

EVALUATION OF HOTEL WEBSITES IN THE REGION OF EASTERN MACEDONIA AND THRACE

Stavros VALSAMIDIS¹, Athanasios MANDILAS², Lambros TSOURGIANNIS³, Persefoni POLYCHRONIDOU⁴

¹ Eastern Macedonia and Thrace Institute of Technology, Kavala, Greece, svalsam@teiemt.gr

² Eastern Macedonia and Thrace Institute of Technology, Kavala, Greece, smand@teiemt.gr

³ Region of Eastern Macedonia and Thrace, Regional District of Xanthi, Greece, Itsourgiannis@gmail.com

⁴ Eastern Macedonia and Thrace Institute of Technology, Kavala, Greece, ppolychr@gmail.com

Abstract: *The tourism industry is one of the major industries that operates and develops techniques of e-tourism. The benefits of tourism enterprises are many, as long as tourism is an important sector of economic activity worldwide and contributes to GDP. In particular, in a region such as the Region of Eastern Macedonia and Thrace (REMTh), the benefits that can arise are many. The development of appropriate hotel websites in REMTh can contribute decisively in this direction. Millions of euros have been invested in the development of websites, often without much thought of how to evaluate the effectiveness of sites. This study evaluates the websites of hotels in the region of Eastern Macedonia and Thrace by assessing different criteria with the aid of a 24-term questionnaire for the 362 hotels of the REMTh. The results highlight that there is room for improvement in several aspects of the hotel websites.*

Key words: Tourism, Hotels, Region of Eastern Macedonia and Thrace, Website evaluation.

JEL Classification Codes: L86, Z39.

1. INTRODUCTION

Tourism is a human activity which leads to navigating different locations, which have, either natural beauty or rich history, either mechanically or technologically impressive achievements. Tourism activities cover a wide range of sectors from agriculture to secondary industries through many service suppliers (Proust et. al. 2009). Tourism sector consists of a powerful developing force and it is a key sector in the national economies (Morgan and Pritchard, 2002). Tourism and hospitality consist of key economic activities worldwide and therefore they play an important role to tourist industry (Tripathi & Sddiqui 2010, Williams, 2006).

Unlike durable industrial goods due to the nature of the goods and services offered in tourism (e.g., intangibility, complexity, diversity, and interdependence), consumers are more than willing to gather all information about the product to decrease the difference between expectations and experiences and minimize the purchase risk (Moharrer et al., 2013; O'Connor & Frew, 2002). Nowadays potential tourists are able to benefit from many services through the Internet such as reservation procedures and payments, touristic product catalogues, frequently asked questions, updated information and the like (Wood and Heerden, 2007). Online tourism services which have been adopted in many developed countries have been a subject of study also from the academic aspect for the past few years (Kao et al., 2005; Wood & Heerden, 2007).

Although online tourism services have demonstrated their benefits the assessment of customer requirements, tourism web sites and online services have not been studied sufficiently (Razak et al., 2014). Information communication technology and tourism are the most significant dynamics of global economy. Both tourism movements as well as information communication technology continue to grow and ensure strategic opportunities on a world wide basis, powerful tools for economic growth, a new distribution of wealth and equal development (Kim et al., 2011). At the same time in the present day information technology has become a powerful strategic tool for tourism operations to establish a sustainable competitive advantage to define touristic products, their introduction, dissemination and organize them in a collective way and present them to the consumer (Tsourgiannis et al., 2015).

Haghtalab et al. (2012) studied the impact of the dimensions of e-satisfaction in the determination of e-satisfaction regarding the web site services of the tourism industry. The study revealed that in terms of convenience, safety, website design and product information, the web site had a significant association with the establishment of e-satisfaction with customers, while no association was determined between product orders and e-satisfaction. The study carried out by Pritwani & Sharma (2011) regarding online satisfaction revealed that the quality of information and financial trust have an important impact on e-satisfaction. Asgari et al. (2012), carried out a study on the web pages of hotels and determined a positive and significant association between quality and e-satisfaction.

Electronic Tourism is defined as all the possibilities offered by the Internet and new technologies for people who want to travel (Cheng et al., 2014). Thus, a traveler can search, compare and closed electronic agreement with accommodation, transport, tour operator, and may have previously browsed information on attractions, museums, cultural events, restaurants, bar, transportation geographical place to be visit (Chiu, 2009).

E-tourism reflects the digitalisation of all processes and value chains in the tourism, travel, hospitality and catering industries. It emerges as a term describing the entire range of applications of ICTs on tourism and the implications for the tourism value chain. Major opportunities and challenges have emerged and need to be addressed by all industry players (Buhalis & Deimezi, 2004).

Diversity presented the tourism industry and the difficulty that appears to online services and applications has created two types of businesses (Wang and Yu, 2002). On the one hand, there are large tourist businesses using modern management methods and the other small and often family tourism businesses which amateur and do not have the necessary knowledge of the technology and the ability to embrace new electronic applications and services for modernizing and increasing the efficiency of their business (Evans et al., 2000). The digital divide brought by the revolution of the Internet tourism stimulated the differences and disadvantages of small tourism businesses providing comparative competitive advantages in the big tour companies (Jacobsen & Munar, 2012).

