

Is Your Official State Tourism Website Effective? A Functional Perspective

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ABSTRACT

This study attempts to apply the ICTRT model proposed by Li and Wang (2010) to American context and assess the effectiveness of American Destination Marketing Organizations' (DMOs') websites from functional perspective, i.e., information, communication, transaction, relationship and technical merit. The objectives of the research are achieved by content analysis of all fifty official state tourism websites regarding the five functions by expert valuers. The results manifested State Tourism Offices' (STOs') inability to effectively adopt and manage information technology to support more sophisticated operations. Most STOs focused mainly on the information dimension. Applications at both the transaction and relationship dimensions are not being widely deployed. Suggestions and implications are provided and discussed.

Keywords: website evaluation, American State Tourism Offices, ICTRT model, destination marketing.

INTRODUCTION

Owing to the interactive ability to communicate with consumers, the Internet has become an important marketing tool in tourism industry (Buhalis, 2003; Wang, 2008a). According to a study by Ypartnership, 66% of US leisure travelers used the Internet to plan their travel in 2009, versus 35% in 2000 (Wilgen, 2009). Therefore, tourism organizations are increasingly developing websites to satisfy consumers' needs, and thereby achieve their business goals (Law, Qi, & Buhalis, 2010). However, due to different capacity of an organization to understand and transform the information and communication technology (Yuan, Gretzel, & Fesenmaier, 2006), not all the organizations are able to effectively integrate the Internet into their strategic marketing objectives. For example, destination marketing organizations (DMOs) have been increasingly criticized for their incompetence to adopt and manage Internet technology to business operations (Gretzel, Fesenmaier, Formica, & O'Leary, 2006; Wang and Russo, 2007).

Website evaluation can help organizations track the performance of their website over period of time, and thereby facilitate continuous improvements and comparison of site performance against competitors and industry peers (Morrison, Taylor, & Douglas, 2004). With the increasing change in technology environment and consumer taste, it is important that destination organizations evaluate their websites constantly with a standard and valid approach

over a certain period of time in order to make sure that the website serves its intended goals (Morrison *et al.*, 2004). The objectives of the research are (1) to evaluate the effectiveness of American State Tourism Offices' (STOs') websites; (2) to understand why and how some STOs use websites better than others. The results will not only be beneficial for American STOs, but also provide insight for destination marketers and tourism organizations in their Internet marketing efforts.

LITERATURE REVIEW

Internet as a marketing tool

Tourism industry is one of the major users of the Internet (Yuan, Gretzel, & Fesenmaier, 2003). Although the benefits brought by the Internet were acknowledged by researchers, there was lack of study on how best to employ it (e.g., Angehrn, 1997; Sigala, 2003). A literature review on theories or models on measuring the transformation of marketing activities on the Internet identified several models, such as the Internet value chain model (Cronin, 1995), the ICT (information, communication technologies) model (Zuboff, 1988), and the ICDT (information, communication, distribution and transaction) model (Angehrn, 1997). However, as time goes by, consumers change and technology progresses, accordingly some models became out of date and faded in memory. For instance, the Internet value chain model explains how to integrate the Internet in all marketing functions from pre-sales and sales activities to after sales services. It describes a variety of marketing activities whereby the Internet is being applied, but fails to illustrate the Internet's transformational impacts on marketing activities (Sigala, 2003; Zott, Amit, & Donlevy, 2000).

The ICT and ICDT models are both argued to be valuable tools for understanding the Internet marketing and measuring the degree and effectiveness of the Internet-induced marketing transformation (Sigala, 2003; Wen, Chen, & Hwang, 2001; Yuan *et al.*, 2003). The value of the two models is (1) in e-business environment, technology adoption by organizations is a dynamic and hierarchical process, moving from the low and simple level of basic use to the high and complex integration; (2) similarly, the impact of technology on organizations is accumulated continuously. The greater the level of sophistication, the greater the impact. In terms of website marketing, the development of a website is not a once-for-all practice. As websites grow from lower stages to higher stages, level of functionality and interactivity is added, and thereby the effectiveness of website is improved.

