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NATURE-BASED DESTINATION IMAGE: AN EMPIRICALLY VALIDATED MULTIDIMENSIONAL MEASUREMENT MODEL IN THE BRAZILIAN AMAZON DESTINATION.

IMAGEM DE DESTINO BASEADA NA NATUREZA: UM MODELO DE MEDIÇÃO MULTIDIMENSIONAL VALIDADO EMPIRICAMENTE NO DESTINO AMAZÔNIA BRASILEIRA.

IMÁGENES DE DESTINOS BASADAS EN LA NATURALEZA: UN MODELO DE MEDICIÓN MULTIDIMENSIONAL VALIDADO EMPÍRICAMENTE EN EL DESTINO AMAZÓNICO BRASILEÑO.

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Abstract: This paper aimed to empirically validate a multidimensional measurement model for the Nature-Based Tourism Destination Image - NBDI, including the cognitive, affective, and conative components, present in the construct of variables tested by Chaves and Anjos, (2022). The validation of the NBDI measurement model relied on a non-probability quota-based sample consisting of 592 international tourists who visited the Legal Amazon destination. The results pointed out that the NBDI can be measured by a three-dimensional construct of 3rd Order, where the image components presented a positive influence in the formation of the overall image, being the affective component of greater influence, followed by the cognitive and conative, presenting convergent and discriminant validity. The study contributes to the theoretical discussions about NBDI, offering a multidimensional scale with reliable psychometric property and validated with 57 variables, scarce subjects in the scientific literature, as well as, in the marketing strategies of public and private institutions.

Keywords: Destination Image; Nature-Based Destination; Image Measurement; Psychometric Models; Recommendation: Revisiting; WOM/eWOM.

Resumo: Este artigo teve como objetivo validar empiricamente um modelo de mensuração multidimensional da Imagem de Destino Baseado na Natureza - IDBN, incluindo os componentes cognitivo, afetivo e conativo, presentes no construto das variáveis testadas por Chaves e Anjos, (2022). A validação do modelo de mensuração do IDBN contou com uma amostra não probabilística baseada em cotas composta por 592 turistas internacionais que visitaram o destino Amazônia Legal. Os resultados apontaram que o IDBN pode ser medido por um construto tridimensional de 3ª Ordem, onde os componentes da imagem apresentaram influência positiva na formação da imagem global, sendo o componente afetivo de maior influência, seguido pelo cognitivo e conativo, apresentando validade convergente e discriminante. O estudo contribui para as discussões teóricas sobre a IDBN, oferecendo uma escala multidimensional com propriedade psicométrica confiável e validada com 57 variáveis, assuntos escassos na literatura científica, bem como, nas estratégias de marketing de instituições públicas e privadas.

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Palavras-chave: Imagem de Destino; Destino Baseado na Natureza; Medição de Imagem; Modelos Psicométricos; Recomendação: Revisitação; WOM/eWOM.

Resumen: Este artículo tuvo como objetivo validar empíricamente un modelo de medición multidimensional de la Imagen de Destino Basada en la Naturaleza - IDBN, incluyendo los componentes cognitivo, afectivo y conativo, presentes en el constructo de las variables testadas por Chaves y Anjos, (2022). La validación del modelo de medición del IDBN se basó en una muestra no probabilística basada en cuotas compuestas por 592 turistas internacionales que visitaron el destino Amazonía Legal. Los resultados mostraron que la IDBN puede ser medida mediante un constructo tridimensional de tercer orden, donde los componentes de la imagen tuvieron una influencia positiva en la formación de la imagen global, siendo el componente afectivo el de mayor influencia, seguido por el cognitivo y el conativo. componentes, con validez convergente y discriminante. El estudio contribuye a las discusiones teóricas sobre la IDBN, ofreciendo una escala multidimensional con propiedad psicométrica confiable y validada con 57 variables, temas escasos en la literatura científica, así como en las estrategias de marketing de instituciones públicas y privadas.

Palabras clave: Imagen de Destino; Destino Basado en la Naturaleza; Medición de Imagen; Modelos Psicométricos; Recomendación: Revitación; WOM/eWOM.

