22.85.

CONCLUSION AND IMPLICATIONS

The internet is a commonly used marketing tool to promote an international destination to potential visitors at a distance in today's technology-driven fast-paced world. A destination marketing system is a convenient tool travellers use to learn about a destination. The websites of DMOs are not only an efficient marketing tool but also a system which provides service to tourists. Therefore, the websites of DMOs are extremely important because of their potential to attract more tourists to the destination and further enhance customer satisfaction.

Based on the notion that a DMO's website is an integration of technology and destination marketing principles, it is proposed in this study that a DMO's website should be evaluated on the five dimensions of technical merit, information, communication, transaction and relationship. Of the five dimensions, the technical merit dimension directly affects the performance of the other four dimensions, which work together to fulfil the marketing function of a website. The information dimension requires that DMOs' websites provide tourists with up-to-date and accurate destination and tourism product information. The communication dimension enables a direct exchange of information between the DMOs and consumers. The transaction dimension allows tourists

to shop electronically through DMOs' websites, which can generate revenue for DMOs. The relationship dimension functions as a tool of developing a long-term and win–win relationship between DMOs and consumers.

Overall, the results of this study indicated that Chinese PTAs are not using their websites effectively. It appeared that most of the PTAs are aware of the basic information that needs to be included in their websites and incorporate information related to attraction, activities and destination background. However, the results also suggested that Chinese PTAs did not offer sufficient information on their websites. For example, links to regional/city/area could not be found in many PTA websites. As an umbrella organisation that represents certain areas and serves the needs of all types of travellers to the area, a DMO should provide some links on their websites to guide tourists to information for the broader tourism destination. Though effectiveness was weak in the communication function, the transaction and relationship dimensions demonstrated the weakest areas of Chinese PTAs' websites. Only a few of them were able to implement the two functions. All the Chinese PTAs seemed to adopt the Internet as a marketing tool and established their own websites. However, because of their insufficient understanding of Internet marketing as well as their limited capability to integrate Internet technology, Chinese PTAs are still in the preliminary stages of website utilisation, incorporating relatively simple information-oriented functions into their websites, with only a limited number of sophisticated applications offered. For instance, most Chinese PTAs concentrate their web page efforts on disseminating information but ignore the application of email newsletters, which could be an efficient and effective means of information distribution. Email newsletters could also be used to conduct surveys, changing one-way communication into two-way or even multi-way communications. Nonetheless, most Chinese PTAs did not grasp the value of email newsletters and failed to offer this feature on their websites.

Furthermore, the results suggested that Chinese PTAs still view themselves as a marketing/management organisation rather than a sales organisation. Thus, they paid inade-

quate attention to online transaction and relationship building. As a matter of fact, with increasing competition, it is not sufficient for Chinese PTAs only to provide basic destination and tourism product information. More sophisticated marketing functions should be implemented by the PTAs. As a result, it is imperative for Chinese PTAs to expand their functions into product distribution and relationship management to provide a more balanced array of functionalities and satisfy the diverse needs of potential tourists. In addition to marketing functions, many non-marketing functions such as administrative information were identified on Chinese PTA websites. These include tourism legislation, policy documents, local tourism development, etc. It seems to suggest that a Chinese PTA is still a government agency. Therefore, greater attention has been paid to e-governance. In order to exploit marketing potential effectively, some PTAs such as Beijing and Shandong developed separate marketing websites and provided a link to the marketing websites on their administrative websites.

Provincial comparison in this study showed that each PTA's website had its own strengths and weaknesses. Among the 31 provinces, the overall score for Shanghai PTA was the highest; whereas, the Gansu PTA had the lowest score. Moreover, Beijing PTA achieved the highest score in both the technical merit and information dimensions; however, it ranked eighth overall among the 31 PTAs. In comparison, Shanghai PTA ranked first with the highest score in the transaction dimension. Actually, it was argued in this study that the effectiveness of DMOs' websites should rely not only on the number of the applications utilised but also on the degree of sophistication of these applications. The results supported the argument and suggested that Chinese PTAs should pay more attention to the quality rather than quantity of their Internet marketing features. Further, the results implied that PTAs in the east utilised their websites more effectively than those in the middle and western part of China. As mentioned before, developing and maintaining effective web-based marketing requires strong financial resources. Previous research also shows that adoption and use of technology requires large capital investment (Kennedy, 1983). Technology innovation is usually limited

by resources available to the organisation, especially the budget to support technology implementation (Wang, 2008a). Overall, provinces in eastern China are more developed economically than those in the middle and the west. Therefore, future research can investigate the relationship between the website effectiveness and the level of economic development or between the website effectiveness and the level of tourism industry development.

This study should be of interest to researchers as well as industry professionals by offering them a conceptual DMO website evaluation model integrating technology with marketing principles. The findings of the research enable managers of Chinese PTAs to understand how effective their websites are from the five dimensions of information, communication, transaction, relationship and technical merit. The results will assist PTA managers in judging website performance against competitors so that they have useful information to facilitate continuous improvement on their own websites.

This study took the approach of utilising experts for purposes of evaluation. It should be noted that people from PTAs can also be regarded as experts based on their working experience. Therefore, viewpoints from PTAs should be considered as well. Future studies can involve staff from PTAs as research participants to improve the validity and reliability of the evaluation model.

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