DMOs' website evaluation

At the destination level, destination marketing organizations (DMOs) such as convention and visitors bureaus (CVBs) are increasing their online presence (Wang & Russo, 2007; Yuan *et al.*, 2003). When choosing a vacation destination, US travelers start with search engines such as Google or Yahoo first (34%), and then visit DMOs' websites (23%) (Wilgen, 2009). Through their own websites, American CVBs can enhance service quality and, eventually customer satisfaction (Yuan *et al.*, 2003). As an effective and efficient way of communicating messages to stakeholders, the website enables American CVBs to overcome their traditional organization barriers and work better with their partners as cohesive rather than fragmented organizations

(Presenza, Sheehan, & Ritchie, 2005). In addition, the website allows CVBs to save money on printing and delivering paper-made brochures or advertising materials, which helps to reduce the pressure on their already limited budget (Feng, Morrison, & Ismail, 2003; Gretzel *et al.*, 2006).

In the extant studies on the use of the Internet by DMOs, different approaches have been applied, such as the modified Balanced Score Card (BSC) (Feng *et al.*, 2003; Ismail, Labropoulos, Mills, & Morrison, 2002; Morrison, Taylor, Morrison, & Morrison, 1999; Myung, Morrison, & Taylor, 2005; So & Morrison, 2004), the extended Model of Internet Commerce Adoption (eMICA) (Doolin, Burgess, & Cooper, 2002), the ICTR (Information, Communication, Transaction and Relationship) model (Wang, 2008a; Wang, 2008b; Wang & Russo, 2007) and the ICTRT (Information, Communication, Transaction, Relationship and Technical merit) model (Li & Wang, 2010).

The modified BSC is widely used (Han and Mills, 2006). For example, Feng *et al.* (2003) applied the modified BSC approach to compare DMOs' websites between USA and China. Four dimensions evaluated in their study were website marketing strategies, web page designs, marketing information and technical qualities. This approach suggests evaluating websites by using multiple dimensions because website performance is a multidimensional rather than one-dimensional construct. However, the study only focused on the technical aspect, unable to show clearly what major functions a DMO website should possess (Wang & Russo, 2007).

Doolin *et al.* (2002) used the extended Model of Internet Commerce Adoption (eMICA) to evaluate the level of website development in New Zealand's Regional Tourism Organizations. The eMICA model consisted of three levels of business process: promotion, provision and processing. As sites develop from promotion of a company through provision of information to processing of business transactions, layers of complexity and functionality are added. "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" (Doolin *et al.*, 2002, p.558). Nonetheless, items in each layer were not entirely consistent with the definition of the layer (Schmidta, Cantalopsb, and Santos, 2008). For instance, product catalogue information was categorized into interactivity (provision) rather than promotion, whereas, email contact information was classified as promotion instead of interactivity. Moreover, the model failed to recognize the importance of customer relationship management program within the overall web marketing strategies. Websites should include the well-recognized key marketing principles of market segmentation, positioning and relationship marketing (Kotler, Bowen, and Makens, 1999).

Wang and Russo (2007) argued in their study that the success of DMOs' websites depends on the integrative application of four components as its major function: (1) up-to-date and accurate destination *information* provision; (2) effective and constant *communication* with consumers; (3) reliable and seamless electronic *transaction*; and, (4) appropriate and sustainable *relationship* building programs. It should be noted that the relationships between the four functions demonstrate a hierarchical structure along with the level of sophistication and interactivity of each function. The successful deployment of a lower level application is the prerequisite of the effective implementation of a higher level application. However, the ICTR

model failed to include any technical aspects of the website (Li & Wang, 2010).

Li & Wang (2010) pointed out that the Internet marketing is different from traditional marketing in that it relies on the support of information technology. Hence, an effective DMO's website needs to integrate technology and marketing principles. Accordingly, a website should be evaluated on five dimensions, including information, communication, transaction, relationship and technical merit (ICTRT model) (Figure 1). Among the five dimensions, technical merit dimension directly affects the effectiveness of the other four marketing dimensions. At the basic marketing level, DMOs' website must provide tourists with timely information about the destination. 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 for 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. The relationship component of the model is probably the most difficult to implement because of the required technological expertise and lack of knowledge-base in this area. As the number of websites is growing rapidly and consumers' attention to websites is much scarcer than website content, websites are feeling the pressure of drawing and retaining consumers' attention. 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. It should be noted that function of the four marketing dimensions relies on the support of the technical merit dimension.