INTRODUCTION

Destination image plays an important role in decision making by influencing destination choice (Chi & Qu, 2008; Gartner, 1989; Yen & Croy, 2016). The better the image of a destination, the greater the influence on the tourism decision (Chon, 1990; Fakeye & Crompton, 1991). Moreover, the positive image built after the visit can influence new visits to the destination, as well as result in positive word of mouth (WOM) or recommendation to acquaintances and relatives, influencing new visitors to the destination (Potwarka & Banyai, 2016; Wang, 2017). Given this, building a favorable image has been one of the main efforts of researchers, being pointed out as the main element for competitiveness among destinations (Camprubí et al., 2009).

The formation of the image of a destination is usually complex because it involves the understanding from the point of view of several areas of knowledge, by the quantity of attributes present in the image of a destination and by the innumerable affective and/or rational impressions that vary according to the subjectivity of each individual, characterizing the relativistic formation process, factors that make both its formation and its measurement difficult (Baloglu & McCleary, 1999; Gallarza et al., 2002).

The decision of a tourist is closely related to the interest in the various attributes that a destination can offer, the more attractive are the attributes of a destination the more competitive and popular the destination will be (Santos Silva et al., 2016). Therefore, identifying the attributes that a destination can offer, understanding how they are perceived and felt by the tourist and their participation in the construction of a destination image, have always been situations pointed out by the literature as an important tool for tourism planning (Baloglu & McCleary, 1999; C. M. Echtner et al., 2003; C. Echtner & Ritchie, 1991; Gartner, 1989; Leiper, 1990).

Nature-Based Tourism - NBT, has represented a strong trend in the current tourism movement, being pointed out as relevant to the growth of tourism (Brumatti, 2014; Hall et al., 2009; Marzuki et al., 2014). The search for leisure activities in natural environments that allow direct contact with nature has been growing, increasing the tourist demand for nature-based destinations. Being considered one of the types of tourism that contributes more, in relation to other types of tourism in tourism development, granting substantial benefits to the economy (Hall & Boyd, 2005; Mehmetoglu, 2007; Newsome et al., 2002).

With an eye on this growth True Luxury Travel (2018), analyzed the countries that offer the best conditions for tourism related to wild nature for travelers seeking to experience natural beauty and get in touch with wild animals and plants, Brazil, alongside the United States and Venezuela, appear at the top of the ranking. According to EMBRATUR (2018), interest in nature tourism, sun and beach, as well as sustainable tourism and ecotourism, are on the rise, pointing to a strong market trend that will benefit Brazil, with a 27.3% growth for nature tourism, showing it to be one of the main travel motivations for Brazil. Moreover, Brazil was considered by the World Economic Forum, the number 1 in natural attractions in the competitiveness ranking, which demonstrates the need to enhance the development actions of Brazilian destinations (Word Economic Forum, 2019).

Another situation that brought tourists closer to natural environments are the incidents caused by the Corona Virus pandemic situation, which has greatly affected national and international tourism. According to

Medina, et al. (2021), the post-pandemic or post-vaccine scenario will tend to "popularize the term isolation tourism", in search of places that promote isolation and, above all, "hotels surrounded by nature" (p.48). Still according to the author, the need for isolation and the recognition of collective responsibility towards the environment, has aroused an interest in nature tourism, tending more and more to the search for outdoor activities, related to sustainable tourism, ecotourism and adventure tourism. Allied to this, and according to Forbes (2022) wellness tourism, which has a direct connection with natural environments, will have an annual growth rate of 21% from 2020 to 2025, according to a December report 2021 of Global Wellness.

This possibility of approaching nature, being considered an ideal place to establish tourist visits and the increase in demand for these environments, provides the opportunity for the development of a range of services and activities that have integrated with the NBT that, stimulated by economic growth and increased competition, encourage managers to be increasingly competitive in order to improve strategies that promote a positive image for the tourist, in order to attract old and new tourists and visitors to their destinations.

Therefore, this paper aims to empirically validate, through psychometric properties, a multidimensional measurement model for the Image of Nature-Based Tourism Destinations - NBDI. The validation of the proposed model was based on the construct of variables on the NBDI, tested by Chaves and Anjos (2022), which includes the three components, affective, cognitive and conative.

