

Papers

Tourism and photography: a bibliometric study of using image analysis methodologies in tourism research

Turismo e fotografia: um estudo bibliométrico sobre o uso de metodologias de análise da imagem nas pesquisas em turismo

Turismo y fotografía: un estudio bibliométrico sobre el uso de metodologías de análisis de la imagen en las investigaciones en turismo

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Keywords:

Tourism research.
Image analysis methodologies.
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Photography

Abstract

This article aims at investigating the use of image analysis methodologies in recent (2012-2017) tourism research on national and international levels. Through exploratory research and a systematic review of literature—of a bibliometric nature—in a worldwide journal database, it sought to verify the main methodologies used in the field of tourism, in which areas these methods are mostly used, and how images for research are collected. As a result, we verified that tourism research makes use of traditional methodologies such as semiotics and content analysis in its analysis of images. Several methodologies have appeared on a lesser degree, such as volunteer-employed photography, visual anthropology/photoethnography, photoelicitation, Zaltman metaphor elicitation technique (ZMET), and others, including iconography. It should be noted that the use of these methodologies in the studies analyzed was accompanied by other highly-regarded qualitative methods—in-depth interviews and participant observation, for example—as a way to validate the research results. However, as it was noted through this mapping, visual analysis methodologies can contribute to tourism research, capturing the tourist gaze and offering perspectives that neither surveys nor in-depth interviews are able to provide. Therefore, this article points towards new possibilities for tourism research.

Palavras-chave:

Pesquisa em turismo.
Metodologias de análise da imagem.
Novas metodologias.
Fotografia

Resumo

Este artigo se propõe a investigar o uso de metodologias de análise da imagem em pesquisas de turismo nacionais e internacionais recentes (2012 a 2017). Por meio de pesquisa exploratória e de uma revisão sistemática de literatura, de caráter bibliométrico, em bases de periódicos mundiais, buscou-se verificar as principais metodologias utilizadas no campo do turismo, em quais áreas esses métodos são mais empregados e de que modo são coletadas imagens fotográficas para as pesquisas. Como resultado, verificou-se que as pesquisas em turismo utilizam, para analisar imagens, metodologias tradicionais como semiótica e análise de conteúdo. Diversas metodologias apareceram mais sutilmente, como é o caso da volunteer-employed photography, da antropologia visual/fotoetnografia, da fotoelicitação, da Zaltman metaphor elicitation technique (ZMET) e outras, entre as quais a

iconografia. Cabe salientar que o uso dessas metodologias nas pesquisas analisadas foi combinado com outros métodos qualitativos conceituados – entrevistas em profundidade e observação participante, por exemplo –, como forma de validar resultados da pesquisa. Contudo, notou-se, por meio desse mapeamento, que as metodologias de análise visuais podem contribuir para a pesquisa em turismo, capturando o olhar do turista e oferecendo perspectivas que surveys ou entrevistas em profundidade não são capazes de fornecer. Assim, este artigo aponta novas possibilidades para as pesquisas em turismo.

Resumen

Este artículo se propuso investigar el uso de metodologías de análisis de imagen en investigaciones turísticas recientes (2012-2017) a nivel nacional e internacional. Mediante investigación exploratoria y revisión sistemática de la literatura, de carácter bibliométrico, en una base de datos de revistas de todo el mundo, se buscó verificar las principales metodologías de imágenes utilizadas en el campo del turismo, en qué áreas se utilizan estos métodos, y cómo se recogen imágenes para la investigación. Como resultado, verificamos que la investigación turística utiliza metodologías tradicionales como la semiótica y el análisis de contenido en su análisis de imágenes. Varias metodologías han aparecido en menor grado, como el volunteer-employed photography, antropología visual/fotoetnografía, fotoelicitación, Zaltman metaphor elicitation technique (ZMET) y otras, incluida la iconografía. Cabe señalar que el uso de estas metodologías en las investigaciones analizadas fue combinado con otros métodos cualitativos de gran prestigio - entrevistas en profundidad y observación participante, por ejemplo -, como una forma de validar los resultados de la investigación. Sin embargo, se notó por medio de ese mapeo que las metodologías de análisis visuales pueden contribuir a la investigación en turismo, capturando la mirada del turista y ofreciendo perspectivas que ni encuestas o entrevistas en profundidad son capaces de suministrar. Así, este artículo apunta nuevas posibilidades para las investigaciones en turismo.

Palabras clave:

Investigación en turismo.
Metodologías de análisis de la imagen.
Nuevas metodologías.
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1 INTRODUCTION

The tourist gaze produces images and imagery that, in turn, will make up the complex tourist phenomenon. In the contemporary context, photographs are increasingly present in people's daily lives, awakening desires and needs and stimulating them to know destinations and cultures. In addition to being a marketing tool, tourism photography can be a way of perpetuating and sharing experiences—especially in social networks in which the dissemination of information is instantaneous—and even as a form of distinction, mainly when tourism travels acquire the dimension of social status. Photographs, as records of these temporary displacements, are a means of direct communication of this intentionality as much as they are open to interpretations and to the production of meanings.

As instruments of communication, images lead to the expansion of knowledge (Joly, 2012). In this sense, and understanding them in their role in the construction of visual narratives (Gastal, 2005), to study in depth the photographic images generated for and by tourism will bring theoretical and methodological contributions to this field of scientific investigation, since, as Susan Sontag poses, “the image is also an object, lightweight, cheap to produce, easy to carry about, accumulate, store” (2004, p. 13).

In tourism, it is frequent to use conventional methodologies, some of them already well established within research on the most varied subjects related to the field (Matteucci, 2013). Surveys, focus groups, and even ethnographic-based surveys have increasingly been used as methods. However, researchers argue that the area does not risk innovating and using new methodologies, as Camargo (2008) notes, regarding the studies on hospitality. For the author, studies based on semiotics could become one of the ways to analyze this field in a different way and, as consequence, new and other knowledge would emerge.

In this context, the objective of this study¹, which integrates analyses and projects considered of innovative character developed in our research group, was to carry out a systematic review of the literature on the

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evolution, in the last five years, of the application of visual analysis methodologies in empirical researches in the field of tourism that use the photograph as data to be analyzed. We also sought to examine in which areas these methodologies have been most used and to observe their variations.

The objective is to present an overview of the use of visual methodologies in Brazilian and international tourism research between 2012 and 2017. A systematic literature review was carried out in Brazilian and international databases, in which we had access to several publications, among which *Annals of Tourism Research*, *International Journal of Tourism Research and Hospitality*, *Tourism Management*, *Asia Pacific Journal of Tourism Research*, *Journal of Travel Research*, *Marketing & Tourism Review*, *Estudios y Perspectivas en Turismo*, *Revista Brasileira de Pesquisa em Turismo*, *Turismo e Análise*, and *Caderno Virtual de Turismo*.

2 LITERATURE REVIEW

To understand the use of visual analysis methodologies, it is essential to conceptualize and discuss the various ways of defining 'image'.

