

## **An evaluation of the websites of sustainable tourism websites. An eye tracking experiment.**

Authors: **Dr. Ioanna Yfantidou**

Researcher, Aristotle University of Thessaloniki, Department of Journalism and Media Communications

***This study was funded by the Hellenic Foundation for Research and Innovation under the [2<sup>nd</sup> Call for H.F.R.I. Research Projects to Support Postdoctoral Researchers.](#)***

### Introduction

The purpose of this study is to examine and evaluate the content of the websites of sustainable tourism services in Greece. Three different research methodologies are combined for the study: 1) a content analysis the marketing messages of selected sustainable tourism websites, 2) an eye tracking experiment to monitor the point of gaze towards the characteristics of the content-analysed websites, and 3) an online survey which includes various questions about customers' views on the website design of sustainable tourism SMEs. The findings of the study will be used to create a new, beta-version website about eco-tourism in Greece.

### Literature review

Tourism is one of the most thriving industries in the world, making a substantial input to the world's Gross Domestic Product (GDP). In fact, in some countries, tourism is the biggest contributor to their GDP. Every year, millions of people travel to distant places, to experience different cultures. Travelling has been made easier the last 20 years due to improved and inexpensive tourism infrastructure as well as due to the rise of the internet. According to the International Association of Scientific Experts in Tourism (AIEST, 2019), the immense rise of travelling resulted in the creation of many types of tourism. Yet this research project focuses only on the types that lie under the sustainable tourism notion: ecotourism, nautical tourism, culinary tourism, adventure tourism and geo-tourism.

Greece is the top European ecotourism destination with 7 UNESCO World Heritage sites, 29 National Parks and numerous ecolodges around the country (TIES, 2018). There are over 300 Blue Flag labelled beaches, ancient ruins, traditional architecture, and gorgeous vineyards. Regarding sustainable SMEs, there is a range of tourism services on offer such as windsurfing, bird watching, hiking, horse riding, and mountaineering and a plethora of eco products like bio-wine, dairy products, local spoon sweets and wild herbs (TIES, 2018). Tourism is a central player of the Greek economy and the need for adopting sustainable tourism practices is essential to align with the EU 2030 sustainable development goals and directives (EU, 2019).

The advance of Internet technology has contributed to the growing influence of online marketing on sustainable traveling (Lai and Shafer, 2005). Undeniably, knowledge regarding how ecotourism is practiced and how it is marketed through the Internet is still lacking (Lai and Shafer, 2005). However, in the web-tourism sector interactive characteristics expand the communication process between consumers, entrepreneurs and the Human2Human model (H2H). The ease of use, interactivity, and flexibility of Web based boundaries of the Internet (Dollin *et al.*, 2002) are principally appealing to tourism, due to the information-demanding concept of the industry (Gretzel *et al.*, 2000; Werthner and Klein, 1999, WTO Business Council, 1999).

The most significant characteristic of interactivity is to allow the tourism organisation to engage consumers' attention, curiosity and participation, to gather data about their preferences, and to use that data to provide tailored communication and services through customer relationship management (CRM). Therefore, the content of sustainable tourism services websites is central as it directly impacts the image of the destination and forms a virtual experience for the consumer (Cano and Prentice, 1998; Gretzel *et al.*, 2000). Tourism websites provide exceptional prospects for persuasion through interactivity and the capability to create motivating data environments (Gretzel *et al.*, 2000), such as virtual tours.

## Methodology

Considering that social sciences have largely relied on surveys and interviews as the main research methodologies to gain a deeper understanding into people's attitudes, this research project aims to follow a hybrid research methodology which three different studies.

### Study 1

The study starts with the content analysis of fifteen selected Greek sustainable tourism websites that are grouped per category (ecotourism, nautical tourism, culinary tourism, adventure tourism and geo-tourism). The SME's websites that are content analysed can be found in Table 10. The objective of this study is to determine whether there are any marketing patterns that can be identified. The importance of website evaluation has been addressed by many scholars (Law *et al.*, 2010; Morrison *et al.*, 2004). We followed a widely accepted website evaluation approach introduced by Schmidt *et al.* (2008), which includes 25 different attributes that are grouped into eight dimensions (Table 1) of promotion, price, product, multimedia, navigability, reservation system, customer retention, and privacy and security (Law *et al.*, 2022; Van Huy and Thai Thinh, 2022; Ramzaninejad *et al.*, 2020; Suau-Jimenez, 2019; Dominguez Vila, 2018).