Tourism is one of the main industries in Greece that stimulates economic development in industries from hospitality, transport, construction and retail, to small businesses such as restaurants, bars and tourism agents (Tsiotsou, 2006). It has become a significant source of foreign exchange revenues (Economic and Social Commission for Asia and the Pacific, 2007). Tourism industry, which involves the hospitality industry as a significant component, has become the world's largest industry and the long-term global growth projections are greater than for any other industry (The World Travel and Tourism Council, 2001).

The tourism sector is one of the most important economic resources in Greece. According to data for 2015, Greece hosted approximately 26.1 million tourists and revenue averaging 14.1 billion euro was generated (Greek Tourism Confederation, 2015). The multiplier effect in the

tourism sector from an economic aspect also has a direct and indirect positive impact on many side industries.

According to Greek Tourism Confederation (2013) the tourism industry has played a significant role in Greek economy by contributing to the GDP by 16.4% (GTO, 2013).

Eastern Macedonia and Thrace is one of the 13 regions of Greece based in Komotini. It consists of the prefectures of Drama, Evros, Kavala, Rodopi and Xanthi. It borders Turkey to the east, Bulgaria to the north and west with the Region of Central Macedonia, south coast of the Aegean Sea. It is the main gateway interface between European Union countries and the Mediterranean, Asia and the Black Sea area countries and has emerged as a major internal border node of the European Union. Eastern Macedonia and Thrace is also one of the oldest parts of Europe.

The existing tourism in the Region of Eastern Macedonia and Thrace (REMTh) is estimated that does not correspond to the remarkable natural and human resources and collect that favor the development of many forms of tourism. The standard of mass, mainly marine tourism, which prevails throughout the country has also penetrated to this region (Koudoumakis & Botzoris, 2014). This results, on the one hand the development of summer medium quality tourism in certain spatial zones (mainly on the coast of Kavala and Thassos) and on the other hand the failure to take advantage of the wider possibilities of the region to develop alternative forms of tourism, which lengthen the tourist season and attract high quality tourism (Ellul, 1996).

This paper evaluates the websites of hotels in the REMTh by assessing different criteria with the aid of a 24-term questionnaire for the 362 of the REMTh hotels.

2. BACKGROUND THEORY

Several studies attempted to measure web site quality (Huizingh, 2000; Young & Benamati, 2000;) and more specifically business web sites (Merwe and Bekker, 2003). However, the evaluation criteria still require theoretical justification (Miranda et al., 2006).

Taking into account the above, we base our evaluation on specific theoretical models and criteria. More specifically we use the Nielsen Heuristics (Nielsen, 1994) for the web sites' usability evaluation. These heuristics evaluate the usability of a system and can show most of the problems that may encounter in a system.

Table 1 Nielsen Heuristics for systems

Nielsen Heuristics	Actions for systems
System status visibility	The system should inform users through appropriate feedback about what is going on.
Match between system and the real world	The system should present information to users' language with familiar phrases and concepts.
User control and freedom	System should provide a clearly marked "emergency exit" in case of user mistake.
Consistency and standards	System should be consistent and follow specific standards and conventions in order not to confuse its users.
Error prevention	System shall ask for confirmation from users before committing to an action.
Recognition rather than recall	System should reduce user's memory load by making options and actions visible.
Flexibility and efficiency of use	The system should provide alternative ways of navigation to experienced users, not seen by the novice users.
Aesthetic and minimalist design	Minimalism should characterize system design. Users should not see information which is irrelevant or rarely needed.
Help users recognize, diagnose, and recover from errors	Error messages should be simple and help user recover from errors. Therefore attention should be paid to the language used in error messages.
Help and documentation	Adequate documentation should be available whenever needed by the user.

Source: Nielsen, J., 1994. *Usability inspection methods*, John Willey, New York.

One of the evaluation's main goals is to evaluate system usefulness and ease of use. Evaluation is a process common to most of the products and it is not rare in the Internet. It helps

in controlling the design and development goals of every implementation and contributes in recommending improvement ways. It evaluates if a certain webpage is drawn near the target customers, it functions efficiently and its content is full, correct and relevant with the theme. The Internet has no operation time, it is multinational and multicultural, thus the language, the images and the graphics that are used must have a universal character.

Also, we are based on the Technology Acceptance Model (TAM) (Davis, 1986). This model was developed in order to explain the acceptance of information systems as well as to predict the value of related factors to the spread of these systems (Davis et al., 1989). TAM is studying the factors that affect the intention of the user to use an information system, an environment or just information, and proposes the connection between two main factors: the perceived ease of use and the perceived usefulness. In Davis (1989) it is defined the perceived usefulness as the degree a person believes that a specific system will be raising his/her performance in his/her job. Respectively the perceived ease of use is defined as the grade that a person believes that the use of a specific system does not need effort. According to this model the main factors that affect the actual use of a system are the perceived ease of use and the perceived usefulness. Research has proved the validness of TAM model, which is widely accepted (Legris et al, 2003).

