

Areas of Interest for a CSR Certificate on Touristic Websites: An Eye-Tracking Experiment Using the Example of TourCert

D. Reiser and M. El Mahgoub

No one can lie, no one can hide anything, when he looks directly into someone's eyes.

(Paulo Coelho 2014, online)

Abstract The way that tourists give visual attention to websites is a key topic in tourism research as it can determine the success of a tourism business. In particular under the current regular 'information flood' potential customers switch off their attention to potential facilitators for a buying decision such as a certification that demonstrates the positive environmental, social-economic behaviour of a tour operator. Recently, sustainability has become important in the relationship between buyer and seller of touristic products. At the same time, the number of logos (and certifications) on websites that certify a particular sustainable product management has increased. It is therefore important for certified sustainable businesses in tourism to gather information on how far potential customers recognise a particular certificate to facilitate a positive buying response.

The chapter aims to show if the strategic location of a certification symbol on a website as well as the provided information about the certificate can increase the attention to the certificate and therefore facilitate a booking decision through the application of eye-tracking research.

Keywords Eye-tracking · CSR certificates · TourCert · Attention · Sustainable tourism · Websites

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1 Introduction

The way that tourists give visual attention in general (Wang and Sparks 2016) and to websites and social media in particular, is a key topic in tourism research (Muñoz-Leiva et al. 2018). Especially, the unnumbered amount of visual information and interactions that humans are subjected to on a regular basis (Davenport and Beck 2001) make it impossible for the human brain to process all those stimuli (Scott et al. 2017), including certifications on touristic websites while searching for a potential holiday trip. Accordingly, if a tourism business wants to improve the usability of its website and the positive recognition of its marketing stimuli, it needs to understand how customers look at their sites and find information (Scott et al. 2017). It is therefore for example important for certified sustainable businesses in tourism to gather information on how far potential customers recognise a particular certificate to facilitate a positive buying response. Eye-tracking as ‘the process of identifying where someone is looking and how’ (Bojko 2013, p. 4) to ‘indicate the locations of a viewer’s (overt) visual attention’ (Duchowski 2007, p. 141) has a high potential to identify if a certification is gazed upon and therefore helpful in supporting this particular response.

This chapter deals with the effective website communication of Corporate Social Responsibility (CSR) certificates in tourism. Particularly, it aims to show how a strategic location of the certification symbol on a website as well as the provided information about the certificate can increase the attention to the certificate and therefore facilitate a booking decision. Furthermore, as a by-product, it points to the reality that even people with particularly strong knowledge in sustainable tourism, in this case, students of a subject as sustainable tourism, do not recognise a sustainable certificate more than people, who are not trained in this area. In order to research those aspects, an eye-tracking experiment ‘that can help us to know about user interests’ (Sari and Santoss 2016, p. 5) with an additional questionnaire using the CSR-certificate TourCert is utilised.

After a brief introduction to certificates, this chapter describes the set-up and the execution of the experiment to allow an understanding of the circumstances as well as the two parts of the research. An extended general explanation of the eye-tracking process is omitted as it will be dealt with in other parts of this book (if you need more information please see Duchowski 2017 or Bojko 2013). The next step contains the description of the results, followed by their interpretation. Some concluding remarks will conclude the chapter.

2 Certifications and Certificates in Tourism

In general, certifications (and accompanying certificates) are processes of quality control (respectively their symbols). They have a history that goes at least as far back as the middle ages when particular symbols signified special characteristic of a good

or service. At the end of the thirteenth century, European craftsmen were organised in so-called guilds (unions) that developed strict rules for product quality. The enforcement of those standards was done by inspection committees, which marked flawless goods with a special symbol—a certificate of a particular standard of quality (ASQ 2017; Weiermair and Pikkemaat 2004). Such quality standards remained an important element of the provision of goods and services since then.

Today, certifications or quality symbols are used as markers to differentiate goods and services according to their quality or other characteristics in an easily understandable fashion, often via a symbol (Freyer and Dreyer 2004). This is also the case for the service industry ‘tourism and hospitality’. Unfortunately, the increasing demand pressure within the tourism industry regarding management models that favour elements such as high-quality standards or sustainable tourism management has led to a confusing number of certifications. This makes the effective communication of the fulfilment of those standards as a differentiator and facilitator for a positive buying decision difficult.

Globally, there are more than 140 tourism certifications (arbeitskreis tourismus & entwicklung et al. 2014). In Germany, for example there are 34 certification systems that award 44 certificates mainly regarding environmental management and sustainability behaviour of certified tourism businesses (Strasdas 2016). One of those certification schemes is TourCert.