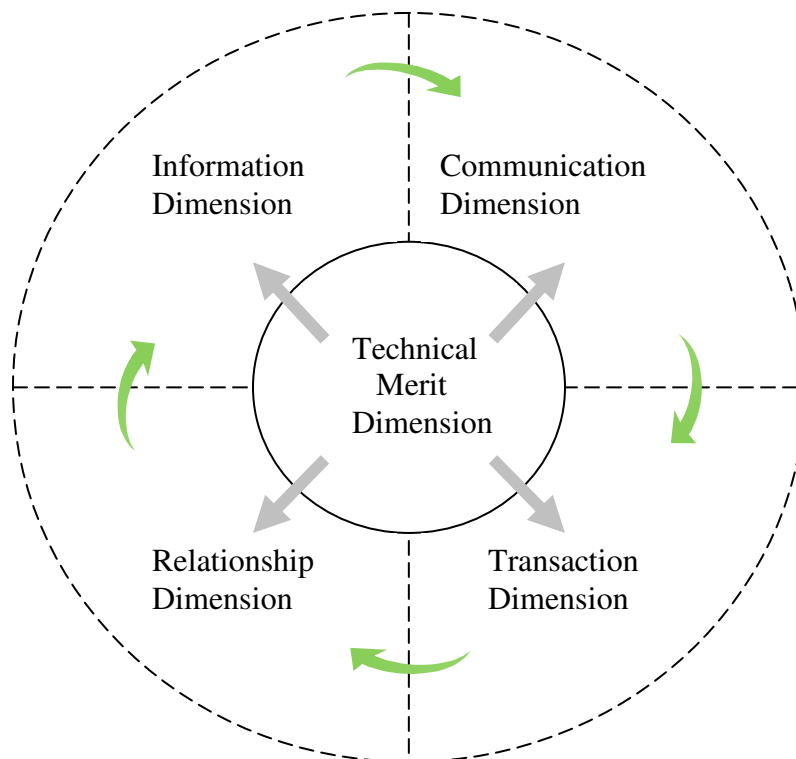


Figure 1
ICTRT Model (adapted from Li and Wang, 2010)

METHODOLOGY

This research attempts to apply the ICTRT model to American context and assess the effectiveness of American STOs' websites from functional perspective, i.e., information, communication, transaction, relationship and technical merit. The objectives of the research are achieved by content analysis of all fifty official state tourism websites regarding the five functions.

Development of evaluation instrument

Each of the five functions contains multiple items. A series of items was identified based on an extensive literature review on DMO website evaluation (e.g., Doolin *et al.*, 2002; Feng *et al.*, 2003; Li and Wang, 2010; So and Morrison, 2004; Wang and Russo, 2007). In order to keep the items current, the list was revised based on careful observations of American CVBs' websites at different levels by the research team. For instance, the item of links to social media was not discussed in previous studies. However, the emergence of *Web 2.0* brings the concept of social media to the tourism industry and provides a powerful communication and interaction platform (Buhalis & Law, 2008). The online social media offers travel reviews and discussion forums and facilitates tourists' decision-making process. Hence, a link to social media should be provided by STOs' websites. Then two professors, who have been studying tourism e-marketing for many years and are currently teaching in a major university in the southeast of the USA, were consulted to confirm the appropriateness of the list for each function. Their review resulted in the identification of 47 items for the ICTRT model consisting of 19 items for information dimension, 10 items for communication dimension, 5 items for transaction dimension, 6 items for relationship dimension and 7 items for technical merit dimension. The results of their efforts were integrated into an evaluation instrument whereby the performance of each of the items in the five respective dimensions was 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 since the 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. In other words, each item under each of the four marketing functions represents different levels of complexity in implementing either from the perspectives of organizational resource requirement or technological complexity. For instance, providing generic destination information is generally less complex to implement than providing personalized/customized destination information. It should be noted in this study that the importance and complexity of each item/application in the website were also taken into consideration in measuring the effectiveness of the website. The more important items with more complex applications should be given more weight compared with their less important and less complex counterparts. Hence, it was proposed that the weight for each item of the four marketing functions was determined by a sum of the rated value of importance and complexity.