Morrison et al. (1999) identified four perspectives for hotel website evaluation; customer, internal, marketing and technical. They applied an approach in evaluating a group of small hotels, operationalizing each perspective through a set of critical success factors (CSFs). Huotari & Wilson (2001) stated that in any organization certain factors are critical to its success and the organization will fail if it does not achieve the objectives associated with these factors. In tourism and hospitality website evaluation, the CSFs represent criteria that a website must meet in order to be effective. Table 2 shows a list of 25 CSFs for hotel website evaluation as suggested by Morrison et al.

Table 2. Critical Success Factors for effective websites

Perspectives	Critical Success Factors
Technical	<ul style="list-style-type: none"> • Currency of links • Effective use of HTML • Reciprocal hyperlinking • Registration with search engines • Short download time • Traffic monitoring and analysis
Marketing	<ul style="list-style-type: none"> • Positioning approach • Market segmentation and target marketing • Marketing research and database marketing • Relationship marketing • Partnerships • Tangibilizing of hotel services • Marketing evaluation
Internal	<ul style="list-style-type: none"> • Ease of site maintenance • Schedule for site maintenance and updating • Skills to maintain site • Attractiveness • Availability and reservations • Content and organization
Customer	<ul style="list-style-type: none"> • Currency of information • Interactivity • Needs of special customer groups • Response verification and speed • Security of purchases • User friendliness

Source: Morrison, A. M., Taylor, J. S., Morrison, A. J. & Morrison, A. D. (1999). *Marketing small hotels on the World Wide Web. Information Technology & Tourism*, 2 (2), 105.

Although the authors acknowledged the importance of the internal perspective, they were unable to measure all of its CSFs since they did not have access to this information. Our evaluation criteria include accuracy of provided information, ownership of the webpage, objectiveness, renewal and update, value and accuracy of information provided, recovery time of information, readable webpage, presentation with a uniform and balanced way (color, animation, etc.), in order the visitors be focused on the information provided. Additionally according to the TAM model ease of use and usefulness are examined. The last two criteria are important for the actual use of the hotels web services. In our study, we investigate whether the user believes that the environment is simple and easy to handle and whether the navigation in the system is easy and friendly. The outcome of these questions emerges the perceived ease of use of hotel services. Additionally, the usefulness of a system is the second factor that affects the system's actual use. So, we examine the user perceived usefulness of the system. In order the users to do that we ask, whether they feel that hotel websites help them do their job more effective and whether they intend to use the sites in the future. The answers to these questions show the perceived usefulness of the hotel services.

3. RESEARCH METHODOLOGY

In order to ascertain the views of experts in evaluation of hotel websites, a self administrative questionnaire was chosen to collect the data for research in the Region of Eastern Macedonia and Thrace (REMTh). In the questionnaire we chose most of the questions to be closed for quick completing and data processing. Moreover, the questions were multiple choice, where it is possible to choose among several predefined answers. Most of them were questions of scale or preference, where the degree of preference of the evaluator stated. They are the most important questions in a questionnaire, because they allow classification of the views or attitudes of evaluators. Furthermore, we attended the questionnaire marked by clearness and clarity. The questions were short and clear. The negative questions were avoided because they are often misunderstood, since the negative keyword is ignored and the evaluator gives an answer that is contrary to his/her real opinion. Also we did not include questions with double meaning, because they require the evaluator to answer two separate ideas with a single answer.

In our study we developed a questionnaire with 24 questions. The chosen scales in this research are the Likert and the Gutman. With the five-point Likert scale (1=very low, 2= low, 3=medium, 4= high, 5=very high) we measure the importance of the criteria (Likert, 1961). The Likert scale is commonly used in the literature for behavioral prediction models (Likert, 1967). In the Gutman scale, the attitudes have two response categories "Yes" and "No" (Guttman, 1950). The outcomes of these questions show that users have a high perception of system ease of use and usefulness. As a consequence, the actual use of the systems is high.

The final questionnaire was formulated and drafted. Regarding the content of the questions in the questionnaire, they can be grouped into the following five parts: the first part investigates the general information of the studied hotel units. In the second part, the speed of the hotel websites is measured. In the third part, the design of the hotel websites is analyzed. In the fourth part, the navigation at the hotel's website is studied. Finally in the fifth part, the content of the hotel website is assessed.

The conducted research used as sample all the hotels in the Region of Eastern Macedonia and Thrace, where 362 hotels operate (REMTh, 2015). The questionnaire designed to meet the research objectives was piloted in July 2015 for the Regional District of Kavala. The pilot survey indicated that no modification was necessary. Therefore, the main survey was conducted between September and October of 2015 in the REMTh. The five prefectures (Drama, Kavala included Thassos island, Xanthi, Rodopi, Evros included Samothraki island) consist the REMTh.

The questionnaire was filled by two experts in websites design and evaluation. The evaluation criteria are described in the previous section. The data obtained from the questionnaire responses were appropriately processed using SPSS and Statgraphics software.