LITERATURE REVIEW

Nature-Based Tourism

The interest in Nature-Based Tourism (NBT) has been increasing every year, representing a very attractive niche market (Hall et al., 2009; Marzuki et al., 2014), its growth has been pointed out as relevant for tourism growth (Blanco, 2011) in some moments, pointed out as being larger than tourism in general (Hall & Boyd, 2005; Mehmetoglu, 2007; Newsome et al., 2002).

According to the literature, NBT can be broadly defined, where its main characteristic is mainly linked to tourism practices carried out in natural environments, (Hall et al., 2009; Lundmark & Müller, 2010; Newsome et al., 2002; Taczanowska et al., 2019), including activities related to bird watching, hiking, fishing, boating, skiing activities, among other outdoor activities (Weaver et al., 1999). It can also include observation of cultural manifestations that may be part of the place visited, or that according to Notzke (1999) the social structure, culture and community life is directly linked to the natural environment (J. Chen et al., 2014; Marzuki et al., 2014). It can also include activities linked to some segments such as ecotourism, adventure tourism, extractive tourism, wildlife tourism (J. Chen et al., 2014).

NBT, despite being associated with natural environments, does not require protected areas and neither carries in its definition issues related to environmental conservation, sustainability, environmental education, or even, a direct link with ecotourism that is aligned with environmentally friendly tourism. However the simple fact of being connected to these natural environments through the involvement of recreation and leisure activities refers to the subjectivity of appreciation and care for this environment (Lundmark & Müller, 2010; Machnik Aleksandra, 2013; Weaver et al., 1999).

Weaver, et al. (1999), points out that in NBT can occur both mass tourism or alternative, stating that, it will be the studies and circumstances found, within each destination, that will determine whether the NBT is an example of sustainable or unsustainable tourism, indicating the development model that best suits each situation.

According to Chaves and Anjos (2022) who conducted a survey in the EBSCO base, between the periods from 2000 to 2020, analyzing 78 articles, there is an effort in trying to list possible forms, types or activities related to NBT. However, none of the analyzed works proposed to gather in a broad and systematic way such possible forms, this had also already been pointed out by Weaver, et al. (1999), who verified a preliminary classification related to the parameters under natural environments and belonging to a resource structure in relation to the NBT in Australia, being the first to present a universal taxonomy about the NBT, with 6 catego-

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ries that subdivide 67 activities related to the NBT in Australia.

With the intention of validating an NBDI measurement model, the construct of variables tested by Chaves and Anjos (2022) was used. This construct initially had 99 variables, 77-cognitive, 13-affective and 9-conative, all built on the basis of 36 theorists on destination image with some kind of relationship with natural environments, and resulted in 57 variables, 4 -cognitive, 10-affective and 7-conative, after the construct has been tested.

Measuring the Image of Destination

The process of measuring the image goes through the understanding that the image of a destination is built in a relativistic way, i.e., the affective or rational impressions about a particular destination can be numerous, varying according to the subjectivity of each individual (Gallarza et al., 2002). Each subject understands the destination in various ways, identifying how they can satisfy their needs and desires, which are also varied. Leiper (1990), points out that the attraction to a destination is motivated by the possible satisfaction of needs and desires that a tourist has in relation to a destination, however, points out that a single need can result in several motivations, in which, a single desire can be the result of numerous needs.

Understanding why people travel and what are the main reasons that influence the choice of a destination becomes an important tool for tourism planning. The classical literature points out that there is a need to identify the resources that a destination can offer, considered destination attributes, such as natural attractions, food, facilities, accessibility, infrastructure, among others, and understand how such attributes are perceived and felt by the tourist and what is their participation in the construction of a destination image, being the attributes closely linked to the tourist decision (Baloglu & McCleary, 1999; C. Echtner & Ritchie, 1991; Fakeye & Crompton, 1991; Gartner, 1989; Leiper, 1990; Milman & Pizam, 1995; Santos Silva et al., 2016). Attribute performance has also been noted as an influencer on satisfaction, perceived value, quality, and revisit and recommendation behavioral intentions (Bigné et al., 2001; C. F. Chen & Tsai, 2007; Santos Silva et al., 2016).

