

Research Paper

An Evaluation of the Usability of Tourism Destination Websites of Iran and Malaysia: an ANP and DEMATEL Hybrid Method

Nilofar Abbaspoor*, Rasoul Mohammad Ali Pour**,
Fatemeh Bagheri***,

Date Received: 2021/02/17

Date Accepted: 2021/03/06

Abstract

Background: Official websites of tourism destinations provide an important digital content and are considered as widely-used tools of introducing destinations and presenting tourism products to the potential tourists. Improving the usability of websites helps the tourism destinations in achieving their goals. Websites usability is measured based on different criteria. **Purpose:** This paper evaluates and compares the usability of Iran and Malaysia official tourism destination websites –which are regarded as quite comparable in their tourism products and market- using seven criteria of content, visual attractiveness, infrastructure, interaction and responsiveness, navigation, customization, and product provision. **Method:** In order to do this evaluation, pairwise comparison questionnaires of the criteria were developed based on DEMATEL and ANP techniques and were answered online by 10 tourism experts in Iran. Websites' usability analysis was performed using a combination of two MCDM (Multiple Criteria Decision Making) techniques that are DEMATEL and ANP so that the causal relations of the criteria are identified along with the ranking of their significance. **Findings:** The findings of the research show “infrastructure” as the dispatcher criterion, “product provision” as the receiver, and “content” as the most important criterion in the usability of tourism destinations' websites. The findings also revealed the superiority of Malaysia's official tourism website as compared to that of Iran.

Keywords: Tourism Website, Tourism Destination, Usability, ANP, DEMATEL, Iran, Malaysia.

* Assistant Professor, Kharazmi University, Tehran, Iran, Email: n.abbaspoor@gmail.com

** MA in Tourism Marketing, Allameh Tabataba'i University, Tehran, Iran, Email: r.map@hotmail.com

*** Assistant Professor, Faculty of Literature and Human sciences, Guilan University, Rasht, Guilan, Email: f.bagheri@guilan.ac.ir

Introduction

Today, customers get the information required for choosing and buying tourism products via Information and Communication Technology (ICT). This progress has led to an increase in the strategic employment of ICT in tourism industry (Mohammad Alipour & Haji Amini, 2011, p. 23). Internet is an important marketing channel for tourism destinations since it provides the potential tourists with plenty of information and lets the tourists comment on the destinations they have visited (Alzua-Sorzabal, Zurutuza, Rebon, & Gerrikagoitia, 2015). Some of the websites let the tourists search and book their flight, hotel, restaurant and tours. Destinations' websites are a means of providing feedbacks by tourists who have actually travelled to a destination and potential tourists can obtain useful information and reliable reports via these websites (Fryc, 2010, p. 47). Therefore, interactive features of websites make them both sender and receiver of information (Alzua-Sorzabal, Aurkene, Gerrikagoitia, & Rebon, 2014). What makes websites successful in introducing destinations and attracting tourists is their usability. Usability is the oldest concept in the studies of Human-Computer Interaction (Green & Pearson, 2011). According to the principles of ISO 9241, the usability of an IT system is the effectiveness, efficiency and satisfaction of its specified users who achieve specified goals in a specified context (International Organization for Standardization (ISO), 2007). The usability of a website shows the perceived ease of site navigation and online purchase (Flavián, Guinalú, & Gurrea, 2006, p. 2). According to Nielsen (2000), usability is the design or the easiness of using a website by a user. Therefore, in order to succeed in presenting services needed by potential tourists, tourism destinations should try to improve the usability of their websites. In Asia, tourism destinations are the third field of website usability studies –after the websites of universities and e-commerce (Nawaz & Clemmensen, 2013).

Among 16 Middle East countries, with more than 80 million populations, Iran has the most internet users; however, its performance in e-commerce, especially in the tourism sector has been weak (Salavati & Hashim, 2015). The performance of Iran's official tourism website is one of the weaknesses of the country's e-tourism (Mohammad Alipour, 2010) and identifying the factors affecting the

destinations' website usability may be useful in improving their quality and performance. On the other hand, tourism of Iran has been frequently compared with that of Malaysia in terms of its features, attractions and market (Dehdashti Shahrokh & Anchehei, 2004) (Khayambashi, 2013) by tourism analysts of Iran. Actually, Iran and Malaysia are both Muslim countries trying to attract the market suiting their tourism products –which is mainly the market of Muslim tourists seeking Halal tourism- by presenting cultural attractions. According to the UNWTO (2019), Malaysia has attracted 25.8 million tourists in 2018 while this number has been approximately 8 million for Iran.

This paper tries to evaluate and compare the official tourism websites of Iran and Malaysia via identifying and prioritizing the tourism websites usability criteria. Accordingly, the paper tries to answer the following three questions:

- What are the most important criteria of the usability of tourism destinations' websites?
- How is the causal relationship among those criteria?
- How is the performance of the official tourism websites of Iran and Malaysia in each criterion?