The TourCert corporation was founded in 2009. It is a partnership under the German Civil Code (GbR) that developed a CSR reporting system in cooperation with the forum anders reisen e.V. (an association of small- and medium-sized enterprises in Germany). It awards the TourCert label for sustainability and corporate social responsibility for tour operators, destinations, hotels and travel agencies. In 2015, it was transformed into a non-profit private limited company (gGmbH) (TourCert 2017). Certified enterprises are allowed to use the Tour Cert symbol for marketing purposes in printed and online media.

In the context of those increasing numbers of certification schemes and certificates, it remains questionable in how far certification symbols are recognised to create a change in a customer’s mind to positively influence a buying decision. Elements such as the positioning of the symbol may have a vital impact on its detection and therefore on the connected business attributes. Consequently, the question could be asked how CSR certificates on tourism websites can be used to communicate effectively with customers by answering the following sub-questions:

What is the optimal placement of a certificate on a website?

In how far do customers inform themselves about the certificate on websites?

In how far play the tour description and the certificate on the website an important role if a customer has to decide between a certified and a non-certified product?

Is this decision influenced if potential customers were presented with additional information about the certificate?

Those questions were researched with the help of an eye-tracking experiment. Its set-up and execution are described in the following section.

3 Basics About Eye-Tracking

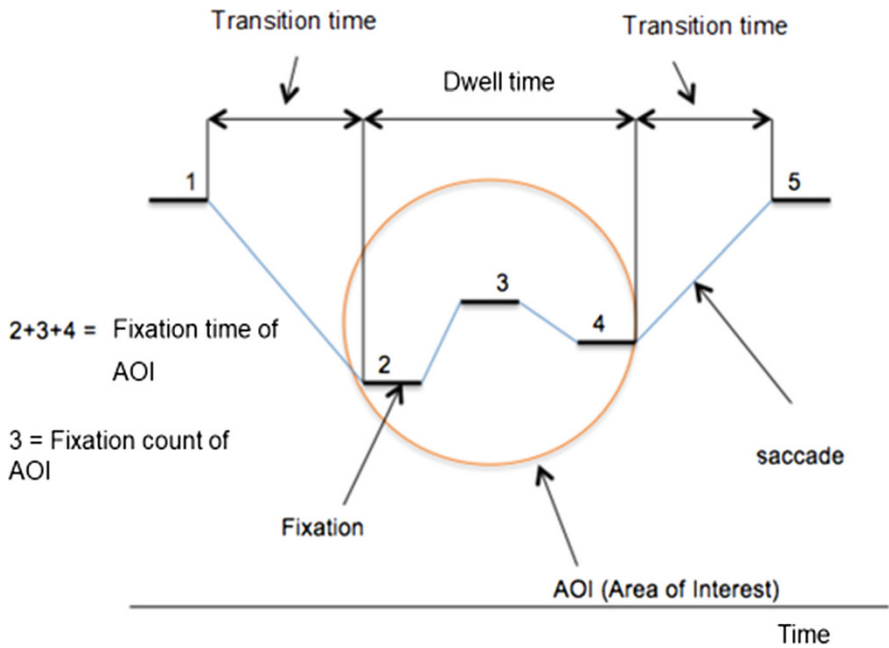
In order to provide the reader with a general understanding of the eye-tracking method, relevant information is given before the application of the method is explained. First, the scientific history of eye-tracking will be outlined, before the basics of current eye-tracking technology will be explained.

With an eye tracker, various questions can be evaluated using recorded eye movements. As a result, relationships between eye movements and neurological processing processes in the brain can be understood from a cognitive–psychological perspective (Leibniz Institute for Knowledge Media 2015a; Duchowz). Horsley (2014), for example points out that examining eye movements provides an opportunity to develop new research methods. Different groups can be compared with respect to their eye movement and the relationship between visual, cognitive and physiological processes can be explained.

There has been tremendous growth in eye-tracking methodology in recent years. In the last 20 years, eye-tracking technologies, software and data analysis have been enhanced and improved. There are now fourth-generation eye-tracking technologies around (Duchowski 2017). Additionally, more than 2000 articles and papers on eye-tracking research have been published on Google Scholar in 2011 alone (Breeze et al. 2014). This shows that although eye-tracking research is a fairly new research method, it has evolved rapidly and is becoming increasingly popular in science and many other fields. However, this was not always the case, as can be seen when researching the historical background of eye-tracking.

