GeoJournal of Tourism and Geosites
ISSN 2065-1198, E-ISSN 2065-0817

Year XVI, vol. 46, no. 1, 2023, p.346-353
DOI 10.30892/gtg.46138-1032

NEUROMARKETING ACTIONS FOR THE DIGITAL PROMOTION OF TOURISM IN CUBA

Soima Rosa Méndez LAZO*
Ministry of Trade and Foreign Investment, Havana, Cuba, e-mail: soimita94@gmail.com

Yasser Vázquez ALFONSO
University of Havana, Faculty of Tourism, Havana, Cuba, e-mail: yalfos1@gmail.com

Sacha Lazo del VALLIN
Institute of Gastroenterology, Havana, Cuba, e-mail: delvallin@infomed.sld.cu

Citation: Lazo, S.R.M., Alfonso, Y.V., & del Vallín, S.L. (2023). NEUROMARKETING ACTIONS FOR THE DIGITAL PROMOTION OF TOURISM IN CUBA. *GeoJournal of Tourism and Geosites*, 46(1), 346–353. https://doi.org/10.30892/gtg.46138-1032

Abstract: The alliance between neuroscience and marketing makes it possible to study user reactions to different purchasing stimuli. The descriptive exploratory research had the objective of proposing neuromarketing actions for the tourist promotion of the Cuba destination on the Cubatravel website. Web analytics tools and a survey of digital users were applied on the eye-tracking biometric technique. The qualitative and quantitative were integrated, with multivariate analysis methods. As main results, the portal needs to be improved, essentially its attractiveness, usability and web quality. The proposed action plan was validated by a group of experts from neuroscience, psychology, tourism and informatics, using the Delphi method and the ANOCHI coefficient as very adequate.

Key words: Cubatravel, neuromarketing, neuroscience, e-commerce, digital promotion, eye tracking

* * * * * *

INTRODUCTION

Is it possible to read the consumer's mind, reveal their desires and know how they plan to make their purchase to outline effective marketing strategies? The answer to this question is the premise of neuromarketing for tourism.

Since the development of science, the study of the mind has had a primarily psychological approach and has had restricted areas such as neurology and psychology based on organic criteria (Murphy et al., 2008). The alliance between neuroscience and marketing makes it possible to study user reactions to different purchasing stimuli and outline their behavior from a cognitive angle. In the current scenario, it is valuable to analyze from neuroscience the impact of the health crisis caused by the Covid-19 pandemic, in the way customers buy, to adapt marketing strategies and promote the promotion of tourist destinations (Robert et al., 2020; Caciora et al., 2021a; Morar et al., 2021; Grama et al., 2022). Understanding the emotional imprint on users is a starting point for analyzing their psychology, conveying confidence and security in enjoying the tourist offer (Herman et al., 2021a). Neuromarketing arises to explore purchasing behavior by incorporating neuroscientific foundations into the design of business strategies (Mandal and Joshi, 2016). Its benefits are palpable in the so-called network society, marked by the development of information technologies and the consumption patterns of the digital traveller, where the tourist promotion of destinations is relevant (Deac et al., 2019; Herman et al., 2020; Berdenov et al., 2021; Gozner et al., 2021; Herman et al., 2021b). Countries such as the United States, Colombia, Spain, England and Germany have positive experiences with the application of neuromarketing in business management (Méndez et al., 2021).

In areas such as tourism, strategies for the promotion of destinations, image and brand positioning, neuro-learning, sales management in social networks and web portals are visualized (Caciora et al., 2021b; Ilies et al., 2020). This is supported by the case of Expedia, an American online agency; To simplify the travel booking process, users are tracked with eye-tracking and electromyography technologies. With them, gestures and facial expressions are studied to obtain results on the emotional impact that searches have. Another example was the Destination Meter presented at the 2014 International Tourism Fair in Madrid, an interactive activity in which participants were connected to non-invasive sensors while viewing images of different Spanish tourist destinations on the web. Thanks to the measurement of the emotional impacts, it was determined which was the ideal for each of the users (Braidot, 2017). In the Cuban environment, the Institute of Neurology and Neurosurgery stands out as the leading center for neurosciences on a national scale. Currently among its investigations, the human brain mapping program is located, to analyze the structure and brain functions, thanks to the advanced technology for obtaining neuroimaging. It has a cycle of development and commercialization of neurotechnology, a characteristic that allows it to be part of the Cuban Biotechnology Business Group BioCubaFarma. In addition, Neuropsychology is part of the national public health system with programs accessible to the entire society (Fernández et al., 2009). On the scientific production of neuromarketing in the country, a study carried out by researchers from the National School of Public Health was found, which deals with the convenience of integrating marketing into the Cuban health system. It ratifies its basis in the

* Corresponding author

conservation of the regulations that safeguard the population, given and as it is referred to, the conceptual framework of neuromarketing and the studies that prove its superiority over conventional marketing methods are still insufficient (Suárez, 2020). Regarding tourism promotion in the digital scenario, Cubatravel is the official Cuban tourism portal for the dissemination of products and services in the industry. It responds to the policies of the Commercial and Promotion Directorates of the Ministry of Tourism (Mintur). Its web site is: https://www.cuba.travel. For the analysis of its web quality and consistency with the good international practices of the destinations of the competition, the investigations of Pavón et al. (2018) belonging to the Mintur, in addition to Calderín and Díaz (2020) of the Faculty of Tourism of the University of Havana. They deal with the migration of the portal from a 1.0 platform to a 2.0 platform and the factors that affect user dissatisfaction in terms of its functionality for the promotion of the territory, respectively. Cubatravel does not exhibit a relational approach that responds to the needs of contemporary tourists and presents problems to differentiate the destination from its direct competitors. This affects the transmission of trust and credibility to its users. In essence, both studies are limited to diagnosis, but include among their recommendations the making of a proposal for actions to improve the portal.