The paper is organized as follows: A review of the literature on the content on tourism websites and the usability. In Section 2, we provide a description of the research methodology. Section 3 reports on the research's findings and finally, in Section 5, we discuss the results and a set of guidelines is developed and presented.

Literature Review

Tourism websites and the usability

Information technology and the Internet have transformed the tourism industry (Camprubí & Coromina, 2016) and the growing popularity of online commercial transactions has heightened the need for tourism organizations and destinations to use the Internet as their main marketing channel (Huang, 2020). In other words, when choosing a tourism destination, visitors most likely get detailed information such as address, pictures, maps, facilities, reference rates and reviews and the content of the destination's website creates its image and a virtual experience for visitors (Cao & Yang, 2016). That is why developing a useful and user-friendly website will change tourists' attitudes, increase their satisfaction and use of the information and services provided on the website (Alcántara-Pilar, Blanco-Encomienda,

Armenski , & Del Barrio-Garcia, 2018). More specifically, through a successful website not only potential tourists and travelers can obtain detailed information (Tavakoli & Wijesinghe, 2019) and personalize travel services (Rodríguez-Molina, Frías-Jamilena, & Castaneda-Garcia, 2015), but destinations can offer rich interactive experiences to the users (Wu, 2018). In fact, websites are platforms for promoting destination's services and channels to generate revenue when attracting more tourists (Chiou, Lin, & Perng, 2010).

This feature has been defined in numerous ways and researchers have considered various factors to describe its principles. For instance, Law and Ngai (2005), and Au Yeung and Law (2006) have developed a list of five features of the usability of hospitality and tourism websites which includes language, graphics, information structure, user interface, navigation and general concepts. In the other study about hotel websites, Law (2019, p. 5) approached websites usability through “visual representation, accessibility, easy to find information, relevancy, safety and speed”.

Briefly, usability is actually a quality attribute which evaluates the easiness of users' interface and includes the following concepts (Casaló, Flavián, & Guinalú, 2008): the easiness of understanding a website's structure, its functions, content, easiness of using the website at the early stages, the speed of finding the required information by users, the perceived easiness of navigating in websites with regard to the required time and performance for gaining appropriate results, the users' ability to control what they are doing and where they are at a specified time. Also, Pujani, Khairunissa and Meuthia (2015) introduced the seven features of ease of understanding, ease of using at the first encounter, the ease of finding information, clear structure, easy surfing, navigation and the possibility of controlling as the factors affecting the usability of a website. ISO 9241 considers three usability factors for the ergonomic requirements of administrative activities with visual presentation terminals, namely 1) effectiveness: the exactness and completeness with which users can reach the specified goals at specified contexts. 2) efficiency: the resources used in relation to the exactness and completeness of the attained goals, 3) satisfaction: the ease and acceptance of a system for users and people affected by its using (UNWTO, 2008, p. 60). The studies show a higher satisfaction of

customers in online environments as compared to traditional channels due to the ease of obtaining information (Lin & Sun, 2009).

It should be stated that contrary to the previous mentioned studies in which usability was assumed as a general factor and other characteristics were included in this element, in some other researches as Ruel Novabos, Matias, & Mena (2015), usability is equally considered along with other characteristics as a quality factor. The mentioned authors define four features (information completeness, credibility, usability, and persuasiveness) to evaluate four provincial tourism websites in the Philippines.

Although there is no universally accepted method/ framework to evaluate the quality of tourism destination websites ((Park & Gretzel, 2007), (Cao & Yang, 2016), (Túñez-López, Altamirano, & Valarezo, 2016)), after reviewing multiple previous studies, the following items have been extracted as the criteria of evaluating the websites of tourism destinations and are used in the current research (Table 6).

Table 6. the criteria of evaluating tourism destinations' websites

| Criteria | Definition |
|--------------------------------|---|
| content | Including appropriate and up-to-date information; language; destination map; comprehensibility; etc. |
| navigation | Including the ease of navigation in website and information architecture; sitemap; search engine; the ease of finding required information; website address; etc. |
| Visual attractiveness | Including enjoyable visit of website; layout, design and color of texts and images; multimedia; etc. |
| infrastructure | Including download speed; download security; information security; optimization in search engines; etc. |
| customization | Including personalization of services and access to the content based on the customers' needs. |
| Interaction and responsiveness | Including FAQ; newsletter; complaint management systems; chatrooms for users' interactions; etc. |
| Product provision | Including providing a variety of tour packages; comparing different products; online booking and payment; etc. |

Source: the researchers' studies

Methods for evaluating tourism website

Efforts have been made to evaluate various websites using different techniques based on their objectives and the website being studied. Generally, five approaches are adopted in evaluating websites:

counting, automatic, numeral calculations, user's judgments, and hybrid methods (Law, Qi, & Buhalis, 2010). The analyses show that there is no standard and global method for evaluating websites. Some of the evaluation techniques have adopted subjective approaches which are based on personal preferences, such as Analytic Hierarchy Process (AHP) (Shee & Wang, 2008; Lee & Kozar, 2006), Technique for Order Preference by Similarity to Ideal Solutions (TOPSIS) (Büyüközkan & Ruan, 2007; Law R. , 2007; Qi, Law, & Buhalis, 2008), VIKOR (Büyüközkan, Ruan, & Feyzioglu, Evaluating e-learning website quality in fuzzy environment, 2007), and content analysis (Cai, Card, & Cole, 2004; Baloglu & Pekcan, 2006). Besides having many advantages, these techniques have several shortcomings (Table 7).