The first eye tracker was built at the end of the nineteenth century to capture human eye movement and the response to stimuli. In the beginning, there were major technical difficulties in creating the devices. In an experiment conducted by Huey in 1898, subjects' heads were fixed with waxed rails to keep their heads as still as possible. In doing so, Huey watched the short, left-to-right glances the subjects made while reading a text, and jumped to the left at the end of the line to the beginning of the new line, reading each line. In 1901, Dodge and Cline introduced the principle to photograph the reflections of an external light source from the Fovea Centralis00. This technique provided subjects with more comfortable conditions than in the past. It thus remained the dominating method for many years (Holmqvist et al. 2011; Duchowski 2007). From 1948, the subjects' heads no longer had to be fixed. Hartridge and Thompson allowed a more flexible movement by attaching the devices to the subjects' heads. In the following years, the technologies were further developed by computer and camera technologies and were always becoming more practicable.

In the 1950s, the devices approached today's devices. Not only the comfort but also the precision of the measurement results had been improved by the development of systems with lenses, mirrors or electromagnetism (Holmqvist et al. 2011). Nowadays, the eye-tracking hardware is installed directly on the monitor and works completely with non-contact using infrared technology. Thus, the subjects are not impaired in their natural movement sequences (Leibniz Institute for Knowledge



Graph 1 Schematic representation of a visual movement (after Mahgoub 2017)

Media 2015a). The research method is now used in many industries, such as psychology or market research (Löffel 2015).

In an eye-tracking experiment, it is important to find out about the principle of the human eye. The schematic representation on Graph 1 shows an example of the sequence of a gaze movement that runs from point 1 to 5. The area of interest (AOI) is an area of interest, for example, of an object that is determined by itself.

The terms are explained below (see also Graph 1). The definitions are based mainly on Holmqvist et al. (2011), the Leibniz-Institut für Wissensmedien (2015a, b), Zimmermann (2014a, b) and the SMI Handbook (2016).

As soon as the eye focuses on a specific point (fixation point) and holds it visually, it is called a fixation. Even moving objects can be fixed. Neurologically useful information is passed on to the brain (Leibniz Institute for Knowledge Media 2015b). The duration of the fixation is considered as an indicator of cognitive activity. The duration is determined by each individual fixation. Fixation for searching and orientation takes about 100–200 ms (Zimmermann 2014a). The eye, however, never remains completely calm, but always makes shaky movements. The jump from one fixation to the next is called a saccade. Mostly a saccade lasts between 30 and 100 ms. No information is collected during these reflexive eye movements (Zimmermann 2014b). However, usable information that is sent to the brain can also be further evaluated during the saccade phase (Leibniz-Institut für Wissensmedien 2015b).

In order to gain knowledge about certain objects, the so-called AOIs (Areas of Interest) can be investigated. For example, saccades indicate the number and duration of fixation of an object, allowing the absolute and relative frequency of fixations to be measured (SMI 2016). Multiple consecutive fixations and short saccades within an AOI are called Dwell Time. It can be displayed as an absolute or average duration of observation (dwell time/average dwell time) (SMI 2016). The number of fixations that hit an AOI and occur within an AOI is defined as fixation count. It is true that objects that are relevant for the subject are fixed more frequently than if they are irrelevant for the subject (Löffel 2015). Nielsen and Pernice (2010) have also come to realise that users usually think of what they are looking at simultaneously. They equate fixation with attention, whereby attention is defined as ‘focused mental engagement on a particular item of information. Items come into our awareness, we attend to a particular item, and then we decide whether to act’ (Davonport and Beck 2001, p. 20). The conclusion is that the longer and the more often you look at a certain element, the higher is your awareness about it.

Secondary research provided the theoretical analysis of CSR certification and eye-tracking. Thus, necessary background knowledge was obtained. Denscombe (2010) recommends this as a methodical approach. The research is an eye-tracking experiment. This is a standardised observation because a plan determines in advance exactly what should be observed, at what time and at which place the observation takes place and how to record the observed is (Kaya 2009). Basically, an experiment takes a measurement under controlled, non-natural conditions. It can serve to identify the cause of a phenomenon or to observe the influence of certain factors (Denscombe 2010).

In order to investigate the importance of the visibility of a sustainable tourism logo to facilitate a buying decision, the visual perception and the level of knowledge of the TourCert certificate and the certificate are examined as a decision criterion. It fits well into the two top research areas in tourism using eye-tracking: consumer attention to marketing information and advertisement perception (Scott et al. 2017). It adds the dimension of a sustainability certification as marketing information on tourism websites. Only one similar research in the food industry came to the attention of the authors (Samant and Seo 2016).