Approach of the problematic situation

In the Cuban tourism sector, the culture of implementing new marketing strategies with the application of neuroscience is not yet considered vast, and at the Mintur many companies develop traditional models in their market research. For this reason, the need to collect existing information on the scope of neuromarketing was identified and take advantage of the theoretical contributions of techniques such as eye tracking to increase tourism promotion in the Cuba travel portal. It is necessary to promote the dissemination of tourism products and services in Cuba, to improve its position in the network and consolidation as one of the most competitive tourist destinations in the insular and Caribbean region. In this order of ideas, and in pursuit of the objectives, the following scientific problem is formulated. How to contribute to the improvement of the dissemination of the Cuba destination and the user experience on the Cubatravel website? In order to solve the aforementioned scientific problem, the following hypothesis is proposed: The design of a proposal for Neuromarketing actions allows improving the tourist promotion of the Cuba destination and the user experience on the Cubatravel website.

General objective: Make a proposal for Neuromarketing actions that increase the digital promotion of tourism in Cuba on the Cubatravel website.

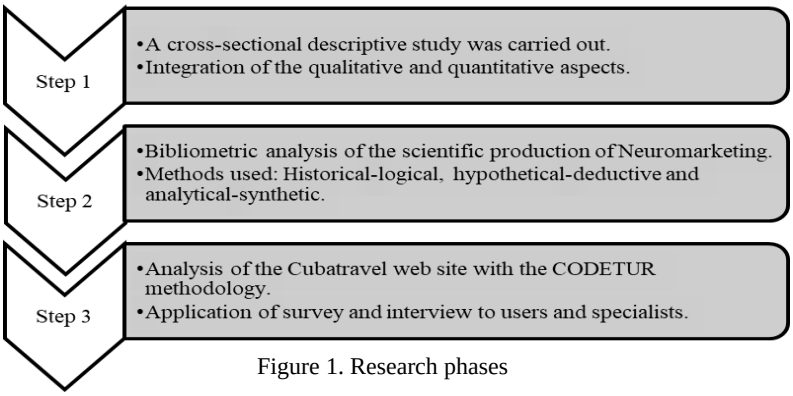

Figure 1. Research phases

METHODOLOGY

A cross-sectional descriptive study was carried out, where the qualitative and quantitative aspects were integrated. A bibliometric analysis of the scientific production of Neuromarketing was carried out. Historical-logical, hypothetical-deductive and analytical-synthetic methods were used (Figure 1). The Cubatravel Portal was analyzed using the methodologies of the Online Communication of Tourist Destinations (CODETUR) 2014 project (cited in Calderín and Díaz, 2020), together with online tools such as Google Analytics, Woorank, GtMetrix, Alexa and Nibbler. A survey with a sample value of 64 units was designed, obtained through probabilistic random sampling for a finite population of 73 users of the Cubatravel portal, mostly nationals and other countries. Their calculations were based on a probability of occurrence of 0.5; maximum estimation error of 0.04 and confidence of 97.5%. Formula 1, used by Moráguez in 2011 (cited in Velázquez, 2020) in social research was used. The applied survey was validated by Cronbach's Alpha (internal consistency index that takes values between 0 and 1); It is a reliable instrument that makes stable and consistent measurements. It is calculated through formula 2 (Ranisav and Branislav, 2019):

$$n = \frac{n_0}{1+\frac{n_0}{N}} \text{ donde: } n_0 = p^*(1-p)^*\left[\frac{z\left(1-\frac{\alpha}{2}\right)}{d}\right]^2 \quad (1)$$

$$\alpha = \frac{K}{K-1}\left[1-\frac{\sum S_i^2}{S_T^2}\right] \quad (2)$$

Where: no: preliminary sample size; N: population size.
n: sample size with correction for finite population.
p: proportion of success in the analysis that is carried out
K: The number of items; S_i^2: sum of variances of the items; S_T^2: variance of the sum of the items α: Cronbach's Alpha coefficient

Consult to experts

It was used to analyze the validity of the proposed strategy. The Delphi method is a qualitative technique for collecting information; allows obtaining the consensus and representative opinion of a group of experts through repeated consultation. It is characterized by anonymity (no expert knows the identity of the other), iteration (the questionnaire is presented several times) and the group's response in statistical form (it presents all the opinions presenting the degree of agreement).

As neuromarketing is a new topic for tourism in Cuba, a group of specialists in branches that contribute to it were consulted: neurosciences, psychology, web design and marketing fundamentally. The application of the statisticians and their results ensured the presence or absence of concordance between the specialists' criteria. The statistical results of the consultation to these enabled the author to discuss the criteria in the improvement of the strategy.

Specialist selection process

Three essential stages were considered:

1. Determination of the number of specialists.
2. Preparation of the list of specialists.
3. Obtaining the consent of the specialist in their participation.

Among the methods to determine the optimal number of specialists, the method proposed by Cyret and March (1992) was considered, since the mean of the population was unknown. If the above condition is met, the number of experts to be consulted is calculated by applying expression 1 (Ranisav and Branislav, 2019): Fixation by the analyst of the data that is exposed:

$$n = \frac{\left[N\left(\frac{i^2}{K}\right)+N(p-p^2)\right]}{N\left(\frac{i^2}{k}\right)+p-p^2} \quad (1)$$

n: the number of experts; N: the size of the population of experts; i: precision level; p: error proportion. k: constant set from the confidence level.