The measurement of the destination image is a costly process for comprising a series of challenges, mainly by the multiplicity attributed to the image, being the focus of studies, leading the authors to consider in their constructs several attributes, components and dimensions capable of apprehending the range of evaluations perceived by tourists (Baloglu & Brinberg, 1997; Gallarza et al., 2002). This has led to many variations in relation to the scales used, resulting in a disagreement about the measurement of image, suggesting that there is still room for new proposals, more complete and efficient, that contribute to the advances in relation to universal models of image measurement (Anjos et al., 2017; Nghiêm-Phú, 2014; Pereira, 2018; Stylidis et al., 2017).

Gartner (1994), in his three-dimensional model referring to the basic dimensions of image, which comprise the cognitive, affective and conative components, points out that, although they can be analyzed in isolation, they are hierarchically interrelated, and this relationship results in the interest and attitude to acquire a particular travel destination.

Part of the trips, due to the absence of experience, are based on the perception of a particular destination than in the reality experienced, what one wants to find in a destination is pointed out as the most relevant in the choice Gartner (1994). Such perception is related to cognitive components because they are linked to the perception about the physical characteristics of the destination, or attributes, considered by the authors Kesic and Pavlic (2011) rational interpretations.

The literature has already confirmed that the cognitive component is formed through observable sub-dimensions, and should be analyzed in an isolated way, but grouping by factors will occur, being considered multidimensional, mainly by the heterogeneity of the attributes (Baloglu & McCleary, 1999; Keown et al., 1984; Pereira, 2018; Rodríguez Molina et al., 2013).

The affective component is related to emotions, representing the feelings a tourist has for a destination, or their evaluations about it (Baloglu & Brinberg, 1997; Hallmann et al., 2015; Stylos et al., 2017). Considered irrational interpretations, because they are related to the intangible aspects of the destination, and of great

relevance because, they measure the emotional responses of destinations (Kesic and Pavlic, 2011).

There is an agreement on the importance of these two components in the studies of the basic dimensions of image (Baloglu & McCleary, 1999), this is due to the fact that the isolated measurement of the cognitive component does not include the emotional issues of the tourist (S. K. Kim et al., 2016). Crompton (1979) highlights the importance of measuring the affective component in addition to the cognitive, in order to know how the individual feels in relation to the cognitive attributes of the image. Image should be understood as a second-order construct, formed by the affective (first order) and cognitive (second-order) component (Apostolopoulou & Papadimitriou, 2015; Baloglu & McCleary, 1999; Mikulić & Ryan, 2018; Pereira, 2018).

Mikulic and Rayan's (2018) studies, among 66 articles analyzed, to verify the studies that used reflective constructs to measure destination image, only 16 articles presented first- and second-order measurement scales, which demonstrates incipiency among convergent validation in 3rd-order models.

The third basic component of the image, evidenced in the three-dimensional model of Gartner (1994) is the conative, in which, the hierarchical interrelation between the three components (cognitive, affective and conative), form the overall image. This component is compared or is equivalent to behavior in that it is considered an action component, representing the likelihood of visiting a destination (Pike & Ryan, 2004). Being an interactive system that includes, thought, opinions, feelings and purchase intentions of the destination (Tasci et al., 2007), representing the result of cognitive and affective information (King et al., 2015).

For a long time, the conative component has been neglected, as scholars considered there to be a direct relationship with the behavioral intention of revisiting, WOM, recommending, and loyalty. However, recently the conative component has been observed to be distinct from behavioral intentions, being a predecessor to the behavioral attitudes of revisiting or recommending (Pereira, 2018; Stylos et al., 2016, 2017).

Perugini and Bagozzi (2004), argues that desire is considered a conative component that, along with the cognitive and affective component, form the attitude, or the motivation for destination purchase. Furthermore, the studies by Stylos, et al. (2016; 2017) and Pereira (2018) concluded that the interrelationship between the cognitive, affective and conative components, proposed by Gartner (1994), has not been widely tested and discussed, leaving room for inaccuracies, lacking empirical evidence supporting the influences of the cognitive and affective components on the conative component (Agapito et al., 2013). In the end, measurement models have validated the conative component as an individual component that is extremely important in overall image formation, as distinguished from tourist attitudinal behavior (Anjos et al., 2017; Pereira, 2018; Stylos et al., 2016, 2017).