The relative importance of all 47 items was rated 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= very easy to implement, 5= very complex to implement). The effectiveness score of each item was calculated by using the product of the rated performance value and the weight (i.e., effectiveness = performance × (importance + complexity). As for the items in the technical merit, their effectiveness was calculated by multiplying 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 effectiveness of American STOs' 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 effect. In comparison, websites implementing more important and complex applications should obtain high effectiveness scores.

Sampling and data collection procedures

To understand the effectiveness of American DMOs' websites, this study includes all fifty American STOs' websites. Addresses of the STOs' websites were obtained through several searches of the Internet using keyword searches including the names of each state (e.g. Florida, Wyoming, etc.).

All fifty websites were classified into ten groups based on the alphabetical order of the names of the States (e.g., Group 1 included Alabama, Alaska, Arizona, Arkansas and California). Each website was examined in detail in March 2010. Forty trained evaluators assessed website importance and performance using the evaluation instrument specifically designed for this study. The evaluators were undergraduate students who were enrolled in an undergraduate course on hospitality and tourism information technology in a major hospitality program in the southeast of the USA. They were all interested in information technology application in hospitality and tourism. Before evaluating the STOs' websites, they were exposed to the topic of website evaluation and well trained in class. Therefore, they were relatively knowledgeable on the topic and were perceived as qualified evaluators. The student evaluators were randomly assigned to each of the group based on the first letter of their last names. Accordingly, four students evaluated a group of five websites. Since each student conducted the evaluation individually, each website was assessed four times.

In addition, the rating of complexity of each item requires more expertise in technology theory and practice. Therefore, an expert panel composed of three tourism information technology professors and three DMO technology practitioners was invited to rate the complexity of implementing each of the items in a DMO's website. Finally, two researchers worked together to check and confirm the results.

RESEARCH RESULTS

Evaluation of the effectiveness of American STOs' website functions

An evaluation of the effectiveness of STOs' websites was presented in Table 1. As can be seen, the effectiveness scores ranged from the highest score of 36.38 in search function to the lowest score of 5.31 in web seal certification. Among the four marketing functions, most of the items in information dimension were better applied than other dimensions. The majority of the STOs used their websites mainly for information-oriented features related to activities, accommodations and attractions, but offered limited e-commerce activities through their websites. The transaction function was the weakest. The results indicated that American STOs were making limited use of their websites.

For nearly all of the items in the five dimensions, the ratings for importance were always higher than the ratings on performance, indicating that there was always a gap between the importance of the functions and their actual performance. The difference in transaction and relationship dimensions was the most prominent in that none of the performance scores in the two dimensions was higher than their importance scores. Therefore, measures have to be taken by American STOs to improve the performance of these functions. Further, the only seven items whose rated performance was higher than importance were located in the information and communication dimension respectively. They were event calendar (4.41 vs. 4.10), travel guides/brochures (4.32 vs. 3.74), shopping information (3.93 vs. 3.72), state facts (3.40 vs. 3.15) in information dimension and brochure request capability (4.27 vs. 3.96), email newsletter (3.72 vs. 2.44), links to social media (3.68 vs. 3.07) in communication dimension.

Comparison of American STOs' websites effectiveness

A comparison of the 50 American STOs' websites indicated that there were variations among the websites in different states in terms of effectiveness. The results showed that Massachusetts STO had the highest score (125.93), followed by Colorado STO (125.47) and Florida STO (123.43). However, Nebraska STO had the lowest score (68.47), followed by Louisiana (70.06) and Connecticut (73.02). The effectiveness is different in the dimensions of information, communication, transaction, relationship and technical merit for the 50 American STOs' websites (Figure 2).

CONCLUSION AND IMPLICATIONS

The current study applied the ICTRT model to the 50 American state STOs' websites. Overall, the results of this study indicated that American STOs were not using their websites effectively. Most STOs focused mainly on the information dimension. Applications at the transaction dimension are not being widely deployed by American STOs. The results manifested STOs' inability to effectively adopt and manage information technology to support more sophisticated operations. Thus, it is imperative for STOs to move to more sophisticated level of technology use to provide a more balanced and wider array of features and functions in their websites to satisfy the diverse needs of potential visitors.