This requires a method whereby objective measurements can be made and objective results achieved. Observations by technical equipment such as an eye tracker fulfil this requirement. In addition, this instrument allows the detection of situations that the test subjects themselves are unaware of. Nevertheless, when building the experiment, it should be noted that subjects may change their behaviour if they know they are being watched. To do this, it is important to schedule time and interact in minimal interaction with those to be examined, so that they are hardly noticed and notice as little as possible of the observation (Denscombe 2010). In a laboratory experiment, possible interferences can be kept away and the examination can be repeated (Kaya 2009).

Especially for the investigation of web pages, the eye-tracking as a method offers for example to trace the search behaviour of users by video recording and image capturing of the paths of the gaze on a website (Düweke and Rabsch 2011). The

fixation duration and number indicators can provide information on what the user is interested in and what is important to him or how much attention he devotes to specific areas (Leibniz-Institut für Wissensmedien 2015b). Thus, an eye-tracking method can achieve particularly meaningful results and has not yet been replaced with any other test method (Düweke and Rabsch 2011). But there are a number of challenges, first of all the internal validity of the results due to the laboratory conditions and the small sample size (Scott et al. 2017). However, apart from being a time, cash (e.g. equipment and software) and planning intense form of research, eye-tracking can also not reveal some other factors, such as what a subject feels or thinks while looking at an object. For example, a person may only briefly consider an object (in the peripheral vision) because it is known to the subject (Land 1999) and/or an object is considered for a long time because it is not understood (Nielsen and Pernice 2010). Additionally, subjects may show a bias (e.g. political correctness, social expectation) because they are aware of being involved in a research study (Scott et al. 2017). Since these factors (attitude and knowledge) play a role in the determination (in particular for the hypotheses 2a to 2d that follow later) it makes sense to integrate additional questions and tasks into the experiment. In the construction of the questions, general criteria that apply to the compilation of questionnaires, according to *inter alia* Albers et al. (2009).

4 Set-Up, Conduction and Result of the Experiment

For the experiment, three stationary eye trackers (SMI RED250 mobile) from the Rhine-Waal University of Applied Sciences (HSRW) were used. The eye-tracking system was developed by SensoMotoric Instruments (SMI). The SMI software Experiment Center, iViewX and ReGaze helped setting up the experiment as well as collecting and saving data (see Image 1 for set-up).

Overall, the study applied an experimental nomothetic case-study research within-subjects in a laboratory setting (for more information see Duchowski 2017). It was prepared and conducted in the HSRW laboratory. In the experiment centre, several stimuli were deployed via stimuli-settings to measure ‘number of fixations, fixation durations, and gaze switching behaviors, [to] provide insides into the cognitive state of the user during the evaluation task’ (so-called process measures of objective metrics) (Duchowski 2007, p. 216). Those stimuli contained texts, pictures, questions or interactive webpages. Within this context, the experiment was intended to be set up in such a way that the participants did not know that the TourCert certificate was the intended target of the study for as long as possible in order to limit potential biased results (see Image 2 for four sub-experiments regarding the placement of the logo).

Overall, the experiment consisted of two parts. The first part used a nine-field matrix and a segmentation of the examined website into different areas of interest in order to analyse the hypothesis 1 that the participants tend to focus more on the upper

Image 1 HSRW
Laboratory booth (Source:
Mahgoub 2017)



left area than on the rest of the websites. Such a good hypothesis statement was seen as vital to conduct the experiment (Duchowski 2017).

Firstly, a nine-field matrix without any background was presented to examine whether subjects generally would be more inclined to look at the top left area or not. Then the homepage of the travel business a&e erlebnisreisen (see above) was issued to the subjects with the information to look at the page. In each case, their eye movements were recorded.

The a&e-erlebnisreisen homepage was selected as a basis because it displayed all the characteristics of a typical touristic website with regards to structure, content and provided information. Additionally, the website was equipped with clickable TourCert-Certificates, which for the experiment were positioned in four different areas of the site (upper left, upper right, lower left, incorporated in the text of the tour description) for different groups. The lower right was excluded as previous research by Nielsen and Pernice (2010) found in their research that this is the least viewed priority spot for websites, while the upper left had the highest use, the upper right and the left centre a very high use and the lower left a medium-high use. Each of the



Image 2 Four sub-experiments, four different logo placements. Clockwise: Top left (TL), top right (TR), on the ad (OA), bottom left (BL) (Source (excluding logo placement): www.ae-erlebnisreisen.de 2017)

four positions of the certificate was considered an area of interest (AOI) and therefore researched as a new sub-experiment and tested with a group of 9–10 participants.