Stylos, et al. (2016 and 2017), Anjos, et al. (2017) and Pereira (2018), it is recognized the importance of conative image, inserting it no longer as a component similar or equivalent to behavior, but as a differentiated component, in which, highlights singularities of tourist destinations, aiming to measure the image of nature-based tourist destinations, through the construction and validation of a multidimensional structural scale, of the cognitive, affective and conative components. That said, the following hypotheses are proposed:

H1 - The overall nature-based destination image can be measured by a three-dimensional construct, consisting of the cognitive, affective, and conative components.

H1 a - Cognitive image positively influences the overall image of the nature-based destination.

H1 b - Affective image positively influences the overall image of the nature-based destination.

H1 c - Conative image positively influences the overall image of the nature-based destination.

The validation of the overall image of coastal destinations as a higher-order (third-order) construct, formed by the second-order) and first-order) components, measured by a set of directly observed variables, was also presented by Pereira (2018). In view of this, this study aims to recognize the overall image of a nature-based tourist destination as a 3rd order construct, for this purpose, the following hypothesis was constructed:

H2 - The overall image of a nature-based tourist destination as a 3rd order construct.

Also, according to the studies of Anjos, et al. (2017) and Pereira (2018), who conducted an extensive survey

on the main scales for measuring destination image, it was realized that although research has presented considerable advances in relation to structures and theoretical model of image measurement, "there are still few measurement scales with reliable and valid psychometric properties" [. ...], in which, "a large part of these studies do not present the process of construction of the scales with transparency, providing statistical proof of construct validity" (Pereira, 2018, p. 46). Given this, this study also aims to verify whether the proposed model presents discriminant convergence indexes in relation to the constructs or factors and reliability, the following hypothesis was built:

H3 - The components of the NBDI have convergent and discriminant validity.

METHODOLOGY

The object of study to validate the multidimensional model to measure the NBDI was the destination of the Brazilian Amazon, a Brazilian territory, which has 60% of the forest present in the International Amazon.

The target population was international tourists over 18 years old who had already visited the Amazon. A balance was sought, in the non-probability sample by quotas, that represented the inflows of foreigners in the state of Amazonas in the years 2017, 2018 and 2019 (period without interference of the COVID-19 pandemic), a state with the highest concentration of international tourist flow in the Brazilian Amazon (Tourism Tourist Yearbook, 2020). In addition, Amazonas is the only state highlighted, among the other states of the Brazilian Amazon in which the motivation is centered on ecotourism and nature tourism (BIMT, 2018). The characteristic proportion of the international flow, excluding the International Amazon countries, was: South America - 4.95%; Central America - 3.44%; North America - 64.62%; Asia - 6.84%; Europe - 19.10%.

The sample size was defined by Soper's calculator (2022), based on Westland (2010), using the number of observed and latent variables, the expected effect size and statistical power. With the proposition of the model presented by Chaves and Anjos (2022, "in press") to be validated, it has 58 items in 8 dimensions, the minimum calculated to achieve the structure of the model is 466 respondents in the sample.

The construct proposed by Chaves and Anjos (2022) with 58 variables (cognitive-41, affective-10, conative-7) was used with international tourists. The study relied on the application in September 2021 of the online questionnaire in English, hosted on Survey Monkey and conveyed on Amazon's Mechanical Turk (MTurk) platform, considered by researchers with an interest in behavior a source of high-performance and high-quality convenience population sampling (Chandler & Shapiro, 2016).

In the end, 592 valid questionnaires were obtained, being, 64.49% from North America, 24.49% from Europe, 9.80% and 1.18 % distributed between Oceania and Africa, reaching a frequency of respondents very similar to the idealized international tourist flow. The entire operation after data collection is carried out via the Mplus software in its 7th version, having the Excel program as an aid for the construction of graphs and tables.