Table 7. The shortcomings of the previous studies on website evaluation

| Technique | Shortcoming |
|------------------|--|
| AHP | It ignores the interactions among the criteria and considers them as independent. |
| TOPSIS | The coefficients of similarity to ideal solution in TOPSIS do not allow ranking the alternatives. |
| VIKOR | It doesn't consider the interaction among the criteria in determining their weights. |
| Content analysis | Using the dual zero-one (yes-no) variable does not allow evaluating the performance in each criterion. |

In order to overcome these shortcomings, this paper uses two techniques of DEMATEL and Analytic Network Process (ANP) for evaluating the official websites of Iran and Malaysia. Using DEMATEL, the interactions among evaluation criteria are identified and this causal relationship is turned into a visual model called Influence-Relation Map (IRM). Then, ANP is used to determine the relative weights of the criteria; and finally, the superior website is identified by assessing the performance of each. ANP is a decision-making technique which is capable of analyzing the complex interactions among the criteria and decision-making levels, while AHP can only examine the direct hierarchical relations among decision levels. Therefore, this paper uses ANP for determining the weights of each criterion instead of the widely used AHP technique.

Research methodology

The criteria studied in this survey were extracted from the literature and the required data were gathered via questionnaires. A questionnaire was designed that pairwise compared the criteria of tourism destinations websites' usability in terms of importance and influence in one section; and in another section the performance of the official tourism websites of Iran and Malaysia was evaluated in each criterion. The questionnaire, which was designed in accordance with the two techniques of DEMATEL and ANP were completed by 10 e-tourism experts and its average was calculated using weighted geometric means of scores.

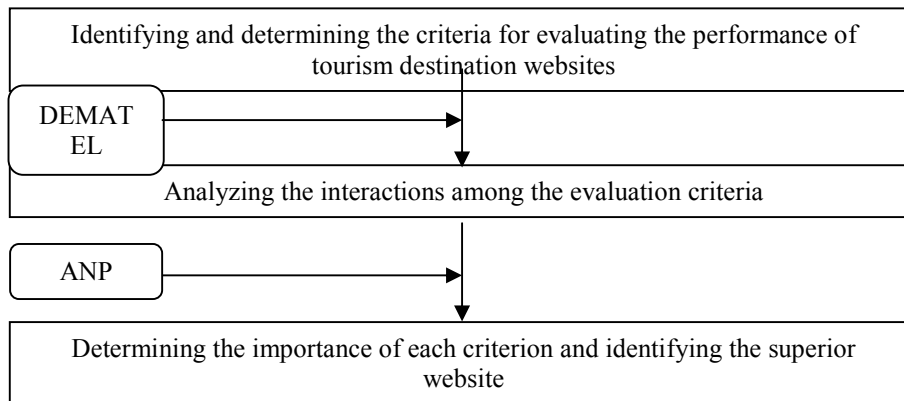


Fig 1. The process of evaluating the usability of tourism destinations official website

A two-stage hybrid method was used to evaluate the two websites; DEMATEL and ANP were used in the first and second stages, respectively (fig. 1).

Results

1) DEMATEL technique:

DEMATEL changes the causal relationships among criteria into a comprehensible structural model. The steps of this technique are as following (Tzeng & Huang, 2011, p. 134):

Step 1: creating the initial-relation matrix: a group of experts determine the direct impact of criteria on each other; 10 experts participated at this stage. This impact is assessed on a five-point scale of no influence (0), little influence (1), medium influence (2), high

influence (3), and very high influence (4). This comparison creates an $n \times n$ matrix named B where the element b_{ij} shows the influence of the i^{th} criterion on the j^{th} criterion. Therefore, all the elements on diagonal are zero.