### Study 2

The second study is the completion of an online survey that is related to people's views about the website design of sustainable tourism SMEs. The items of the questionnaire are based on Schmidt *et al.*'s (2008) scale (Table 1). The results are statistically analysed with SPSS to describe the respondents' views and identify useful relationships.

### Study 3

The third study is about the eye tracking experiment. The initial target was to invite around 130 participants to the eye tracking experiment, at the premises of Aristotle University of Thessaloniki. However, the experiments took place in September and November 2021, which is a time that the Greek Government had imposed Covid-19 restriction measures, such as the entrance to universities only with the appearance of a vaccination certificate or negative Covid-19 test. Consequently, this resulted in not being able to invite people who are not related to Aristotle University of Thessaloniki. Taking the above into consideration, we managed to perform some experiments (N=24) at the cafeteria of the School of Economics and Political Science, but we then had to delete the outputs as the noise and distractions were a huge caveat to the experiment and the data was not practicable. All in all, we had to compromise with inviting primarily students, and some admin staff, to take part in the experiment. In total, we managed to get data from 62 participants. The purpose of the eye tracking experiment is to monitor the point of gaze and the number of fixations towards the characteristics of the content analysed websites. Eye movement reflects the human thought processes; so, the participant's thought may be followed to some extent from records of eye movement (the thought accompanying the examination of the object). From these records we identified which elements attracted the participant's eye, in what order, and how often (Yarbus, 2013).

## Findings

### Content Analysis

Only descriptive statistics can be derived from the content analysis data as the number of SMEs' websites is very small (N=15) and the objective is to show the characteristics of those websites. Table 1 shows Schmidt *et al.*'s (2008) content analysis scale that has been used in numerous recent studies (Law *et al.*, 2022; Van Huy and Thai Thinh, 2022; Suau-Jimenez, 2019; Dominguez Vila, 2018).

Promotion	Hotel services/Business services text
	Hotel services/ Business services photos

	Room/Activities text
	Room/Activities photos
	Surrounding area text
	Surrounding area photos
Price	Presence of price segmentation
Product	Presence of product configuration features
Multimedia	Hotel services videos or 3D photos
	Room videos or 3D photos
	Surroundings videos or 3D photos
Navigability	Standard page design
	Standard menu structure
	Structure localisation information
	Home page links
Reservation system	Type of reservation system
	Reservation system response time
	Sales policies
Customer retention	User registration
	Newsletter
	Fidelity program
	FAQ
Privacy & Security	Privacy policy
	Secure credit card page
	Security policy

Table 1: Schmidt et al.'s (2008) scale about the content of tourism websites

Regarding the results, these are briefly presented in bullets:

- 80% of the websites include promotional text.
- 40% of the websites only show one picture and another 40% of them show up to three pictures of the hotel/business services.
- 100% of the hotels show both photos and promotional text.
- 100% of the websites show text for the surrounding area, however 66.7% of the websites show pictures of the surrounding area.
- Only 46.7% of the SMEs include a pricelist.
- 100% of the businesses provide the opportunity to personalise the service to the traveller's likes.
- Only 6.7% of the SMEs shows either videos or 3D pictures.
- 100% of the SMEs website go by the standard website design.
- 100% of the SMEs have a 'menu' structured website.
- 100% of the SMEs have adapted their website design to the business needs.
- 100% include links at their home page.

- In 20% of the SMEs' websites there is no online booking system, in 33.3% of the SMEs there is the option of an automated reservation, in 33.3% of the websites the reservation can be made by sending an email, and in 13.3% of the websites there is no information about reservations.
- For 33.3% of those SMEs the booking confirmation email was received within minutes.
- Only for 20% of the SMEs that offer online booking require user registration.
- In 60% of the websites there is a section about the reservation policy.
- 46.7% of SMEs do not provide a newsletter, 20% offer a personalised newsletter based on website cookies, and 33.3% offer a basic newsletter for all users.
- Only 6.7% of the SMEs provide a fidelity programme for their customers.
- 100% of the websites have a FAQs section.
- Privacy policy is mentioned in 73.3% of the websites.
- 73.3% of the websites provide a secure credit card page.
- Security policy is mentioned in 73.3% of the websites.

