Employing Eye Tracking Analysis to explore User Interest in official Tourism Websites: A Website Management Approach

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Abstract

This study aims to analyze the browsing behavior of users on the official Egyptian Ministry of Tourism and Antiquities website to understand their visual attention and perception of website management elements by using the social constructionist model for managing destination websites, known as The SCDWM model. An exploratory qualitative study using a multi-method approach was carried out on 36 participants. To confirm participants' visual attention while visiting a destination website or tourist official website, an eye-tracking analysis by using Gaze recorder application was conducted. The same participants were then approached for a series of in-depth interviews to explore their perspectives on tourist website management elements. The data collection process involved domestic tourist .The study has theoretical implications for researchers interested in tracking tourists to obtain a great understanding of traveler behavior and needs during browsing experience. The study's practical implications involve the identification of certain managerial difficulties or concerns with the Egyptian Ministry of Tourism and Antiquities website. These issues were discovered by reviewing the results of both in-depth interviews and applying eye-tracking analysis utilizing heat maps. Accordingly, suggestions for improvements regarding the website management elements were developed. Finally, this study has the potential to make valuable contributions to individuals in charge of developing and overseeing the digital communication strategies of the country, as well as those responsible for managing the websites design.

Key words: social constructionist model, destination website management, eye-tracking analysis, neuromarketing, neurotourism, heat map, digital communication strategies.

INTRODUCTION

The tourism industry stands as one of the most crucial and conspicuous key drivers of digital transformation (Lustigová, Jarolímková and Žufan, 2021). With the rapid advancements in information and communication technologies, innovative business models are revolutionizing the tourism industry in particular, as pointed out by Cheng, Fu, and deVreede (2018) and Dickinger, Lalicic, and Mazanec (2017). These changes have resulted in a shift in tourist trends, expectations, and impressions (Cheng et al.,2019).Hinson, Osabutey, and Kosiba (2018) suggest that official destination websites can significantly impact the decisions of potential visitors regarding their choice of destination. Similarly, Foroudi et al. (2018) assert that an official tourist destination website plays a critical role in establishing a positive image of the destination, which can influence consumers' intention to revisit and recommend the place. Sari and Santosa (2017) observe that there exists a correlation between the quality of tourism websites and the number of visitors. Indeed, Ehmke and Wilson (2007) affirm that provinces with more dynamic websites tend to attract a larger number of visitors compared to those with more inactive websites. Thus, it is essential for website managers to understand the means of providing a positive browsing experience for users (Dospinescu and Percă-Robu, 2017).

As a result, several tourism studies explore methods for developing superior official tourism websites that offer potential visitors an exceptional search experience (Al-Nafgan, Al dayel and Kharrat, 2023). Horng and Tsai (2010) suggest that a government website designed to promote tourism must be user-friendly, enabling tourists to easily search for information and navigate between pages. Additionally, it should be regularly updated, as tourists expect to obtain current information for their travels. Lastly, it should be visually appealing and engaging to capture the visitors' attention (Kanazawa et.al, 2021). Also, Sari and Santosa (2017) assume that numerous factors contribute to the success and achievement of a website's goals. Among these factors, the level of interest, ease, and comfort are crucial in the development of a website. The acceptance of a website can be measured

through user experience (Luna-Nevarez & Hyman, 2012). However, the tourism industry has experienced certain alterations in its communication methods that have impacted the official destination websites. It is evident that the present age of digital marketing has a significant impact on the way individuals search for tourist information while making their travel plans (Hunter, 2016; Mak, 2017). Nowadays, Mak (2017) suggests that the high level of social interaction and exchange of travel-related content between tourists on the Internet has led to the formation of destination image through both official national tourism destination content and tourist-generated-content. This is due to the fact that potential tourists find tourist-generated-content relevant, as it provides a real traveler's experience in the destination (Kim & Stepchenkova,2015). Additionally, official national tourism contents sometimes fail to adequately represent critical destination dimensions (Agustí, 2018).In this particular scenario, Kim and Stepchenkova (2015) have pointed out that tourist-generated content could potentially limit the scope of official tourism destination communication. Therefore, it is imperative to adapt the management of official destination websites to effectively cater to this new context of easily accessible information on the tourism industry (Kanazawa et al.,2021).

Accordingly, the purpose of this study is to assess the structure of information design and the quality of visual design using the social constructionist model for managing destination websites, known as The SCDWM model. The study aims to analyze the browsing behavior of users on the official Egyptian Ministry of Tourism and Antiquities website to understand their visual attention and perception of website management elements. In order to achieve this goal, the study explores the following research questions: Firstly, what are the essential components of destination website management, and how should they be viewed from a social constructionist perspective? Secondly, how do users access the information they require from the official Egyptian Ministry of Tourism and Antiquities website? Thirdly, what design limitations can be identified in the website design by analyzing user information searching behavior? Lastly, what design solutions could be implemented in the future to enhance the current official website design? In order to address these questions, an eye-tracking analysis was executed to comprehend participants' visual attention while browsing the official website of the Egyptian Ministry of Tourism and Antiquities. In this sense, a user performance test was carried out using an eye tracker to explore potential design problems of the website and examine how the visual design affects users' information searching behavior (Wang et.al 2014).

The eye tracker has the capability to capture and a user's eye-movement path, fixation points and duration. It also has the ability to present the findings through gaze plots and a heatmap (Chen et al.,2022). These benefits establish eye tracking as a dependable physiological measuring method for tracking a user's reading and searching behavior (Wang, Lonsdale &Cheung, 2021). Hence, it can be noted that this approach is a newly developed method for investigating the aspects of visual attention and perception in the field of tourism research. Additionally, we utilize eye tracking technology to examine the interactive dimensions of websites (Deng, Lin, and Chen,2021). This involves exploring the visual process and measuring the time spent on the site or on different regions of it, as well as analyzing heatmaps, scanpaths, percentage fixation, time to first fixation, and total fixation duration (Santos et al.,2015; Dospinescu and Percă-Robu 2017; Chen et al.,2022). Furthermore, the present study addresses the appeal made by Kotsi, et al.,(2018) to conduct place marketing research using alternative methodologies, including neuromarketing, to comprehend individuals' responses to the place through visual signals display (Santos, et al.,2015). Similary, Gaafar and Al-Romeedy(2022) suggest conducting research on the effects of implementing experiments using neuromarketing techniques, such as Eye tracking and facial recognition to evaluate the response of participants to marketing stimuli. It is recommended that upcoming research elucidate the connection between neuromarketing techniques and the positioning of destination brands as well as web design management. The eye-tracker is one of the neuromarketing instruments (Oliveira & Giraldi, 2017; Lustigová, Jarolímková, and Žufan, 2021).

Likewise, Neuro-tourism has recently emerged as a branch of neuromarketing, as stated by Chen et al. (2022). It involves the application of neuroscience in tourism to enhance marketing methods in the tourism industry through the analysis of tourists' brain activities. Neuro-tourism offers precise, real-time data on both conscious and unconscious emotions of tourists (Al-Nafgan, Al dayel, and Kharrat,2023). In order to enhance tourist experience and satisfaction, Neuro-tourism employs neuromarketing methods such as brain-computer interface (BCI), eye-tracking, galvanic skin response, among others. In reference to the second aspect examined, an in-depth interview was conducted to analyze the perception of website management elements after browsing the destination website. This analysis is important as it can fulfill the information needs of travelers, which could ultimately impact their decision to visit a place and their level of satisfaction (Foroudi et al.,2018).The utilization

of a social constructionist model in managing destination websites is expected to bring about a shift from them being just information portals to becoming strategic communication resources that involve stakeholders (Hinson et al.,2018). As a result, this model emphasizes the key factors that drive good management practices for official tourism and destination websites (Kanazawa et al.,2021; Chen et al.,2022).Eventually, the official website of the Egyptian Ministry of Tourism and Antiquities was ultimately chosen for analysis due to its status as the main source of tourist information in Egypt. Despite being in its experimental version, the website's browsing speed is commendable and played a crucial role in meeting the requirements of the eye-tracking experience in terms of timing and absence of technical problems. This particular website is recognized as the authorized platform for Egyptian tourism and serves as the primary digital communication tool for disseminating information regarding tourist facilities in Egypt. Conversely, other official Egyptian tourism websites encountered certain technical difficulties that impede the possibility of conducting an eye-tracking experiment.

With this study, our intention is to highlight the application of the eye-tracking technique in the field of tourism and its favorable influence on the examination of users' browsing patterns on the official website of the Egyptian Ministry of Tourism and Antiquities. Our objective is to comprehend their visual attention and perception of website management elements. The findings will assist in enhancing the effectiveness of information design for official tourism websites.

LITERATURE REVIEW

Official tourism website and social constructionist destination website management model (SCDWM)

An official tourism website can be described as a digital platform where individuals, both real and prospective visitors, search for information and virtual travel experiences that shape their expectations and perceptions of the destination. (Giannopoulos and Mavragani, 2011; Kanazawa et al.,2021; González-Mena et al.,2022). The official tourism website should possess a visually pleasing appearance (Basera& Kuranga,2019), be user-friendly and easy to navigate (Sari and Santosa,2017), and have updated and clear information (Vyas, 2019), all while being secure, credible, and convincing (Foroudi et al.,2018). These features are essential in meeting the information requirements of travelers, and can profoundly impact the potential decisions of tourists in choosing a particular destination (Molinillo, Li´ebana-Cabanillas, & Anaya-S´anchez 2018; Kanazawa et al.,2021). Consequently, it is essential for decision-makers and managers to ensure that the destination website is constantly updated and effectively managed (Basera& Kuranga, 2019). It has been observed that the rise of the internet and the accessibility of information regarding destinations have transformed tourists' preferences (Vyas, 2019), resulting in a notable challenge for managing destination websites (Foroudi et al.,2018). According to Mak (2017), various destination features like food, transportation, and accommodation are not adequately represented on destination marketing organizations' websites. Agustí (2018) further notes that tourists tend to capture and share more tourist attractions through their social media posts than those mentioned in official tourist guides and notebooks. These studies indicate a deficiency of information in official tourism promotion. Therefore, Hinson et al. (2018) suggest that official destination websites should incorporate internal systems that promote interaction and communication with stakeholders. They also emphasize the necessity of transforming websites from being mere information portals to becoming strategic communication resources (Vyas, 2019; Rosa, Bocci& Dryjanska, 2019; Liu & Upchurch, 2020).

As a result, the link between destination website management and the social constructionist approach can contribute to this change by applying the SCDWM model to analyze tourists' responses to the official Egyptian Ministry of Tourism and Antiquities website. The SCDWM model (fig: 10, appendices) consists of factors that are categorized into four main dimensions :*technical, communication, relationship, and persuasion* (Kanazawa et al.,2021). These dimensions include technical aspects such as design, usability, search engine optimization, search tools, mobile device compatibility, accessibility, and navigability. Communication is also an important dimension, which includes the quantity and quality of information, website adaptability to different languages and cultures, country-specific logos and slogans, and frequently asked questions. The relationship dimension focuses on communication between users and managers as well as between users themselves, as well as interactive resources (Basera& Kuranga, 2019). Lastly, the persuasion dimension includes discourse analysis, tools for purchasing tourist products, security measures, and personalization tools. It was believed that the key aspect of destination website management should be the relationship dimension, as it can foster an environment that promotes interaction among stakeholders (Kanazawa et al.,2021). This approach is in line with the social

constructionist perspective (Leitch & Richardson, 2003). All three other dimensions should also align with the social constructionism approach. Therefore, it is crucial to ensure continuous and integrated stakeholder participation throughout the website development process and even after it has been completed (Kanazawa et al.,2021). Thus, in the first circle of the model, emphasis is given to the involvement of destination stakeholders in the website development process. It is imperative to obtain their perspective on each element of website management, as they may provide valuable insights for improvement (Kanazawa et al., 2021). The stakeholders for the destination website include residents, government, travel agencies, tour operators, hotels, leisure and culture-related businesses, as well as both foreign and domestic travelers (Rosa, Bocci& Dryjanska, 2019). After the website development phase, it is crucial to analyze the feedback given by the destination stakeholders (Basera& Kuranga,2019).

Therefore, the second circle is dedicated to representing the 'Stakeholders' Feedback', which must be taken into consideration during the website redesign process (Kanazawa et al.,2021). The feedback from stakeholders must be obtained through two approaches. Firstly, by evaluating the visual attention of visitors during website browsing (Lever, Shen, & Joppe, 2019), insights can be gained to enhance the website experience (Schall & Bergstrom, 2014). Secondly, the evaluation of travelers' perceptions regarding website management elements can provide useful information (Vyas, 2019) to improve the intention to visit (Foroudi et al.,2018). Finally, the arrows of the model aim to emphasize the importance of continuous and dynamic management of destination websites, highlighting that feedback from all stakeholders is crucial in making adaptations that will enhance the four key dimensions and achieve effective management of the official website (Kanazawa et al.,2021).

Neuromarketing, Neurotourism and Website Design management

Neuromarketing centers its attention on exploring and comprehending consumer behavior by conducting studies on both the Central and Peripheral Nervous System **(**Santos et al.,2015). The progress of several fields of study, namely neuroscience, applied physics, and computer science, plays a crucial role in the development of this field (Bercea, 2013). According to Calvert and Brammer (2012), neuromarketing involves using cognitive neuroscientific techniques in marketing to assess consumers' unconscious reactions, such as preference, memory, or emotion. In contrast, traditional marketing primarily examines the conscious thoughts of customers (Santos et al.,2015; Revilla-Camacho et al.,2018; Varga et al.,2021**)**. It employs two distinct approaches to examine consumers' feelings .The first approach involves using a brain-computer interface to record either electrical brain activities such as (electroencephalography),(functional near-infrared spectroscopy), and (magnetoencephalography) or metabolic brain activities such as (functional magnetic resonance imaging) and (positron emission tomography). The second approach involves recording biological body activities, such as galvanic skin response, facial-action-coding, eye-tracking, and heart rate (Al-Nafjan, Aldayel & Kharrat, 2023). Thus, neuromarketing holds the potential to be a valuable tool for creating more efficient strategies and action plans for brands (Oliveira et al.,2017), as well as the development of corresponding business plans and management (Martinez, 2011). The primary objective of neuromarketing is to analyze the emotions of customers that are triggered by specific stimuli (Tichindelean, 2021). Additionally, it aims to enhance marketing practices (Barbasso et al.,2018) and improve the prediction of customer behavior and habits when combined with traditional techniques (Boksem & Smidts, 2015; Venkatraman et al. 2015). Similarly, neuromarketing techniques provide an opportunity to gain insights into how users perceive various aspects of website/app design, such as the positioning of information, dynamics, format, and content, and identify ways to enhance the usability of the website/app (Tichindelean,2021; González-Mena, 2022). In the field of tourism, neuromarketing plays a crucial role in shaping the purchasing behavior of tourists. This is achieved by analyzing brain signals and employing various marketing stimuli through sensory stimulation (Li et al.,2021; Gaafar and Al-Romeedy,2022)**.** Accordingly, neuromarketing is regarded as the most effective method for aiding managers and marketing web designers in formulating communication strategies (Lazo, Alfonso & del Vallín, 2023).