According to Joly (2012, p. 38), who operates in the field of representation, a "material or immaterial image, visual or not, natural or fabricated [...] is first and foremost something that resembles something else". In this aspect, the words 'image' and 'imagery' find their point of convergence, since both a concrete image and a mental image (imagery) are constructed based on a reference.

The term image is not restricted only to photographs or paintings—although the focus of this study is precisely photographic images. Be them still or in movement, images can be in films, drawings, dreams... Images, Joly (2012) points out, are representations of the real, and any visual element that establishes a narrative can be called an "image" (Gastal, 2005). These visual tales establish communication through their colors, signals, symbols, and textures.

If the image is, by this definition, something that resembles something else, then it will never be the thing itself.

If it seems to be it is because it is not the thing itself: its function is therefore to evoke, to mean something other than itself, using the process of resemblance; and if the image is perceived as representation, this means that the image is perceived as a signal. (Joly, 2012, p. 39)

For Bergesio, Montial and Scalone (2012), on the other hand, the concept is broader. The image is constructed according to a given reality; therefore, this representation is, in fact, a reconstruction.

At the heart of the discussion about the concept of image, which involves other diverse areas of knowledge and interpretations, the photograph is located as a type of image that is being produced at all times in the contemporary world, mainly due to the advent of smartphones, disposable, and portable cameras. To some extent, everyone can be a photographer. The photograph captures and perpetuates moments, functioning as a memory scaffold capable of representing them (or "re-represent" them, making them present again). The photograph, according to Sontag (2004), is capable of producing uncontested testimonies of past events, although it may distort elements since it has certain limitations. Still according to this author's theory, one can observe that, despite the distortions—also as a result of the multiple possibilities of human interpretation and codification—the photo is therefore the proof "that something exists, or did exist, which is like what's in the picture" (Sontag, 2004, p. 14). For Roland Barthes (1984), photography transforms subject into object, thus overcoming existence and eternalizing moments and individuals.

Salvagni and Silveira's point of view (2013) is consistent with Sontag's theory (2004): the photograph is considered a symbolic record, a clipping of events in society. In this sense, the authors believe that it constitutes a valuable instrument for scientific research. The photograph, as a device, can join other research methods, helping (re)construct narratives and enabling the production of analyses, through imagery. In addition, Salvagni and Silveira (2013) attest that the use of photography in scientific research—whether through the production of images by the researcher or through the analysis of the image produced by others—enables the dissemination of knowledge, as far as it promotes interdisciplinarity research and reaches plural audiences.

[...] the photograph used as an academic language device creates the possibility of further propagation of studies through the indiscriminate use of these imagery narratives. That is to say that the photograph represents a means through which academic works can circulate not only among other areas of knowledge other than the social sciences, but also among a lay audience who is interested in the subject (Salvagni & Silveira, 2013, pp. 2-3).

The use of photography in scientific research, especially in the field of Social Sciences, is a trend that follows the “visual culture”, since in contemporary society the visual resources are among the elements that intermediate the relationships between individuals. The common habit of producing photographs and making small films is increasingly present, even if in an amateur way.

According to Edwards (2016, pp. 166-167), “it was the very nature of the photograph, as the mechanical and chemical trace of the body of the subject, that made it so powerful”. In addition to being an instrument of power, it has become a useful tool for scientific research, making it possible for the researcher's gaze to “linger, to desire, and to appropriate the subject” (2016, p. 167) or the object studied. Thus, regarding the relationship between the photograph and scientific research, Edwards (2016) summarizes:

Photographs will always be used to great effect as field records, as sites of cross-cultural social interaction, as sources for analysis, as objects of study, and as visual and sensory systems that raise key [...] questions. (Edwards, 2016, p. 184).

The photographic device makes it possible to bring the subject of the research to the content of the scientific work, through the borrowing of its image. Salvagni and Silveira (2013) emphasize the ethical character of the use of this tool. Authors such as Diniz (2008) discuss the new ethical challenges regarding the use of the image of an individual, emphasizing the need for the subject's authorization to publish a photograph or to divulge audiovisual material by the signing of terms of free consent that explain the voluntary and unpaid character of the research subject's participation. One must also consider the type of analysis that is performed regarding elements such as clothing, appearance, and expression (Salvagni & Silveira, 2013).

It should be emphasized that, when it comes to the use of photographs in academic works, the image should not be seen as mere illustration or object to justify textual analysis. For Rial (2014, p. 11), an author who studies the field of Visual Anthropology, “one does not write only with words. The images can also be powerful tools in the elaboration of texts [...], with great capacity for the diffusion of ideas”.

The analysis of an image implies reflections and interpretations that are proposed by and that emerge based on the image itself. According to Martins (2016), an author who studies the relationship between Visual Anthropology and Tourism, it is necessary to deal with photographic images in a critical way. Thus, photography must elicit narratives to be explained, for example, according to analysis of elements such as framing, use of colors or the absence of them, cuts, light, elements on the scene, plans, among others. However, the photograph “gives the reader the freedom to have his/her own perceptions before the image” (Salvagni & Silveira, 2013, p. 6).

The photograph allows, even, that nuances not easily perceived by the researcher while in the field be observed later. Moreover, when used as an object of analysis in a scientific text, it triggers dialogues “as a window capable of reflecting a point of view of reality” (Salvagni & Silveira, 2013, p. 6).

By applying these perspectives of analysis of the photographic image to tourism, we can attest that photography offers endless possibilities to this field of investigation, as indicated by the results of the present study, reported in the next sections.

2.1 Tourism from the perspective of image analysis

The relationship between tourism and photography is strong and significant. According to Foster (2017), it permeates the nineteenth and twentieth centuries, coming to integrate the tourist experience. As the author states, the photograph allows the creation of tourism imagery (Foster, 2017, p. 89) and is disseminated through postcards and photographic production by tourists, especially in their social networks.

For Urry (2001, p. 187), a photograph “shapes the travel”, while for Pérez (2012) the tourism imagery is perceived as the cultural practices that culminate in the experimentation and construction of tourists’ gaze. This “tourist gaze” (coined by Urry, 2001) produces photographs as a way of recording everything that is contemplated and can be eternalized.

[...] Photographic images organize our expectations or our digressions about places that we could contemplate. [...] We have partially chosen where to go in order to capture images on film. Obtaining photographic images partly organizes our experiences as tourists. Our memories of the places where we have been are structured largely through the photographic images and text, especially verbal, that we weave around these images when show them to others. Thus, the tourist gaze involves, irrevocably, the quick circulation of photographic images (Urry, 2001, p. 187).

To Foster (2017), both the photograph and tourism function as a game which aims at promoting and modifying discourses, rituals, and organizations. The photos, therefore, operate as a desire-creating, value-forming device that “guides practices, invests time, and concentrates economies, because they bring together diverse heterogeneous processes” (Foster, 2017, p. 92). In this context, for the author, there is a process of massification of the photograph created by an industry that produces and stimulates the use of photographic products of easy access and handling, making them economically and socially accessible to all types of public.