## Survey

The survey items are based on Schmidt et al.'s (2008) typology with a 5-Likert type scale from strongly disagree to strongly agree. The online survey was created through Google forms and sent to approximately 280 prospective respondents, primarily through LinkedIn and Facebook in November 2021. 196 responses were collected in 23 days.

The data was analysed with SPSS v.27. The majority of the respondents are men (56.1%) and most responses came from people aged 31 to 45 years (66.8%). It is worrying that we gathered no data from people above the age of 45. All respondents agreed that they go online to find information about their next holiday. Regarding the importance of information as opposed to pictures/videos, 50% of men agreed/strongly agreed that they care more about information provided in the website rather than pictures/videos. For women the respective percentage is remarkably smaller (37.2%). This finding shows the importance of text in tourism related SMEs and can later guide us in searching for similar information during the eye tracking experiment.

Then, we run a Pearson correlation to check whether there is a relationship between the importance of information in tourism websites and the purchase intention when information about pricing is clear and easy, but the results are not significant ( $p=.914$ ), hence we can't report any findings.

Similarly, we run a Pearson correlation to check if there is a relationship between the importance of pictures/videos in tourism websites and higher purchase intention when there is photos and information of surrounding places. The results show that there is a positive correlation between the two variables (Table 2),  $r(196)=.331$ ,  $p<.001$

		When I visit tourism related websites I care more about pictures/videos provided, rather than information	The more photos/info of surrounding places I see in a tourism website, the higher the chance to make a purchase
When I visit tourism related websites I care more about pictures/videos provided, rather than information	Pearson Correlation	1	.331*
	Sig. (2-tailed)		<.001
	N	196	196
The more photos/info of surrounding places I see in a tourism website, the higher the chance to make a purchase	Pearson Correlation	.331*	1
	Sig. (2-tailed)	<.001	
	N	196	196

\*\*Correlation is significant at the .0.1 level (2-tailed).

Table 2: Pearson correlation for the relationship between the importance of pictures/videos and higher purchase intention

Moreover, the results show that all women, and 79.8% of men prefer a website with hyperlinks on the home page (Tables 3 and 4).

It is best if there are quite a few hyperlinks in the home page of a tourism related website.	Gender		Total
	Males	Females	
Neither agree nor disagree	20.4%	0%	11.2%
Agree	19.4%	25.3%	21.9%
Strongly agree	60.2%	74.7%	66.3%
Total	100%	100%	100%

Table 3: Attitude towards the appearance of hyperlinks on the home page

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-square	216.096 <sup>a</sup>	6	.000
Likelihood ratio	40.807	6	.000
N of Valid cases	196		

- a. 6 cells (50%) have expected count less than 5. The minimum expected count is .01

Table 4: Chi square test for Attitude towards the appearance of hyperlinks on the home page

Regarding online reservation systems, the content analysis of the websites shows that a few SMEs do not have an online booking system in their websites and will accept reservations via email or telephone communication. The data show that 65.9% of the respondents (74.9% of women and 59.3% of men) agreed or strongly agreed that they prefer automated systems for reservations. Yet, 33.7% of the respondents did not mind about this feature (Table 5).

If I want to make a reservation online, I prefer automated systems for reservation (i.e. to book a room, to book a nautical activity).	Gender		Total
	Males	Females	
Neither agree nor disagree	40.7%	25.3%	33.7%
Agree	38.9%	25.3%	32.7%
Strongly agree	20.4%	49.4%	33.2%
Total	100%	100%	100%

Table 5: Preference of online reservations system

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-square	214.413 <sup>a</sup>	6	.000
Likelihood ratio	31.025	6	.000
N of Valid cases	196		

- a. 6 cells (50%) have expected count less than 5. The minimum expected count is .01

Table 6: Chi square test for preference of online reservations system

Another important finding from the content analysis is that a few SMEs did not include a privacy and security policy section in their websites. In fact, this finding is quite worrying considering GDPR. As a result, we wanted to check people's views around privacy and security policy and whether those two are associated. Table 7 shows that there is a strong positive correlation between privacy policy and security policy and the importance of them being clear and easy to find on the website.