Recently, the concept of neuro-tourism has emerged, which involves the utilization of neuroscience techniques to enhance marketing strategies in the tourism sector (Doborjeh, et al.,2021).The neuroscience techniques utilized in neuromarketing have the potential to be employed in the field of neuro-tourism (Lei et al.,2022).Moreover, machines can utilize high-dimensional data collected from neuro-tourism studies, including (BCI) recordings and psychobiological recordings such as eye-tracking (ET),to develop advanced AI systems that can predict the preferences of travelers. Consequently, these systems can generate personalized travel experiences for individuals (Doborjeh, et al.,2021). The primary objective is to offer tourism services and products that align with tourists' unconscious thoughts (Al-Nafjan, Aldayel & Kharrat,2023).

Eye-tracking as a tool of neuromarketing

Eye tracking is a technique used to measure the movements of an individual's eyes (Deng, Lin and Chen, 2021). This allows the researcher to determine where the person is looking at any given moment and the order in which their gaze shifts from one location to another (Poole & Ball, 2006).This technique offers insights into the handling and efficiency of communications that are not accessible through traditional metrics because of the rapid and unconscious nature of attention processes involved in communication exposure (Lustigová, Jarolímková, & Žufan, 2021; Lopez,2022).Eye-tracking equipment, which used to be burdensome, time-consuming, and expensive, has recently undergone a transformation (Scott et al.,2017). It is now available in the form of unobtrusive and wearable devices that generate data. This data can be quickly analyzed using specific software programs (Scott et al.,2017). There are various eye-tracking tools available. These include Eye-tracking visualization, Heat maps, Focus maps (Jianxin, 2021), Gaze path plots, and Eye-tracking metrics. These metrics include Dwell time, Fixation related metrics, Pupil size metric and Mouse-click related metrics (Lustigová, Jarolímková, & Žufan, 2021; Deng, Lin and Chen,2021).

Eye-tracking is a relatively recent technique used in tourism research to examine visual attention and perception (Deng, Lin and Chen, 2021). The utilization of eye-tracking technology serves as a valuable tool in understanding the thought process of tourists (Savin, Fleş eriu& Batrancea, 2021), both in natural and online settings (Jianxin, 2021). This technology allows for the observation of eye movements and their correlation with psychological changes in individuals as they receive information (Chen et al.,2022). Furthermore, it provides real-time insights into the mental state of tourists by continuously gathering information (Wang et al.,2014; Lopez & Garcia, 2018;Savin, Fleş eriu & Batrancea, 2021). One of the main benefits of this technology is the ability to assess website design while conducting experiments **(**Wang et al.,2014; González-Mena et al.,2022). This allows for the identification of errors and the potential for making improvements (Bojko, 2006; Lopez & Garcia, 2018).

According to Djamasbi et al. (2010) the following are the four primary factors that users prioritize when tracking a website, which greatly influence their perception: the main image, celebrity images, concise text, and the search function (Djamasbi et al.,2010). The significance of a content element on a website is directly correlated to its size and, consequently, its higher position in the visual hierarchy (Wang et al.,2014). Therefore, it is crucial to establish a clear visual structure that will effectively direct users in their exploration of the webpage (Yang et al.,2022). This can be achieved by strategically positioning key elements in a timely manner (González-Mena et al.,2022). Typically, users tend to first focus their attention on images before shifting their focus to text (Faraday 2000).

Methodology

The objectives of the current study were investigated through an exploratory qualitative research approach employing a multi-method design. Utilizing eye-tracking technology via laptop webcams through Gazerecorder and Realeye applications allowed for the analysis of visitors' visual attention to the official Egyptian Ministry of Tourism and Antiquities website. This method enables researchers to comprehend where individuals look, the duration of their gaze, and their eye movement while browsing the site (Scott et al.,2019; Li, et al.,2020). Additionally, participants underwent in-depth interviews after completing the eye-tracking experiment to further explore their perception of website management elements. Data from interviews were recorded, organized, and analyzed using the NVivo 10 program. By scrutinizing both eye-tracking results and personal interview data, this study identifies strengths and weaknesses pertaining to the Ministry of Tourism's and Antiquities website.

1- The sample size

The current study's sample size highlights its qualitative nature, similar to other tourism studies that have utilized eye-tracking for qualitative analysis, such as 12 participants (Kiefer et al.,2014), and 16 participants in both Pan et al. (2013) and Eghbal-Azar & Widlok (2013) studies. In this research, we examined a total of 36 participants (19 males and 17 females) representing Egyptian domestic tourists. Based on Nielsen's theory, the minimum requirement for an eye-tracking usability study with gaze replays method is six participants. (Goldberg & Wichansky, 2003; Pernice & Nielsen, 2009; Green Murray, N., & Warner 2011;Bergstrom & Schall, 2014; Sari & Santoss, 2016; Dospinescu & Percă-Robu, 2017; Carter & Luke, 2020; Kanazawa et al.,2021; Wang et al.,2021; Savin et al.,2022).The study sample was selected from domestic tourists, as is consistent with the study(Kanazawa et al.,2021), which confirmed that the main sample for the SCDWM model must including domestic travelers. On the basis that the target destination website audience includes locals, government officials, travel agencies, tour operators, hotels, leisure and culture-related businesses, and travelers (both foreign and domestic) (Kanazawa et al.,2021). Participants' age range spanned from 19 to 53, and they were all professors, undergraduate students, or employees. All had backgrounds in tourism studies and had taken at least one

domestic trip. These individuals voluntarily signed up for the study after seeing an announcement in a closed group dedicated to those specializing in Tourism.

Table(1): The sample size

No.	Gender	Age	Education
B1	M	35	PHD
B2	F	37	PHD
B3	F	39	PHD
B4	M	53	PHD
B5	F	36	PHD
B6	M	38	PHD
B7	M	41	PHD
B8	M	39	PHD
B9	M	28	Masters
B10	F	27	Masters
B11	F	21	LEVEL 4
B12	F	21	LEVEL 4
B13	F	19	LEVEL 2
B14	M	20	LEVEL2
B15	M	20	LEVEL 2
B16	F	21	LEVEL 3
B17	M	19	LEVEL 1
B18	F	20	LEVEL 2
B19	M	20	LEVEL 2
B20	M	21	LEVEL 4
B21	F	21	LEVEL4
B22	F	19	LEVEL2
B23	M	19	LEVEL 2
B24	M	21	LEVEL 4
B25	M	21	LEVEL 3
B26	F	22	LEVEL 4
B27	M	21	LEVEL 4
B28	M	21	LEVEL 3
B29	M	20	LEVEL 2
B30	F	23	LEVEL 4
B31	F	22	LEVEL 4
B32	M	21	LEVEL 3
B33	F	21	LEVEL 4
B34	M	48	Bachelor of Laws
B35	F	42	Bachelor of Arts
B36	F	37	Bachelor of Commerce

2-The time and place of the research

The research study took place in a controlled laboratory at the Abu Qir High Institute for Tourism and Hotels in Alexandria governorate from November 6, 2022, to March 28, 2023. The room's layout ensured stable and orderly conditions for running the experiment. The laptop monitor was positioned approximately 65-70 cm from the participants' eyes, which is an ideal distance for remote eye-tracking studies (Bergstrom & Schall, 2014; Carter & Luke, 2020; Dospinescu & Percă-Robu, 2017; Goldberg & Wichansky, 2003; Green, Murray & Warner, 2011; Kanazawa et al.,2021; Pernice & Nielsen, 2009; Sari & Santoss, 2016; Savin et al.,2022; Wang et al.,2021) .During the six-minute eye-tracking experiment, participants were asked to explore Egypt's official tourism and Antiquities website by engaging with its content. Afterwards, each participant took part in a comprehensive half-hour interview to gather further insights.

3- Equipment of eye tracking

The combination of specialized eye tracking analysis applications with webcams can yield comparable performance to eye trackers. The Accuracy and Precision tests demonstrate the Gazerecorder and Real eye software's ability to provide reliable and accurate measurements using webcam-generated images. The software's Accuracy measurements (< 0.9°-1.0°) exceed the desired level, especially when the head is freely positioned. Additionally, the repeatability (Precision measurement) of results meets the necessary criteria, establishing the software as a dependable alternative to infrared eye trackers. This integration of eye tracking software and webcams proves successful in marketing and website research (Antúnez et al.,2015; Gazerecorder, 2023; Realeye, 2023; SIMPLY, 2013; Team, 2023), as demonstrated by the SIMPLY USER Experience Lab in 2013 (Aggarwal, Ahmad & Singari, 2022).Therefore, the equipment for the eye tracking experiment was divided into the following:

A) Software of the experiment: Gaze tracking is a technique used to determine the direction of a person's gaze on a screen using face images captured by a camera. Webcam eye-tracking, on the other hand, involves using a built-in or external camera attached to a monitor or laptop to collect data on a person's eye movements. Unlike specialized cameras or infrared beams, webcam eye-tracking utilizes the image produced by the webcam. An algorithm is then used to calculate the precise position of the head and eyes, and the direction of the eyes is correlated with the content displayed on the screen (Gudi, Li, & van, 2020).

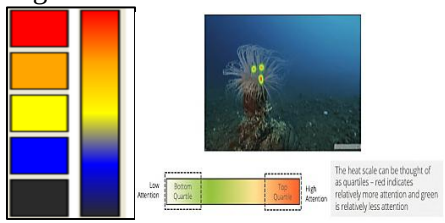
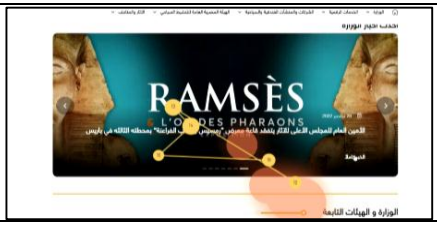
The technology behind eye-tracking software turns a simple webcam into an accurate eye-tracker. With advancements in machine learning and computer vision, eye movements can now be tracked with high precision(Bandyopadhyay, Riou & Schwab, 2021; Burton ,Albert & Flynn, 2014; Gudi,Li, & van 2020).Advancements in machine learning and computer vision have enabled eye tracking software technology to transform a simple webcam into an accurate eye-tracker capable of high-precision eye movement tracking. This software allows for the recording and analysis of eye-tracking data (Saxena Fink & Lange, 2023; Skovsgaard et al.,2011; Vos, Minor & Ramchand, 2022; Wisiecka et al.,2022;

Yang & Krajbich, 2021). Compared to conventional eye-tracking methods that rely on specialized technology and require respondents to visit labs, GazeRecoder and Realeye software enable eye tracking to be conducted by individuals using their own computers at home.

This technology utilizes multiple state-of-the-art tracking algorithms to identify facial features, eyes, iris, and movements in 3D, ensuring accurate tracking even in situations where people are in motion, lighting conditions change, or the face is partially obstructed (GazeRecorder website, 2023; Realeye website, 2023). Therefore, in this study, a webcam was utilized as an eye-tracking equipment, and the gaze was recorded and tracked using GazeRecorder and Realize software.

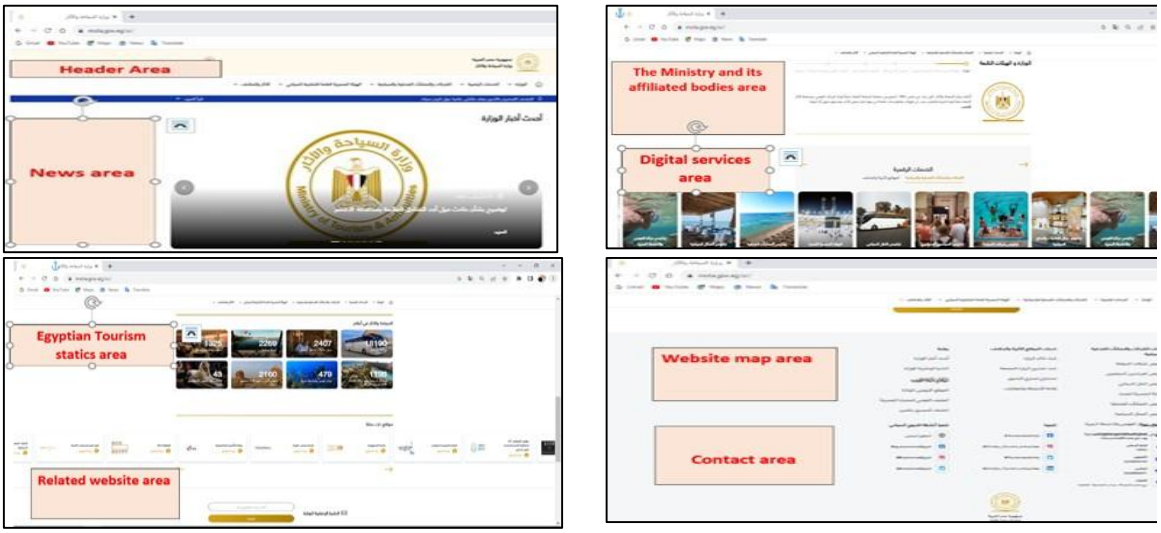
B) Hardware of the experiment: The webcam parameters are: resolution of 640 x 480 and 30 fps frame rate.the experimental procedure responsible for stimuli presentation was controlled through a dedicated software using iViewX SDK on a Lenovo laptop with a 17'' screen. The webcam with an accuracy of 0.1-1 degrees eye tracker offered data about participants' eyes. All participants could move freely and scroll (Ansari et al.,2021; Burton et al.,2014; Murali & Çöltekin, 2021; Pernice & Nielsen, 2009).