Foster (2017) identifies the Eastman Kodak Company—a US-based company founded in 1888 by George Eastman—as one of the most representative in the photography industry. According to the author, Kodak has, over the years, modified and revolutionized modes of production and the taking of photographs, since it has created “a practice and a market for the amateur photographer with portable cameras” (Foster, 2017, p. 92). In addition, Kodak implements a concept that refers to the camera as “companion for all occasions” (p. 92), which includes travelling. In this way, Kodak

[...] mainly evidences a tourist under construction, limited to practices that lead him or her to photography [...]. I highlight the striking intention of the company to focus on the amateur photographer, with strategies of enunciation and convincing through publicity, manuals, and various actions as a way of educating about photography (Foster, 2017, p.92).

However, Baumann, Lourenço and Lopes (2017), who also discuss the relationship between tourism and photography, point out that the peak of travel photography comes with the digital age, which has boosted the use of digital cameras, exponentially increasing the number of photographs taken by tourists on trips. Smartphones with built-in cameras have also contributed, a posteriori, to the proliferation of tourist photographs on social media sites known as “social networks”. Thus, “the nearly constant omnipresence of smartphones means that the tourist is generally always ready to photograph” (Baumann, Lourenço & Lopes, 2017, p. 1143).

In this context, Siqueira, Manosso and Massukado-Nakatani (2014) argue that photographs, in their relationship with tourism, should be understood further than as mere devices for the recording of memories, but as powerful instruments that reflect modes of communication between a tourist destination and tourists.

In addition to acting as transmitters of destination images and its elements—natural landscapes, historical and cultural heritage, for example—photographs become “a cognitive process of information absorption, positive or not” (Siqueira, Manosso and Massukado-Nakatani, 2014, p. 3). In this sense, Azevedo (2017) points out that content implicit in the photographs can be “cognitively deduced” and result in new meanings. This will occur, however, according to the use of analysis methodologies that allow the researcher to read the elements that compose the image.

However, according to Mello (2015), few scholars have focused on this subject or have proposed to study photography as a way of reality transcription performed by the tourist. Balomenou and Garrod (2014) argue that photographs have been underutilized in tourism, when not ignored. However, the authors argue that camera lens and the human eye can be considered as one and, therefore, represent the subjectivity of the individual. In this context, it becomes possible for researchers to understand, through a photograph, the gaze, and specific intentions of the subject of their research.

Mello (2015) identifies the main authors who have been interested in this subject: Urry (1997), Urry and Crashow (2001), Coghlan and Prideaux (2008), Donaïre and Galí (2011), Thurlow and Jaworski (2011)

and Mello herself (2015). She also points out that the study of tourist photographs is still very little explored by research methodologies.

Matteucci (2013) corroborates the thought of international researchers when he argues that the use of image analysis methodologies can cooperate to solve ‘traps’ caused by conventional methodological approaches. The author states, echoing Mello (2015), that while the visual methodologies are widespread in areas such as Anthropology and Sociology, in Tourism the use of these methodologies “remains marginal” (p. 191).

Through a systematic review of the literature in Brazilian and international journals, we could verify that in the period covered by this research (2012 to 2017), the year 2016 was the most representative in terms of empirical research that made use of visual methodologies. In that year, there is also a significant volume of Brazilian production, especially by scholars from the southern region of the country, working with the photographic image of tourist destinations such as Curitiba (PR) and Blumenau (SC). In this sense, the production of Manosso and Gândara (2016) and Moretti, Bertoli and Zucco (2016) should be highlighted.

Many publications were also published in the years 2012, 2013, and 2015. However, unlike what happened in 2016, most studies were conducted by foreigners or Brazilians in international journals. The rate of publication in Asian magazines in this period also attracts attention.

Image analysis methods are little used in research about tourism in Brazil. Such an assertion is justified by the occurrence of national researches in the bases for this study. In the database *Publicações em Turismo*, only one newspaper dealing with the subject was found, and in the other bases the articles add up to seven, all concentrated on understanding the image of the tourist destination based on photographs of tourists. Regarding the international context, the use of these methodologies is apparently more widespread.

Regarding research data, on the international scene, Matteucci (2013) already indicated that researches using image analysis have been gaining momentum in recent years, both inside and outside Tourism. According to the author, this movement of scholars interested in working with images was reinforced by the 2008 edition of the *Forum: Qualitative Social Research* magazine, which dedicated a volume exclusively to researches that addressed visual methodologies.

However, Baumann, Lourenço and Lopes (2017) point out that researches that make use of image analysis methodologies in tourism, especially content analysis, are usually restricted to “brochures, postcards and websites analysis” (p. 1414), and therefore are almost always related to the fields of marketing and management of tourist destinations. This is the case of one of the articles retrieved in the searches made for this research. Manosso, Bizinelli and Gândara (2013) conducted a documental study on the Flickr social network, with the objective of identifying how the image of Curitiba (PR) was perceived by visitors.

2.2. Methodological trends and possibilities of using visual methodologies

Researches that use image analysis methodologies, in general, are predominant in the fields of Linguistics, Psychology, Anthropology, and Marketing. Tourism methodology books that point to such methodologies as possible paths to research in the area are rare. One should also consider the fact that tourism is a relatively new area of study—thus, little by little new theoretical and methodological approaches are beginning to gain ground, especially in Brazilian research.

As previously seen, surveys that combine tourism and visual methodologies are still incipient, although encouraged by prominent authors in the field as promising possibilities (Urry, 2001; Camargo, 2008). In the book *The Tourist Gaze*, in which John Urry (2001) discusses the construction of the tourist's gaze and the tourist photographic images, there are already indications of possibilities of analysis based on this information.

Understanding tourism as an interdisciplinary phenomenon, able to converge with other areas in order to exchange methods and concepts, image analysis methodologies are presented as something innovative, proposing different techniques for its application in studies in the field of tourism. This is what we defend in researches and projects developed in our group, of which this article is a part, helping to provide content that underlies our argument.

Based on the articles retrieved in searches in the databases, we observed the use of some methods of image analysis. However, such methods will be presented next with reference to authors consolidated in the field of image and who, in most cases, were present in the periodicals analyzed.

It should be noted that only the methodologies resulting from the search in the chosen journal bases will be described, although there are other methodologies of image analysis, such as *Visual Narrative Art*, which deals with the reading of artistic images as a means of recounting historical events (Megehee & Woodside, 2010). The objective of this article is to present the most used visual methods of research in the last five years.

2.2.1. Content analysis

Content analysis is a methodology that originated in the United States and primarily applied in social sciences studies (Prasad, 2008). However, although content analysis is often confused with semiotics, its nature is quantitative.