Privacy policy should be clear and easy to find in tourism related websites	Security policy should be clear and easy to find in tourism related websites
---	--

Privacy policy should be clear and easy to find in tourism related websites	Pearson Correlation	1	.821*
	Sig. (2-tailed)		<.001
	N	194	194
Security policy should be clear and easy to find in tourism related websites	Pearson Correlation	.821*	1
	Sig. (2-tailed)	<.001	
	N	194	194

\*\*Correlation is significant at the .0.1 level (2-tailed).

Table 7: Pearson correlation for the relationship between privacy and security policy

Moreover, Frequently Asked Questions (FAQs) seem not to be very important in tourism related websites as 61.1% of men and 49.4% of women said that they disagreed or strongly disagreed that they prefer to see FAQs. Newsletters seem to be popular in many industries, but for the tourism related websites 38.9% of men and 50.6% of women said that they would like to be able to subscribe to the company's newsletter.

## Eye tracking experiment

An eye tracking experiment took place in November 2021 at the premises of the Department of Journalism and Media Communications, at Aristotle University of Thessaloniki, Greece. No incentive for participation was provided. All participants reported no color-blindness. In total, 87 participants were invited to take part in the experiment and 62 showed up on the day that they were allocated. 36 of the participants are university students. 54% are women and 46% are men. Most of the participants are of younger age (18 to 30 years old), and only 28% of them are above 31 years of age.

Considering that samples of past eye tracking studies on marketing and consumer behavior ranged from 40 to 60 participants (Muñoz-Leiva et al., 2019; García-Madariaga et al., 2019; Meißner et al., 2016; Piqueras-Fizman et al., 2013; Hervet et al., 2011; Clement, 2007) we consider the sample size for this research both adequate and sufficient.

Tobii Pro Lab was used to record the participants eye movement. Viewing was not binocular; instead the Tobii Pro screen-based eye tracker was used to monitor eye movements thus allowing participants' freedom of movement. Infrared (940nm) video-based technology was used by the system to monitor true gaze position on a display despite head motion. Eye positions were sampled at 120 Hz which means that the Tobii eye tracker tracks where the participants look 120 times per second, therefore providing detailed research into the timing and duration of fixation. The Tobii computer screen that was used was 22 inches with a 16:9 Aspect Ratio. The websites of the Greek SMEs that were content analysed in study 1 are selected as stimuli for the experiment.

The study was conducted in a quiet soundproof room under standard illumination conditions. Each participant was seated 64cm from the eye tracker and screen (valid for Tobii T Series Eye Trackers). After calibration, general instructions for the task were verbally communicated to each participant to ensure they fully understood what was asked.

Every participant could choose to view as many websites as they liked within a two minutes timeframe, and they were asked to navigate the websites as they would have done in a normal environment.

## Findings

In general, across all websites, there is a common finding: the participants paid more time reading information around food rather than anything else. Also, participants spent more time reading text than viewing photos. However, the pictures that grabbed participant's attention are related to scenery, food and sea. There are videos in only a couple of the researched websites, yet no participant viewed the videos. Regarding reservation and pricing, 83% of the participants visited or searched for the pricing section as well as the reservation section.

Areas of Interest (AOIs) were created after the experiment had finished, to illustrate where the participants fixated in every page of a website. Hessels et al. (2016) admit that AOI-production methods can be a problem because researchers choose the same AOI for similar stimuli (for example, all pictures is one stimuli, text is another, etc.). However, this may result in issues when making comparisons as the AOIs have different shapes and sizes. Indeed, this is true but, as the authors quote, there is no guidelines as to how to design AOIs, so we decided to follow the similarity method too.

After having produced the AOIs, we extracted heatmaps (Figure 1) and gaze plots (Figure 2) that show the *average* of our participants eye movement to illustrate the points of interest. In specific, a heatmap shows the areas within the page that the participant paid attention to, and the gaze plot presents the sequence of the eye movement (what the participant looked at first, second, third, etc.). Both heatmaps and gaze plots are very important eye tracking metrics as they illustrate what grabs people’s attention and what doesn’t. The ultimate goal in marketing is to hold people’s attention for as long as possible, and the eye tracking visualizations can help in that direction by providing data that are otherwise missed.