Table 3: The structure of the sample

Prefecture	Number of Hotels existed in each prefecture	% of Hotels existed in each prefecture	Number of beds existed in each prefecture	% of beds existed in each prefecture
Drama	21	5.8%	1068	5.1%
Evros	62	17.1%	3815	18.1%
Xanthi	18	5.0%	1427	6.8%
Rodopi	20	5.5%	1506	7.2%
Kavala	241	66.6%	13185	62.8%
Total	362	100%	21001	100%

The data in table 3 shows that for the region of Eastern Macedonia and Thrace, the current situation is as follows. The majority of the hotels is located in the prefecture of Kavala which corresponds to 66.6% of all accommodation due to tourism in Thassos, as mentioned above as 57.4% concerns the island. Followed by the prefecture of Evros with 17.1% in hotels. This is due to the significant growth of tourism in recent years both in Samothrace and Alexandroupolis. Then, the prefecture of Drama with 5.8% in accommodation, the prefecture of Rodopi with 5.5% and finally the prefecture of Xanthi 5.0%.

4. RESULTS

In this section we analyze the results obtained by research through the questionnaire.

4.1 Distribution of the sample by category

Table 4. Hotels per category (stars)

Stars	Number of Hotels
5	9
4	22
3	88
2	170
1	73
	362

Observing the distribution of the hotels in the Region of Eastern Macedonia and Thrace (table 4), it is clear that the vast majority of them are two stars hotel (47%). The category of three stars hotel consists of the 24% followed by the one star category which comprise the 73%. The category of four star hotels concentrate 6% of the hotels existed in Region of Eastern Macedonia and Thrace whilst only the 2% are five stars hotels.

4.2 Loading time of the homepage

Table 5. Loading time of homepage

Duration (in sec)	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
One	0.00%	0.00%	0.00%	6.19%	0.00%
Two	8.70%	12.50%	7.69%	31.96%	0.00%
Three	17.39%	12.50%	15.38%	14.43%	0.00%
Four	21.74%	25.00%	15.38%	13.40%	27.27%

Five	17.39%	25.00%	0.00%	13.40%	18.18%
Six	21.74%	12.50%	15.38%	7.22%	0.00%
Seven or more	13.04%	12.50%	46.15%	13.40%	54.55%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

As it is appeared in Table 5, most of the hotel websites of the prefecture of Evros have loading time of their homepage four and six seconds. In the prefecture of Rodopi, the hotel websites have loading time four and five seconds with the percentages 25%. The worst case for the loading time of the homepage is for hotel websites in Xanthi where the time is more than six seconds with percentage 46.15%. In the prefecture of Kavala, most of the hotel websites have satisfactory loading time with dominant category two seconds with percentage 31.96%. In the prefecture of Drama the loading time of hotel websites is more than six seconds with percentage 54.55%.

4.3 Download time of the links in homepage

Table 6. Loading time of links

Duration (in sec)	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
One	0.00%	0.00%	0.00%	1.03%	0.00%
Two	0.00%	0.00%	0.00%	11.34%	9.09%
Three	4.35%	0.00%	7.69%	15.46%	0.00%
Four	8.70%	6.25%	15.38%	23.71%	0.00%
Five	43.48%	18.75%	30.77%	11.34%	0.00%
Six	4.35%	18.75%	7.69%	9.28%	0.00%
Seven or more	39.13%	56.25%	38.46%	27.84%	90.91%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

It is observed that the prefecture, where the links open more quickly on the website, is the prefecture of Evros in percentage 43.48% and speed five seconds. In the prefectures of Drama, Rodopi, Xanthi and Kavala, the speed over six seconds are at percentages 90.91%, 56.25 %, 38.46% and 27.84% respectively.

4.4 How well is the website designed?

Table 7. Design of the website

Quality of design	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very good	26.09%	75.00%	69.23%	43.30%	36.36%
Good	34.78%	12.50%	30.77%	22.68%	27.27%
Normal	30.43%	12.50%	0.00%	30.93%	9.09%
Bad	8.70%	0.00%	0.00%	2.06%	18.18%
Very bad	0.00%	0.00%	0.00%	1.03%	9.09%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

According to Table 7, the prefecture where the hotel websites are very well designed is the prefecture of Rodopi in percentage 75.00% and the last in ranking is the prefecture of Evros in percentage 26.09%.

4.5 How innovative is the website design?

Table 8. Innovation in the design of the website

Innovative design	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very much	21.74%	18.75%	0.00%	14.43%	18.18%
Much	0.00%	43.75%	53.85%	19.59%	18.18%
Normal	30.43%	31.25%	23.08%	30.93%	0.00%
Little	26.09%	0.00%	23.08%	30.93%	36.36%
Very little	21.74%	6.25%	0.00%	4.12%	27.27%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

As it is appeared in Table 8, the prefecture of Xanthi obtains the highest percentage in terms of innovation on hotel websites. Hotels of the prefecture of Evros have enough innovation on the design of the website and hotels of the prefecture of Rodopi have very innovative website. With regard to the prefecture of Kavala, the hotel websites are ranging between normal and little. In the prefecture of Drama the innovation of hotel websites is little.