Content analysis focuses on quantitatively describing and uncovering the attributes contained in an image, making it possible to identify the frequency, occurrence, and grouping of elements that are essential for the understanding of what is being analyzed in an image. Thus, content analysis is focused on decoding the number of attributes that an image contemplates (Stepchenkova & Zhan, 2013).

To analyze the content of a photograph, for example, categories such as people in the photo, gender, age, color of clothes etc. are established. In addition, according to Stepchenkova and Zhan (2013), content analysis can include aspects such as “time angle” (period in which the photograph was produced), “geographical angle” (where it was recorded), and “production” (who photographed).

Stepchenkova and Zhan (2013) believe that content analysis is more faithful to the meaning of the signals and contexts of a photograph than semiotics. For the authors, even if the content analysis leaves out elements of subjectivity in the pictures and does not configure itself as an interpretive method, it is considered a methodology capable of systematizing, categorizing, and summarizing the attributes of a photo, so that it is possible to perform comparisons and inferences regarding a subject in a quantitative and categorical way.

In this context, in order to make content analysis more complete, it is possible to combine the method with semiotics, as did Stepchenkova and Zhan (2013) in their research on the image of a tourist destination, in which photographic images of official Peruvian sites, as well those produced by tourists through the social network Flickr, were collected for analysis purposes,

2.2.2. Semiotics

Sometimes referred to as “the science of the signals”, Semiotics (the philosophy of language) is a discipline that, although rooted in Greek antiquity, may be considered relatively recent, as it emerged as such in the early twentieth century. It is often mistaken with Semiology (the study of particular languages, beyond images), and “its great precursors are Swiss linguist Ferdinand Saussure in Europe and scientist Charles Peirce in the United States” (Joly, 2012, p. 30).

For Saussure (1974, *apud* Joly, 2012), language cannot be considered the only mode of communication, that is, it does not constitute a “single system of signals that express ideas” (Joly, 2012, p. 31). Signals should be understood as meaning-generating elements. Thus, the texture of a pictorial surface, the absence of color in a photograph or an object that moves in a video can be considered signals, because they express meanings. In this sense, it is understood that, although the image is visual, it has its own language endowed with particular symbols and meanings.

The image is the message itself. In this way, Semiotics makes it possible to analyze images, be them paintings or photographs, without restrictions. The researcher has no obligation to stop at the intention of the image producer. On the contrary, Semiotics provides the necessary detachment to understanding the significations brought up by the message, since it believes that not even the author, the producer of the image, dominates the whole meaning of its production (Joly, 2012).

In the case of photography, Ferrari and Gândara (2015, p. 115) summarize the study of Semiotics, stating that it “intends to apprehend how the construction of the meanings of the text (verbal or visual) takes place, and from it we can capture the complexity and power of communication through the image of the photograph”.

It has been found that this method seeks to analyze the meaning that the signals produce in the communication process. And, beyond their traditional meanings, there are multiple possibilities for new meanings and interpretations. Not necessarily must the researcher interpret the image with the same eyes of the person who produced it. This is one of the main differences between visual semiotic analysis and textual analysis, since the one that deals with imagery signals fosters the contemplation of subjective and implicit aspects.

2.2.3. Visual Anthropology

Visual Anthropology is one of the areas of Sociocultural Anthropology and consists of “the study of the meanings of singular images about cultural diversity, which carry the social representations to the photographic and filmographic supports” (Campos, 1996, p. 280).

Social Anthropology turns the researcher into a “tourist anthropologist” (Martins, 2016, p. 529). The method used in this field allows the understanding of “diversity and cultural differences”, which “always had in itself a touristifying principle, translated in the ideas of travel and encounter with others, associated with fieldwork and the methodological-epistemological question of contextualizing what is being studied” (Martins, 2016, p. 529).

The relationship between Social Anthropology and Visual Anthropology occurs since Anthropology, when dedicated to the analysis and production of images, seeks to describe and analyze aspects of a group or culture through imagery (photographs or videos)

The study of visualities in the anthropological field can lead to an understanding of spaces and social relations. What is analyzed is the narrative imprint that is present in the production of images, which can be produced by the researcher himself or by others (Martins, 2016).

For Campos (1996), the analysis of images is an important resource for Anthropology because, besides fostering the study of historical processes in diverse societies, it allows the creation of a narrative based on a photographic cut, with a view to the transmission and production of knowledge. For the author, the images allow the comparison of records and the analysis of processes of construction of ethnic identities, “even if such moments have been filtered by the gaze that dominates the camera” (Campos, 1996, p. 280), that is, that of the researcher.

However, Martins (2016) points out that making visual anthropology is not only producing photographs, making videos, “nor to receive and/or deal with available images (produced by others) uncritically” (Martins, 2016, p. 536). A deep and critical analysis is needed because this research methodology helps produce “a redefinition of the traditional power relations between researchers and their objects/subjects of study, facilitating new forms of participation and anthropological communication” (Martins, 2016, p. 536).

In order to carry out a research based on Visual Anthropology, the researcher must master the “specificity of the photographic language” (Achutti, 1997, p. 37) and the photographer should “have the base (or substrate) of the anthropologist gaze, their interrogations and specific ways of looking at the other” (Achutti, *op. cit.*).

It should be noted that the use of Visual Anthropology as methodology for Tourism studies is not thoroughly verified. However, in some researches, such as those undertaken in our projects, one can observe that the application of the method unfolds several aspects for the analysis of the object of study, reveals different possibilities of data collection, harmonize and approximate the arrival in the field and the relationship with the research subjects, and broadens the dialogue with academic/scientific texts of other areas of knowledge.

2.2.4. Photo-ethnography

Photo-ethnography is one of the methodologies of Visual Anthropology. This term was coined by the Brazilian anthropologist Achutti in 1997. The methodology foresees the registration of cultural elements through sequential photographs as a form of narratives made by anthropologists. And, unlike what happens in semiotics, there is intentionality when the photos are being produced, because they intend to tell the story of a community, a locality. The photograph, then, proposes to be an extended form of communication about anthropological researches.

Photo-ethnography has as main function communicating and transmitting, through visual messages, narratives of social groups or cultural elements. In the words of Achutti (1997, p. 14, *apud* Cavedon, 2005, p. 21), “in the use of the photograph as an image narrative [one can] preserve the data and converge to the reader cultural information about the studied group”.

In the journals analyzed, a tendency to photo-ethnography was observed. The photographs not only come from the camera of the anthropologist, but also from the community or tourists. The researchers combined photo-ethnography with the VEP method (volunteer-employed photography), seeking to construct narratives through the community's gaze, according to photographs produced by the respondents themselves.

This is the case of the journal using volunteer-employed photography to inform tourism planning decisions: a study of St David's Peninsula, Wales, by Balomenou and Garrod (2014), which uses the triad formed by photo diaries, quantitative interviews (to uncover demographic data), and the application of VEP so that tourists themselves can produce their narratives about the St. David Peninsula. Other articles use a combination of similar methods such as the crossed gazer over an old city photography and the experimentation of heritage place, by Santos (2016), which in addition to photo-ethnography, applies methods of ethnography such as in-depth interviews, and makes use of semiotics.