4- Eye tracking measures: The study is based on two eye-tracking technology programs, as each program aims to achieve a number of metrics, which are as follows: **Table (2)** eye-tracking technology programs

Software name	Measures / Description	How to measure	APPLICATION IMAGES
A-Gaze recorder software	**Heatmaps for Area of Interest (AOI):** AOI, is a tool to select regions of a displayed stimulus, and to extract metrics specifically for those regions. While not strictly a metric by itself, it defines the area by which other metrics are calculated (Federmeier & Schotter, 2020). The heat maps are graphical representations using different colors to display the areas of interest and attention by the participant or the time duration for each fixation: (Schall & Bergstrom, 2014)	The color scheme for heatmaps: the most-viewed areas are red, less-viewed areas are orange or yellow, the least-viewed areas are blue, and areas that didn't get any fixations are gray.	High attention Low attention 
	The dwell time (DW) :indicates the amount of time that it takes a respondent to look at a specific AOI from stimulus onset.(Berenbaum & Latimer-Cheung, 2014; Breuer & Rumpf, 2012)	A long duration of looking at a certain region can indicate a high level of interest.	
	First Fixation Duration: As we explore a visual scene with our eyes, we move across through saccades, before settling on a part of the image by fixating. (Antúnez et al., 2015; Djamasbi et al., 2010; Vertegaal & Ding, 2002)	It provides data about how long that first fixation lasted for and it show which the first area the respondent focus on it.	
B-Realeye software	**Attention & Emotions**: is a cognitive process that tells us about somebody's concentration and ability to actively process specific information. Facial Coding allows tracking the participants' faces emotions. (Real eye website, 2023)	This parameter uses eye movement parameters. Eye tracking software Realeye supported with AI algorithms allows us to analyze people's emotions online.	
	Scanpaths (Gaze plot): This allows a picture to be built up of what is prioritized by a participant when they see a visual scene. (Krajbich et al., 2010; Realeye, 2023)	The point numbered 1 is the first area that attracted the attention and focus of the respondent .Order of attention is a commonly used marker in eye tracking research, as it reflects a person's interest.	

5-Official website design protocol

The official Egyptian Ministry of Tourism and Antiquities website. https://mota.gov.eg/ar/. consists of 8 areas representing the main areas of interest AOIs as following :a-Header area: that contains the website logo, navigation menu, and search menu ,b- News area ,c- The Ministry and its affiliated bodies area, d-Digital services area, e-Egyptian Tourism statics area, f- Related website area, g- Website map area, h-Contact area.



6-Experimental procedures

A) Instructions

The participants were welcomed to the informatics laboratory of Abu Qir High Institute for Tourism and Hotels in Alexandria, where they were provided with an explanation of the study's objectives. Detailed instructions were given to the subjects regarding the movement and positioning of their heads during the calibration procedure, as well as utilizing the feedback displayed on the screen. Throughout the procedure, the subjects were only reminded to closely follow the point during calibration and no additional information was provide(Abdrabou et al.,2023; Gazerecorder, 2023).

b) Calibration and validation

The eye-tracking system requires calibration to identify the specific user's eye. This calibration process takes place in the lab at the beginning of the session. During calibration, participants are instructed to observe nine moving dots positioned in the corners and center of the screen. Each participant undergoes this calibration process (Pernice & Nielsen, 2009). During the experimental procedure, subjects receive feedback on their head position. If their head position is incorrect, they are shown a red head imitation and are instructed to adjust their head position to receive positive feedback. Once the hardware set-up is complete, **the calibration process consists of four steps** (Horvat, 2020; SIMPLY, 2013):1. Starting the camera - by pressing the Start Cam button in the Record tab.2. Positioning the face - by pressing the Reinit Face button in the Record tab and following the on-screen instructions. It is important not to move the head during this step.3. Calibration - by pressing the calibrate Gaze button in the Record tab and following the on-screen instructions. Head movement should be minimized during this step.4.Validation - by pressing the Show Calibration Accuracy button in the Eye Tracker Settings tab. If the accuracy is above 0.8° or the precision is above 0.5°, it is necessary to repeat the face positioning and calibration steps (Burton et al.,2014; Gazerecorder, 2023; Realeye, 2023; SIMPLY, 2013; Team,2023; Wisiecka et al.,2022).Once the calibration process achieves satisfactory accuracy and precision, recording can be initiated by pressing the Rec button in the Record tab. The recording will automatically stop either when the time limit is reached or when the Stop Rec button in the Record tab is pressed. For each subject, the duration of the experiment is 3 minutes for the gaze recorder software, followed by another 3 minutes for the real eye software.

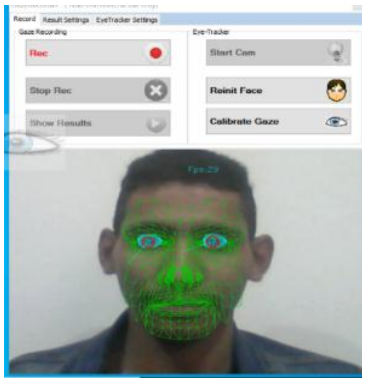


Fig (1): Calibrate Gaze face of respondent

C) Eye tracking results overview

Thereafter, the participant received the stimuli. It was assessed the homepage of the official Egyptian Ministry of Tourism and Antiquities website and they were displayed in random order. While the process took place, the website were online, the participants reviewing the content of homepage(Hutt & D'mello, 2022). After recording has been stopped, data will automatically start to generate with the settings provided before. Results generation usually lasts as the recording itself.

After results are generated, users have available videos of the screen and webcam, as well as dynamically generated heatmap to analyze the dynamic heatmap data (Horvat, 2020). Eye tracking analysis software producing individual reports. Additionally, these programs generate aggregate reports that present the combined averages of all respondents. These reports encompass all metrics used to analyze eye tracking(Gazerecorder, 2023; Realeye, 2023).

D) In-depth interview

In order to gather qualitative information regarding the behavior and demands of participants during their internet browsing experience, an in-depth post-experimental interview was requested of them. The semi-structured interview guide contained 17 questions related to each of the destination website model's dimensions based on the literature of official destination website and social constructionism SCDWM. The NVivo 10 program was used to record, organize and analyze the results of interviews. It was also used in content analysis and linking the theoretical framework to the practical results of the study.

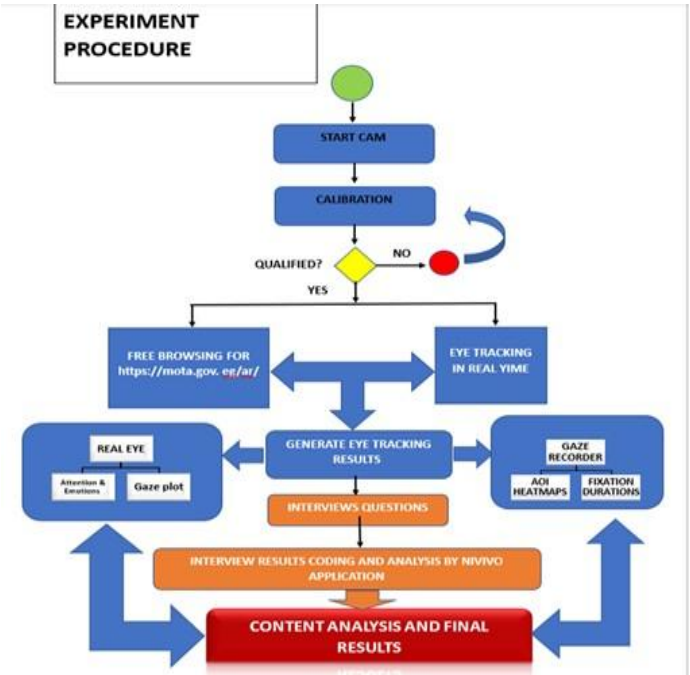


Fig (2): Practical framework for the experiment

Results and analysis

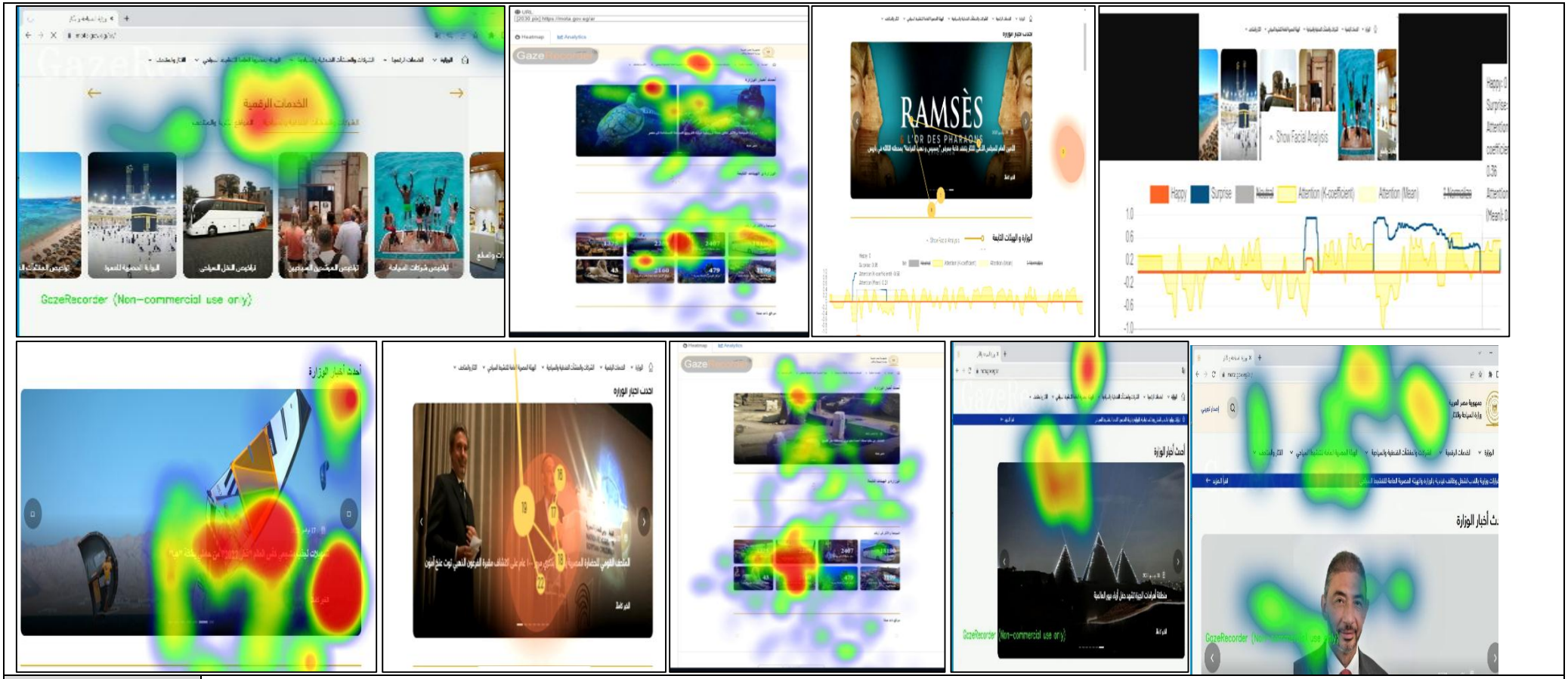
This section showcases the applicability of the SCDWM model in assessing the feedback of a specific group of stakeholders, namely domestic tourists. As a result, we analyzed how these tourists visually perceive and pay attention to various elements of website management. The NVivo 10 program was employed as a crucial tool in the realm of qualitative data analysis. Henceforth, it was utilized in the content analysis of individual interviews, as well as the outcomes of eye tracking through coding, structuring, and analyzing the individual interviews and references employed in the present study.

A - Eye tracking and interview analysis

1- Table (3) Technical dimension of the official Egyptian Ministry of Tourism and Antiquities website.

Elements of technical dimension	Results
- Design	The participants found the website to be somewhat attractive and praised it mainly for its **light colors, clean design, and lack of excessive information on the screen**. They did mention, however, that there was a lack of photos and videos showcasing the main tourist destinations in Egypt. One of the participants emphasized that"[...] as a government website, it should provide more diverse tourist information about the various tourism patterns throughout the country and ways to promote them. They believed that the website should function more as a tourist marketing website rather than just a tourist news site"[...]. One participant also mentioned that the presentation utilizes soothing colors to capture attention. These colors predominantly revolve around white, particularly in the background, and blue in the main titles. The participant emphasized their appreciation for these colors, stating,"[...] I adore the combination of white and blue."[...] "In contrast, several other participants, particularly young people, highlighted "[…] the necessity of incorporating a wider range of colors to attract attention on the website"[...]. Most of participant (tourist experts) clarified that "[...] the website was created with a design that enables maximum flexibility in adding pages to meet the new requirements"[...]. **It can be deduced from the analysis of eye movements** that the **initial fixation** of the participants was in the **news area**, owing to the presence of visually appealing images related to the tourism sector. Subsequently, their attention shifted to the **head area**, which served as the second point of fixation. The **facial expressions** exhibited by the participants conveyed a sense of naturalness devoid of any display of happiness or disappointment. This suggests that the respondents were content with the design, as evidenced by the high level of surprise, which reached a value of 0.95. However, it is worth noting that the absence of happiness and great pleasure in their facial expressions can be attributed to the lack of control elements such as augmented reality. The area that garnered the most attention from the respondents, as indicated by **the longest fixation duration,** was the **Header area**. The average time spent on this area was approximately 10,000 ms. Similarly, **the website map area** also received considerable attention, with an average fixation duration of about 10,000 ms. This can be attributed to the respondents' efforts to comprehend the intricacies of the different parts of the site. Additionally, it highlights the challenges they faced in interpreting or familiarizing themselves with all the details of the site easily, as well as their inability to access the required information quickly. The respondents also displayed **interest in various other areas of the site**, such as the news area, the digital services area, and examples of areas found in thermal messaging. These findings indicate that these areas were the most captivating for the participants. On the other hand, **areas associated with the ministry and its affiliated** counterparts received **less attention**, particularly in instances where the color used was light green. By conducting an analysis of **the heat maps**, it is possible to ascertain that the official website of the Ministry of Tourism and Antiquities showcases a color range in its **heat maps**, with **red** indicating the highest level of interest and **blue** representing the lowest level of interest. Furthermore, the heat maps of the website do not display any instances of the absolute lowest level of interest, which is denoted by the color gray. **This observation indicates that the overall evaluation of the website by visitors is deemed satisfactory.** In addition, the level of focus within the realm of news is constantly subject to fluctuations dependent upon the visual content presented in the news feed, wherein news images pertaining to tourist attractions and archaeological sites consistently garner the most significant degree of attention from the audience.