4.6 Is there uniformity in the design of the website?

Table 9. Uniformity in the design of the website

Uniformity	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very much	39.13%	62.50%	76.92%	40.21%	27.27%
Much	17.39%	25.00%	15.38%	22.68%	36.36%
Normal	39.13%	12.50%	7.69%	22.68%	18.18%
Little	0.00%	0.00%	0.00%	14.43%	0.00%
Very little	4.35%	0.00%	0.00%	0.00%	18.18%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

As in the previous question, websites of the hotels in Xanthi dominate at the uniformity with percentage 76.92%. Generally, for the REMTh, the uniformity of hotel websites in ranging mainly between much and very much.

4.7 How attractive is the website regarding the combination of graphics and text?

Table 10. Attractiveness in terms of graphics and texts

Attractiveness	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very much	17.39%	50.00%	7.69%	22.68%	9.09%
Much	13.04%	43.75%	30.77%	22.68%	18.18%
Normal	26.09%	0.00%	53.85%	24.74%	27.27%
Little	21.74%	6.25%	7.69%	26.80%	36.36%
Very little	21.74%	0.00%	0.00%	3.09%	9.09%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

It is presented in table 10 that hotel units in the prefecture of Rodopi are the most attractive in terms of graphics and texts of their websites. In contrary to the hotel websites of Drama and Evros which are the least attractive ones.

4.8 Are the links clearly defined within each website?

Table 11. Clarity of links within the website

Clarity	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very much	65.22%	100.00%	92.31%	60.82%	36.36%
Much	21.74%	0.00%	7.69%	23.71%	45.45%
Normal	8.70%	0.00%	0.00%	8.25%	0.00%
Little	4.35%	0.00%	0.00%	7.22%	18.18%
Very little	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

In all the prefectures there is clarity (very much) during navigation within the website except the prefecture of Drama where there is less clarity (much) within the website.

4.9 Does the hotel website has an introductory homepage?

Table 12. Introductory homepage

Homepage	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Yes	34.78%	31.25%	38.46%	35.05%	9.09%
No	65.22%	68.75%	61.54%	64.95%	90.91%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The hotels that have introductory homepage are located in the prefecture of Xanthi in percentage 38.46%, in contrast to the prefecture of Drama where a percentage of 90.91% do not.

4.10 How do you assess the quantity and richness of information?

Table 13. Assessment of information in terms of quantity and richness

Quantity and richness of information	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	26.09%	56.25%	23.08%	26.80%	27.27%
High	43.48%	31.25%	76.92%	42.27%	36.36%
Normal	17.39%	12.50%	0.00%	26.80%	9.09%
Low	13.04%	0.00%	0.00%	4.12%	18.18%
Very low	0.00%	0.00%	0.00%	0.00%	9.09%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Based on these criteria, excellent quantity and richness of information exist on hotels of the prefecture of Rodopi unlike the prefecture of Xanthi. It seems that in most prefectures the quantity and richness of information is ranging from high to very high.

4.11 How do you assess the quality of information in terms of validity?

Table 14. Quality assessment regarding the validity

Validity	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	17.39%	31.25%	15.38%	19.59%	45.45%
High	30.43%	25.00%	53.85%	30.93%	9.09%
Normal	8.70%	25.00%	30.77%	30.93%	45.45%
Low	26.09%	12.50%	0.00%	16.49%	0.00%
Very low	17.39%	6.25%	0.00%	2.06%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

In the categories very high and normal, in terms of validity the hotels of the prefecture of Drama dominate. Unlike the prefecture of Xanthi where the largest percentage is in the category high.

4.12 How do you assess the quality of information regarding the objectivity?

Table 15. Quality assessment in terms of objectivity

Objectivity	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	17.39%	68.75%	15.38%	21.65%	36.36%
High	26.09%	31.25%	46.15%	27.84%	18.18%
Normal	13.04%	0.00%	38.46%	31.96%	27.27%
Low	30.43%	0.00%	0.00%	16.49%	9.09%
Very low	13.04%	0.00%	0.00%	2.06%	9.09%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The lowest objectivity that websites have, is observed in the hotels of the prefecture of Evros (very low). In contrast to the prefectures of Rodopi and Drama, where the websites of the hotels have very high objectivity. In the prefectures of Xanthi and Kavala the websites of the hotels have normal objectivity. In ranking, the first prefecture in terms of objectivity of the hotel websites is the prefecture of Rodopi.

4.13 How do you assess the quality of information in terms of accuracy?

Table 16. Quality assessment in terms of accuracy

Accuracy	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	17.39%	56.25%	15.38%	19.59%	36.36%
High	21.74%	43.75%	30.77%	29.90%	18.18%
Normal	8.70%	0.00%	53.85%	29.90%	36.36%
Low	34.78%	0.00%	0.00%	18.56%	9.09%
Very low	17.39%	0.00%	0.00%	2.06%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The highest accuracy is observed in the hotel websites of the prefecture of Rodopi (very high). The hotel websites of the prefecture of Xanthi have normal accuracy of information, while the hotel websites of the prefecture of Evros have low accuracy.