With this information, the preliminary number of experts (n) is calculated for a confidence level of 99%. Compliance with the condition n>0.5 N is analyzed

The precision level of i = 0.05 and an error rate of p = 0.09 were defined; for 99% reliability, the value of k is 6.6564; since they are the ones recommended for investigations similar to this one. A preliminary number of experts of 9 was obtained and the size of the population of experts was estimated at N = 13, when 8 > 0.5 was met. The optimal number of experts was calculated, achieving an optimal value of n = 12 experts. To assess the degree of competence of the expert, the expert's own self-assessment was used. The "Methodology to determine the coefficient of competence of the expert" proposed by the State Committee for Science and Technology of the former Soviet Union was applied. It indicates that the coefficient K is calculated using the formula (Herrera et al., 2022):

K= (Kc+Ka)/2, where: K: Competition coefficient; Kc: knowledge coefficient; It is calculated by the self-assessment of the expert on a 0-10 scale, multiplied by 0.1; Ka: argumentation coefficient; It is achieved with the self-assignment by the expert of scores to different sources of argumentation on which his expertise is based.

The competence coefficient must be $0.85 \leq K \leq 1$, so that the expert is selected. In this investigation, of 35 experts analyzed, 12 were selected, taking into account the competence coefficient from the data obtained in the applied survey. Qualities such as professional ethics, expertise, impartiality and intuition, breadth of focus and independence of judgment were inherent to them; in addition to competence, creativity and analytical skills. The processing and analysis of the information determined whether or not there was convergence in their opinions.

Statistical-mathematical methods used

• Descriptive statistics: It was used for the processing of the results, their interpretation and the generation of useful considerations for the investigation.

• Multivariate statistics: it was used for the multivariate study of the research object through Multiple Correspondence Analysis (MCA).

Due to the costs, in the present investigation the eye tracking technology has not been applied to the analyzed website, which would have improved the analysis data, through a user test; however, an application of the theoretical contributions of this technique is pursued first, to evaluate its subsequent implementation in tourism web portals in Cuba. Web quality parameters on the home page such as brand treatment, interactivity, mobile communication and page map were considered.

Research phases:

1. Determination of the correspondence of the portal with international good practices in web design (Benchmarking) and evaluation of its quality. It was supported by the research of specialists from the Informatics Directorate of the Mintur (Pavón et al., 2018), as well as thesis of the Faculty of Tourism, University of Havana (Calderín and Díaz, 2020).
2. Results of the diagnosis and indication of causes that break the web quality and the consequent dissatisfaction of the users.
3. Proposal of the Neuromarketing action plan for the tourist promotion of Cuba as a destination on the Cubatravel website.

RESULTS AND DISCUSSION

The parameters considered in the Cubatravel web portal were the home page, in the indicators news section, agenda and events, web map and icons of web 2.0 applications; quality, quantity of published content and information architecture. Based on the scientific observation and the diagnosis made, it was determined that the site needs to reduce its loading speed and page size, in addition to improving its interaction with users to improve their trust and loyalty, aspects similar to those referred by Braidot (2017) and Velázquez (2020) respectively. Text and multimedia content lack large formats; the portal is limited to images and videos, with no audio and voice synthesizers. This makes access difficult for users with special needs. It does not have virtual tours or webcams, interactive resources or a trip planner or experiences of other users. It does not present the option to vote or comment on the contents, similar to what was proposed by Calderín and Díaz (2020). It was found that it did not present a slogan, description of the brand and its values. In that order, it does not adapt to the requirements of the 2.0 tourist who frequently resorts to the comments of other travelers for trust and security. The fact of not using storytelling or not describing the values of the brand affects the purpose of the site of capturing the user's attention and influencing their decision, and even the image that they take of the tourist destination, since it is not achieved a differentiation of the destination with respect to the competition, even more so in times of international health crisis caused by Covid-19, where the choice of a tourist destination is so complex; results similar to those proposed by (Ramos et al., 2020). That is why it is necessary to identify a purpose capable of generating trust and establishing an emotional bond with the user. The survey showed that just over half (61%) had visited the portal at least once; of the total, 84% found it attractive. Table 1 shows that females (70%) of the age groups between 18-25 years (48%) and 26-35 (38%) predominated, corresponding mainly to the "Millennials" and the "Z generation", generations of young people and young adults, known for their high connectivity to the Internet and social networks.

Table 1. Distribution of users by age groups and gender

Age group	Gender				Total	
	Female		Male			
	Frequency	%	Frequency	%	Frequency	%
18 a 25	26	87	4	13	30	100,00
26 a 35	13	59	9	41	22	100,00
36 a 45	1	33	2	67	3	100,00
46 a 55	4	57	3	43	7	100,00
56 a 65	1	100	0	0	1	100,00
Over 66	0	0	1	100	1	100,00
Total	45	70	19	30	64	100,00

Regarding the academic level, the reference value of higher repetition or mode was university (48; 75%) Figures 2 and 3 (the table 2 shows the legend). These sociodemographic data are similar to the results of the study by Echarri et al. (2017) professors of the Faculty of Tourism, University of Havana, they analyze the profile of tourists who travel to the Capital as a cultural destination, grouping more than half of the number of foreign visitors who arrive on the Island. Regarding their study samples, a high number of professional employees was observed, both young as adults.