Using the AOI-Editor from the BeGaze software, it was possible to define and record one or more AOIs (areas of interest) for the experiment (including the later analysis). The four above-mentioned areas were defined, i.e. the TourCert-logo, as AOI. Different data like the average fixation length on the AOI could then be measured and displayed. This enabled to find the AOI with the highest visual attention value. This should be sufficient to evaluate the optimal placement of the TourCert-logo and also answer the question, whether placement of ‘TL’ would receive the most attention.

A further question as to which extent the possibility to inform oneself about the certificate was used to gain further information about the certificate had not been formulated as an own hypothesis. It was primarily conducted to observe whether the participants used the clickable TourCert-Certificate to receive more information or not. The subjects got the opportunity to interact with the website www.ae-erlebnisreisen.de that was installed via the function Screen Recording. Subjects could also click on the logo of TourCert-Certificate to gather information on a new website about the sustainability of the tour operator. Moreover, half of the participants (19) were presented a text mentioning the sustainability behaviour of the tour operator, the other half received a text that indicated the information about the tour without mentioning sustainability. The idea was to examine if the participants would voluntarily research information on the (displayed) certificate and sustainability. In

addition, it was tried to verify if mentioning sustainability would result in more clicks on the TourCert logo to specifically look for information on sustainability.

The second part of the experiment focused on whether and to which extent the representation of a specific offer of a tour influenced the decision-making. In this respect, three hypotheses were formulated:

- 2a: If the subjects received information about the certificate or they already knew the certificate, there was a higher probability that they decide in favour of a certified tour.
- 2b: Subjects who put a high value on sustainable tourism, decided with a higher probability for a CSR-certified tour.
- 2c: The title and the tour description have a higher influence of the travel decision if a buyer has no knowledge about the certificate.

For this part of the experiment, two identical tour offers were created (same destination, price and picture) only differing in the description, title and the existence of a certification. Each of the 38 participants was requested to decide for one of the offers and give reasons for their decision. Afterwards they were informed about the TourCert-Certificate and received the same task again. To analyse the hypotheses 2a–c it was first asked what kind, how many and which certificates (not only in tourism) the participants already knew. Here, eye-tracking and clicks were being recorded and saved via Screen Recording. The experiment was closed by asking demographic questions (age, gender) and asked for the study course of the subjects.

5 The Experiment

After setting up the experiment in the Experiment Centre of the university, a pre-test with ten participants was conducted. In doing so, it was possible to modify the experiment using observations and feedback given. It became also clear that one individual run would last between 15 and 20 min and it demonstrated that three subjects could be tested simultaneously with just a short delay for calibration and validation of the eye tracker.

After the pre-test, the platform hroot ('hroot' is a database created by the University of Hamburg. 'hroot' (means 'Hamburg registration and organisation online tool') was used to search for 40 German-speaking participants. Due to the fact that students of the HSRW were among others enlisted in hroot (as this tool was used in previous instances for finding participants), it was assumed the subjects with the specification asked for would be students of similar age from the local university. This turned out to be the case.

Overall, 38 of the 40 asked participants took part in the experiment (as an incentive the participants received 10 Euros each). The participants were randomly divided into four groups (respectively 9–10 samples per group). Despite the fact that this is a small group, it nevertheless follows Nielsen theory that the minimum number of participants for eye-tracking usability is 6 (Nielsen Norman Group

2018), and that 38 (or nine for the sub-groups) are therefore sufficient. However, Scott et al. (2017) reviewed 17 tourism papers that described eye-tracking research. The number of participants there ranged from 12 to 63 with an average cell size of 11.

6 Results

Displaying the nine-field matrix to the participants demonstrated that the top left area of the matrix received the largest and longest amount of attention from all four groups (Image 3). It confirms previously stated research.

However, when the actual homepage of a&e-erlebnisreisen was shown, the result differed. By looking at the heat maps of the web pages from the four sub-experiments on Image 4 below, it becomes clear that all four groups focus much more on the text block about the journey than on the top left corner. The area above the picture of the woman, the price and linked information also receive a high visual attention.

In order to evaluate hypothesis 1, the TourCert-certificate was defined as AOI. Therefore, the parameters ‘fixation count’ and ‘fixation time in milliseconds (ms)’ were used because the number and duration of fixations can reveal information on the attention and perception of a relevant object. In this case, the AOI was the TourCert-certificate of the respective sub-experiment and it was named accordingly (TL, TR, OA, BL).