4.14 How do you assess the quality of information regarding the content?

Table 17. Assessment of quality in terms of content

Content	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	26.09%	43.75%	15.38%	20.62%	36.36%
High	13.04%	37.50%	30.77%	28.87%	18.18%
Normal	8.70%	18.75%	15.38%	29.90%	27.27%
Low	13.04%	0.00%	38.46%	18.56%	9.09%
Very low	39.13%	0.00%	0.00%	2.06%	9.09%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The highest quality in terms of content is observed in the hotel websites of the prefecture of Rodopi (very high). The hotel websites of the prefecture of Xanthi have high quality in terms of content. The hotel websites of the prefecture of Kavala have regular quality in terms of content while, the hotel websites of the prefecture of Evros have very low quality in terms of content.

4.15 How do you assess the quality of information regarding the usefulness?

Table 18. Assessment of quantity in terms of usefulness

Usefulness	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very high	8.70%	6.25%	0.00%	5.15%	9.09%
High	17.39%	31.25%	30.77%	9.28%	27.27%
Normal	21.74%	43.75%	30.77%	37.11%	36.36%
Low	17.39%	18.75%	30.77%	22.68%	9.09%
Very low	34.78%	0.00%	7.69%	25.77%	18.18%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The usefulness of the hotel websites in the prefecture of Evros is very low; the usefulness of the hotel websites in the prefecture of Xanthi ranges from low to high. In the prefectures Rodopi and Kavala, the usefulness of the hotel websites is normal.

4.16 How easy it is to navigate from one web page to another?

Table 19. Easy on the navigation within the website

Easy of use	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Very easy	86.96%	87.50%	69.23%	65.98%	63.64%
Easy	8.70%	12.50%	30.77%	16.49%	36.36%
Normal	4.35%	0.00%	0.00%	8.25%	0.00%
Hard	0.00%	0.00%	0.00%	9.28%	0.00%
Very hard	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

For all the prefectures, hotel websites are very easy to navigate; In the ranking, the hotel websites of the prefectures Rodopi and the Evros are top.

4.17 In which languages is the website displayed?

Table 20. Languages available in the site

Language	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
English	82.61%	68.75%	69.23%	95.88%	90.91%
French	4.35%	6.25%	0.00%	2.06%	9.09%
German	17.39%	18.75%	7.69%	27.84%	9.09%
Greek	100.00%	100.00%	92.31%	89.69%	100.00%
Other	8.70%	31.25%	0.00%	12.37%	0.00%

As it appears in the table 20, the English language is more dominant in hotel websites of the prefecture of Kavala in contrary to the hotel websites of the other prefectures where the dominant language is Greek.

4.18 Is a site map available?

Table 21. Availability of site map

Site map	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Yes	60.87%	68.75%	53.85%	61.86%	81.82%
No	39.13%	31.25%	46.15%	38.14%	18.18%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

The prefecture of Drama is first regarding the facility of the hotel websites to view a map of where the hotel is located, so as to facilitate a tourist who visits for first time the prefecture or the hotel to orientate himself/herself more easily where s/he wishes.

4.19 Are the hotel facilities displayed on the hotel website?

Table 22. Display of facilities

Display of facilities	Percentage of Evros	Percentage of Rodopi	Percentage of Xanthi	Percentage of Kavala	Percentage of Drama
Yes	91.30%	93.75%	100.00%	90.72%	81.82%
No	8.70%	6.25%	0.00%	9.28%	18.18%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Regarding the viewing of facilities on the hotel websites, the first prefecture is the prefecture of Xanthi with percentage 100% and then the prefecture of Rodopi with percentage 93.75%.

5. DISCUSSION AND CONCLUSIONS

Having investigated the online tourism for the hotels of REMTh, it was found that this region may be an attractive tourist destination. However, the weaknesses identified on the websites of hotels could lead to a reduction of tourism in particular areas. Specifically, the following findings are identified:

In prefecture of Evros, the hotel websites run in satisfactory speeds. The design, graphics, text and multimedia used, are attractive and can attract users, if they are properly exploited by the hotels. The user also can easily navigate into the websites although, several websites are not very reliable since they have not been renewed recently. In Evros, the web visitor can see that some of the two or three star hotels have better promotion (publicity) than a five star hotel.

In prefecture of Rodopi the online promotion (publicity) of the hotels is satisfactory, as it is satisfactory the attractiveness of graphics and the excellent quality available to the users. The visitor can appreciate that the information content of the website is good enough since a large percentage has renewal in 2015.

In prefecture of Xanthi the situation is not so good in terms of loading speed for hotel websites. Nevertheless, the navigation within the website is very easy for users, it has attractive graphics and it is clear.