Step 2: creating the normalized direct-relation matrix: this matrix known as X Matrix is calculated by dividing B Matrix by r, where r equals:

$$r = \text{Max}(\max_{1 \leq i \leq n} \sum_{j=1}^n |b_{ij}|, \max_{1 \leq j \leq n} \sum_{i=1}^n |b_{ij}|), \quad i, j \in \{1, 2, 3, \dots, n\}$$

Step 3: creating the total-relation matrix: by raising the Matrix X to powers and calculating its sum, the indirect impacts are gradually decreased. The Total-Relation Matrix T is driven from equation 2.

$$T = X + X^2 + X^3 + \dots = \sum_{i=1}^{\infty} X^i = X(I - X)^{-1}$$

Thus, the total relation Matrix T of this research is calculated as:

$$\begin{bmatrix} 0.19 & 0.27 & 0.28 & 0.17 & 0.29 & 0.26 & 0.43 \\ 0.26 & 0.15 & 0.22 & 0.20 & 0.25 & 0.21 & 0.36 \\ 0.26 & 0.25 & 0.15 & 0.17 & 0.27 & 0.23 & 0.39 \\ 0.36 & 0.32 & 0.25 & 0.16 & 0.36 & 0.35 & 0.47 \\ 0.29 & 0.28 & 0.28 & 0.22 & 0.21 & 0.30 & 0.45 \\ 0.27 & 0.21 & 0.19 & 0.16 & 0.26 & 0.14 & 0.34 \\ 0.32 & 0.25 & 0.27 & 0.22 & 0.31 & 0.25 & 0.27 \end{bmatrix}$$

Step 4: calculating the influence and relation values: D-R and D+R show respectively the degree of influence and relation among the criteria, where D is the sum of the columns of Matrix T (equation 4), and R is the sum of its rows (equation 5). The positive values of D-R show that the criterion has influence over others, while its negative value indicates its being influenced. D+R value shows the degree of relation between a criterion and others.

$$[t_{ij}]_{n \times n}, \quad i, j \in \{1, 2, 3, \dots, n\}$$

(equation 3)

$$D = [\sum_{j=1}^n t_{ij}]_{n \times 1} = [t_{j\cdot}]_{n \times 1}$$

(equation 4)

$$R = \left[\sum_{i=1}^n t_{ij} \right]_{1 \times n}^t = [t_j]_{n \times 1}$$

(equation 5)

The values of D+R and D-R of the studied criteria are presented in Table 8:

Table 8. the influence and relation value of the criteria of evaluating tourism destinations websites

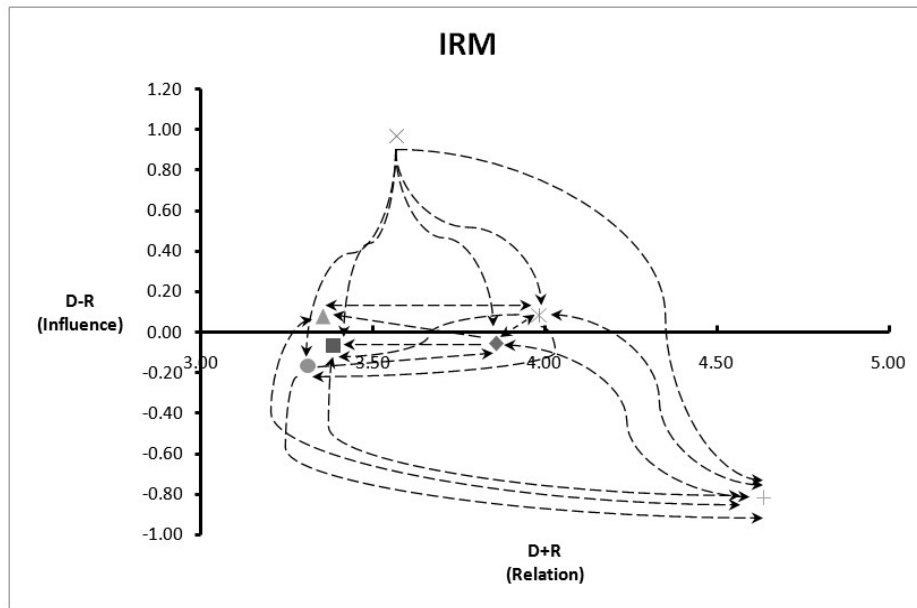
| Criteria | D+R | D-R |
|--------------------------------|------|-------|
| Content | 3.68 | -0.06 |
| Navigation | 3.39 | -0.07 |
| Visual attractiveness | 3.36 | 0.07 |
| Infrastructure | 3.57 | 0.97 |
| Customization | 3.99 | 0.08 |
| Interaction and responsiveness | 3.31 | -0.17 |
| Product provision | 4.64 | -0.82 |

As Table 8 shows, “product provision” has the most relation with other criteria. Three criteria of “visual attractiveness”, “infrastructure” and “customization” influence other criteria and “infrastructure” is the most influential one. Therefore, these three criteria are prioritized for improvement due to being highly influential. Four criteria of “content”, “navigation”, “interaction” and “product provision” are influenced by others and “product provision” receives the most influence from other criteria.