2.2.5. Volunteer-employed photography (VEP)

In the volunteer-employed photography (VEP), survey respondents are photo producers. In general, some questions are asked, or some requests are posed, for them to create a narrative with self-produced photos, and when the camera is provided to them, data is created for further analysis.

This method was first explored in 1970 by Traweek, who delivered a camera to two participants, specialists in the subject of the research about a river, and asked them to photograph their experiences and perceptions. The result of this research was successful and, according to Balomenou and Garrod (2014,) since then more than 300 studies have used the technique.

Although it may also be viewed as a data collection technique rather than a methodology in itself, VEP contemplates the subjective character that, previously, was considered a weakness in other methodologies. It enables the “respondents themselves” to be protagonists of their stories in creating narratives, and it is up to the researcher to interpret them. In-depth interviews and photo diaries are often used with VEP, so that the researcher can understand the production process and the results of the photos, as it happened in the study of the St. David Peninsula (Balomenou & Garrod, 2014).

2.2.6. Photo-elicitation

The photo-elicitation methodology is similar to ZMET, since it aims to extract information from the participant through photographs. However, for this method, the participant need not necessarily be the producer of the photo. In this methodology, images of destinations, people, or activities capable of eliciting in the participant feelings and memories are associated to the photographs, providing the researcher with answers to his research.

Matteucci (2013) conducted a literature review and found that there are four main modes of application of photo-elicitation that have been repeatedly used in social research. In this sense, the photographs can be produced by the researcher, collected by the researcher, produced by the research participant, or collected by the research participant.

The photographs used in this methodology should be related to the experience of a specific moment of the participant's life so that he or she can comment and reflect on what comes to memory. It is recommended to use this method to evoke information and nuances previously omitted.

However, Cahyanto, Pennington-Gray and Thapa (2013) point out that if the participant is the producer of the photos and enters the field to capture them, some factors may be detrimental to the research, such as the inability of some people to work with the camera (getting poor quality images or even different from those idealized) and the possibility of losing or damaging it.

2.2.7. Zaltman metaphor elicitation technique (ZMET)

The Zaltman metaphor elicitation technique (ZMET) is a technique similar to VEP, but in this case the analysis of the data collected is deeper, undergoing stages that involve the image-producing subject. The ZMET is a projective method derived from neurobiology, psychoanalysis, and psychology, which consists of giving participants photographic cameras and instructing them to collect images that answer the study problem.

After the first step, in which research participants collect images based on their feelings and experiences related to the subject of the investigation, they are invited to participate in a group interview in which they are urged to tell stories behind the photographs. At that moment, the researcher starts asking questions about how and why the photo had been taken, for which reason the participant had chosen a certain angle, among others.

The ZMET is a method that takes the researcher beyond the possibilities of VEP or photo-ethnography, since there is a moment in which the participant can tell the story behind the recorded photographs and provide information about the object of research, primordial for scientific research.

ZMET's use of pictures as the medium of data collection is based on the premise that most human communication is non-verbal (Zaltman, 1997; Zaltman & Higie, 1993). Previous research has shown that only a maximum of 30% of the meaning in a social exchange is conveyed by words (Knapp, 1980, Mehrabian, 1971, Weiser, 1988). Zaltman, on the other hand found that pictures contain metaphors that may be visual, verbal, mathematical or even musical (Zaltman, 1997). ZMET contends that these metaphors are instrumental in an attempt to understand the respondent's voice. (Khoo-Lattimore & Prideaux, 2013, p. 1039).

In this way, the ZMET assumes that communication transcends verbal questions. The use of photographs as a means of data collection in scientific research makes it possible to capture subjectivities that other more rigorous and closed methods are not able to discover.

3 METHODOLOGY

This research consists of a systematic review of the literature, of a bibliometric nature, and exploratory nature. We have opted for using this method of research because, according to Chueke and Amatucci (2015, p. 2), the systematic review of literature serves to “map the origins of existing concepts, point out the main theoretical lenses used to investigate an issue, and raise the methodological tools used in previous works”.

Bibliometr, a method developed by Pritchard in the late 1960s, is defined as the application of statistical and mathematical methods for the analysis of literary texts (Pritchard, 1969, *apud* Chueke & Amatucci, 2015, p. 2). Therefore, and according to the authors, the objectives of the method are to map the production of articles from a field of knowledge, as well as academic communities, and to identify networks of influential researchers dedicated to the study of the researched subject (Chueke & Amatucci, 2015).

Bibliometrics can “collaborate in the task of systematizing the research carried out in a given field of knowledge and of addressing problems to be investigated in future researches” (Chueke & Amatucci, 2015, p. 2). Thus, through this work, we intend to indicate new methodological possibilities that are not yet fully explored in tourism studies.

In order to conduct a bibliometric study, the researcher must comply with the “Laws” that regulate this study model, such as: Lotka's Law, according to which one must raise the impact of an author's production for the area of knowledge in which the research is located; the Bradford Law, which recommends the evaluation of

the most relevant periodicals dealing with the research topic, and finally, the Zipf's Law, which points to the need to evaluate the recurrent themes related to the subject of the research (Chueke & Amatucci, 2015).

In 1926, the Lotka's Law (inverse-square relation) was created with the objective of mapping scientific productivity, analyzing the contribution of the authors to a specific field of knowledge, in a time cut-off. Between 1965 and 1971, theorist Price perfected Lotka's theory, giving rise to the proposition that, in one area of knowledge, one-third of the academic work is produced by less than a tenth of the most productive authors in the field of study. According to Rodrigues and Viera (2016), this data presents an average of 3.5 documents per author when applied, while 60% of the other researchers in the area produce only one document on the subject (Rodrigues & Viera, 2016).

Thus, based on Lotka's Law, we can infer that there are many authors publishing only one article on a field of knowledge, failing to exhaust the research subject, while 40% of researchers produce more than three works on a topic. It is also perceived, according to the relation of the inverse-square that, as the field of knowledge consolidates and the number of publications increase, the authors who produce many works become less frequent.

Bradford's Law was first enunciated in 1934 and states that many journals produce few articles relevant to a subject in a field of knowledge, while few journals produce many articles "supposedly of higher quality or relevance" (Rodrigues & Vieira, 2016, p. 170) to an area of knowledge. According to this Law, if "a large collection of periodicals is arranged in descending order of article productivity on a certain subject, a central cluster of titles can be identified that deal essentially with this subject" (Rodrigues & Vieira, 2016, p. 170), and based on this "central group", other peripheral groups of journals with lower productivity can be identified. It should be noted that each cluster or group should contain one third of all relevant articles (Rodrigues & Vieira, 2016).