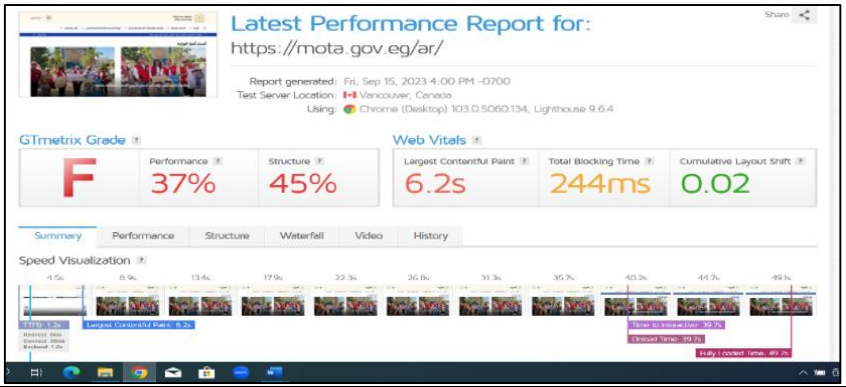
Application Evidence

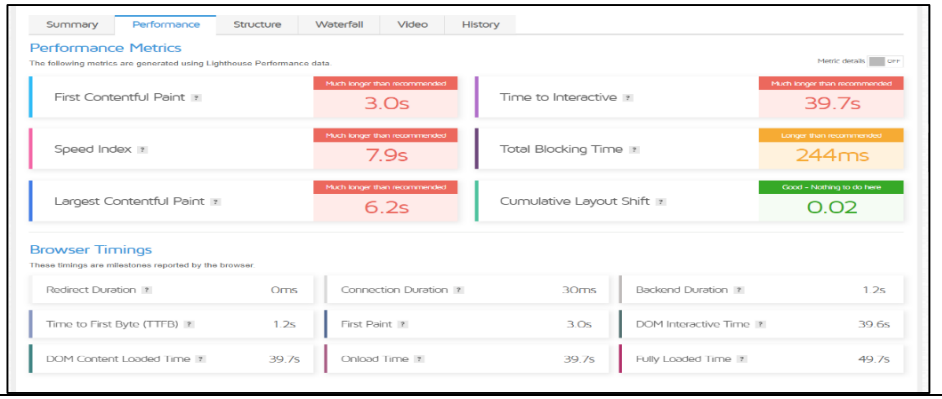


Usability	Most participants stated that the website is suitable for browsing. **No complaints regarding the website load time**. However, a few participants encountered challenges in comprehending the content that would be revealed upon clicking the buttons of the "Digital Services" and associated websites such as the "Eco Egypt Website" and the "Tourist and Hotel chambers Website," particularly for participants who lack expertise in the field of tourism. Despite the consensus among the majority of survey participants that there **are no inherent issues with navigating the website**, an examination of the site conducted on one of the globally recognized platforms dedicated to assessing the caliber of online websites ‘‘Gtmetrix ‘‘and ‘‘Lighthouse’’ tool which developed by Google" **has highlighted the emergence of a predicament pertaining to the performance and prolonged loading time of the website's complete content**. This issue is particularly prevalent when users engage in activities that involve accessing substantial data, such as viewing videos and high-resolution images. The website was completely loaded within approximately 47.9

	seconds, a duration considered relatively lengthy in accordance with the assessment conducted on the website Gtmetrix.

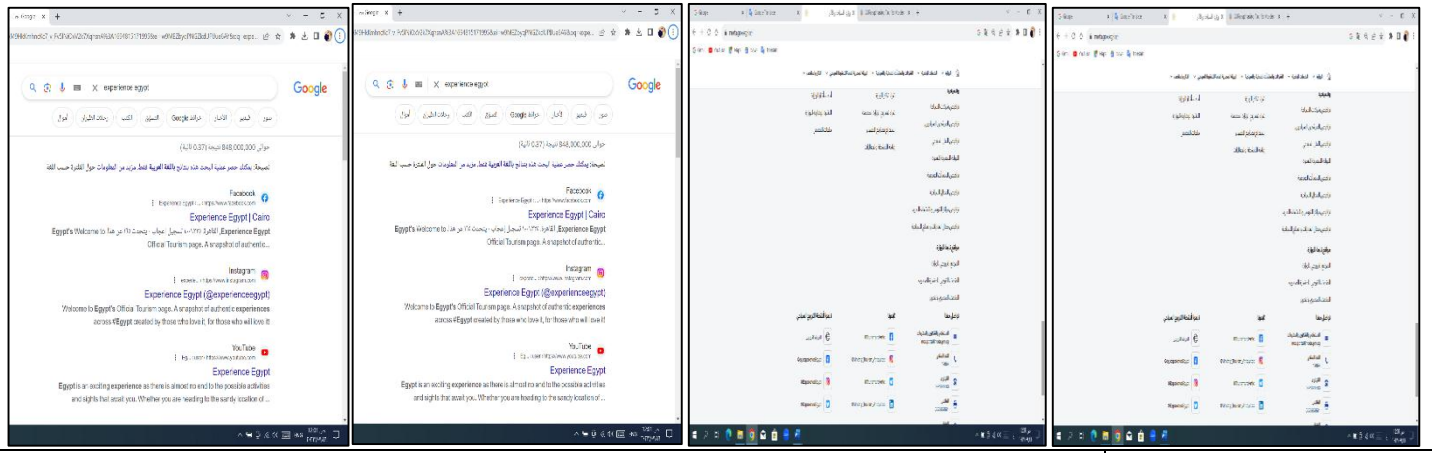
Application Evidence

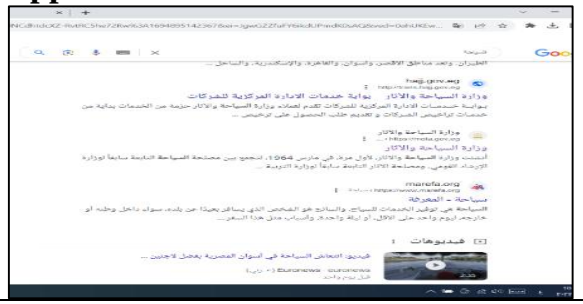




- Easy to find the website in search engines	The participants evaluated the website is easily found in Google results for **the Egyptian Ministry of Tourism and Antiquities in Arabic.** It appears in the first suggestions of results when searching for specific tourist information about Egyptian tourist destinations, as the website for Ministry of Tourism and Antiquities appears. https://mota.gov.eg/ar/ However When conducting a search for **the English website of the Ministry of Tourism and Antiquities** on the widely-used Google search engine, it becomes evident that the website of the Ministry of Tourism and Antiquities, which focuses on the promotion of Egyptian monuments, emerges as the topmost result of the search. **https://egymonuments.gov.eg/** In addition, **the official website of the Ministry**, which is primarily dedicated to providing tourism updates and news, occupies the **third position** in the search results. While the recently launched official website for tourism promotion in Egypt "Experience Egypt"failed to manifest in the Google search engine, the official Facebook page emerged instead. It is also feasible to gain **entry to the promotional website "Experience Egypt "through the official website of the Egyptian Ministry of Tourism and Antiquities**. Where there is an external hyperlink allowing navigation to the promotional site; However, the space allocated to display the promotional site is considered insufficient compared to the enormous capabilities of the site, and thus it does not attract the attention of a large number of visitors. Moreover, the Egyptian tourism promotional website may not cater to a large segment of local and foreign tourists due to its exclusive use of the English language.

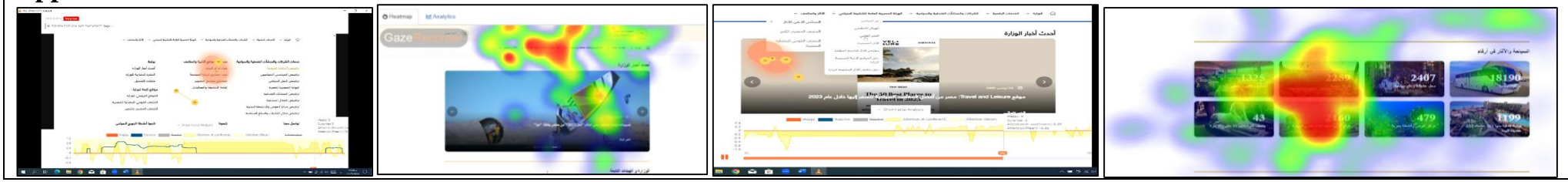
Application Evidence



Accessibility Information	Most of the participants mentioned that"[…] the **website was easily accessed** through the primary web browsing application. **The official website of the Egyptian Ministry of Tourism and Antiquities can be easily accessed** by using a minimal number of search terms on the Google search engine. By simply entering the word "Tourism" in the search bar, the website promptly appears on the initial page of the search results but not first result in page.	**Application Evidence** 
- Suitability for mobile devices:	Most participants stated that"[…] the website is fast, seamless, and hassle-free internet browsing on any device.	**Application Evidence** 

-Information architecture/ navigability:	Most of the interview participants agreed on **the diversity of the informational content** of the site by reviewing the following: **The official logo** of the Egyptian Ministry of Tourism and Antiquities is displayed on the upper fixed menu. Following that, the main toolbar appears, presenting regularly updated tourism news accompanied by pictures of the events and announced news. Next, we navigate to the main buttons for the Ministry web and its affiliated bodies, which include the Egyptian General Authority for Tourism Promotion, the Supreme Council of Antiquities, the Egyptian Museum Al-Kabir, the National Museum of Egyptian Civilization, and the Tourism and Antiquities Support Fund. Additionally, there is an internal search engine and buttons that direct users to pages catering to the needs of the tourism sectors and digital services related to companies, hotels, tourism establishments, archaeological sites, and museums. Additionally, there is a special section that provides comprehensive information on various aspects of tourism and antiquities. This includes the numbers of tourist vehicles, tourist shops, tourism companies, diving centers, hotel facilities, archaeological sites, and museums. The website also features footer at the bottom, which contains links to related sites and resources. This footer includes social media buttons, buttons for accessing services provided by companies, hotels, and tourist establishments, a button for learning more about archaeological sites and their services, and a button for accessing sites affiliated with the Ministry. However, some users (10 participants) have pointed out that it can be challenging to find certain information with just a few clicks. "[…] When I went to use the search field, I found that the results that were displayed for the city of Sharm El Sheikh and how to book and organize a comprehensive tourist trip there were not clear and complete. "[…] Then, I had to repeat the steps and make a few extra clicks to get back to the home page I was visiting. In my opinion, it would be beneficial to provide clearer instructions during website research "[…]. **By conducting an analysis of the eye tracking** experiment made regarding **the behavior** of the majority of respondents while browsing the **sitemap area**, it is apparent that **expressions of surprise** have diminished while **expressions of attentiveness** have emerged. Thus, the majority of respondents devoted a significant amount of time and attention to comprehending all aspects of the website. Moreover, there was a notable **attention** of respondents in the **head area** due to the overlapping and convergence of numerous main lists on the site. On average, **the dwell time** for respondents was approximately 34.6 seconds. **The sitemap** provided evidence that the average duration of **eye dwell** was around 31.7 seconds, which signifies a considerable rate of time spent on interpreting of area sections. **The news area**, despite being one of the most surprising areas, exhibited a prolonged **dwell time** of approximately 38.2 seconds. Additionally, the presence of an intermediate focus indicates that this particular area piqued the interest to peruse all the news and images presented within this section. Furthermore**, the statistics area** proved to be one of the most **commendable areas** on the website due to its emphasis on attention and satisfaction. The statistics were presented in a straightforward manner, devoid of excessive details, and incorporated captivating visuals.

Application Evidence



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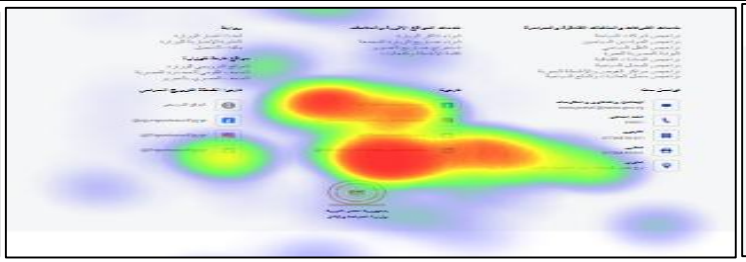