Step 5: determining a threshold value for drawing IRM: if all the information of Matrix T is presented on the IRM (Figure 1), the map will be very complex. Therefore, a threshold value should be determined for the influence level and only the elements with a value higher than the threshold are chosen from Matrix T and are presented on the map. The experts or decision-makers determine the threshold value using subjective or objective methods. In this paper, the threshold is considered as the arithmetic means of the elements of Matrix T and is equal to 0.27. Therefore, the causal relations among the studied criteria with an influence level of over 0.27 are as follow (Table 9):

Table 9. the causal relationships among the criteria of evaluating tourism destinations websites

| | Content | Navigation | Visual attractiveness | Infrastructure | Customization | Interaction and responsiveness | Product provision |
|--------------------------------|---------|------------|-----------------------|----------------|---------------|--------------------------------|-------------------|
| Content | | 0.27 | 0.28 | | 0.29 | | 0.43 |
| Navigation | | | | | | | 0.36 |
| Visual attractiveness | | | | | 0.27 | | 0.39 |
| Infrastructure | 0.36 | 0.32 | | | 0.36 | 0.35 | 0.47 |
| Customization | 0.29 | 0.28 | 0.28 | | | 0.30 | 0.45 |
| Interaction and responsiveness | 0.27 | | | | | | 0.34 |
| Product provision | 0.32 | | 0.27 | | 0.31 | | |



| | | | | | | | |
|----------|---------|------------|--------------|----------------|---------------|----------------------|-------------------|
| symbol | ◆ | ■ | ▲ | × | * | ● | + |
| criteria | content | navigation | Visual attr. | infrastructure | customization | Interaction and res. | Product provision |

Figure 1. Influence-Relation Map of the criteria of the usability of tourism destinations websites

| Clusters and Nodes | Alternatives | | Criteria | | | | | | |
|--------------------------------|--------------|----------|----------|-----------------------|----------------|----------------------|------------|---------------|-------------------|
| | Iran | Malaysia | Content | Visual Attractiveness | Infrastructure | Interaction and Res. | Navigation | Customization | Product Provision |
| Visual Attractiveness | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Infrastructure | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Interaction and Responsiveness | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| Navigation | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Customization | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Product provision | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |

According to the results of the limit super matrix, the weights obtained for the evaluation criteria are as (content, visual attractiveness, infrastructure, interaction and responsiveness, navigation, customization, product provision= 0.19, 0.03, 0.12, 0.05, 0.03, 0.01, 0.07). Considering the obtained weights, the first three criteria are content, infrastructure, and product provision, among which the infrastructure with a positive D-R value in DEMATEL calculations is a dispatcher, while the content and product provision criteria are receivers.

The other finding concerns the performance of the official tourism websites of Iran and Malaysia. As shown in the matrix (Table 10), the score gained by Iran's website in these criteria is 0.10 and that of Malaysia is 0.40, which denotes the superiority of Malaysia's website to Iran's. This comparison is shown in detail in Table 11.

Table 11. Relative performance of Iran's and Malaysia's tourism website in usability criteria

| | content | Visual attractiveness | Infrastructure | Interaction and Res. | Navigation | Customization | Product Provision |
|-----------------|---------|-----------------------|----------------|----------------------|------------|---------------|-------------------|
| Iran | 0.167 | 0.250 | 0.125 | 0.250 | 0.750 | 0.167 | 0.125 |
| Malaysia | 0.833 | 0.750 | 0.875 | 0.750 | 0.250 | 0.833 | 0.875 |

Iran's website has done better only in navigation criteria, because the homepage is designed in such a way that facilitates navigation; while the multitude of items on the homepage menus of Malaysia's website confuses the users in finding their path and obtaining information. However, Malaysia has performed better in other six criteria. Malaysia has done far better in two criteria of infrastructure and product provision. Malaysia's better performance in infrastructure brings about a better download speed, download security and users' information security. This superiority in some relevant indexes can be clearly observed in

Table 12:

Table 12. Internet infrastructure indexes of Iran and Malaysia

| | Internet users (per 100 people) | high-speed internet subscription (per 100 people) | Secure internet servers (per 1000000 people) |
|-----------------|--|--|---|
| Iran | 39.4 | 9.46 | 2 |
| Malaysia | 67.5 | 10.14 | 89 |

Source: (World Bank, 2015)

Malaysia has done much better in product provision, too. Malaysia's website offers various tour packages in the form of urban life (including urban excitement, theme parks, shopping, etc.), cultural life (including local cuisine, cultural heritage, festivals and events, rituals and religious tours, etc.), outdoor excursions (including bird-watching, ecotourism, golf, biking and motor-biking, sightseeing in orchards and parks, adventure and ecotourism, wildlife, etc.) and many other alternatives. These packages are offered in different destinations in Malaysia and in different qualities and prices, thus providing the users with various choices; while such tour packages are not provided on Iran's website except the possibility to book accommodation and flight.

The next superiority of Malaysia's website is in the content and customization criteria. It presents the tourism information of the destination divided by places, experiences, events and festivals. This information is presented in the language of the user by identifying its IP; while Iran's website is in three languages of Persian, Arabic and

English. In criteria of customization, Malaysia is still superior by providing its trip planner. In this planner, the arrival time and length of stay is first determined by the tourists and then, the attractions are suggested accordingly. The tourists can place these attractions in different days of their stay and can see their location on a map on the same page. They can finally plan their trip by observing the location of the attractions. Such a capability is not provided on Iran's website.