Finally, Zipf's Law (1949), which allows the researcher to observe how frequently keywords occur in a single or a group of scientific texts, helps to observe trends that indicate the subjects of the documents. As referred by Rodrigues and Vieira (2016, p. 170), Zipf's Law states that, "if words occurring in a text were listed in the order of decreasing frequency, the rank of a word in that list multiplied by its frequency equals a constant".

Still according to Rodrigues and Vieira (2016), Zipf's Law can be expressed by the equation $r \times f = k$, where the variable "r" is the rank of the keyword, "f" is its frequency and "k" is the constant. The graphing of the equation results in the Zipf's curve, which can be divided into three distribution zones, namely:

[...] *Zone I - Trivial or basic information* defines the central subject of bibliometric analysis; *Zone II - Interesting information* is located between *Zones I and III* and shows alternatively the peripheral subjects and potentially innovative information - where the technology transferences related to the new subjects must be considered; and *Zone III - Noise*, whose characteristic is to hold concepts that are not yet emerging, and it is impossible to say if they will ever emerge or if they are just statistical noise (Rodrigues & Vieira, 2016, p. 171).

Thus, based on the Zipf curve and its three distribution zones, it is possible to understand the central themes of bibliometric analysis and peripheral subjects, identifying potential innovations in the field of study.

3.1 Methodology

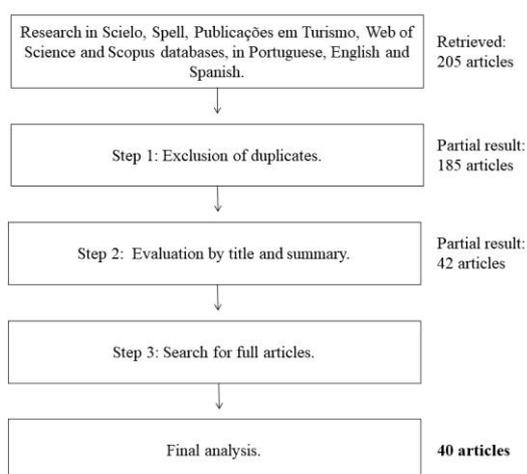
This research accessed five databases in search of journals that use image analysis methodologies in their empirical research. The selected databases were Scielo, Spell, Publicações em Turismo, Web of Science, and Scopus, due to their variety of filters and the indication of researchers in the field of tourism. However, in addition to these primary criteria, Scielo, Spell, and Publicações em Turismo were elected because they contain many articles in both Portuguese and Spanish languages, besides providing complete articles. Web of Science and Scopus, in turn, were used because they bring together prominent journals in the English language.

The keywords used considered the experience in previous research carried out by the authors of this work and primary searches in the databases chosen. Pre-tests were also performed, adopting terms related to the research topic to obtain as a result articles that answered the problem question and fulfilled the objective of

the study. Thus, at the end of these tests, the keywords “image analysis”, “photograph”, “tourism”, and “image” were defined, and it was possible to verify the most recurrent image analysis methodologies in the field of tourism. The terms were searched in Portuguese, English and Spanish². The search in the bases for the keywords was carried out with the help of the Boolean operator “and”³, in order to cross reference the terms, and filters that delimited the field of research to tourism, and a time period from 2012 to 2017 so that the most current production could be obtained. It should be emphasized that the relevance of journals was not one of the criteria filters, as this would be a limiting factor for the research.

For the journals’ filter, the Mendeley data management software was used. Thus, in step 1 of the data collection, 205 articles were retrieved but, excluding the duplicates, 185 remained. In step 2, after evaluation of titles and abstracts in order to verify if the documents based their methodology in the analysis of photographs, 42 articles were retrieved. Articles that used the term ‘image’ with the meaning of ‘imaginary’ were disregarded. Finally, in step 3, there were 40⁴ articles remaining, since not all the articles of the previous stage were found in full and available.

Figure 1 - Summary of the methodology adopted for the selection of the material analyzed.



Source: Adapted from Silveira, et. al. (2011).

Although the Laws of Lotka and Bradford indicate the importance of the evaluation of the Qualis level of the journal—in the case of Brazil—the impact factor of the international journals, and the productivity of the author, these were not criteria of selection and elimination of the articles, since we understand that the number of tourism surveys adopting such methodologies and that can be found in the databases surveyed is still not significant as is the case of traditional methodologies (Bauman, Lourenço & Lopes, 2017; Matteucci, 2013).

It should be noted that this article privileged the description of image analysis methodologies found in empirical studies and the analysis of the evolution of the use of these methodologies over the last five years, also indicating the main areas of tourism that use the reading of photographs as research method.

We have chosen to construct this article this way, since, as Chueke and Amatucci (2015) point out, “descriptive analyses are part of the body of an article that adopts bibliometrics as a method” (p. 4). In addition, the authors point out the importance of relating these analyses “to the evolution of the field, and to prescribe them to future researchers” (p. 4).

²The terms used in the research were, in Portuguese, “análise da imagem”, “fotografia”, “turismo” and “imagem”; in Spanish, “análisis de la imagen”, “fotografía”, “turismo” and “imagen”.

³Except in the Publicações em Turismo database, where the search for the keywords was performed with the help of commas to separate the terms.

⁴The list with references of the articles analyzed is available in Mendeley Data: <http://dx.doi.org/10.17632/6bkrjrp6mj.1>.

4 RESULTS AND DISCUSSION

Lotka's Law points out the need to map the authors who have greater production and, therefore, great value in a field of knowledge. However, in this research, this data was not relevant, since only two author repetitions were mapped. José Manoel Gonçalves Gândara appears in three articles: two of them together with Franciele Manosso, in 2013 and 2016, in researches that deal with the analysis of tourist photographs in social networks like Flickr and Instagram, and in a third work together with Cynthia Mello Ferrari (2015), an article about travel photographs in Curitiba (PR).

As discussed in the methodology section, the present study sought to analyze how image analysis methodologies are being used in tourism research. The search was conducted in Brazilian and international databases, and the results were diverse, retrieving journals from all over the world.

Following the Bradford's Law, the analyzed journals were arranged in a descending order according to the total number of articles produced, as shown in Table 1. The articles were added and divided by three so that three clusters were obtained, each containing about one third of the relevant journals in the field of image analysis methodologies.

According to Table 1, we can observe that in the central cluster consists of the most productive journals in decreasing order by number of published articles. Together, the first five journals that appear in Table 1 account for 40% of the production found in this research, while the secondary cluster has ten journals that account for 32.50% of the production on image analysis methodologies from 2012 to 2017. The third cluster, which presents 11 journals, has 27.50% of the articles produced in the analyzed period.

Thus, we observe the application of Bradford's theory, since there is a smaller group of journals—namely, *Annals of Tourism Research* (4); *Journal of Travel Research* (3); *Asia Pacific Journal of Tourism Research* (3); *Journal of Sustainable Tourism* (3) and *Tourism & Management* (3)—which accounts for 40% of the scientific output found over a five-year period on the subject of image analysis methodologies. In addition, as noted on Table 1, it can be verified that there was no continuous evolution of the use of these tourism research methodologies. However, there was an increase in 2015 and 2016.