</td></tr>
<tr><td>- Search tool</td><td>There is a search tool, however, it looks for information across the entire website instead of focusing on the current page the traveler is viewing. A participant made a comment stating: “[...] "When I attempt to utilize the search tool to gather information about a particular tourist destination, I observed that the outcomes were general and not specific to a particular city or tourist area." Many participants utilized the search tool to find information about hotels and hostels, particularly in relation to accommodation services, but the outcomes were not relevant or clear. Through the examination of eye tracking technology, it becomes evident that there is a deficiency in attention or inadequate observation regarding the search tool bar among participants. This necessitates an improvement in its design in order to enhance its visibility for website visitors.</td></tr>
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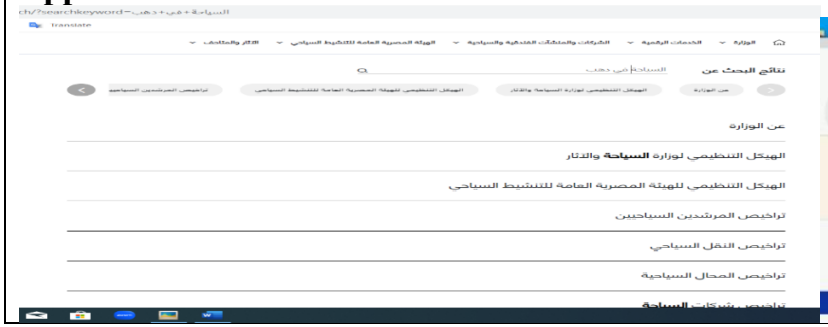
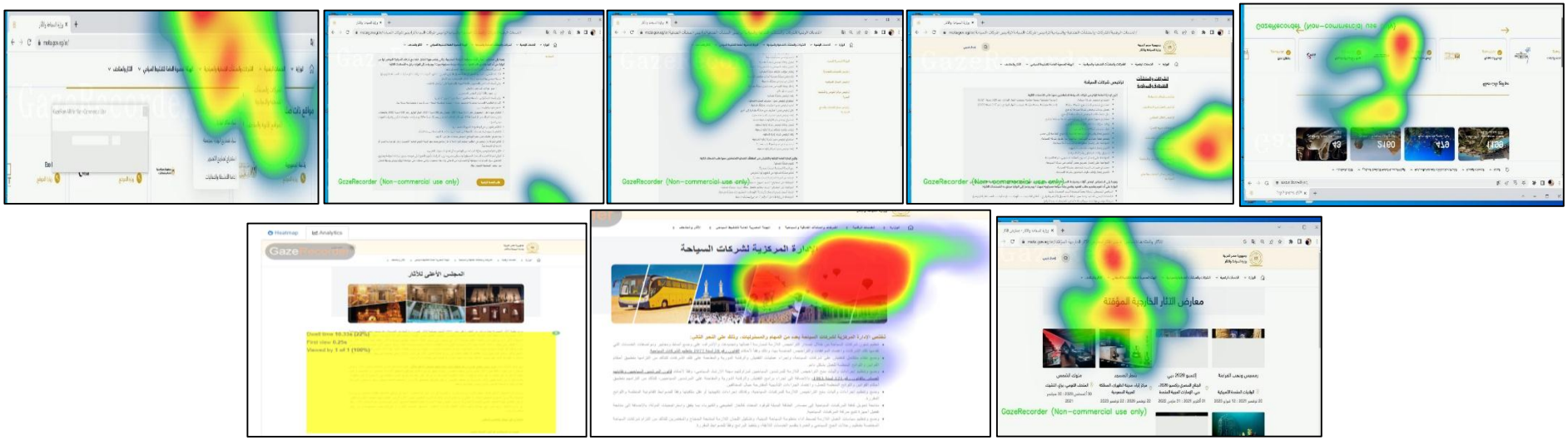
 

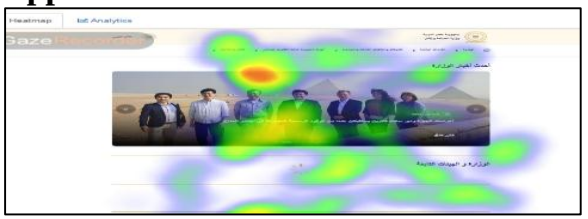
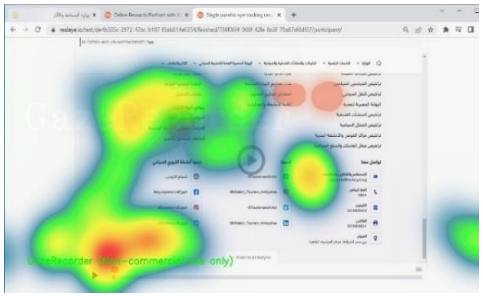

</td></tr>
</table>

***Suggestions for improvements**: by integrating the findings from both the eye-tracking and the content analyses, to create a more immersive experience for users, it is advisable to incorporate additional photos and videos showcasing the various Egyptian destinations (Horng & Tsai, 2010). Specifically, what tourists captured during their experiences in Egypt. This would enhance the trust users have in the website (Alc´antara-Pilar et al.,2018; Hunter, 2016). The website should also improve the information architecture in terms of differentiating the content related to the Egyptian destinations and experiences. From the preceding findings, it is evident that the area of the Ministry of Tourism's promotional website that pertains to relevant sites has garnered the least attention from the respondents. Consequently, there is a need to devote attention to elucidating the hyperlink to the promotional site in an interactive manner that captivates the interest of visitors to a greater extent. Efforts should be made to enhance the overall technological performance of the website.

2- Table (4) Communication dimension of the official Egyptian Ministry of Tourism and Antiquities website

Elements of Communication dimension	**Results**
- Quantity and quality of information	A number of participants highlighted the significance of the website of the Egyptian Ministry of Tourism and Antiquates, which offers **abundant tourist information**. One of the participants stated, "[…] "The first thing that captivates my interest on the official tourism website is the details regarding accommodation and their fundamental costs, which are absent from the homepage of the site, and no indications are given for them"[…] "."One of the participants highlighted that "[…] "when I visit a tourist site, the initial thing I look for is information about upcoming tourist activities and events. This includes details about the location, timing, and the price. Unfortunately, I was unable to find this information on the site"[…] ". A number of participants clarified"[…] "I am attracted to the official tourist sites due to the tourist maps displaying the suggested tourist destinations and travel plans. Regrettably, I discovered that there were very few of them. […] " It is important to mention that the majority of the interviewees highlighted **the excellence of the tourism and news information** provided on the official website. "[…] "it evaluates the organizational structure of the Ministry. Additionally, it offers information on the most significant legislation, laws, and decisions that govern tourism and archaeological work in Egypt. Moreover, the website offers digital services particularly licenses for hotels, transportation companies for tourists, licenses for tourist establishments, diving centers, marine activities, tourist guides, and notifications for tourism programs. Additionally, the site provides services through the Egyptian Umrah Portal and the opportunity to purchase tickets for visiting archaeological sites and museums in Egypt, details on archaeological sites and museums. It provides information on how to obtain annual and seasonal permits to visit these places. Furthermore, the site contains information on recovered antiquities, tourism and archaeological education, as well as a list of museums and archaeological sites in Egypt. On the contrary, over 20 interviewees emphasized **the need for further clarification on certain aspects** that require more detailed attention. "[…] "These aspects include security and health regulations applicable to specific tourist areas in Egypt, details on significant Egyptian events and special occasions as well as the means of participation, the average cost of transportation, maps of prominent tourist routes, and videos showcasing the primary tourist attractions categorized according to the touristic regions of Egypt"[…] ". A group of 10 participants reached a consensus on the importance of **enriching the website with links to tourist sites** that are arranged for tourist trips (for example: Trip advisor). One of them noted that"[…] "the Ministry of Tourism website should be **integrated with the Egyptian tourist destination** in order to attract customers who wish to plan their own trips. Likewise, more than 20 participants have confirmed the following: "[…] "While browsing, I came across a useful feature that allows direct linking to various relevant websites. These websites include the Presidency of the Republic, the Presidency of the Council of Ministers, the electronic visa portal in Egypt, the Egyptian portal for Umrah, the unified window for yachts, and the complaints portal. Additionally, there are websites for the government, the Egyptian Federation of Tourist Chambers, and tourist chambers, as well as the General Authority for Tourism Development. Furthermore, there are websites such as the Eco Egypt portal, the Egyptian portal for sustainable tourism, the Treasures website for archaeological reproductions, and the website of COP27.Furthermore, it serves as a **direct connection to the official electronic and social media platforms** of the Ministry and its affiliated bodies, such as the Egyptian General Authority for Tourism Promotion, the National Museum of Egyptian Civilization Authority, and the Egyptian Museum."[…] "Lastly, it is also connected to the promotional website of the Egyptian

	General Authority for Tourism Promotion. This promotional site provides all information including details on how to obtain an entry visa to the country, tourist attractions, archaeological sites, and museums. This demonstrates the commitment to regularly improving and connecting this site to the marketing aspect. **Through the examination of eye tracking**, it is observed that the **presence of images and videos** alongside both quantitative and qualitative information elicits **greater attention** from visitors. Conversely, the absence of multimedia, coupled with a qualitative explanation that lacks appropriate font size or contains excessive informational details, results in poor user interest in the website. This, in turn, leads to a significant decrease in the dwell time during respondents' experiments, lasting for approximately 10 seconds. In addition, the overall level of user satisfaction decreased significantly. The **color shift of the heat map** is also evident from blue in areas containing written details to red in areas containing images. This shift indicates a greater level of interest.
Application Evidence	
-Website adaptation to other languages and cultures	When the interviewees were questioned about the possibility of accessing the website in different languages, all of them responded that the portal can only be accessed in Arabic. They mentioned that there is no option to switch the language to English or French, for instance. The interviewees emphasized the importance of having a language-changing button. One of them raised a valid point: "[.]"Why is there no language-changing button on an essential official tourism website? By **conducting an examination of the respondents' visual attention**, it is apparent that the majority of participants directed their focus towards **the head Area** section as it encompasses an icon intended to facilitate linguistic modification, (a feature commonly found on other travel websites). This observation was substantiated through the utilization of **heat maps**, which effectively display the concentration of the participants' attention towards the pursuit of modifying the linguistic medium of the website as attested during the personal interviews.

<table>
<tr><td></td><td colspan="2">Application Evidence
  </td></tr>
<tr><td>-Country-logo and slogans</td><td>The official logo of the Egyptian Ministry of Tourism and Antiquities is present on the website. However, not all tourists were able to notice it.
By conducting an analysis of the eye tracking methodology, it is evident that the logo failed to captivate the attention of the participants until the conclusion of the experiment. This prompted the researchers to inquire about its presence during the subsequent interview. The heat maps clearly indicate that none of the participants directed their gaze towards the logo, as it did not exhibit any variation in color intensity on the heat maps. The overall fixation time of logo recognition among all respondents was less than two second.</td><td>Application Evidence
 
  </td></tr>
<tr><td>-Frequent asked questions</td><td>All participants gathered together that there are no frequently asked questions available on the website. Nevertheless, on the homepage, there is a topic related to useful and essential information.</td><td>Application Evidence
  </td></tr>
<tr><td colspan="2">*Suggestions for improvements:
The website should have a section of crucial information on each destination page. This section should include specific instructions, which would make the suggestions about safety for example. Another suggestion to meet the demand for specific and detailed recommendations on accommodations and restaurants is to integrate the website with platforms that have content generated by tourists, such as TripAdvisor. Place marketers use tourist generated content to enhance the destination information and to showcase the actual travel experiences (Rosa et al.,2019). Another suggestion is for the website to provide information about the prices of public transportation tickets for all the attractions advertised on the portal.</td><td></td></tr>
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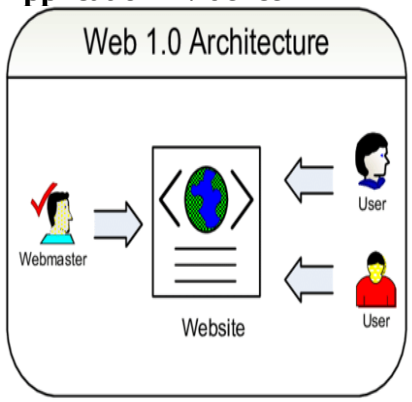
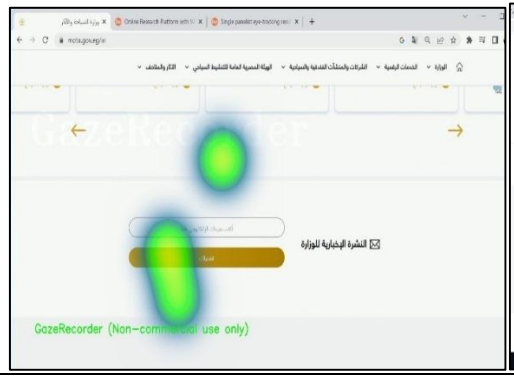
Additionally, it should create a calendar of events and celebrations. In line with this, Warren and Dinnie (2018) highlight the importance of place marketers being aware of the current happenings in their area. It could be beneficial to reconsider the positioning of the logo for the Egyptian Ministry of Tourism and Antiquities, as its visibility can enhance site identification and elicit a positive response (Lee et al.,2012). Providing additional interactive and informative maps is also crucial, as well as offering customized information based on the type of tourists and their travel time (Kanazawa et al.,2021)

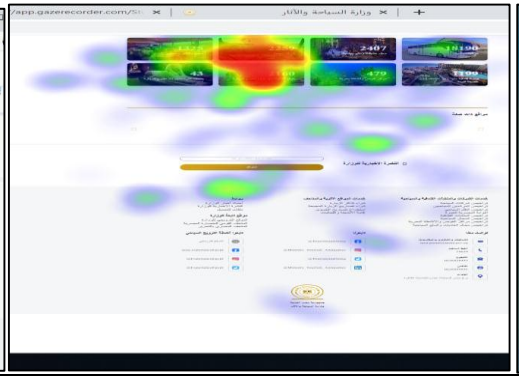
3-Table (5) Relationship dimension of the official Egyptian Ministry of Tourism and Antiquities website

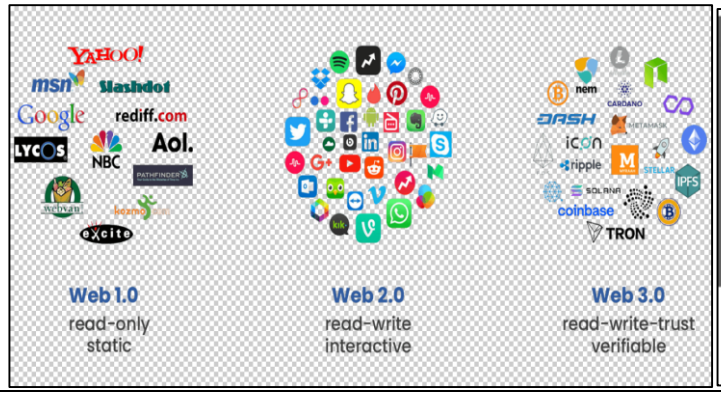
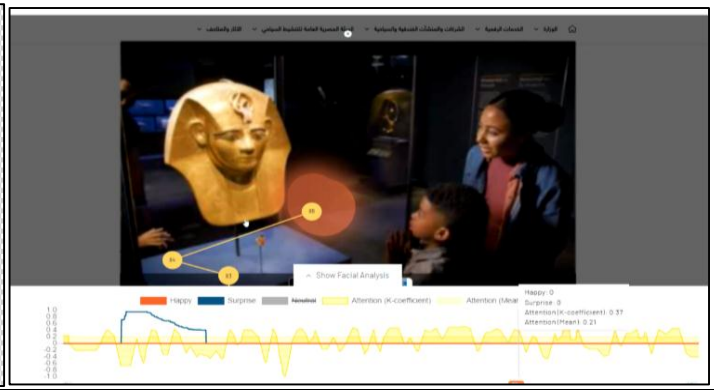
Elements of relationship dimension	**Results**
- **Communication between users and managers**	27 out of 36 interview participants confirmed that users of the site can communicate with those in charge of its management through the "Contact Us" tool on the portal. One of the participants mentioned that "[…] "the site provides various communication tools, such as a special icon for inquiries and complaints attached to a link moa.portal@mota.gov.egK, a hotline number (19654) and fax number"[…] ".the Egyptian Ministry of Tourism and Antiquities' website additionally offers the choice to sign up via email in order to receive newsletters. One of these newsletters is the monthly newsletter published by the Ministry, called E-Magazine. On the homepage, there is a dedicated icon for composing an email and activating the subscription. Moreover, communication can also be conducted through various social media platforms. As mentioned by most of the interviewees: "[…] "it is possible to communicate via Facebook, Instagram, Twitter, and LinkedIn"[.]" On the contrary, a majority of the participants (28 individuals) expressed that there has been a decline in the visibility of (icons) references to social media found in the footer of the website page. Due to the lack of contrast between the social media icons and their background. One participant emphasized the need to enhance the distinctiveness of the communication icons by selecting an appropriate color and font to display their names and shapes, in order to attract attention. "[…] "Personally, I did not notice them due to their placement at the bottom of the page"[.] ".However, the website does not provide a mechanism for direct communication, to engage with the site administrators. **Through the use of heat maps**, it is discernible that there is **decrease in interest in the contact area** as a collective entity, primarily due to its **positioning in the bottom portion** of the homepage. On average, the participants required an approximate duration of 1.82 minutes to navigate to the section associated with making calls. Furthermore, the newsletter garnered minimal attention from the individuals utilizing the platform.