Malaysia has done better in two criteria of visual attractiveness and interaction and responsiveness, as well. The images shown on the background of the homepage of Malaysia's website, together with its layout and order, creates a favorable environment for users. In addition to the simple images, which are also available on Iran's website, Malaysia provides 360° views of some of its attractions in three modes of walking, driving and aerial. Malaysia's website allows for interacting with users. They can ask their questions by filling in a form in "contact us" section, or via email or the telephone number of the office. The "contact us" section also exists on Iran's website but it is not active, and users cannot contact the website using it. Iran's website has performed poorly in interacting with users (Mohammad Alipour, 2010, p. 96).

Conclusion and Implications

Official websites of tourism destinations are useful means of introducing destinations to the market. The potential tourists can make a decision about travelling to a certain destination by referring to these websites. What improves the performance of these websites for introducing the destinations is their usability. Websites usability has been defined in various ways and assessed using different criteria via different methods.

This paper evaluates and compares the usability of Iran's and Malaysia's official tourism websites by seven criteria of content, visual attractiveness, infrastructure, interaction and responsiveness, navigation, customization, and product provision using a hybrid technique that consists of DEMATEL and ANP, so that in addition to ranking the criteria, the interactions among them be also examined.

The research results identify the content as the most important criterion in websites' usability, which is consistent with the findings of Tsai, Chou and Lai (2010). A website's content consisting of current and appropriate information, language of information,

comprehensibility, etc, receives the most influence from infrastructure, which is itself the second important criterion and the most influential among the seven, by far. This finding is similar to that of Bilsel, Büyüközkan and Ruan (2006). Infrastructure consists of download speed, download security, information security, optimization in search engines, etc. and is not influenced by any of the studied criteria and acts like an independent variable in its relationship with other criteria. The third important criterion in a tourism destination's website's usability is its product provision, which consists of varied tour packages, possibility of product comparison, online booking and payment, etc. Product provision of a website fulfills the final step in putting the travel decision into action. Product provision is the most influenced criteria, receiving influence from all six other criteria and acts like a dependent variable. Therefore, in order to improve the quality of product provision, which is the ultimate goal of a tourism destination website, its influencing criteria should be enhanced first. Interaction and responsiveness, which consists of the availability of FAQ, newsletter, complaints management systems, chatrooms for sharing experiences, etc. ranks fourth in importance and is influenced by infrastructure and customization as a receiver criterion. The importance of this criterion was emphasized in the studies of Litvin, Goldsmith and Pan (2008) as well. Visual attractiveness with measures such as a pleasing website visit, layout, design and color, images and multimedia, along with navigation criterion with indicators such as easy navigating, information architecture, sitemap, search engine, ease of finding the required information –as in the results of Tsai, Chou and Lai (2010)-rank fifth in terms of importance; however, visual attractiveness is a dispatcher, while navigation is a receiver. Visual attractiveness has the most influence on product provision, and navigation receives the most influence from infrastructure. Finally, customization, which includes the personalization of services and access to relevant data is the least important criterion and is a dispatcher that has the most influence on product provision.

Generally, the results of comparing official tourism websites of Iran and Malaysia show the superiority of Malaysia's website. In order to enhance the usability of Iran's tourism website, which is actually the first encounter of potential tourists with the destination, actions must be taken paying attention to the criteria's ranking and

their interactions. It is suggested that the content and infrastructure criteria be the priorities of improving due to their very high importance and being influential, respectively.

These actions are recommended to improve the content: adding the links to related websites and weblogs, presenting information in the languages of target markets, providing information about the destination such as the process of getting visa, rules and regulations, etc. Improvement of navigation calls for actions such as the possibility of choosing the webpages as one's homepage or favorite page, the availability of the home link on all pages, improving the search within the website, and existence of the sitemap. The criterion of visual attractiveness, which creates a pleasant surfing through the website and can encourage the users to visit the destination, can be improved via these techniques: using animations and videos, introducing the attractions and features of the destination via multimedia, providing special versions of the website for children and those with low-vision. Infrastructure is an external factor and websites cannot do much about it; however, they can optimize their own usage of the available infrastructure by taking actions like making a balance between a website's attractiveness and its loading speed and designing the website for different devices like tablets and cellphones. The customization of websites can be improved by providing the possibility to search different items of travel with criteria such as popularity, price, geographic location etc. Furthermore, other improvements such as developing a trip planner, creating different versions of the website suiting the needs of different market segments contributes to tourism development of the destination. Interaction and responsiveness can be developed taking the following actions: putting the contact us menu at an appropriate place on the homepage, facilitating different contact methods, providing the addresses of tourism information centers, online consulting, complaint management systems, and making it possible for the users to leave comments and interact. Product provision can be presented at three levels of introducing, booking and buying, each of which having its own requirements. Generally, these steps are recommended to improve the product provision criterion of a website: introducing different elements of tourism product (accommodation, transportation, attractions, restaurants ...) and presenting products at different quality levels for all segments of the market.