Table 1 - Journals chosen for research

Journals	Year						Total
	2012	2013	2014	2015	2016	2017	
Central cluster							
Annals of Tourism Research	2	0	0	1	1	0	4
Journal of Travel Research	0	2	1	0	0	0	3
Asia Pacific Journal of Tourism Research	0	0	0	1	1	1	3
Journal of Sustainable Tourism	0	2	0	0	1	0	3
Tourism & Management	0	1	1	0	1	0	3
Cluster 2							
Estudios y Perspectivas en Turismo	1	0	0	0	1	0	2
Caderno Virtual de Turismo	0	0	0	1	1	0	2
Revista Hospitalidade	0	0	0	1	1	0	2
Iranian Studies	0	0	0	0	0	1	1
Applied Geography	0	0	0	1	0	0	1
International Journal of Tourism Research and Hospitality	0	0	0	1	0	0	1
Leisure Studies	0	0	0	1	0	0	1
Marketing & Tourism Review	0	0	0	0	1	0	1
Pampa	1	0	0	0	0	0	1
Geographical Research	1	0	0	0	0	0	1
Cluster 3							
International Journal of Heritage Studies	0	0	0	0	1	0	1
Tourism & Management Studies	0	0	0	0	1	0	1
The Sociological Review	1	0	0	0	0	0	1
Revista Turismo em Análise	0	0	0	0	0	1	1
International Journal of Culture, Tourism and Hospitality Research	0	0	0	1	0	0	1
Turismo e Sociedade	0	1	0	0	0	0	1
Current Issues in Tourism	0	0	0	1	0	0	1
Tourism Management Perspectives	0	0	1	0	0	0	1
The Australian Educational Researcher	0	1	0	0	0	0	1
Revista Brasileira de Pesquisa em Turismo	0	0	1	0	0	0	1
Others							
Seventh International Conference on Complex, Intelligent, and Software Intensive Systems	0	1	0	0	0	0	1
Total	6	8	4	9	10	3	40

Source: the authors (2018)

Note. Adapted from Rodrigues & Vieira (2016)

Table 2 shows the frequency of the most used keywords in the 40 articles examined. A total of 128 keywords were identified, but it should be noted that two articles did not use these index terms. The most recurrent topics in the analyzed works are photograph (17), image (12), tourism (12), tourist destination (8), visual methodologies (6), content analysis (5)—one of the methods used in image analysis—and tourists (3).

According to Zipf's Law, this set of words can be separated into three zones. Zone I refers to trivial or basic information, thus defining the central subjects of the bibliometric analysis. In this case, it is observed that the central subjects of this analysis are photograph, image, and tourism, i.e., the terms most cited as keywords of the articles examined.

Zone II - Interesting information, indicates the peripheral topics that may present possibilities of new researches and innovative subjects. In this case, as shown in Table 2, the peripheral information of this research are destination or tourist destinations, visual methodologies, content analysis, and tourists. It is noted

that, in this study, interesting information complements the trivial information and thus appears in the discussions of this article.

We also identified 65 keywords with only two or one occurrences. Thus, as Zipf's Law postulates, this study considered this group of words as "noise", without relevance to the study.

Table 2 - Keywords Density

Keywords	Frequency
Zone I - Trivial or basic information	
Photograph	17
Image	12
Tourism	12
Zone II - Interesting information	
Tourist Destination(s)	8
Visual Methodologies	6
Content Analysis	5
Tourist(s)	3

Source: the authors (2018)

Table 3 presents the types of image analysis methodologies used by the authors. We observed that, in the examined journals, the use of content analysis (28%) and semiotics (26%) is predominant. Other methodologies appeared more subtly, such as volunteer-employed photography (11%), visual anthropology/photo-ethnography (11%), photo-elicitation (9%), Zaltman metaphor elicitation technique (ZMET) (2%) and others (13%), including iconography. On these others, the authors did not use any traditional image analysis methodology, only interpreting the photographs in a qualitative way, in a similar way to what is done in Visual Anthropology. However, because there is no photo diary and, in some cases, the data was collected on the Internet, it cannot be classified as such.

Relevant data obtained in the analysis of journals is that few of them use only one methodology. Not all have clearly stated in the text why they merge several methods into one research, but it is believed that the combination of methods yields more secure and seemingly reliable results to the reader. According to Nika Balomenou and Brian Garrod (2014), there is uncertainty about the use of qualitative methods, due to subjectivity. However, it is important to note that in any field of scientific research, and not only in social research, data interpretation implies subjectivity, and the myth of the long-sought scientific neutrality does not hold. On the contrary, variables need not necessarily be isolated in order to achieve an outcome, since they are just an epistemological part of the problem. However, the authors suggest that the researcher be attentive and create a filter that separates the personal side from the professional.

The use of content analysis as a single methodology was verified in seven articles, six used semiotics, one made use of photo-ethnography, another used iconography, and only one used the new ZMET method. In the case of these articles, the combination of methods was disregarded. The remaining 24 articles used combined methods, which indicated a deeper analysis of the collected materials. In general, image analysis methods merged with in-depth interviews or documentary and bibliographic research.

In the case of multi-method searches, that is, the ones which combined quantitative and qualitative analysis, the result was even more useful. The combination of the content analysis methodology with the interviews was noted, as well as semiotic coupled to the chi-square tests.

Table 3 - Types of methods used

Types of methods	Year					
	2012	2013	2014	2015	2016	2017
Content analysis	2	3	2	1	3	2
Semiotics	1	0	0	5	4	2
Visual Anthropology/Photo-ethnography	1	1	0	1	2	0
VEP	0	3	1	1	0	0
Photo-elicitation	1	1	0	1	1	0
ZMET	0	1	0	0	0	0
Other image analysis methodologies	1	1	1	1	2	0
Total ⁵	6	10	4	10	12	4

Source: the authors (2018)

Table 4 refers to the fields of study in tourism in which image analysis methodologies were employed. The articles included tendencies in the following areas, among others: management and marketing of tourist destinations, heritage, hospitality, tourism anthropology.

The field “management and marketing of tourist destinations” concentrated the largest number of studies. In this category we grouped researches that sought to identify destination image and the impact on the tourist imaginary, in order to promote changes in the management or marketing of the sites. The “heritage” category consisted mostly of studies that aimed to understand the relationship between historical and cultural heritage and tourism.

In the category “hospitality”, research was related to the study of the guest-host encounter and sought to understand the tourist experience. In “tourism anthropology”, studies that contemplated communities or sociocultural aspects of the activity were carried out. “Other fields of tourism” refers to researches that had not positioned themselves exclusively in one area.