Table 2. Survey variables legend (Source: Authors)

Variables	Codes
Presence navigation web portal Cubatravel	PNPWC
Presence attractive graphic design of the portal	PADGP
Element of greatest importance	EMI
Presence emotions web portal	PEPW
Emotions awakens web portal	EDPW
Presence good job attributes	PBEA
Presence scroll to final page find information	PDHPFEI
Presence attraction web portal	PAPW
Elements caught attention	ECA
Presence stimulus distracted attention	PEDA
Stimulus distracted attention	EDA
Presence simple easy navigation	PNFS
Areas	A
Presence need to change add or remove something from the web portal	PNCAEAPW
Element change add or remove something from the web portal	ECAEAPW
Agree to apply knowledge psychology neuroscience web portal	EAACPNPW
Sex	S
Nationality	N
Age	E
Academic level	NA

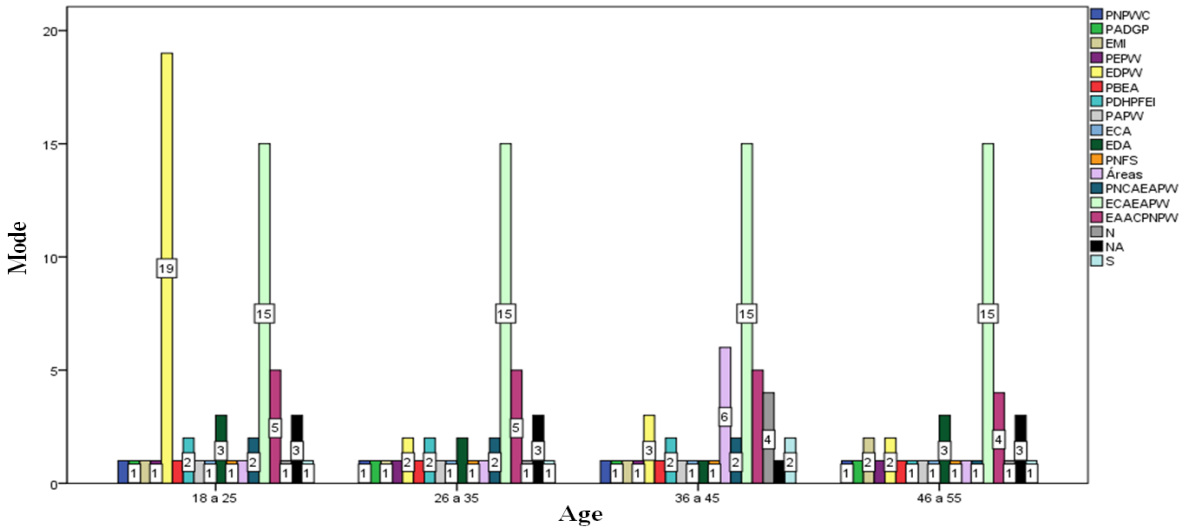

Figure 2. Mode of neuromarketing variables and age group (Source: Authors)

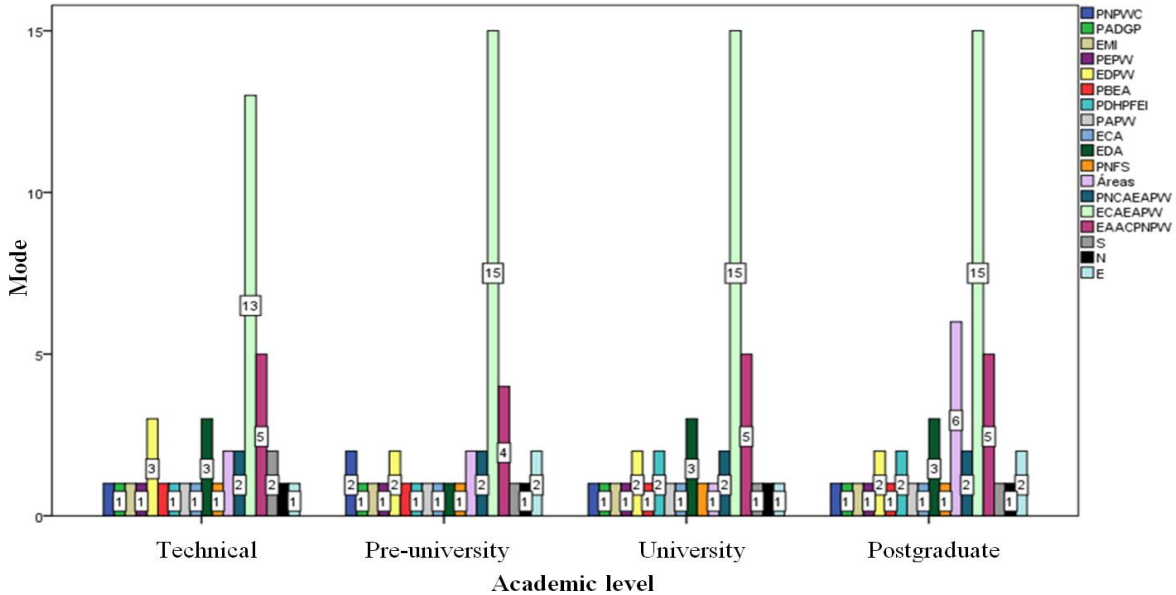

Figure 3. Mode of neuromarketing variables and academic level (Source: Authors)

Of these, the predominant nationality was Cuban (91%) because the simulation was initially carried out with national clients, followed in smaller percentages by clients from Ecuador, Turkey, Angola and Colombia, the latter one of the international benchmarks in the use of neuromarketing. Figure 4 illustrates that more importance was given to images (55%), followed by animations, which indicates that these elements should be enhanced on the web, since the brain is easily attracted by these types of visual elements. those that are not sufficient or varied in the portal.

A hypothesis raised by Djamasbi (2010), is to match the images with the age groups of the tourist demand of the websites. The majority -81%- reported that the portal transmitted emotions such as happiness and surprise, a figure that could be corroborated with the application of neuromarketing, since these were expressed by the rational or conscious part of the client. Other states mentioned were curiosity, distraction, disorientation and nostalgia, results similar to the investigations of (Brenninkmeijer et al., 2019).