Table 1 shows the indicators ‘fixation count’ and ‘fixation time (ms)’ of each individual subject, who fixated the AOI at all. It becomes clear that only nine

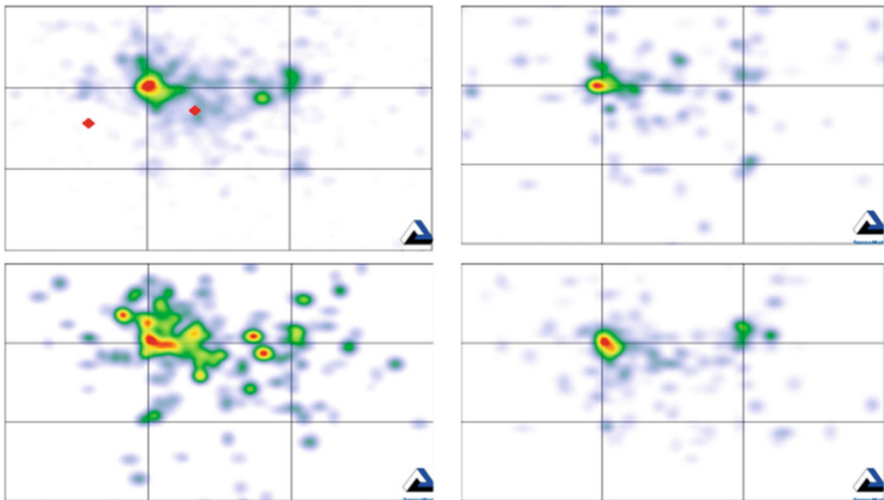


Image 3 Heat maps of the four sub-experiments (TR, TL, OA, BL)



Image 4 Heat map of the four sub-experiments (TR, TL, OA, BL)

Table 1 Display of the fixation stats ‘fixation time (ms)’ and ‘fixation count’ from the four test groups

	OL	OR	AR	UL
Fixation count	P4c.4: 1	P1.3: 1	P3.4: 1	P2.4: 2
		P1.5: 1	P3.7: 2	P2.8: 2
			P3.8: 3	P2.9: 2
Fixation time [ms]	P4c.4: 100.1	P1.3: 100.1	P3.4: 133.4	P2.4: 350.5
		P1.5: 634.1	P3.7: 650.2	P2.8: 367.1
			P3.8: 883.8	P2.9: 508.8

subjects even fixated the AOI of the certificate. AOI ‘TL’ was fixated by a single subject (P4c.4) once for 100.1 ms. ‘TR’ was fixated by two subjects once each. Subject P1.3 fixated TR for 100.1 ms as well, whereas P1.5 fixated it longer for a total of 634.1 ms. AOIs ‘OA’ and ‘BL’ were fixated by three subjects each for a total of six fixations. However, their average fixation time varies. ‘OA’ was fixated by average 555.8 ms, whereas ‘BL’ only had an average fixation time of 408.8 ms per subject. It became already obvious that only a very small number (nine) looked at the TourCert logo overall.

Further insight into the different positions of the Tour Cert-logo (TC) and the respective attention can be delivered via KPI (key performance indicators) such as sequence, entry time, dwell time, hit ration revisits, average fixation, first fixation and fixation counts of/on the TC logo. Table 2 shows the average stats of all subjects from each respective group (highest value highlighted in bold).

Glances count (sequence) is the amount of fixations on an AOI. It increases by one for each time a glance travels on the AOI and creates a fixation. Revisits indicate the number of glances cast on the AOI by an individual subject. However, since only

Table 2 KPI of AOI ‘TourCert-Logo’

TC-Logo	OL	OR	UL	AR
Sequence	6	10	6	3
Entry time	12281.0 ms	21024.1 ms	11265.4 ms	2807.3 ms
Dwell time	12.5 ms (0%)	73.4 ms (0.3%)	176.4 ms (0.9%)	187.1 ms (0.7%)
Hit ratio	1/8 (12.5%)	2/10 (20%)	3/7 (42.9%)	3/9 (33.3%)
Revisits	0.0	0.0	0.7	1.0
Average fixation	12.5 ms	73.4 ms	87.6 ms	83.7 ms
First fixation	12.5 ms	73.4 ms	75.1 ms	64.8 ms
Fixation count	0.1	0.2	0.9	0.7

Annotation: TC TourCert; TL top left; TR top right; BL bottom left; OA on advertisement (in-text)

a few of the subjects fixated the certificate, it makes sense to add the average fixation stats.

The difference between ‘dwell time’ and ‘fixation time’ is, that ‘dwell time’ includes saccades. Therefore, the dwell time is usually longer. Accordingly, the difference between ‘dwell time’ and ‘fixation time’ decreases if the AOI is smaller.