Application Evidence





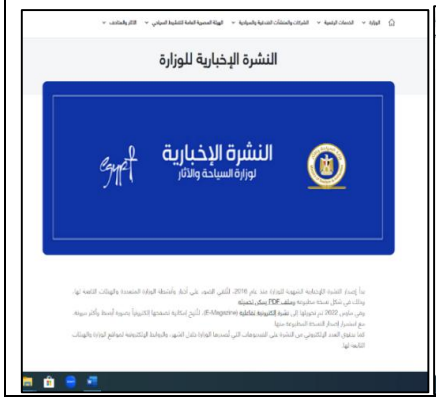


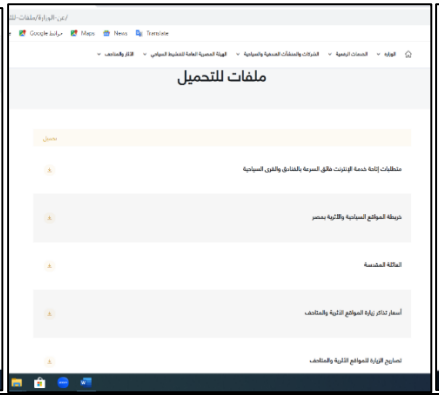
Communication between users	In general, participants focus on searching for and evaluating tourism information that is shared by other users on the internet, particularly in blogs, social networking sites, and websites like TripAdvisor that offer recommendations. However, participants mention that **communication between users is not available on the website** and can only be achieved through social media platforms. The Egyptian Ministry of Tourism and Antiquities website has a significant number of followers on various social media platforms. Nevertheless, the website does not provide links to platforms that contain reviews and recommendations from tourists. One of the participants clarified"[…] "I have a tendency to look for the viewpoints of the people involved in the reviews on the website in order to form an initial perception of the services offered "[…] ". **The website,** does not offer any channels of communication among its users due to its adherence to Web 1.0 technology. The users, on the other hand, are unable to engage in any form of interaction on the platform as they are merely recipients of information and news disseminated by the website itself. Hence, the most of participants indicated the need to create an interactive medium to exchange opinions and provide diverse evaluations of all the services offered by the Ministry, utilizing blogs, forums, and comment sections dedicated to each service.
Application Evidence	 
-Interactive resources	Most of the interviewees emphasized the absence of a variety of virtual tours on the website in order to foster direct engagement with users. Additionally, a majority of the participants highlighted the absence of real-time video clips showcasing different destinations, and interactive maps. One individual specifically pointed out "[…] "the necessity for video clips depicting actual tourist experiences in order to alleviate the monotony of browsing the site"[…] ".Despite the lack of visual aids, there are still videos and pictures available that solely pertain to certain news updates from the Ministry of Tourism and Antiquities. **Through the examination of eye tracking technology**, it can be observed that images and videos pertaining to the Ministry's news have attracted the attention of numerous participants. This phenomenon is supported by the utilization of **heat maps**, where the incorporation of multimedia in news articles increased participants' attention and focus compared to news that lacked multimedia elements.

Application Evidence

-Downloadable materials	Through the perspectives of the survey participants, it is evident that there are certain documents that are available for retrieval. These include the monthly and yearly editions of the news releases from the Ministry of Tourism and Antiquities. The electronic versions of the newsletter also encompass videos disseminated by the Ministry throughout the month, as well as electronic links to the Ministry's websites and its affiliated entities. Additionally, there are files that can be downloaded in PDF format, such as the map of tourist and historical sites in Egypt, permits for visiting archaeological sites and museums, pricing information for visiting archaeological sites and museums and select archaeological mission work. Furthermore, some videos and images pertaining to the Ministry's news can be uploaded and shared via social networks. **Through the examination of eye tracking technology**, it is discovered that 26 respondents failed to observe the presence of specialized files available for download on the Ministry's website. This can be justified by the positioning of the download link at the conclusion of the homepage, thus causing confusion for the participants. **This observation is further supported by the heat maps,** which indicate that this section did not attract the attention of the participants. Consequently, it is imperative for site administrators to allocate more attention to this matter

Application Evidence





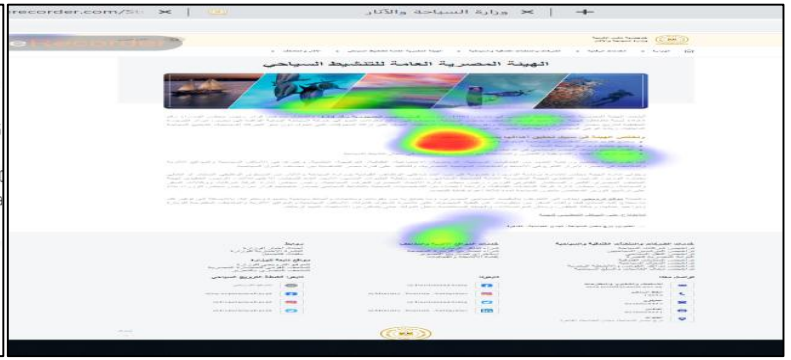
***Suggestions for improvements:**

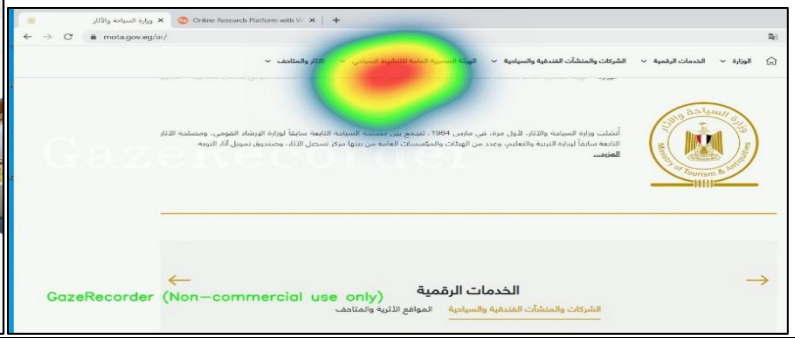
The official tourism website should actively encourage a strong relationship with its users (Hinson et al.,2018). In this regard, it is essential to enhance the visibility and user-friendliness of the 'contact us' tool to encourage its utilization by tourists. Additionally, it is recommended that the official website should provide integration with all destination social media platforms to effectively utilize the tourism generated content and facilitate communication among users. According to Rosa et al. (2019) and Molinillo et al. (2018) the social representation found in social media platforms has the potential to enhance the quality of information provided by official websites. Furthermore, providing a wider range of interactive tools, including the availability of free downloadable materials. Greater emphasis should be placed on the designated areas of the site map area and the contact area of the site, as these areas encompass crucial aspects for the majority of survey participants. Additionally, the hyperlink leading to the promotional site for Egypt should exhibit a more precise and distinctive presence within the contact section of the site. This link should not solely be confined to this area, but should also be readily accessible within the head area of the site

4- Table(6)Persuasion dimension of the official Egyptian Ministry of Tourism and Antiquities website

Elements of Persuasion dimension	Results
-Discourse analysis/ convincing	Out of the 36 participants, 28 expressed that their initial impression of the website was highly positive, leading them to desire browsing for more than 3 to 5 minutes. The remaining 8 individuals mentioned their intention to close the portal within 5 minutes in order to continue their search on other websites. This decision was primarily due to their inability to find sufficient content that catered to their specific needs. Additionally, they discovered that the news information contained an extensive amount of details regarding the Ministry's scope of work, tasks, and competencies. **By conducting an analysis of the eye tracking experience,** it is evident that the official Egyptian Ministry of Tourism and Antiquities' website has garnered favorable levels of user satisfaction overall, this aligns with the characteristics of the participants, who encompass professionals, scholars, and individuals employed within the field of tourism. As the majority of the respondents' attention was drawn to various sections of the site. As the primary objective of the site is to serve as a specialized news and information resource for individuals employed in the tourism industry, while also offering a range of services including models and procedures for diverse tourism sectors, it can be concluded that **the site has largely attained the desired level of persuasion and interaction**. This observation is supported by the **examination of heat maps**, which reveal that **the participants' gaze** covered most parts of the site with a moderate level of concentration. Notably, **facial expressions** expressed by the respondents predominantly ranged from **attentiveness to a moderate level of surprise**, with an average score of 0.45, while the site achieved a relatively lower score in terms of happiness, with an average of approximately 0.24. Furthermore, **expressions of happiness and surprise were particularly concentrated in the news and statistics section** of the site. Additionally, **the news section** exhibited the highest **rates of fixations,** indicating the respondents' keen interest in the news articles published on the Ministry's website, particularly when accompanied by visually appealing images. It is also worth mentioning that the most frequently clicked area within the main section of the site is **the Tourism Promotion Authority section**, which can be attributed to the participants' curiosity regarding the advertising and tourism promotion methods employed by the Authority. In addition to the section dedicated to **archaeological sites and museums** in the survey indicates the keenness of participants towards the most significant tourist destinations that Egypt has to offer, as emphasized on the website of the Ministry.

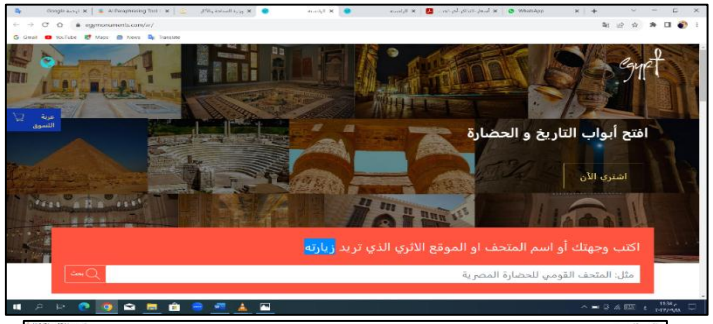
Application Evidence

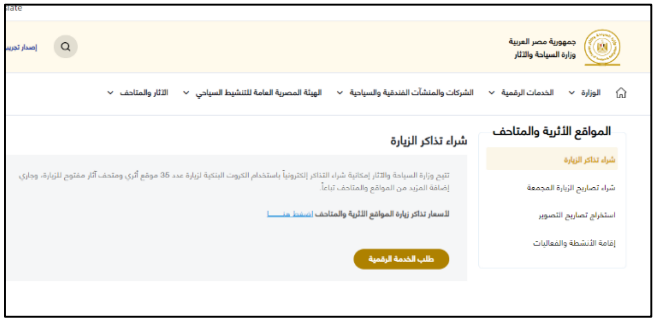


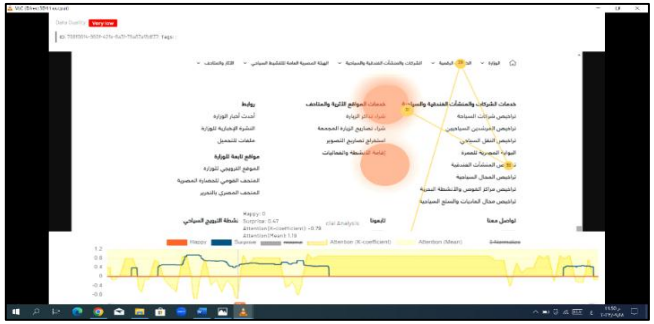


- interlinks for purchasing tourist products or services	The website provides the option to purchase tickets for visiting archaeological sites, museums, and attractions. Additionally, it allows for the purchase of group visit permits for families, schools, and universities, both for Egyptians and foreigners. However, it was noted by the majority of interview participants (29 participants) that these tools and features are accessed through external hyperlinks to the website of the Egyptian Ministry of Tourism and Antiquities, rather than directly through the ministry's main website. While it is unavailable to purchase tourism services such as booking tourist trips, hotel accommodation, or airline tickets on the website, 30 participants mentioned that "[…] "they typically utilize price comparison sites to buy accommodation and book transportation tickets. One participant state that: "[…] "It is worth noting that I am unable to make a reservation for a night's stay at a specific hotel through the website, and there is also no option to exchange currencies on the site "[…] ". Some archaeological sites and museums can be reserved by means of an external hyperlink accessible within the digital services category. Consequently, the user must undergo a three-step process to gain entry to an external ticket reservation website, which can be found at https://egymonuments.com/ar/. **Through the utilization of eye tracking technology**, it has been observed that the participants exhibited a keen interest in the segment dedicated to reserving **archaeological sites and museums**. However, it should be noted that access to the reservations section required a certain amount of time. Recently, the official website (the Egypt Experience), was incorporated. Nevertheless, it has not yet been officially launched on search engines, as it can only be accessed through the Ministry of Tourism and Antiquities' official website or the official Facebook page. This website offers information about tourist bookings. We have also observed a rise in the factor of surprise and attention in the mean value when certain participants accessed the reservations section within the site map region.