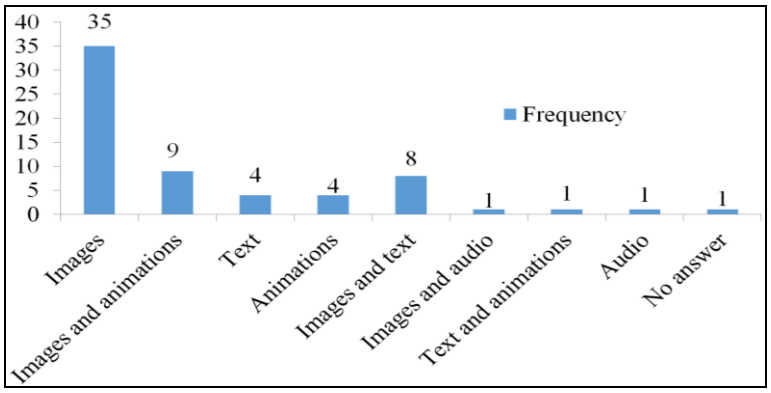

Figure 4. Elements of greatest interest in users of the Cubatravel portal (units of clientes)

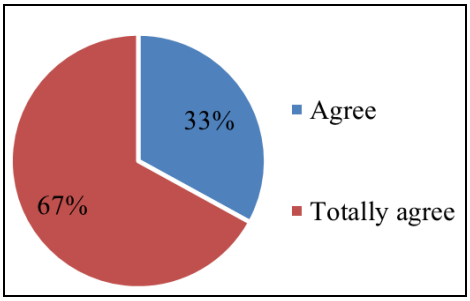

Figure 5. Acceptance of applying neuromarketing knowledge to Cubatravel (Source: Authors)

It means that 47% indicated that they had to scroll to the end of the home page to find the information they were looking for (figure 6), such as the map of Cuba and data on tourist destinations, which could require relocating them to higher areas. The hot or most focused areas by users were the upper, center and left strip, where the main image of the site and the reservation box appear; however, this option was the least selected as an element of interest (2%), but not destination information (70%) and tourist modalities (6%). This does not have to coincide with the preferred one for them, but as the one with the most striking visual. Figure 5 illustrates that 67% agreed to apply knowledge of neuroscience and psychology to the Cubatravel portal, a favorable element for the analysis in question, since one of the essential elements in the study of eye tracking is the user's consent. Coincidence with the studies by Romeu et al. (2019) is detailed. In general, with eye tracking it is also possible to measure the time that a client remains in the same, the reading order of the contents, the section to which he looks continuously, what intentions he has, etc.

Eye tracking could go hand in hand with what is also called mouse tracking, a time and sensitivity tool (Méndez et al., 2021). With the tracking of the cursor, its position is determined and where the user clicked and therefore what caught their attention the most. Also within digital marketing, the movements of a user on a web page can also be tracked by HTTP headers, JavaScrip or cookies (Roldán, 2018). These tools allow managers to know the access points of users on the web, the most frequented pages, the duration, the links with which they leave the site, if they made purchases or subscriptions, among other benefits (Javor, 2013). Its analysis and interpretation makes it possible to improve the content structure, that is, to determine where the information of value for the user should be placed, to know if the visual signals of the web lead effectively to it and to enhance the brand image (Ranisav and Branislav, 2019). With the improvement in web usability, the aim is for a user to easily interact with the digital information system and create an accessible and intuitive site that generates emotions from the first phase of the journey.

Stock plan proposal

The plan consisted of 4 essential phases: diagnosis, planning, execution and evaluation, each one with the use of methods and techniques that contributed to making the assessments in relation to the subject and object of study.

Diagnosis: it begins with the analysis of the internal and external environment of the organization. A theoretical approach is made on the application of neuroscience to conventional marketing research and the most used techniques at an international level. Subsequently, the application of eye tracking to digital marketing is deepened and a description of the Cubatravel website is made. According to the diagnosis made, Cubatravel presents insufficiencies in its web quality and accessibility; It requires reducing the size of pages, in addition to improving its interaction with users to achieve their trust and loyalty.

Planning: The organizational and instructional tasks will be projected to ensure an efficient management of Cubatravel's tourist promotion; In addition, the contents and work on the home page itself will be planned. Short, medium and long term objectives will be determined.

Execution: Based on the diagnosis made, the actions reflected in the planning are synthesized. It indicates how to proceed to increase the tourist promotion of the destination on the home page of the portal, through neuromarketing.

Evaluation: the portal will continue to respond to the policies of the Commercial and Promotion Directorates of the Ministry of Tourism and managed directly by the National Tourist Information Office, the entity in charge of managing the National Visitor Information System. The contents published on the home page of the portal could be configured with an

analogy to social networks, allowing users to indicate options such as: like, comment and share. Likewise, the Facebook tool can be used, which allows through emoticons to express the emotion generated by the published content.

Main actions

Through the eye tracking technique, it is proposed to record the frequency of blinking and the dilation of the pupils of the users of the Cubatravel web portal. The information obtained can be qualitative, by identifying reactions to different stimuli, which allows improving the design of the ad, and quantitative by recording the number of elements that are attractive. These data will serve as support for different communication strategies and increase their impact on potential clients of the Cuba destination. The parameters to take into account and that have been described in the scientific literature as the most applicable for tourism portals are eye fixations, saccades, scanpath and heat maps (Suárez, 2012 and Tscheke et al., 2019):

• Eye fixations: Once the main image of a website is located, the first fixations are usually concentrated around this image, and in the areas where it is expected to find a certain type of content, for example, the expectations of finding a contact telephone number at the end of the web (Giudici et al., 2017).

• Saccade (saccades): The longer the journey from one fixation to the next on the web, the more beneficial it will be, since users do not have the need to change their viewing point on the web after having easily found what they needed .

• Scanpath: Through the spatial arrangement of a sequence of fixations, analyze the user's exploration paths on the web and identify which visual elements received the most fixations and in what order (Eraslan et al., 2016).

• Heat Maps: Examine the average reactions to specific areas of the web page of high interest. Analyze them by color and determine those without color and therefore not fixed by the participants during their viewing (Lee et al., 2006).