Unfortunately, the ‘hit ratio’ shows that only a total of 34 subjects were even recognised by the eye-tracking system and the test groups were therefore of different size (8/10/7/9 subjects) (see also Scott et al. 2017 who state that the sight of between 10% and 20% of participants cannot be tracked). It appears as if the eye-tracking technology did not work as anticipated. The reasons why four subjects were not recorded is unknown.

The table shows that the AOI ‘OA’ and ‘BL’ share the highest relative part of subjects fixating the AOI at all (33.3% and 42.9%, respectively). TC-certificate ‘OA’ took the least time until it was being fixated (average 2807.3 ms ‘entry time’). It also shows the longest dwell time (average 187.1 ms). However, on a relative basis compared to the fixation duration of the whole trial, the TC-certificate ‘BL’ was being looked at longer (‘dwell time’ [%]) though. Both placements also show the highest average fixation duration per subject (87.6 ms BL, 83.7 ms OA). ‘BL’ also shows the longest first fixation (75.1 ms). The AOI ‘TL’ on the other hand shows the lowest stats for almost all indicators (except for ‘sequence’ and ‘entry time’). This is because only one subject even fixated this AOI at all. Therefore, the placement of the certificate in the top left area scores the lowest amount of attention compared to the three other placements. This means that the stats do not indicate that a placement in the top left area would yield higher AOI-stats than any other placement. Therefore, hypothesis 1 cannot be verified for the homepage of a&e erlebnisreisen.

The second question was to what extent the subjects used the possibility to gather information on the certificate. As mentioned before, the subjects had the opportunity via a&e erlebnisreisen inside or via clicking on the certificate on the interactive page (www.ae-erlebnisreisen.de) to gather information about the certificate or about the sustainability report on another webpage. Results show that only 5% of the subjects clicked on the TourCert logo. Even though, 13% of all subjects clicked on a&e

inside and then on CSR-Nachhaltigkeit (CSR-sustainability). Overall, just 23% of the subjects registered the certificate at all. That means that only a small number of participants used the opportunities to gain information from the front page.

7 Analysis of Results

Overall, it needs to be recognised that the results provide only an indication of the importance of certifications on websites. Further and more detailed research is needed to gain a much deeper understanding. Nevertheless, the general results from the experiment can be summarised as follows:

- Certificates on touristic webpages only gain a small amount of visual attention.
- Certificates that are placed close to a journey advertisement gain more attention than certificates that are placed, i.e. close to the company logo.
- An unintended result was the fact that the students from the study subject sustainable tourism (6 students) showed a slightly lower recognition and importance of/for certificates as other respondents.

At first, the presentation of results was made via the nine fields matrix. It indicated that subjects generally looked more to the top left area. That would strengthen the assumption that subjects would tend to look there first and focus on it most intensively.

This kind of visual behaviour was also somewhat mirrored when participants were just looking at the homepage in question, but the layout of the page must be taken into account here. In the left area, the text of the ad was situated, which took high attention. The reason is that the subject has to look at it longer to read the text. In addition, the heat maps show a visual behaviour similar to the ‘F-shaped pattern’.

This indicates that people will actually read a small block of text with travel information and suggest this raises the attention of prospective customers. Additionally, all groups of subjects looked at the top left area to find the company logo. According to Nielsen and Pernice (2010), most webpages place their logo in that area, so it is assumed that consumers would expect it there and look at it first by habit. It does not seem to make a big difference if another logo is situated close by. Even so, the non-recognition of the logo could also be linked to the advertising saturation levels, followed by banner blindness that leads to a decrease in the clicks on additional information (Muñoz-Leiva et al. 2018).

When the certificate was displayed in different parts of the page to the subgroups, the results concerning the highest visual attention changed. Certificate placements in the bottom left area and in the journey advertisement yielded a higher amount of attention. It is assumed that this placement does not match the page layout and therefore causes more attention. That possibly leads to the fact that more subjects registered the certificate at this location compared to other placements. Another reason can be that a placement close to the journey advertisement ‘Die besondere Reise’ (the special journey) can be a reason for the higher amount of visual attention.