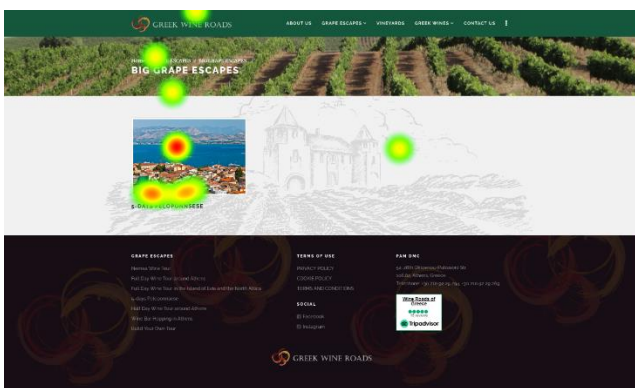


Figure 1: Heatmap example for the Wine Roads of Greece website

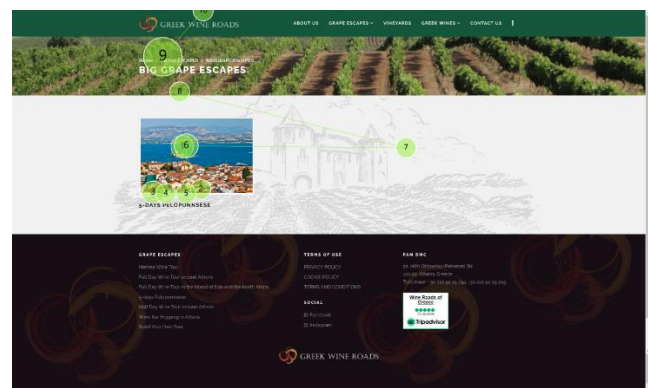


Figure 2: Gaze plot example for the Wine Roads of Greece website

Figures 2 and 3 show that, on average, the participants who visited the Wine Roads of Greece website spent 9 seconds in looking at the website title, reading the headline text, and looking at the picture about the trip to Peloponnese. The gaze plot shows that the first point of view was the picture, and the last one was the headline and the website title. This shows that the participants did not start viewing the page from start to bottom, rather they focused on the scenery first and then read the text which explains what the page is about. Interestingly, the participants did not look at the hyperlinks at the bottom of the page. This is in accordance with usability and market research which shows that people focus above the fold and will only scroll if the website is well-built and interesting (Alan Smith, 2022). An eye tracking experiment in 2018 showed that users spent about 57% of their page-viewing time above the fold and 74% of the viewing time was spent in the first two screenfuls (Fessenden, 2018).

### Fixation duration

We then wanted to check the average fixation duration for every website (Table 8). It needs to be noted that not all participants viewed all websites, so N is not 87. On average participants visited 9 websites, and as illustrated in Table 15, they spent more time reading the text than viewing pictures. All websites have a menu bar, but only some of them have a specialised sub-menu bar. The fixation duration on a menu or sub-menu bar is an indication of the user not liking what he/she sees, so they look for another page to visit. Six websites were not viewed at all.

INDUSTRY	COMPANY	Fixation duration per AOI				
		Headline	Text (body)	Pictures	Menu bar	Specialised menu bar
HOTELS	Ibiscos	0.32	0.76	0.23	0.14	0.21

	Mediterranean Olympus	0.24	0.65	0.15	0.18	0.29
	Akrathos	0.22	0.55	0.11	0.17	0
SMEs	Green Oliver Hiking and Adventure Travel	0.43	0.97	0.54	0.07	0.22
	Explosivo excursions	0.15	0.43	0.38	0.22	0.45
	Truffle hunting	0	0	0	0	0
GASTRO	Sani Gourmet	0.41	1.12	0.65	0.09	0.18
	Tsantali	0.38	0.87	0.43	0.29	0.65
	Wine roads of Greece	0.27	0.45	0.36	0.27	0
NAUTICAL	Surf Club Keros	0.58	1.54	0.76	0.06	0
	Sail Ionian	0	0	0	0	0
	Paros kite	0	0	0	0	0
GOVERNMENT	National Park of lakes Koronia and Volvi	0	0	0	0	0
	National Park of Mount Olympus	0	0	0	0	0
	National Park of lake Kerkini	0	0	0	0	0

Table 8: Average fixation duration per AOI per website

## Statistical analysis

To determine which variations had a significant impact on attention captured by each AOI, analyses of variance (ANOVAs) were performed on the total fixation duration data for each AOI.