Following the above instructions and observing the priorities of improvements can enhance the usability of tourism destination websites. Therefore, users can use this common channel to obtain information and make decisions about their travel, and finally purchase their suitable product and travel via suitable digital content provided.

References

- Alcántara-Pilar, J. M., Blanco-Encomienda, F. J., Armenski, T., & Del Barrio-García, S. (2018). The antecedent role of online satisfaction, perceived website usability on the affect towards travel destinations. *Journal of Destination Marketing & Management*, 9, 20-35.
- Alzua-Sorzabal, A., Zurutuza, M., Rebon, F., & Gerrickagoitia, J. K. (2015). Obtaining the efficiency of Tourism Destination website based on Data Envelopment Analysis. *Procedia-Social and Behavioral Sciences*, 175, pp. 58-65. Madrid: International Conference on Strategic Innovation Marketing.
- Alzua-Sorzabal, Aurkene, Gerrickagoitia, J. K., & Rebon, F. (2014). Using MWD: A Business Intelligence System for Tourism Destination Web. *Management Studies*, 2(1), 62-72.
- Au Yeung, T., & Law, R. (2006). Evaluation of Usability: a study of hotel websites in Hong Kong. *Journal of Hospitality and Tourism Research*, 30(4), 425-473.
- Baloglu, S., & Pekcan, Y. A. (2006). The website design and internet site marketing practices of upscale and luxury hotels in Turkey. *Tourism Management*, 27(1), 171-176.
- Bilsel, R. U., Büyüközkan, G., & Ruan, D. (2006). A Fuzzy Preference-Ranking Model for a Quality Evaluation of Hospital Websites. *International Journal of Intelligent Systems*, 21(11), 1181-1197.
- Büyüközkan, G., & Ruan, D. (2007). Evaluating government websites based on a fuzzy multiple criteria decision-making approach. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 15(3), 321-343.
- Büyüközkan, G., Ruan, D., & Feyzioglu, O. (2007). Evaluating e-learning website quality in fuzzy environment. *International Journal of Intelligent Systems*, 22(5), 567-586.
- Cai, L., Card, J. A., & Cole, S. T. (2004). Content delivery performance of worldwide websites of US tour operators focusing on destinations in China. *Tourism Management*, 25(2), 219-227.
- Camprubí, R., & Coromina, L. (2016). Content Analysis in Tourism Research. *Tourism Management Perspectives*, 18, 134-140.
- Cao, K., & Yang, Z. (2016). A study of e-commerce adoption by tourism websites in China. *Journal of Destination Marketing and Management*, 5(3), 283-289.
- Casaló, L., Flavián, C., & Guinaliú, M. (2008). The role of perceived usability, reputation, satisfaction and consumer familiarity on the website loyalty formation process. *Computers in Human Behavior*, 24(2), 325-345.

- Chiou, W., Lin, C., & Perng, C. (2010). A strategic framework for website evaluation based on a review of the literature from 1995-2006. *Information and Management*, 47(5), 282-290.
- Dehdashti Shahrokh, Z., & Anchehei, A. H. (2004). Tourism Development Strategies in Islamic Republic of Iran (adapted from tourism development strategies of Malaysia, Turkey and Tunisia). *Quarterly Journal of Tourism Studies*(4), 31-68.
- Flavián, C., Guinaliú, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information & Management*, 43(1), 1-14.
- Fryc, L. M. (2010). Are Tourism WEbsites Useful for Travelers? Applying an Information Audit Rubric For Mediterranean Tourism Destination Websites. In A. G. Woodside, *Tourism-Marketing Performance Metrics and Usefulness Auditing of Destination Websites* (pp. 47-58). Bradford, UK: Emerald Group Publishing Limited.
- Green, D. T., & Pearson, M. (2011). Integrating website usability with the electronic commerce acceptance model. *Behaviour & Information Technology*, 30(2), 181-199.
- Huang, Z. (2020). Usability of tourism websites: a case study of heuristic evaluation. *New Review of Hypermedia and Multimedia*, 26(1-2), 55-91.
- International Organization for Standardization (ISO). (2007, 9 22). Retrieved 8 1, 2015, from www.iso.org.
- Khayambashi, S. (2013). A comparative Study of Tourism Industry of Iran and Malaysia. *Proceedings of the First National Conference on Sustainable Tourism, Geography and Environment*. Hamedan: Hegmataneh Association of Environmental Assessors.
- Law, R. (2007). A fuzzy multiple criteria decision-making model for evaluating travel websites. *Asia Pacific Journal of Tourism Research*, 12(2), 147-159.
- Law, R. (2019). Evaluation of hotel websites: Progress and future developments. *International Journal of Hospitality Management*, 76, 2-9.
- Law, R., & Ngai, C. (2005). Usability of Travel Websites: a case study of the perceptions of Hong Kong travellers. *Journal of Hospitality and Leisure Marketing*, 13(2), 19-31.
- Law, R., Qi, S., & Buhalis, D. (2010). Progress in tourism management: A review of website evaluation in tourism research. *Tourism Management*, 31, 297-313.
- Lee, Y., & Kozar, K. A. (2006). Investigating the effect of website quality on e-business success: an analytic hierarchy process (AHP) approach. *Decision Support Systems*, 42(3), 1383-1401.