Table 1
Importance, Complexity, Performance and Effectiveness Scores of STOs' Websites by Item

Website attributes	Importance	Complexity	Performance	Effectiveness
Information Dimension				
Activities information	4.84	2.33	4.58	32.86
Accommodation information	4.62	2.67	4.45	32.42
Attraction information	4.75	2.17	4.46	30.83
Events calendar	4.10	2.50	4.41	29.09
Entertainment information	4.57	2.17	4.24	28.52
Maps and directions	4.45	2.40	4.13	28.32
Restaurant information	4.20	2.67	3.91	26.80
Travel packages	3.81	3.50	3.58	26.14
Travel guides/brochures	3.74	2.17	4.32	25.50
Transportation information	4.35	2.33	3.63	24.24
Photo gallery	4.30	2.17	3.74	24.17
Links to regional/city/area pages	4.13	1.67	4.08	23.64
Shopping information	3.72	2.17	3.93	23.14
Information by market segment (business, family, etc.)	3.84	3.17	3.04	21.32
Visitor center information	3.63	2.00	3.42	19.25
Travel tips	4.08	2.33	2.87	18.38
State facts	3.15	1.67	3.40	16.38
Local weather information	3.77	1.83	2.71	15.19
Virtual tours	3.61	3.67	2.03	14.77
Communication Dimension				
Search function	4.62	3.83	4.30	36.38
Contact information (email, phone, mailing address, etc.)	4.60	2.17	4.29	29.07
Brochure request capabilities	3.96	2.50	4.27	27.62
Destination image communication (logo, slogan, etc.)	4.02	2.17	3.65	22.55
Multiple language versions	3.70	3.83	2.68	20.21
Email newsletter	2.44	2.83	3.72	19.62
Links to social media (youtube, blog, etc.)	3.07	2.00	3.68	18.64
Feedback forms	3.33	3.33	1.84	12.27
Surveys	2.85	3.50	1.41	8.96
Frequently asked questions	4.27	2.33	1.31	8.64
Transaction Dimension				
Online reservation	4.44	4.67	2.50	22.75
Events tickets	4.05	4.67	1.98	17.28
Attraction tickets	4.14	4.67	1.93	17.02
Shopping carts	3.49	4.67	1.24	10.13
Web seal certification	3.58	3.50	0.75	5.31
Relationship Dimension				
Privacy policy	4.34	2.83	4.30	30.84
Deals and discounts	4.69	3.83	3.53	30.09
Personalization	3.96	4.50	3.19	26.94
Cross-selling opportunities	3.49	4.67	2.80	22.83
Incentive programs/contests	3.55	4.33	2.01	15.81
Customer loyalty programs	3.75	4.67	0.96	8.12
Technical Merit Dimension				
Link workability	4.98	/	4.54	22.58
Load time	4.65	/	4.38	20.36
Search engine recognition	4.70	/	4.31	20.30
Visual appearance	4.56	/	4.02	18.33
Navigation	4.70	/	3.89	18.27
Webpage design	4.68	/	3.86	18.07
Site map	4.00	/	3.41	13.66

A comparison of the 50 American STOs' websites in this study showed that each STO's website had its own strengths and weaknesses. Among the 50 states, the overall score for Massachusetts STO was the highest, whereas Nebraska STO had the lowest score. Although Massachusetts STO didn't gain the highest score in every dimension, the highest ranking in the

transaction dimension helped it rank the first in overall effectiveness. Similarly, with the highest ranking in the relationship dimension, Colorado STO ranked the second in overall effectiveness. Actually, it was argued in the ICTRT model that the effectiveness of DMOs' websites should rely not only on the number of the applications utilized but also the degree of sophistication of these applications. The results supported the argument and suggested that STOs should pay more attention to the quality rather than quantity of their internet marketing features.