The analysis of variance was performed with the independent variables being the headline, the text, the pictures, the menu bar, and the sub-menu bar (where applicable), and a dependent variable being the fixation time that was recorded through the eye-tracker (n=data points collected, which is either 4 or 5 AOIs). From the sum square (SS), mean square (MS), and F, statistically significant differences in fixation time were found between the groups, as listed in Table 9. It must be noted that table 9 does not include the six websites that were not viewed by any participant.

Item		SS	df	MS	F	Sig
<b>Ibiscos</b>	<i>Model</i>	45306,840	5	9061,368	57,653	0,000*
	<i>Error</i>	65068,660	414	157,17		
<b>Mediterranean Olympus</b>	<i>Model</i>	2928,011	5	585,602	2,772	0,000*
	<i>Error</i>	87435,589	414	211,197		
<b>Akrathos</b>	<i>Model</i>	3220,040	4	805,01	11,441	0,000*
	<i>Error</i>	29198,760	415	70,358		
<b>Green Oliver Hiking and Adventure Travel</b>	<i>Model</i>	5245,248	5	1049,049	7,726	0,000*
	<i>Error</i>	56209,752	414	135,772		
<b>Explosivo excursions</b>	<i>Model</i>	6397,571	5	1279,514	5.797	0,002*
	<i>Error</i>	91377,429	414	220,718		
<b>Sani Gourmet</b>	<i>Model</i>	7388,082	5	1477,616	14,603	0,000*
	<i>Error</i>	41889,918	414	101,183		
<b>Tsantali</b>	<i>Model</i>	67487,821	5	13497,564	72,973	0,000*
	<i>Error</i>	76575,679	414	184,965		
<b>Wine roads of Greece</b>	<i>Model</i>	8463,393	4	2115,848	9,613	0,000*
	<i>Error</i>	91342,440	415	220,102		



<b>Surf Club Keros</b>	<i>Model</i>	26858,392	4	6646,348	49,078	0,000*
	<i>Error</i>	56201,322	415	135,424		

Table 9: ANOVA results on the total fixation duration data for each AOI

Separate post hoc tests were performed using the Bonferroni corrected coefficient as a cutoff point, for each independent variable (picture). SPSS offers Bonferroni-adjusted significance tests for pairwise comparisons. This adjustment is available as an option for post hoc tests and for the estimated marginal means feature. There were statistically significant differences within the groups. The results are explained for each picture separately.

**Ibiscos** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.008$ ), statistically significant differences were found within the groups headline - text ( $t(32)= 3.505, p<.008$ ), headline – menu bar ( $t(32)= 3.820, p<.008$ ). The post hoc test shows that the most significant features for the Ibiscos hotel is the headline compared to the text and the menu bar.

**Mediterranean Olympus** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.01$ ), statistically significant differences were found within the groups text - pictures ( $t(21)= -2.842, p<.01$ ), sub-menu bar – menu bar ( $t(21)= -3.329, p<.01$ ). Hence, the post hoc test indicates that fixation duration is significant for the main text and the sub-menu bar, compared to the pictures and the menu bar.

**Akrathos** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.01$ ), statistically significant differences were found within the groups headline - pictures ( $t(16)= -3.691, p<.01$ ), text - pictures ( $t(16)= -3.237, p<.01$ ), menu - picture ( $t(16)= 3.737, p<.01$ ). The post hoc test shows that there is significance for headline, the main text and the menu bar, compared to the pictures.

**Green Oliver Hiking and Adventure Travel** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.008$ ), statistically significant differences were found within the groups pictures – menu bar ( $t(46)= -2.949, p<.008$ ), pictures – headline ( $t(46)= 2.897, p<.008$ ), text - headline ( $t(46)= -3.365, p<.008$ ). The post hoc test illustrates that fixation duration is significant for the pictures and the main text, compared to the menu bar and the headline.

**Explosivo excursions** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.008$ ), statistically significant differences were found within the groups headline - text ( $t(29)= -3.443, p<.008$ ). So, the headline is significant compared to the main text for this website.

**Sani Gourmet** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.007$ ), statistically significant differences were found within the groups headline - text ( $t(51)= -4.105, p<.007$ ), picture - menu ( $t(51)= 2.973, p<.007$ ), picture – sub-menu bar ( $t(51) = 4.957, p < .007$ ). In this website, the headline and the pictures are significant compared to the main text and the sub-menu bar.

**Tasntali** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.008$ ), statistically significant differences were found within the groups text - headline ( $t(34)= -4.387, p<.008$ ), pictures - headline ( $t(34)= -2.871, p<.008$ ). The post hoc test shows that the text and the pictures are significant compared to the headline.