The prefecture of Kavala has the largest percentage of hotels because of Thasos that has most of the hotel accommodation. In this area, hotels that run through Internet do not have the best image and the graphics are not sufficiently attractive. In addition, the contents are often not clear and the information is not updated comparatively to the hotels of the other prefectures. In some hotels, the Greek language does not exist at all.

The prefecture of Drama may not have as much tourism as the other prefectures but has a sufficient quality of hotel websites. The hotel websites have good design, clarity, ease of use and reliable information, since a large percentage has recently updated in 2015.

The general conclusions are that: (1) A large proportion of hotels of the region, presents the websites with their benefits, the ability to view the map and there is the possibility of booking. (2) Although the prefecture of Kavala has more tourism than others, the promotion that appears on the Internet is not as good as in the other four prefectures of the region. The prefectures of Xanthi and Drama deserve more tourism with the promotion (publicity) they have on the Internet. (3) The Greek language is the default in most hotels of the region although this is not true in the prefecture of Kavala which largely use English as default language.

In order a hotel website to be efficient, useful and complete, it should give the possibility to the user, candidate tourist, to offer everything s/he needs to organize the holiday, just using it without having to devote much time and effort for this process. Also, security, privacy and accuracy of information are also necessary. Finally, it is worth noting that it would be good for the region's website for tourism, to conduct periodic audits to the websites of the hotels if they update their information at regular intervals, and if it is possible to present it at the website of the region. For hotels that are not displayed on the Internet must have the incentives to develop their own website.

REFERENCES

1. Asgari, A.A., Hamid, A.B.A., Asgari, A., & Mousaviour, S., The Determinants of E-Relationship Quality on E-Satisfaction In Hotel Websites, *Journal of Engineering*, 2 (9), 36-41, 2012.
2. Buhalis, D. and Deimezi R., eTourism developments in Greece, *International Journal of Tourism and Hospitality Research*, Vol. 5 (2), pp.103-130, 2004.
3. Cheng, S., Liu, K.S., Chiu, K.K.S., Huang, L.H., Li, S.H. & Chen, S.C., Clarifying the Effects of Electronic Service Quality on Customer Loyalty: An Empirical Study of E-Tourism, *International Journal of Business and Behavioral Sciences*, 4 (2), 1-8, 2014.
4. Chiu, C.K., Understanding Relationship Quality and Online Purchase Intention in e-tourism: A Qualitative Application, *Quality & Quantity*, 43 (4), 669-675, 2009.
5. Davis, F. D., A technology acceptance model for empirically testing new end-user information systems: theory and results. PhD Thesis, MIT Sloan School of Management, Cambridge, MA, 1986.
6. Davis, F.D., Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, pp. 319–339, 1989.
7. Davis, F.D., Bagozzi, R.P., Warshaw, P.R., User Acceptance of Computer-Technology - a Comparison of 2 Theoretical-Models. *Manage. Sci.*, 35, 982–1003, 1989.
8. Economic and Social Commission for Asia and the Pacific, Regional Study on the Role of Tourism in Socioeconomic Development. Consideration of Legislative Body and Intergovernmental Meeting Reports and Implementation of Selected Commission Resolutions, Including Resolution 60/1 on the Shanghai Declaration: Managing Globalization. Sixty-third session, Kazakhstan, 2007.
9. Ellul A., Tourism and Environment in European Countries. *Nature and Environment Series*, No. 83. Council of Europe, Strasbourg, France, 1996.
10. Evans G., Peacock M., Richards G., Small is Beautiful? ICTs and Tourism SMEs: A Comparative European Study, in ENTER2000 Conference Proceedings, Vienna, *Springer Computer Science*, 2000.
11. Greek Tourism Confederation, Greek Tourism: Facts and Figures. Athens, 2013 edition, 2014.
12. Greek Tourism Confederation (2014). http://sete.gr/_fileuploads/entries/Statistics/Greece/Basic%20Macroeconomic%20Figures%20of%20Greek%20Tourism/catID86/GR/130402_GDP2000-12_new%2
13. Greek Tourism Confederation. http://sete.gr/media/5444/periodiki-meleti-ellinikos-tourismos_tesyhos-1.pdf, 2015.
14. Greek Tourism Organisation (2013). http://www.eot.gr/sites/default/files/files_basic_pages/ELSTAT_2013.pdf
15. Guttman, L. The basis of scalogram analysis. In *Measurement and Prediction*, edited by S. A. Stouffer. Princeton University Press, Princeton, New York, 1950.
16. REMTh, Personal Communication with Tourism Department, Regional District of Kavala, 2015.