Table 4 - Subject fields in which visual methodologies were applied

Subject field	Year					
	2012	2013	2014	2015	2016	2017
Management and marketing of tourist destinations	3	3	3	2	4	2
Heritage	1	1	1	3	0	0
Hospitality	0	0	0	0	3	0
Tourism anthropology	1	0	0	0	1	1
Other fields of tourist	2	4	0	4	2	0
Total	6	8	4	9	10	3

Source: the authors (2018)

4.1 Discussion on research methodologies: methodological possibilities for research in Hospitality

Aquino (2017) draws on the theory of scholars such as Walter Benjamin (1985) and David Harvey (2011) and states that there is in modernity a condition of instability. This fosters the “development of photography as a means of describing, analyzing, cataloging, and fostering the circulation of small fragments of the world” (Aquino, 2017, p. 90). Thus, through the “fragments of the world” represented in a photograph, one could answer questions related to any area of knowledge.

According to Azevedo (2017, p. 1011), a photograph can “be a representation of the identity of a place, transmit emotions, simulate/emulate experiences, and motivate a visit to the destination”. In contemporary

⁵ The total is larger than the sum of articles because, in several surveys, more than one methodology was used.

times, especially after the advent of smartphones with integrated cameras, photography has been shown to be closely linked to tourism. In this context, the importance of the study of photography in the tourist activity is reinforced as noted by Aquino (2017).

In the field of tourism, “everything exists to end in a photo” (Aquino, 2017, p. 90), and therefore the act of photographing becomes symbolic, meaning “being there”. According to such an image representation, eternalized in the form of a photograph, the researcher can gather important information about his or her research object.

Therefore, based on the analyses carried out in the previous session, it is noted that photography as a method of study, from 2012 to 2017, has been insufficiently explored in relation to conventional methods. In general, image analysis in tourism is related to the field of management and marketing of destinations. According to Mello (2015, p. 490), the photograph is considered nowadays as a “strategic support for media, government and business enunciators to materialize tourist destinations”. However, methods that use photographs as source of tourism information can and should contribute to other fields of tourism research, such as the social sciences and hospitality.

Camargo (2008) points out that hospitality research has restricted itself to conventional research methodologies, such as satisfaction surveys, direct observation, tourism supply analysis and in-depth interviews. The author points out semiotics as one of the paths for innovation in the field, making it possible to analyze nuances of hospitality in tourism through subjective codes and symbols. However, as discussed earlier, directing hospitality survey to the method of semiotics is not enough. There are countless possibilities of analysis in the most diverse spaces by adopting other methodologies of visual analysis, both quantitative and qualitative.

Content analysis can be applied to the studies of hospitality and therefore, in a quantitative way, analyze photographs of institutions or tourists in order to verify which are the symbols of hospitality of the tourist destination. Besides, it also considers content from institutions’ websites and reviews on social networks pages to check how tourists were received by a tourist destination or an attraction. The possibility offered by content analysis seems simple, but due to the fluidity of tourist visits, the specific details present in unpretentious comments on travel websites, for example, are difficult to collect.

However, among all methodologies, photo-ethnography—combined with other methods and techniques of Anthropology—promises to offer a more consistent contribution to the field of hospitality. Photo-ethnography, along with the technique of volunteer-employed photography and photo diaries, can capture subjectivity and hospitality relationships in spaces. Through the analysis of images allied to the diary’s records it would be possible to obtain information about the tourists’ gaze and to counter the interviewer’s interpretation of the interviewee’s writings. In addition, adopting ethnographic methods, one can complement the study with in-depth interviews.

Of course, the choice for a method should occur according to the research problem, the object of study, the subjects involved, the field conditions, and the objectives to be achieved. However, these are some ways that point to possibilities for expanding the methodological universe of hospitality research.

Another possibility and tendency verified in the analysis of the articles was the use of social networks as one of the sources of photographic images collection to carry out researches that use image analysis as methodology. We noticed that a small portion of the authors opted to collect their photos from social networks. Mello (2015) believes that this is a phenomenon that tends to grow. For the author, the latest result of the union between tourism and photography are photographs published on social media such as Facebook, Instagram, and Flickr, or on recommendation websites such as TripAdvisor.

However, the use of personal photos collected in social networks also generates an ethical debate. As highlighted before, it is necessary to take the necessary measures to ensure the integrity of the respondent. As Diniz (2008) points out, the researcher must be careful when analyzing expressions, clothing, and appearance of the individuals portrayed in the pictures and, above all, ask for the permission of the researched by means of terms of free and informed consent for publication of the photo in an academic work, if necessary.

There are countless unexplored ways to study tourism elements adopting the photographic image, as demonstrated by the research results described above. However, according to Siqueira, Manosso and Massukado-Nakatani (2014), analyzing an image, regardless of the methodology chosen, is a complex process that offers the researcher different perspectives and promotes new and more complex questions, thus indicating the relevance and the power of using image analysis methodologies when studying photographs in tourism. This is one of the reasons for the creation of L'Image (Laboratory of Image Analysis Methodologies) for studies in Tourism and Culture, approved in Universal Announcement of CNPq and that is in full development. This article is part of the studies to deepen this field of knowledge.

5 CONCLUSION

Photography offers multiple possibilities for scientific research in tourism that transcend the mere use of these pictures as texts illustrations. However, in many cases, the researcher is unaware of the numerous visual analysis methodologies that can provide an adequate reading of this type of material. In this sense, this article sought to systematize the main methodologies used in empirical research in the last five years, in order to present new possibilities to researchers in tourism.

Visual methodologies are efficient to capture subjective elements of tourism activity and advantageous as far as they can be aligned with other qualitative and/or quantitative research methods. However, as noted, the researcher needs to be aware of the ethical care that must be taken in working with images, especially with photographs.

In the previous sections, we observed that researches in domestic tourism that use image analysis methodologies are still incipient, focusing, for the most part, in the field of management and marketing of destination, restricted to investigating the creation of new tourist imaginaries with a view to attracting tourists.

In contrast, international studies have shown to be promising in the use of techniques such as VEP and ZMET for photo collection, as well as in the efficient use of content analysis methodology to generate practical results, based on images in relationship sites such as Instagram and Flickr.

The use of content analysis and semiotics—which can be considered traditional in the field—was found in half of the articles analyzed. We noted that the significant use of photo-ethnography has been consolidated over the years. This also indicates new possibilities of using the methods of visual anthropology.

In 30% of the analyzed journals, the authors do not identify the methodology used, limiting themselves to freely interpreting the images—what hinders the replication of the method in other studies.

It is important to highlight that this research presented a temporal cut and is limited to a short production period (2012 to 2017). Also, we analyzed only journals, disregarding books, and annals of events, among other publications. We hope that, in the near future, it will be possible to enlarge this research, taking into account diverse productions and expanding the period of analysis, in order to map other uses of image analysis methodologies in tourism.

In view of the above, it is expected that this study will stimulate innovations in the field of research, especially in Brazil, pointing towards methodological paths, indicating possibilities of diversification of scientific research, and helping researchers to adopt such methods in their work, thus giving them academic importance.

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