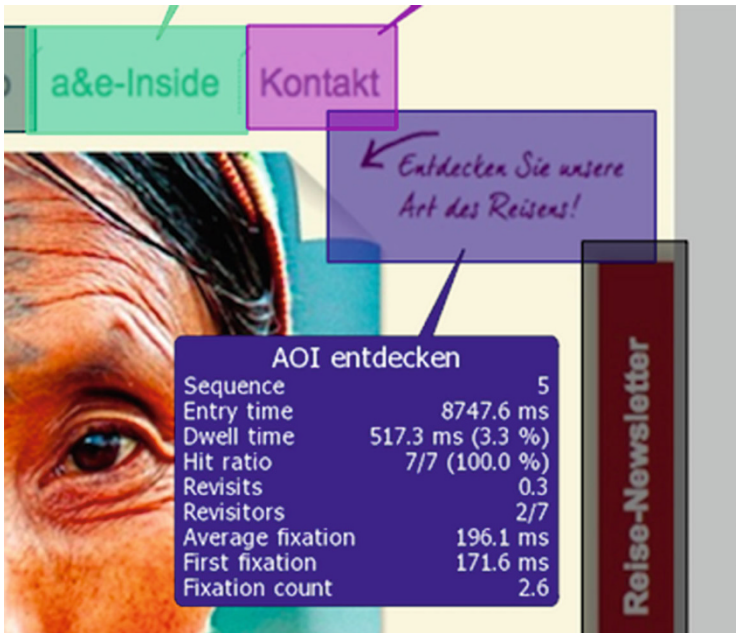


Image 5 AOI ‘discover’ from sub-experiment BL

It is possible that customers look at it by accident while focusing on the advertisement itself. That would explain the similarly high stats of the placement on the advertisement (OA).

Data also show that many subjects looked at the sign ‘Entdecken Sie unsere Art des Reisens!’ (Discover our way of travelling!) on the right side above the picture, which is shown in Image 5 above. In this area, the picture looks folded and an arrow persuades into thinking that there is something hidden behind it and that it is possible to click on it. The higher amount of attention by the subjects confirms that they probably have the intention to trigger their customers’ curiosity to gain more information. If the certificate was placed in this area, it most likely would have attracted a similarly high amount of attention.

8 Conclusion

Certificates at touristic websites are rarely visually recognised. When they are placed next to the tour description, they receive the most attention. Knowledge about a certificate increases the probability to choose a respective offer, while a lack of knowledge leads to an increased orientation on the basis of the description. Finally, knowledge or imparting of it right before the decision process increases the probability to decide for a certified offer.

The research made clear that participants focused on the top left corner when shown the nine-field matrix (hypothesis 1). However, when the homepage of a&e erlebnisreisen was displayed, this changed somewhat. There participants focused on the written advertisement of the offered tour and on the bottom left. It appears as if the focus is much more dependent on the website itself as on general attention given to specific areas on a website in general. Even if it could be argued that there must be some habitualised way of looking at websites in general, this needs far more research with a much bigger number of participants.

In the second part, the authors tried to develop the idea if participants interested in sustainability are more likely to choose a certified tour, can neither be confirmed nor be rejected as only a very small number seems to be interested in the TourCert logo at all as well as a small difference between those groups who have the term sustainability in the description of the tour and those who have not. Rather it could be said that certification logos are not registered in any large way (hypothesis 2b). Their effectiveness can therefore be called into question. As a consequence, participants concentrate on the description to inform the travel decision (hypothesis 2c). However, when the participants received information about the certification, they tended to select the certified tour (hypothesis 2a). Even though, because of the small amount of applicable data, it can be assumed that there is a generally low perception of the certificate. Moreover, the formulation of the task and the lack of a web-function (search and booking option) could have influenced the results.

The results of the experiment lead to the assumption that hypothesis 2a to 2b should not be evaluated separately. The awareness of the certificate increased when more information was provided. Nevertheless, the participants did not tend to be more interactive. Thereby, it seems to be regardless of whether they claimed to be interested in sustainability or not. But, it has to be considered that according to literature a 'social answer behaviour' does exist. Meaning that people tend to choose an answer, despite the given anonymity, that they think is socially accepted. Also, other research shows that people not necessarily apply what they answered in reality. Furthermore, the results also indicated that some participants had problems understanding the tasks.

Nevertheless, the research helps to evaluate visual advertisement in the form of a sustainability certificate after it was implemented. It shows how customers react and interact (in this case rather not) to visual stimuli such as a CSR certificate when making a buying decision.

Davenport

Davenport and Beck (2001, p. 20) define attention as 'focused mental engagement on a particular item of information. Items come into our awareness, we attend to a particular item, and then we decide whether to act'.

Eye-tracking is a relatively new technique for the study of visual attention and perception in tourism research. Previous studies used self-report methods to evaluate

the effectiveness of visual advertisements after the campaign had been implemented (Kim et al. 2005; Morgan et al. 2012).

Fixed data collection equipment uses an infrared light source and sensors located in a fixed position such as the frame of the computer screen. Scott et al.

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