- Lin, G. T., & Sun, C. C. (2009). Factors influencing satisfaction and loyalty in online shopping: an integrated model. *Online Information Review*, 33(3), 458-475.
- Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic Word-of-Mouth in Hospitality and Tourism Management. *Tourism Management*, 29(3), 458-468.
- Mohammad Alipour, R. (2010). *Measuring the Effectiveness of Iran Tourism Website from the Viewpoint of Inbound Tourists (Unpublished Master's Thesis)*. Tehran: Allameh Tabataba'i University.
- Mohammad Alipour, R., & Haji Amini, M. (2011). *Tourism Industry E-Marketing*. Tehran: Dafter-e-Pajouheshhaye Farhangi (Iran Culture Studies).
- Nawaz, A., & Clemmensen, T. (2013). Website Usability in Asia "from within": an overview of a decade of literature. *International Journal of Human-Computer Interaction*, 29(4), 256-273.
- Nielsen, J. (2000). *Designing Web Usability: The Practice of Simplicity*. Indianapolis: New Riders.
- Park, Y. A., & Gretzel, U. (2007). Success factors for destination marketing websites: a qualitative meta-analysis. *Journal of Travel Research*, 46(1), 46-63.
- Pujani, V., Khairunissa, S., & Meuthia. (2015). The Role of Usability of E-travel Adoption; Evidence from Website Lookers in Indonesia. *Proceedings of the Australian Conference on Business and Social Sciences*, (pp. 1284-1295). Sydney.
- Qi, S., Law, R., & Buhalis, D. (2008). Usability of Chinese destination management organization websites. *Journal of Travel & Tourism Marketing*, 25(2), 182-198.
- Rodríguez-Molina, M. A., Frías-Jamilena, D. M., & Castaneda-Garcia, J. A. (2015). The contribution of website design to the generation of tourism destination image: the moderating effect of involvement. *Tourism Management*, 47(12), 303-317.
- Ruel Novabos, C., Matias, A., & Mena, M. (2015). How good is this destination website: a user-centered evaluation of provincial tourism websites? *Procedia Manufacturing*, 3, 3478-3485.
- Saaty, T. L., & Vargas, L. G. (2013). *Decision Making with the Analytic Network Process*. New York: Springer.
- Salavati, S., & Hashim, N. H. (2015). Website adoption and performance by Iranian hotels. *Tourism Management*, 46, 367-374.
- Shee, D. Y., & Wang, Y. S. (2008). Multi-criteria evaluation of the web-based e-learning system: a methodology based on learner satisfaction and its applications. *Computer & Education*, 50(3), 894-905.

- Tavakoli, R., & Wijesinghe, S. N. (2019). The evolution of the web and netnography in tourism: a systematic review. *Tourism Management Perspectives*, 29, 48-55.
- Tsai, W., Chou, W., & Lai, C. (2010). An Effective Evaluation Model and Improvement Analysis for National Park Websites: a case study of Taiwan. *Tourism Management*(31), 936-952.
- Túñez-López, M., Altamirano, V., & Valarezo, K. P. (2016). Collaborative tourism communication 2.0: Promotion, advertising and interactivity in government tourism websites in Latin America. *Revista Latina de Comunicacion Social*, 71, 249-271.
- Tzeng, G. H., & Huang, J. J. (2011). *Multiple Attribute Decision Making*. Boca Raton, Florida: Taylor & Francis Group.
- UNWTO. (2008). *Handbook on E-Marketing for Tourism Destinations*. Madrid: World Tourism Organization and European Travel Commission.
- UNWTO. (2019). *International Tourism Highlights*. Madrid: World Tourism Organization.
- World Bank. (2015). *www.data.worldbank.org/indicators*. Retrieved 10 30, 2015, from *www.worldbank.org*.
- Wu, G. (2018). Official websites as a tourism marketing medium: a contrastive analysis from the perspective of appriaisal theory. *Journal of Destination Marketing and Management*, 10, 164-171.

Recommended Citation

ABBASPOOR, NILOOFAR ; Mohammad Ali Pour, RASOUL; Bagheri , FATEMEH.(2021)."An Evaluation of the Usability of Tourism Destination Websites of Iran and Malaysia: an ANP and DEMATEL hybrid method". *International Journal of Digital Content Mangement*, 1(2):