17. Haghtalab, H., Tarzeh, Z.G., & Nabizadeh, T., Investigating the Effects of Electronic Satisfaction Factors on Forming Electronic Satisfaction of Website Services in Tourism Industry, *Research Journal of Recent Sciences*, (11) 1, 1-8, 2012.
18. Huizingh, E., The content and design of web sites: an empirical study. *Information & Management*, Vol. 37, No. 3, pp. 123-134, 2000.
19. Huotari, M.-L., & Wilson, T. D., Determining organizational information needs: The Critical Success Factors approach. *Information Research*, 6 (3), 2001. Retrieved October 10, 2002, from <http://www.shef.ac.uk/~is/publications/infres/paper108.html>
20. Jacobsen, J. , & Munar, A., Tourist information search and destination choice in a digital age. *Tourism Management Perspectives*, 1(1), 39–47, 2012.
21. Kao, Y., Louvieris, P., Powell -Perry, J., & Buhalis, D., E-Satisfaction of NTO's Website Case Study: Singapore Tourism Board's Taiwan Website, *In Proceedings of ENTER*, 227-237, 2005.
22. Kim, M.J., Chung, N., & Lee,C.K., The Effect of Perceived Trust on Electronic Commerce: Shopping Online for Tourism Products and Services in South Korea, *Tourism Management*, 32, 256-265, 2011.
23. Koudoumakis, P. D., & Botzoris, G. N., Beyond “Absorption”: The Impact of EU Structural Funds on Greece (1981-2013), 2014.
24. Legris, P., Ingham, J., & Collette, P., Why do people use information technology? A critical review of the technology acceptance model. *Information and Management*, Vol. 40, No. 3, pp. 191-204, 2003.
25. Likert, R., *New Patterns of Management*, McGraw-Hill: New York, USA, 1961.
26. Likert, R., *The Human Organization: Its Management and Value*, McGraw-Hill: New York, USA, 1967.
27. Merwe, R. V. D. and Bekker, J., A framework and methodology for evaluating e-commerce Web sites. *Internet Research: Electronic Networking Applications and Policy*, Vol. 13, No. 5, pp. 330-341, 2003.
28. Miranda, F.J., Cortes, R., Barriuso, C., Quantitative Evaluation of e-Banking Web Sites: An Empirical Study of Spanish Banks. *The Electronic Journal Information Systems Evaluation*, Vol. 9, No. 2, pp. 73 - 82, 2006, available online at www.ejise.com.
29. Moharrer, M., Tahayori, H. & Sadeghian, A, Drivers of Customer Satisfaction in Online Tourism- The Case of European Countries, *Middle-East Journal of Scientific Research*, 13 (9),1172-1179, 2013.
30. Morgan, N.J. & Pritchard, A. *Tourism, Promotion & Power: Creating Images, Creating Identities*. Chichester: Wiley, 2002.
31. Morrison, A. M., Taylor, J. S., Morrison, A. J. & Morrison, A. D. Marketing small hotels on the World Wide Web. *Information Technology & Tourism*, 2 (2), 105, 1999.
32. Nielsen, J., *Usability inspection methods*, John Willey, New York, 1994.
33. O'Connor, P., & Frew, A.J., The future of Hotel Electronic Distribution: Expert and Industry Perspectives, *The Cornell Hotel and Restaurant Administration Quarterly*, 43 (3), 33-45, 2002.
34. Palmer, J. W., Web Site Usability, Design, and Performance Metrics. *Information Systems Research*, Vol. 13, No. 2, pp. 151-167, 2002.
35. Pritwani, K., & Sharma, N.K., An Exploratory Study to Assessing the Online Satisfaction of Foreign Tourists Visiting Pushkar, *South Asian Journal of Tourism and Heritage*, 4 (2), 193-205, 2011.
36. Proust, R., Angelakis, G. Drakos P., A study of tourist' attitudes and preferences for local products in Crete and changes induced by the current economic crisis, 133th, *EAAE Seminar A resilient European food industry and food chain in a challenging world*, Chania, Crete, Greece, 03-06 September 2009.
37. The World Travel and Tourism Council, *Research Summary and Highlights*. London, 2001.

38. Tourism Services Among Malaysian Consumers”, *Procedia- Social and Behavioral Sciences*. 130, 577-582.
39. Tripathi, S. & Siddiqui, M., An empirical study of tourist preferences using conjoint analysis. *International Journal of Business Sciences and Applied Management*, 5, (2), 2010.
40. Tsiotsou, R., Using Visit Frequency to Segment Ski Resorts Customers. In *Journal of Vacation Marketing*, Vol. 12 No. 1, pp. 15-26, 2006.
41. Tsourgiannis, L., Delias P., Polychronidou P., Karasavvoglou A. and Valsamidis S. Exploring the factors affecting Greek people to make vacation in Greece: A preliminary analysis, *Procedia Economics and Finance* 19, 342-352, 2015.
42. Wang, Y. and Q. Yu, Defining the virtual tourist community: implications for tourism marketing, *Tourism Management*, 23, pp. 407-417, 2002.
43. Williams, A., Tourism and hospitality marketing: fantasy, feeling and fun. *International Journal of Contemporary Hospitality Management* 18, 482-495, 2006.
44. Wood, K., & Heerden, C.V., The Relationship Between e-Service Quality, e-Value, e-Satisfaction and e-Loyalty in Online Tourism Portals, *SAJEMS NS*, 10 (3), 281-297, 2007.
45. Young, D. and Benamati, J., Difference in public web sites: The current state of large U.S. firms. *Journal of Electronic Commerce Research*, Vol. 1, No. 3, pp. 94-105, 2000.