Along with this analysis, visual hierarchy theory should be considered as the composition of elements in a design, with an established visual order. It makes a design look neater, organized, understandable, aesthetically appealing. It is essential to consider for such purposes, the theory of color, contrasts, typography, blank spaces and focal points mainly. According to this theory, location is a primary factor to attract the attention of users, observers can determine which are the most relevant areas of the website and those spaces from which users have expectations to extract useful information for them, as well as which could be improved (Alonso and Sánchez, 2018). The user's reading is usually done with a horizontal movement in the upper left part where it is expected to find the logo of the organization or image of the destination. Subsequently, users scroll to the lower areas of the page, also prioritizing the left side (Tscheke et al., 2019).

Complementary actions

1. Favor visual content: the brain quickly captures images, which makes it possible to remember a brand in long-term memory. Graphic elements must be included that provoke emotions in the visitor and expeditiously reflect the good that is aspired to be sold.

2. Preconceive the design: for the human brain, curved and round objects are more attractive and easier to assimilate than those that are flat and straight.

3. Inciting a crush: since web browsing time is generally short, it is estimated that approximately the first 50 seconds are enough to choose between staying or leaving the site, it is intended to seduce the user from the first moments. Tools such as Reelapp or ClickTale allow us to know the user's behavior and opinion about the design of a website.

4. Do without disruptive advertising or advertising that hinders the search: emotionally, the client does not react favorably to the continuous advertising messages, which could cause abandonment in the visit (Kotler et al., 2021).

5. Ease and clarity of use: the chances of acquisition increase the simpler and more understandable the use of interfaces and navigation through the site.

6. Include experiences from other customers: for e-commerce, testimonials build trust. Word-of-mouth marketing tends towards the sincerity and simplicity of those who communicate it, who act as brand spokesperson (Peris, 2021). However, one must be cautious about recommendation platforms, which must be attended to and consider customer service in all phases of the purchase, including after consumption and experience, hence there are authentic brand leads or brand detractors.

7. Opt for closed figures since they are more impressive than percentages: a saving of 20 dollars is more attractive than one of 20%, despite the fact that the amount reduced is lower (Smykova et al., 2020).

8. Reduce uncertainty when paying: international neuromarketing experiences reveal that the economic transaction generates concern in customers, so it is recommended to replace the expression "purchase" with alternatives such as "take me home" or "add to cart". Regarding this last element, the Amazon.com site stands out, which enjoys a position fundamentally in the US market.

9. Incorporate gamification, a tool associated with the use of challenges and competitions, which releases dopamine; for example, winning a prize, a discount and other unusual incentives; being able to share experiences of travelers on social networks, as well as progress bars on a hotel page ("you have 10% left to complete your reservation..."), among others. As long as a brand, message or product encourages the production of this neurochemical, the customer will feel pleasure, be satisfied and yearn to repeat the experience.

Assessment of the viability of the proposed action plan

Application of the Delphi method

Once the action plan was prepared, it was consulted by the experts to verify its level of acceptance given the experience in neurology, psychology, tourism and computer science, respectively. Mintur workers with direct participation in the

management of the Cubatravel web portal were included. The Delphi method was applied and the derived results were based on ensuring the existence of concordance or not, between the emanated criteria. The statistical data of the consultation enabled the author to take into account the criteria of the experts in the improvement of the strategy.

An anonymous dialogue was organized with the 12 experts individually, in order to obtain a general consensus. In the first round, the initial version of the proposed plan was submitted for evaluation. In the structure of the survey, the Likert-type response scale was approached with the following values: very adequate, quite adequate, adequate, not very adequate and inadequate. The generality of the indicators was assessed as quite adequate (fundamentals of the procedure, objective and three of its stages); only the one corresponding to the execution was qualified as very adequate. To determine the reliability of the experts' criteria, the ANOCHI coefficient was used. It indicated a moderate or fair evaluation (range between 0.41 and 0.6) taking a value of 0.57 for a maximum range difference (MRD) of 144 on a scale of 1-5 and 12 experts.

Modification, addition and deletion changes were made, which allowed the plan to be adjusted and corrected. Once the proposal was modified based on the evaluations of the specialists in the first round, they underwent a second round of consultation in case they considered reconsidering or maintaining their judgments. All aspects were rated as highly adequate. The ANOCHI index (0.81; range greater than 0.8) indicated high or very good reliability of the experts' criteria and therefore of the proposal. Due to the consistency and reliability of the results described, it was considered that the structure of the strategy was sufficient for the present investigation, which is why it was not decided to carry out a third round, which coincides with that expressed by other authors in their studies such as Vega (2016), Pineda (2018) and Calderín (2020).

CONCLUSIONS

• The theoretical approach to the international scientific production on neuromarketing, allowed to know the fundamentals of psychology and neuroscience applicable to commercial strategies of tourism, specifically associated with the tourist promotion of the destination Cuba in the digital scenario.

• The diagnosis of the Cubatravel website revealed the main problems for promotion, the design of the home page, information architecture, usability and accessibility, interaction with users, treatment of the brand and communication.

• The proposal of neuromarketing actions is an added value to the current tourist promotion of the Cuba destination in the Cubatravel portal, based on the study of the cognitive processes that occur in the mind of the client, determinants of their behavior during the purchase process.

• The designed actions were based on the theory of the eye tracking biometric technique. As the surveyed users mentioned, they would contribute to the gradual improvement of tourism promotion in the Cubatravel portal, through variables such as usability and user experience. The gradual progress in brain research and its understanding will make its practical application in the advertising scenario foreseeable.

• According to the criteria of experts, the proposed action plan is viable, as all its aspects are evaluated as highly adequate, which indicates a generalized level of acceptance.