**Wine roads of Greece** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.008$ ), statistically significant differences were found within the groups picture – text ( $t(19)= 2.961, p<.008$ ), headline - text ( $t(19)= -4.867, p<.008$ ), menu bar - text ( $t(19)= -4.447, p<.008$ ). In this website, the post hoc tests shows that the picture, the headline, and the menu bar are significant compared to the text.

**Surf Club Keros** - According to the post hoc test (corrected criterion Bonferroni  $\alpha=.007$ ), statistically significant differences were found within the groups pictures - menu ( $t(58)= 3.385, p<.007$ ), pictures - headline ( $t(58)= 4.475, p<.007$ ), text – sub-menu bar ( $t(58) = 3.349, p < .007$ ). Hence, the pictures and the text are significant compared to the menu bar, the headline, and the sub-menu bar.

## Conclusions

The data from the combination of the above three studies provides lots of information around the design of an effective and eye-catching website. So far, we conclude that most tourism related websites include promotional text for their business; they also show text for the surrounding area; they all provide the opportunity for customers to personalise the service to their needs; they follow the standard website design with a menu structured design; but very few provide an online booking system and require user registration. Also, all websites have a FAQs section and privacy and security policy is mentioned in only some of the websites under investigation.

Furthermore, the data from the survey confirm the importance of text in tourism related websites. The data shows that the importance of pictures/videos in tourism websites is associated with higher purchase intention when there is photos and information of surrounding places. The respondents said that they prefer automated systems for reservations, and they like to see hyperlinks in the homepage of the website. Lastly, we found a strong positive correlation between privacy policy and security policy and the importance of them being clear and easy to find on the website.

Regarding the eye tracking experiment, we conclude that the respondents spent more time reading the text than viewing pictures. The fixation duration on a menu or sub-menu bar is an indication of the user not liking what he/she sees, so they look for another page to visit. Hence, businesses should create websites with relevant and clearer menu and sub-menu titles to retain visitors on the webpage.

## Bibliography

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

Chaffey, P., Artstein, R., Georgila, K., Pollard, K. A., Gilani, S. N., Krum, D. M., ... & Traum, D. (2019). Developing a virtual reality wildfire simulation to analyze human communication and interaction with a robotic swarm during emergencies. In *Proceedings of the 9th Language and Technology Conference*.

Clement, J. (2007). Visual influence on in-store buying decisions: an eye-track experiment on the visual influence of packaging design. *Journal of marketing management*, 23(9-10), 917-928.

Deighton, J., & Sorrell, M. (1996). The future of interactive marketing. *Harvard business review*, 74(6), 151-160.

Dichter, E. (1966) How word-of-mouth advertising works. *Harvard Business Review*, November, 131-44.

Dollin, B., Burgess, L. and Cooper, J. (2002) Evaluating the use of the Web for tourism marketing: A case study from New Zealand. *Tourism Management* 23: 557-561.

Domínguez Vila, T., Alén González, E., & Darcy, S. (2018). Website accessibility in the tourism industry: an analysis of official national tourism organization websites around the world. *Disability and rehabilitation*, 40(24), 2895-2906.

García-Madariaga, J., López, M. F. B., Burgos, I. M., & Virto, N. R. (2019). Do isolated packaging variables influence consumers' attention and preferences?. *Physiology & behavior*, 200, 96-103.

Gilbert, D. C., Powell-Perry, J., & Widijoso, S. (1999). Approaches by hotels to the use of the Internet as a relationship marketing tool. *Journal of Marketing Practice: Applied Marketing Science*.

Gretzel, U., Yuan, Y. L., and Fesenmaier, D. R. (2000) Preparing for the new economy: Advertising strategies and change in destination marketing organizations. *Journal of travel Research*, 39 (2): 146-156.

Haywood, K. M. (1989) Managing word of mouth communications. *Journal of Services Marketing*, 3 (2): 55-67.

Hervet, G., Guérard, K., Tremblay, S., & Chtourou, M. S. (2011). Is banner blindness genuine? Eye tracking internet text advertising. *Applied cognitive psychology*, 25(5), 708-716.

Hessels, R. S., Kemner, C., van den Boomen, C., & Hooge, I. T. (2016). The area-of-interest problem in eyetracking research: A noise-robust solution for face and sparse stimuli. *Behavior research methods*, 48, 1694-1712.