Application Evidence

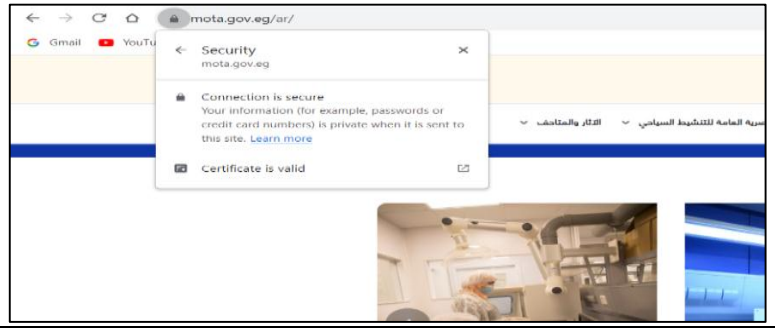






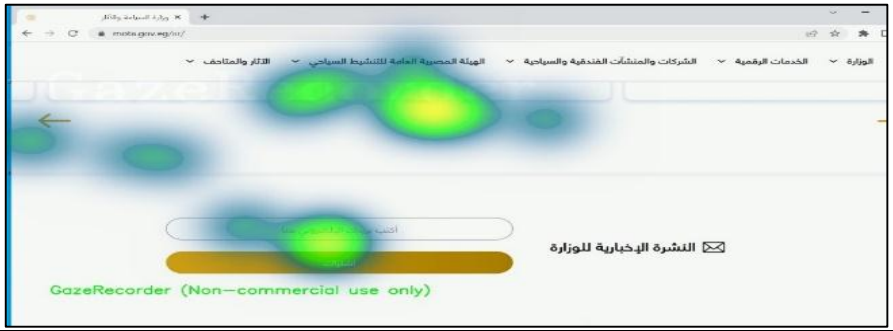
- privacy and Security	Most participants, a total of 33 individuals, express that "[…] " **the site conveys trust to them**, particularly due to its official and governmental nature"[…] ". Out of the 36 participants, 27 of them assert that "[…] "their initial thoughts about the country's official tourism website arose when they felt motivated to arrange or prepare for a tourist trip "[…] ". On the other side, the website lacks the capacity to facilitate the transfer of any user-generated data, including personal details such as name, age, banking information, or residential address.

Application Evidence



Personalization tools	All the participants in the interview concurred that the website **lacks the provision of personalized tools**, for instance, tools that aid in the process of planning one's travel. Furthermore, the creation of user accounts is strictly prohibited on this platform. Consequently, it can be categorized as a Web 1.0 site, characterized by limited user engagement, saves for the option to register an email address for the purpose of receiving the most up-to-date tourism-related news. The level of engagement exhibited by users towards the news release (magazine) section was somewhat limited, **as evidenced by the heat map analysis of this particular section**, which reveals a predominance of green and yellow hues. These colorations suggest a **below-average level of attention**.

Application Evidence



***Suggestions for improvements:**

It would be wonderful to offer a convenient tool for purchasing tourist services and making reservations. The incorporation of recommendation system technology on the website is imperative. This technology will offer visitors more effective and professional choices pertaining to their information requirements and tourism programs, thereby aligning with the actual needs of the customer as a result of their ongoing interaction with the site system. The integration of eye tracking technology with the current website of the Egyptian Ministry of Tourism and Antiquities, or the dedicated tourism promotion website, is of paramount importance and it should serve as an instrument for continuous development that caters to the needs of users, both at the individual level and at the collective level of design. It is imperative to generate individual records for every user by means of personal profiles, thus facilitating a deeper comprehension of users' necessities and prerequisites.

b- Eye-tracking analysis graphs

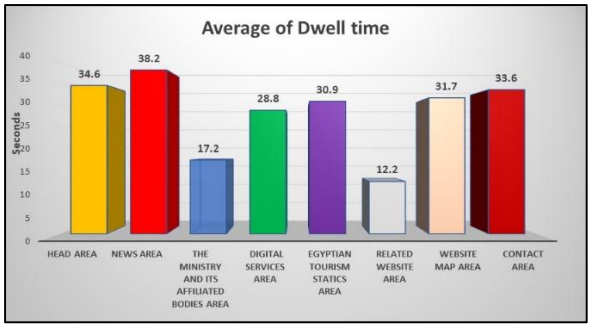


Fig (3) Average of Dwell time

The figure (3) provides evident indication that the news area of the site consumed the most dwell time for the respondents, with an average duration of 38.2 seconds. This underscores the significant role of multimedia in delivering news content. Following this, the head area of the site also required a considerable amount of time for the participants to comprehend all its components. The area with the lowest average dwell time was 12.2 seconds, specifically in the relevant sites area.

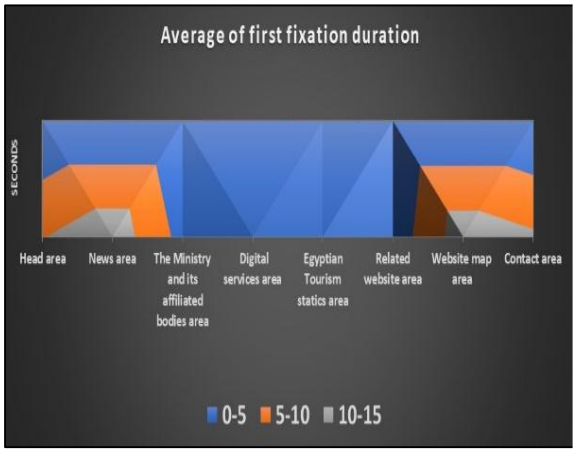


Fig (4) Average of first fixation duration

It can be observed from figure (4) that the average of first fixation duration predominantly focused on the top and bottom sections of the homepage of the site. The news area exhibited the longest time of the first fixation, measuring approximately 13.2 seconds, thereby affirming its status as one of the most captivating regions for the respondents' attention, as it managed to captivate their interest throughout the presentation of news images. Conversely, the site map area constituted the second lengthiest area for the first fixation, averaging 12.9 seconds. This finding suggests that the respondents dedicated time to try comprehending all components of the site that succeeded in attracting their attention. In contrast, the related sites area garnered the lowest average duration, amounting to approximately 1.9 seconds

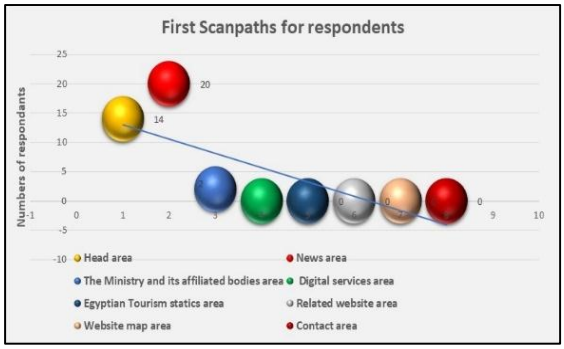


Fig (5) First gaze of the participants

From figure (5), it is evident that the first gaze of the participants was directed towards the news section on the webpage. Out of the total 36 respondents, 20 individuals viewed this section first as it occupies a prominent position upon downloading the site. Notably, this section is distinguished by the inclusion of images. Conversely, the head area of the webpage was the second area of interest for the participants.

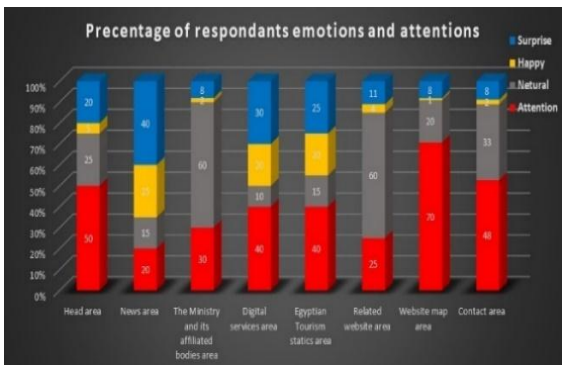


Fig .(6) Percentage of emotions and expressions

The figure (6), illustrates an examination of emotions and facial expressions, the most surprising area for participants was the news area, accounting for 40% of the total emotions exhibited in that region. Conversely, the contact area displayed the lowest percentage of surprise, amounting to a mere 8%. Moreover, the news area registered the highest proportion of happiness, encompassing 25% of the overall expressions within that area. Conversely, the site map area demonstrated the lowest percentage of happiness, comprising only 1%. The related website area, the Ministry and its affiliated agencies area, recorded a neutral percentage of approximately 60%. In terms of attention, the site map area garnered the highest rate at 70%, followed by the main area at 50%. These areas encompass various sections and branches, thereby heightening the level of attention and concentration among participants. Conversely, the news area displayed the lowest attention rate at 20%.

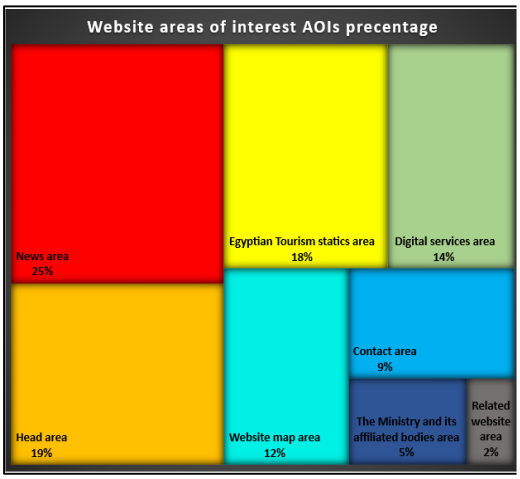


Fig (7) AOIs percentage

The figure (7) exhibits a chromatic representation of the distinct sections encompassing the official website of the Egyptian Ministry of Tourism and Antiquities. This visual depiction signifies the areas of interests AOIs within the site, as determined by the findings of thermal maps obtained through the utilization of eye tracking technology. The section dedicated to news garnered the highest level of interest, accounting for 25% of the overall areas of interest on the site. Subsequently, the head section, depicted in a yellow hue, accounted for 19% of the areas of interest, while the section pertaining to relevant sites registered the lowest percentage of interest at 2%, represented by a gray color. Additionally, the Ministry section and the relevant bodies section each obtained 5% of the areas of interest, illustrated by a dark blue shade. These sections necessitate heightened attention from the website administrators in order to enhance their appeal and subsequently augment the levels of interest among site visitors

C- NVivo words cloud

Fig (8) NVivo words cloud

The analysis of personal interviews in the NVivo 10 program yielded the most frequent words, which were then visualized as a cloud of words. Notably, during the interviews, words such as "website", "information", "tourism", "news", "ministry", "pictures", "media", "video", "tourist", and "participants" emerged as the most commonly used fig(8). This observation aligns with the consistent trend observed in the experiment's results. Furthermore, this finding underscores the significance of incorporating elements such as tourism information, media, video, and tourism news into the website's content. Thus, website managers should duly acknowledge these elements in order to offer a comprehensive experience for tourists who express an interest in the website.

Discussion and conclusion

The purpose of this study is to assess the structure of information design and the quality of visual web design using the social constructionist model for managing destination websites, known as The SCDWM model. This theoretical model sheds light on the destination and official tourism website management through the social constructionism approach, indicating that the official destination website should be considered as a dynamic and continuous process, which should have the integrated participation of the all the internal and external sectoral brand stakeholders (Dinnie, 2017). This model was applied to the official Egyptian Ministry of Tourism and Antiquities website. As a result, we analyzed how these domestic tourists visually perceive and pay attention to various elements of website management. In order to achieve this goal, the study explores the following research questions: Firstly, what are the essential components of destination website management, and how should they be viewed from a social constructionist perspective? Secondly, how do users access the information they require from the official Egyptian Ministry of Tourism and Antiquities website? Thirdly, what design limitations can be identified in the website design by analyzing user information searching behavior? Lastly, what design solutions could be implemented in the future to enhance the current official website design? In order to address these questions, an in-depth interview (36 participants) was conducted to analyze the perception of website management elements and an eye-tracking analysis was executed to comprehend participants' visual attention

while browsing the official website of the Egyptian Ministry of Tourism and Antiquities as a newly developed method of neuromarketing instruments for investigating the aspects of visual attention and perception in the field of tourism research. The present study was a response to a research inquiry by Kanazawa et al. (2021), emphasizing the need for additional research to explore the perspectives of various stakeholders, including domestic tourists. Finally, both eye-tracking and interviews' data analysis contributed to provide some suggestions for the destination and official tourism website improvement (Kanazawa et al.,2021; Chen et al.,2022).The present study has important theoretical, methodological, and practical implications which can be offered to the destination management organizations and web design managers.

Theoretical and methodological implications

The current study enhances the theoretical understanding of destination and official websites by presenting and using a model that encompasses various destination website management elements and connects them to the social constructionism approach. This suggests that a destination website should be viewed as a continuous and dynamic process that involves the interaction of its stakeholders. This conceptualization aligns with previous studies on destination websites that highlight the significance of dialogical communication use (Hinson et al.,2018) and the presence of social representation (Rosa et al.,2019). The second theoretical contribution is the strong emphasis in the current study on explaining the concept of each basic element in the study model used in order to highlight the significance of applying this model in future tourism studies. Moreover, there is a theoretical contribution that emphasizes the significance of investigating the usability of websites in tourism research by employing eye-tracking methods to analyze the manner in which individuals utilize websites and the clarity of their interaction with them (Lazo, Alfonso & del Vallín, 2023). Several studies utilizing eye-tracking have been identified in relation to webpage analysis (Djamasbi, Siegel, & Tullis, 2010; Hao, Tang, Yu, Li, & Law, 2015; Hernandez-Mendez & Munoz-Leiva, 2015; Ert & Fleischer, 2016). In the field of tourism, eye-tracking has been employed to examine website browsing behavior and has revealed that the paths that respondents follow are influenced by the complexity of the site's structure and visual elements (Knogler, 2020). Based on the above, it is important to note that the study has made a methodological contribution. This contribution involves analyzing the visual interest of domestic tourist by using eye tracking in a qualitative manner. By comparing the eye tracking data with the interview answers, a better understanding of the behavior and needs of travelers during the browsing experience can be obtained. While there are some qualitative studies in destination management research that have used eye tracking, such as Lever, Shen & Joppe (2019) and Liu and Upchurch (2020), no qualitative studies have been found that have used heat maps to analyze destination websites in addition to conducting in-depth interviews. It is anticipated that this study will contribute to future studies that aim to utilize these methods.