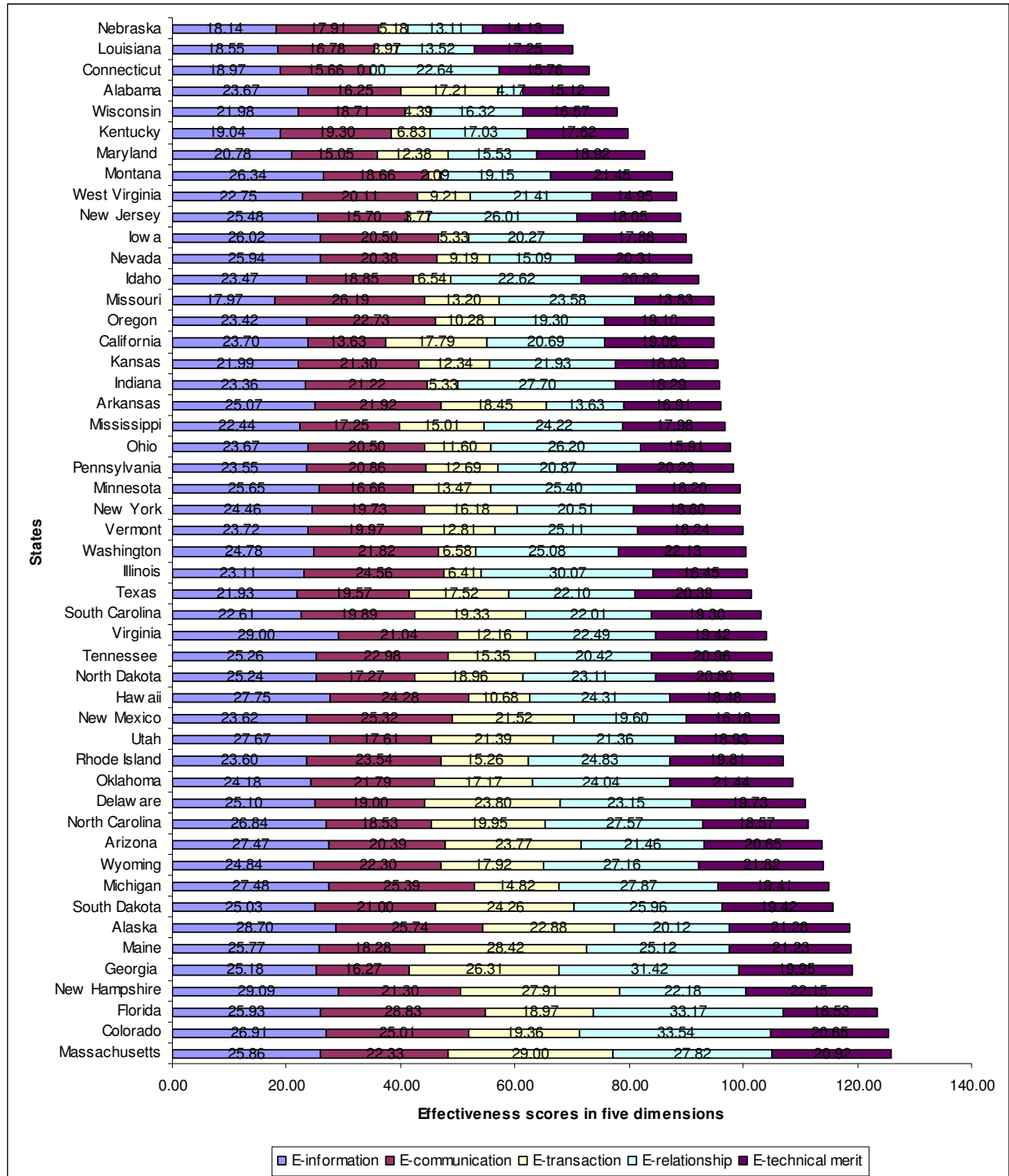


Figure 2
American STOs' Websites Effectiveness by Dimension and State

This study should be of interest to researchers as well as industry professionals by applying the ICTRT model to American STOs' websites. The findings of the research enable managers of American STOs to understand how effective their websites are from the five dimensions of information, communication, transaction, relationship and technical merit. The results will assist STO managers in judging website performance against competitors so that they have useful information to facilitate continuous improvement on their own websites.

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