REFERENCES

Alonso, M., & Sánchez, G. (2018). Atractivo visual percibido en páginas web mediante eye-tracking: caso de estudio en mujeres en los hoteles NH y Barceló. *Esic Market Economics and Business Journal, 49* (2), 405-430.

Berdenov, Z., Mendybayev, E., Beketova, A., Satkarova, N., & Gozner, M. (2021). Assessment of the Southern Urals recreational potential for the development of the Aktobe tourism industry. *GeoJournal of Tourism and Geosites,* 38(4), 1274–1279. https://doi.org/10.30892/gtg.38435-769

Braidot, N. (2017). *Neuromarketing aplicado al diseño web.* Recuperado el 25 de Enero de 2020, de Web Internacional: https://www.internacionalweb.com/noticias/neuromarketing-aplicado-al-diseno-web

Brenninkmeijer, J., Schneider, T., & Woolgar, S. (2019). Witness and Silence in Neuromarketing: Managing the Gap between Science and Its Application. *Science, Technology, and Human, 20* (10), 1-25.

Caciora, T., Herman, G.V., Ilieș, A., Baias, Ș., Ilieș, D.C., Josan, I., & Hodor, N. (2021a). The Use of Virtual Reality to Promote Sustainable Tourism: A Case Study of Wooden Churches Historical Monuments from Romania. Remote Sens, 13, 1758. https://doi.org/10.3390/rs13091758

Caciora, T., Herman, G.V., & Baias, S. (2021b). Computer analysis of a heritage item—the traditional sheepskin waistcoat in Beius area. Rev. Etnogr. Folc. J. Ethnogr. Folk. 1–2, 195–209.

Calderín, Y., & Díaz, J. (2020). *Diagnóstico de la situación del portal de turismo Cubatravel para la promoción del destino Cuba.* Tesis de diploma, Universidad de La Habana, Facultad de Turismo, La Habana.

Cyert, R. & March, J.G. (1992). *A Behavioral Theory of the Firm* (2nd edition.). Wiley-Blackwell. ISBN 0-631-17451-6.

Deac, L.A., Gozner, M., & Sambou, A. (2019). Ethnographic museums in the rural areas of Crișana Region, Romania – Keepers of local heritage, tradition and lifestyle. *GeoJournal of Tourism and Geosites*, 27(4), 1251–1260. https://doi.org/10.30892/gtg.27411-430

Djamasbi, S., Siegel, M., & Tullis, T. (2010). Generation Y, web design and eye tracking. *International journal of human-computer studies, 68* (5), 307-323.

Echarri, M., O Robert, M., & Perera, L. (2017). Affluence and profile of visitors in the Historic Center of Havana. Annals of the Cuban Academy of Sciences, *6* (3), 9. 2. http://www.revistaccuba.cu/index.php/revacc/article/view/600

Eraslan, S., Yesilada, Y., & Harper, S. (2016). Eye tracking scan path analysis on web pages: how many users? Proceedings of the Ninth Biennial ACM Symposium on Eye Tracking Research and Applications, 103-110. https://doi.org/10.1145/2857491.2857519

Fernández, Y., García, M., Ruiz, E., Fernández, E., Chongo D., & Salazar, S., (2009). Neuropsychology in Cuba. Neuropsychology, Neuropsychiatry and Neurosciences Journal, *9* (2), 53-76. https://dialnet.unirioja.es/descarga/articulo/3988096.pdf

Giudici, E., Dettori, A., & Caboni, F. (2017). *Neurotourism: Futuristic perspective or today's reality?* University of Verona, Department of Economic and Business Science, Verona. https://iris.unica.it/handle/11584/235441

Gozner. M., Tătar C.F., & Ivanovski, Z. (2021). The caves from the Bihor, Vladeasa and Pădurea Craiului Mountains between protection and capitalization. *Modern Technologies for the 3rd Millennium*, Oradea (Romania). http://www.edlearning.it/proceedings/moreinfo/20211209.htm

Grama, V., Ilies, G., Safarov, B., Ilies, A., Caciora, T., Hodor, N., Ilies, D.C., Kieti, D., Berdenov, Z., Josan, I., & Narynbek uulu, K. (2022). Digital Technologies Role in the Preservation of Jewish Cultural Heritage: Case Study Heyman House, Oradea, Romania. *Buildings*, 12, 1617. https://doi.org/10.3390/buildings12101617

Herrera Masó, J., Calero-Ricardo, J., González Rangel, M., Collazo Ramos, M., & Travieso González, Y. (2022). El método de consulta a expertos en tres niveles de validación. *Revista Habanera de Ciencias Médicas*, 21(1), e4711. Recuperado de https://revhabanera.sld.cu/index.php/rhab/article/view/4711/3061

Herman, G.V., Grama, V., Buhaș, S., Garai, L.D., Caciora, T., Grecu, A., Gruia, A.K., Hudea, O.S., & Peptenatu, D. (2021a). The Analysis of the Ski Slopes and the Degree of Economic Dependence Induced by Winter Sports Tourism. The Case of Romania. *Sustainability* 13, 13698. https://doi.org/10.3390/su132413698

Herman, G., Banto, N., Caciora, T., Ungureanu, M., Furdui, S., Garai, L., & Grama, V. (2021b). The Perception Of Bihor Mountain Tourist Destination; Romania. *Geographia Polonica*, 94(4), 573–587. https://doi.org/10.7163/GPol.0221

Herman, G.V., Banto, N., Caciora, T., Ungureanu, M., Furdui, S., Grama, V., Buhas, R., & Buhas, S. (2020). *Tourism in Bihor County, Romania*. Trends and Prospects. *Folia Geographica*, 62, 87–105.