Lai, P. H., and Shafer, S. (2005) Marketing ecotourism through the Internet: An evaluation of selected ecolodges in Latin America and the Caribbean. *Journal of Ecotourism*, 4 (3): 143-160.

Law R and Cheung C (2005) Weighting of hotel websites dimensions and attributes. In: FrewA (ed.) *Information and Communication Technologies in Tourism 2005*. Vienna: Springer, 350–359.

Law, R., Ye, H., & Chan, I. C. C. (2022). A critical review of smart hospitality and tourism research. *International Journal of Contemporary Hospitality Management*, 34(2), 623-641.

McCarthy, E. J., Shapiro, S. J., & Perreault, W. D. (1979). *Basic marketing* (pp. 29-33). Georgetown, ON, Canada: Irwin-Dorsey.

Meißner, M., Musalem, A., & Huber, J. (2016). Eye tracking reveals processes that enable conjoint choices to become increasingly efficient with practice. *Journal of Marketing Research*, 53(1), 1-17.

Morrison AM, Taylor JS and Douglas A (2004) Web site evaluation in hospitality and tourism: the art is not yet stated. *Journal of Travel & Tourism Marketing* 17(2/3): 233–251.

Muñoz-Leiva, F., Hernández-Méndez, J., & Gómez-Carmona, D. (2019). Measuring advertising effectiveness in Travel 2.0 websites through eye-tracking technology. *Physiology & behavior*, 200, 83-95.

Novak, T. P., & Hoffman, D. L. (1997). Measuring the flow experience among web users. *Interval Research Corporation*, 31(1), 1-35.

Piqueras-Fiszman, B., Velasco, C., Salgado-Montejo, A., & Spence, C. (2013). Using combined eye tracking and word association in order to assess novel packaging solutions: A case study involving jam jars. *Food Quality and Preference*, 28(1), 328-338.

Ramzaniejad, R., Boroumand, M. R., & Ahmadi, F. (2020). Content analysis of research articles in sport tourism of Iran. *Annals of Applied Sport Science*, 8(1), 0-0.

Rosen, D. E., & Purinton, E. (2004). Website design: Viewing the web as a cognitive landscape. *Journal of Business Research*, 57(7), 787-794.

Schmidt S, Cantallops AS and Santos CP (2008) The characteristics of hotel websites and their implications for website effectiveness. *International Journal of Hospitality Management* 27 (2): 504–516.

Suau-Jiménez, F. (2019). Engagement of readers/customers in the discourse of e-tourism promotional genres. *Engagement in professional genres*, 301, 341-358.

Van Huy, L., & Thai Thinh, N. H. (2022). Ranking the hotel website service quality according to customer's perception: A case study of 4-star hotel. *Journal of Quality Assurance in Hospitality & Tourism*, 1-20

Werthner, H. and Klein, S. (1999) *Information Technology and Tourism: A Challenging Relationship*. New York, NY: Springer.

Yarbus, A. L. (2013). *Eye movements and vision*. Springer.

Yelkur, R., & DaCosta, M. M. N. (2001). Differential pricing and segmentation on the Internet: the case of hotels. *Management Decision*.

## Websites

Alan Smith, 2022, How Scrolling Can Make (Or Break) Your User Experience, <https://usabilitygeek.com/how-scrolling-can-make-or-break-your-user-experience/> Accessed in February 2023.

European Commission, Sustainable Development Agenda 2030, accessed in February 2019 [https://ec.europa.eu/europeaid/policies/european-development-policy/2030-agenda-sustainable-development\\_en](https://ec.europa.eu/europeaid/policies/european-development-policy/2030-agenda-sustainable-development_en)

Fessenden Therese, 2018, Scrolling and Attention, <https://www.nngroup.com/articles/scrolling-and-attention/>  
Accessed in February 2023.

The International Ecotourism Society (2005) On WWW at <http://www.ecotourism.org/index2.php?membership2/application/samples.php>. Accessed 7.1.2017  
World Tourism Organization Business Council (1999) Chapter 1: Introduction. In: Marketing Tourism Destinations Online: Strategies for the Information Age, Madrid: World Tourism Organization.  
Available at: <http://www.world-tourism.org/isroot/wto/pdf/1133-1.pdf>