Practical implications

It is evident that the management of the destination website must adjust to the changing needs and behaviors of new tourists. Therefore, this paper responds to the call made by Foroudi et al. (2018), who propose that research should offer valuable insights to managers, encouraging them to reconsider the website tools that can enhance the perception of tourists and residents towards a specific destination. As a result, the application of the SCDWM model utilized in this research can make a valuable contribution in terms of offering a novel approach to managing destination websites, from the perspective of the social constructivist viewpoint. The second practical implication is also evident, which involves the identification of certain managerial difficulties or concerns with the Egyptian Ministry of Tourism and Antiquities website. These issues were discovered by reviewing the results of both in-depth interviews and applying eye-tracking analysis

utilizing heat maps. Accordingly, suggestions for improvements regarding **the technical dimension** of the web site were developed based on enhancing the information structure in terms of distinguishing content related to Egyptian destinations and experiences. It is recommended to incorporate additional photos and videos that display different Egyptian destinations this is consistent with the results of Sari &Santosa (2017) study and confirmed that user has more interest on image than text during browsing websites (Horng & Tsai, 2010). Furthermore, it is possible to exhibit photos and videos captured by tourists during their experiences in Egypt to bolster users' trust in the site (Alc´antara-Pilar et al.,2018; Hunter, 2016). In addition, it is important to highlight the importance of clarifying the hyperlink to the modern promotional (Experience Egypt) site in a way that engages visitors and grabs their attention. Regarding the suggested improvements concerning **the communication dimension** on the official website of the Ministry of Tourism and Antiquities in Egypt, it is evident that the website offers information about the prices of accommodation, restaurants, and public transportation tickets for all tourist destinations featured on the site. This section should also incorporate specific guidelines pertaining to the security and safety measures for tourists. Additionally, it would be beneficial to explore the option of integrating the website with platforms that contain user-generated content from tourists, such as TripAdvisor. This aligns with the findings of various studies Hunter, (2016), Molinello et al., (2018) and Rosa et al., (2019). Furthermore, it would be advantageous to reassess the placement of the Ministry of Tourism and Antiquities' logo on the website, as its positioning can enhance its visibility and elicit a positive response (Lee et al.,2012). As for the **relationship dimension** associated with the official website of the Egyptian Ministry of Tourism and Antiquities, it is proposed that there is a need to emphasize the significance of utilizing the "Contact Us" feature with tourists. Moreover, it is crucial for official websites to offer a diverse selection of interactive tools, which should include the option of obtaining downloadable materials free of charge. This aligns with the findings of the study conducted by Henson et al. (2018). Finally, in terms of the **persuasive dimension**, it is recommended that an appropriate instrument is utilized to acquire tourism services and book hotel accommodations via the official website. Additionally, it is advised to improve the incorporation of the website's recommendation system technology in order to offer visitors more efficient and expert choices pertaining to their information needs and travel itineraries. It is evident from the information provided above that incorporating eye-tracking technology into either the current website of the Egyptian Ministry of Tourism and Antiquities or the tourism promotion website is a valuable method for ongoing enhancement that fulfills the requirements of users, both at the individual and collective design levels. Finally, this study has the potential to make valuable contributions to individuals in charge of developing and overseeing the digital communication strategies of the country, as well as those responsible for managing the websites design. The formulation of a comprehensive proposed framework for digital transformation can be considered a critical initial step, as its development is founded upon a compilation of research conducted by Mikalef & Parmiggian (2020), Veldenhoven & Vanthienen (2022), Mane (2022), El Khatib & Al-Sadi (2023).

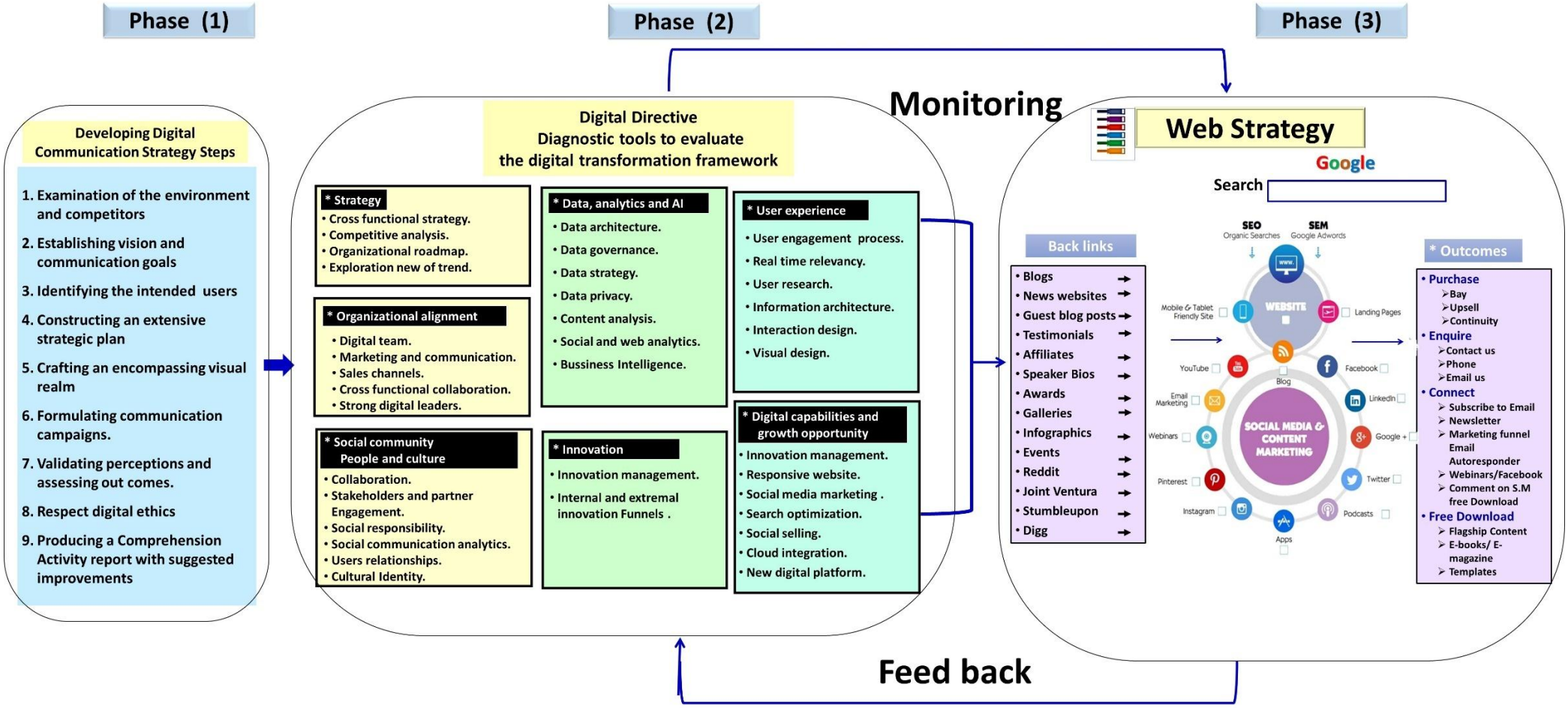


Fig. (9): Proposed Digital communication Framework

Limitations and future research

This study highlights a number of limitations. Firstly, considering the sample size of this exploratory study, the effectiveness of our results lies in establishing a base with the aim of motivating future researchers to promote the utilization of this model as a contemporary instrument for evaluating respondents' perspectives on website design. Secondly, the current study undertook an eye-tracking experiment using laptop webcams through the utilization of Gazerecorder and Realeye applications, enabling the examination of the visual attention of visitors. In the future, field experiments will be carried out in an actual environment, and portable eye-tracking devices can be employed to investigate the viewing behavior of visitors (Yang et al.,2022). In addition, the current study only examines eye-tracking data using a qualitative method. Future research can offer a quantitative analysis of the eye-tracking data, taking into account the precise number and duration of fixations on specific areas of interest on the official tourism and destination websites (Deng, Lin & Chen, 2021).Thirdly, the current study has limitations in that it only assesses one official tourism site (the official Egyptian Ministry of Tourism and Antiquities website, https://mota.gov.eg/ar/). Therefore, it is recommended that future research examines other official Egyptian tourism websites. Furthermore, it is worth exploring the possibility of applying the model to official tourism and destination websites in other countries in future studies. Fourthly, the current study only examines the feedback from a single group of stakeholders (domestic tourists). It would be highly beneficial to conduct additional research that investigates the feedback from other stakeholders. These may include residents, government authorities, travel agencies, tour operators, and hotels, businesses related to leisure and culture, as well as foreign travelers. In terms of future research, we should focus on incorporating more techniques in tourism web design research, such as analyzing facial expressions and emotional fluctuations, which would provide a deeper understanding of the cognitive processes associated with these alterations(Deng, Lin & Chen, 2021; Chen et al.,2022).

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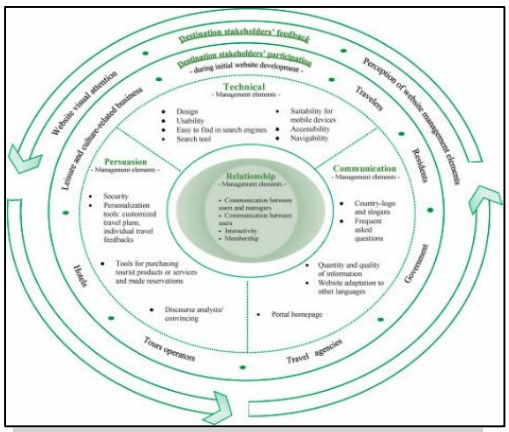
Appendices

A) Interview questions

Technical dimension questions

What are your thoughts on the design of the website for the Egyptian Ministry of Tourism and Antiquities? Is it clear and easy for you to access the information you need? Did you have to spend a long time searching for the site using search engines like Google? How do you find the loading speed of the site? Does the site have a designated section for searching for information within the site? And does the overall structure of the site assist you in finding the information you require?



Fig(10):(SCDWM) model, adopted from Kanazawa et al. (2021).

Communication dimension questions

Did the website adequately and accurately provide you with the necessary information, and were you aware that there are additional languages available on the site besides Arabic? What is your opinion on the logo used for the Ministry of Tourism and Antiquities website? How would you describe your experience with navigating through the main sections of the site? And were you aware that there is a dedicated section for frequently asked questions to assist in obtaining the necessary information?

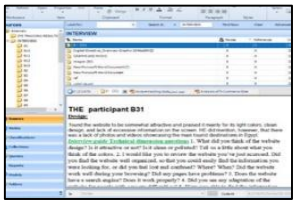
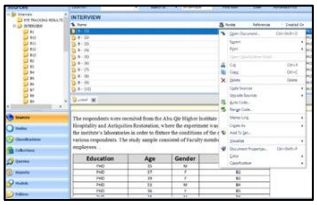
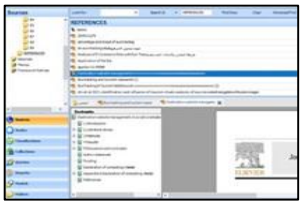
Relationship Dimension questions

Does the website offer a range of tools for communicating with officials in the ministry through social media or the ministry's email address? Can visitors to the same site also communicate with each other? What are your thoughts on the available means of interaction on the site? Does the website provide virtual tours of certain tourist destinations in Egypt, or does it simply show pictures, statistics, and news about the tourism sector in Egypt? Does the website allow you to download multimedia like images, reports, or files that are available on the site?

Persuasion dimension questions

Did the Egyptian Ministry of Tourism and Antiquities website succeed in persuading you to visit a tourist destination that you had not previously visited? Is the website effective in convincing foreign tourists to come to Egypt? Does the website offer a range of external links that assist you in booking different aspects of the tourism experience? Do you think the website ensures a high level of privacy and security during your browsing activities?

B) The NVivo analysis

استخدام تحليل تتبع العين لاستكشاف اهتمام المستخدم بالمواقع الالكترونية السياحية الرسمية: منهج لإدارة المواقع الالكترونية

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الملخص

تهدف هذه الدراسة إلى تحليل سلوك تصفح المستخدمين على الموقع الرسمي لوزارة السياحة والآثار المصرية لفهم مدى انتباههم البصري وإدراكهم لعناصر إدارة الموقع الإلكتروني باستخدام النموذج البنائي الاجتماعي لإدارة مواقع الوجهات، والمعروف بنموذج SCDWM. تم إجراء دراسة نوعية استكشافية باستخدام نهج متعدد الأساليب على 36 مشاركا. لتأكيد الاهتمام البصري للمشاركين أثناء زيارة الموقع الإلكتروني الخاص بالوجهة أو الموقع الرسمي السياحي، تم إجراء تحليل لتتبع العين باستخدام تطبيق Gaze recorder. ثم تم الاتصال بنفس المشاركين لإجراء سلسلة من المقابلات المتعمقة لاستكشاف وجهات نظرهم حول عناصر إدارة المواقع السياحية. كذلك شملت عملية جمع البيانات السائحين المحليين. للدراسة آثار نظرية للباحثين المهتمين بتتبع السائحين للحصول على فهم كبير لسلوك المسافر واحتياجاته أثناء تجربة التصفح. كما تتضمن التطبيقات العملية للدراسة التعرف على بعض الصعوبات الإدارية بموقع وزارة السياحة والآثار المصرية. تم اكتشاف هذه المشكلات من خلال مراجعة نتائج المقابلات المتعمقة وتطبيق تحليل تتبع العين باستخدام الخرائط الحرارية. وبناء على ذلك، تم وضع اقتراحات لتحسين عناصر إدارة المواقع الالكترونية الرسمية. أخيرًا، تتمتع هذه الدراسة بالقدرة على تقديم مساهمات قيمة للأفراد المسؤولين عن تطوير استراتيجيات الاتصال الرقمي في الدولة والإشراف عليها، بالإضافة إلى المسؤولين عن إدارة تصميم المواقع الالكترونية الرسمية.

الكلمات المفتاحية: نموذج البناء الاجتماعي، إدارة الموقع الالكتروني لمقصد سياحي رسمي، تحليل تتبع العين، التسويق العصبي، السياحة العصبية، الخرائط الحرارية ، استراتيجيات الاتصال الرقمي.