Ilies, D.C., Caciora, T., Herman, G.V., Ilies, A., Ropa, M., & Baias, S. (2020) Geohazards affecting cultural heritage monuments. A complex case study from Romania. *GeoJournal of Tourism and Geosites*, 31(3), 1103–1112. https://doi.org/10.30892/gtg.31323-546

Javor, A., Koller, M., Lee, N., Chamberlain, L., & Ransmayr, G. (2013). Neuromarketing and consumer neuroscience: contributions to neurology. *BMC Neurology*, 13, 13 (2013). https://doi.org/10.1186/1471-2377-13-13

Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: technology for humanity*.New Jersey: Wiley. 75-114

Lee, N., Broderick, A., & Chamberlain, L. (2006). What´s neuromarketing? A discussion and agenda for future research. *International Review of Physicophysiology, 63*, 199-204. https://doi.org/10.1016/j.ijpsycho.2006.03.007

Mandal, P., & Joshi, N. (2016). *Understanding Digital Marketing-Theories and Strategies. International Research Journal of Management.* Recuperado el 5 de Marzo de 2020, de Academia.edu. https://www.academia.edu/34953310/Understanding_Digital_Marketing_-_Theories_and_Strategies

Méndez, S., Lazo, S., & Vázquez, Y. (2021). Neuromarketing: exploring the mind of the digital consumer with biometric techniques. Yearbook Faculty of Economics and Business, 123–139. *Retrieved on October 6, 2021 from* https://anuarioeco.uo.edu.cu/index.php/aeco/article/view/5221

Morar, C., Tiba, A., Basarin, B., Vujičić, M., Valjarević, A., Niemets, L., Gessert, A., Jovanovic, T., Drugas, M., Grama, V., Stupariu, M., Stoica, A., & Lukić, T. (2021). Predictors of Changes in Travel Behavior during the COVID-19 Pandemic: The Role of Tourists' Personalities. Int. J. Environ. Res. Public Health 2021, 18, 11169. https://doi.org/10.3390/ijerph182111169

Murphy, E., Illes, J., & Reinier, P. (2008). Neuroethics of neuromarketing. *Journal of consumer behaviour, 7* (4), 293-302. https://onlinelibrary.wiley.com/doi/10.1002/cb.252

Pavón, P., Infanta, M., & Pavón, Y. (2018). Good practices for the digital development of the Cuban tourist destination. Cuban Magazine of Public and Business Administration, *2* (2), 148-158. Accessed at: https://apye.esceg.cu/index.php/apye/article/view/44

Peris, R. (2021). *Neuromarketing: Types and examples of successful strategies. Retrieved on February 2, 2021, from* Bloo.Media: https://bloo.media/blog/ejemplos-neuromarketing-estrategia-ventas/

Pineda, A.B. (2018). *Importance of neuromarketing in advertising for Social Networks.* Master's Thesis, University of Applied and Environmental Sciences, Faculty of Environmental Sciences and Engineering, Bogota. Accessed at: https://repository.udca.edu.co/handle/11158/1029

Ramos, N., Fernández, A., & Almodóvar, M. (2020). The use of digital marketing strategies for the Spanish autonomous communities´ tourist promotion. *Revista Internacional de Investigación en Comunicación*, (21), 28-47. https://dialnet.unirioja.es/servlet/articulo?codigo=7216087

Ranisav, B., & Branislav, N. (2019). Sensory Branding in Tourism Promotion. *Journal of Social Sciences and Humanities, 5* (2), 65-69. Accessed at: http://files.aiscience.org/journal/article/pdf/70320269.pdf

Robert, M., Martínez, M., & Méndez, S. (2020). Las redes sociales de Internet para la promoción de Cuba como destino seguro frente a la crisis sanitaria internacional. *Ciencia Digital*, *4* (4), 18-28.

Roldán, L. (2018). Tourism, neuromarketing and neurotourism. *Marketing inside*. (R. Baptista, Entrevistador) España: Esco Euniversitas. Accessed at: https://www.escoeuniversitas.com/turismo-neuromarketing-y-neuroturismo/

Romeu, A., Serrano, E., & Gutiérrez-Maldonado, J. (2019). The influence of gender and body dissatisfaction on body-related attentional bias: an eye-tracking and virtual reality study. *International Journal of Eating Disorders*. Oct; 52(10):1181-1190. DOI: 10.1002/eat.23136. Epub 2019 Jul 13. PMID: 31301151.

Smykova, M., Kazybaeva, A., & Tkhorikov, B. (2020). Neuromarketing Approach to Assessing Tourism Products. Advances in Economics, Business and Management Research. *Proceedings of the 8th International Conference on Contemporary Problems in the Development of Economic, Financial and Credit Systems (DEFCS 2020) Neuromarketing Approach to Assessing Tourism Products.157*, págs. 243-246. Kazakhstan: Atlantis Press SARL.

Suárez, N. (2020). *Neuromarketing a debate.* (E. C. Médicas, Ed.) Accessed at January 26th, 2021, from Scielo: http://scielo.sld.cu/pdf/rcsp/v46n3/1561-3127-rcsp-46-03-e1645.pdf

Tscheke, J., Attrey, A., & Lesher, M. (2019). Unpacking E-Commerce: Business Models, Trends and Policies. OECD Going Digital Policy Note, OECD, Paris, www.oecd.org/going-digital/unlocking-the-potential-of-e-commerce.pdf.

Vega, O. (2016). Neuromarketing and ethics in market research. *Engineering Magazine, 5* (16), 69-82. http://www.redalyc.org/articulo.oa? id=2150488050

Velázquez, A. (2020). *Actions for the management of electronic commerce in the Ecotur travel agency.* Diploma thesis, University of Havana, Faculty of Tourism, Havana, 25-42.

Article history: Received: 02.11.2022 Revised: 29.02.2023 Accepted: 16.03.2023 Available online: 28.03.2023