The affective and conative component dimensions of the NBDI, as well as the sub-dimensions of the cognitive component, were tested for Construct Validity (Hair et al., 2009). The normality of the data was verified using the Shapiro-Wilk test, which advocates $p > 0.05$ (Field, 2011). The results indicated values of $p < 0.05$, thus indicating a non-normal distribution, it was necessary to use robust estimation methods. Therefore, AFC analyses conducted using the Weighted Least Squares Mean and Variance Adjusted (WLSMV) estimation method (DiStefano & Morgan, 2014; Li, 2016) was used, which involves structural equation modeling, where certain adjustments should be expected, such as: Fit indices with chi-square (x^2) value not significant the x^2/gl ratio (gl= degree of freedom) being preferably <3 or acceptable <5, RMSEA with values <0.080 or more indicated <0.060, Comparative Fit Index (CFI) and Turker-Lewis Index (TLI), both seeking higher values >0.900, or preferably >0.950; Convergent Validity tested with the values of the variables having standardized loadings >0.500 in relation to the factor they were indicated, statistical significance and the ratio of the loading by the standard error >3.6; Composite Reliability (CR) values >0.700, ideal Average Variance Extracted (AVE) values >0.500; Discriminant Validity that compares whether the AVE of two factors is greater than the squared value of the correlation between them (Brown, 2015; Fornell & Larcker, 1981; Hair et al. , 2009; Muthén & Muthén, 2010).

RESULTS AND DISCUSSIONS

The International Flow in the Amazon and the Tourist Profile

Within the valid sample composed of 592 international tourists, 78.71% passed through the state of Amazonas, the other states follow much smaller flows of visitation, between 15.20%, referring to the state of Pará and 6.25% in the state of Tocantins, setting Amazonas as the state that best represents the Brazilian Amazon when it comes to nature-based tourism.

Among the sociodemographic characteristics raised from the tourists, we highlight: the male gender with 69.26%; generation Y, with 71.96% (Souza & Alcará, 2021); the level of education with higher education referring to 43.41% and Masters to 45.27%; the marital status related to tourists Married or in a Stable Union having 77.03%; the family income ranges, indicate that 71.79% receiving between 5 thousand to 20 thousand.

Evaluation of the Affective, Conative, and Cognitive Dimensions

The affective component was tested by keeping the 10 items that fit within the parameters suggested by the literature, achieving an RMSEA value of 0.080 and value of 4.76 for the ratio between x^2 and gl (166.606 / 35). However, its x^2 value gave significant ($p < 0.000$), in which p values greater than 0.05 are expected. In this case, because there were good fits in the other indices, one should not absolutely consider this result as a problem, since x^2 is sensitive to sample size and in more complex models (Anderson & Gerbing, 1988). In the case of the incremental fit indices the values were excellent, resulting in 0.991 and 0.989 respectively for CFI and TLI. The detailed results of the CFA on the affective component can be seen in Table 01.

Table 01 - Confirmatory Factor Analysis of the Affective Component.

AFFECTIVE COMPONENT						
	Variable	**Standardized Load**	**S.E.**	**Load / S.E.**	**CR**	**AVE**
Affe01	Outstanding / Beautiful	0,881*	0,011	80,09	0,959	0,699
Affe02	Adventurous / Challenging	0,858*	0,012	71,50		
Affe05	Surprising	0,855*	0,012	71,25		
Affe09	Relaxing	0,848*	0,013	65,23		
Affe08	Charming	0,842*	0,013	64,77		
Affe06	Fascinating	0,838*	0,013	64,46		
Affe07	Inspiring	0,830*	0,015	55,33		
Affe03	Exciting	0,825*	0,014	58,93		
Affe10	Spiritual (feeling of peace/fulfillment)	0,820*	0,014	58,57		
Affe04	Mysterious	0,758*	0,017	44,59		

Note: *p<0.000; S.E. = Standard Error; CR = Composite Reliability; AVE = Average Variance Extracted.

With these results it is possible to confirm the convergent validity of the affective component, as it has all significant standardized loadings ($p < 0.05$) and above 0.500 in the same way that the load ratio and standard error were greater than 3.6. The AVE solution with 0.699 is a good value, which explain 69.9% of the variance of the affective component. The convergent validation is further complemented by the CR value 0.959, indicating an excellent result >0.700. Hair et al. (2009) reinforces that high reliability indicates the existence of internal consistency, in which all observable variables represent the same latent construct.

Such findings are in line with the theory, which indicate that the affective component is built on a single factor, being pointed out by the literature as unidimensional (Stylos, et al., 2016; Carballo and León, 2018;

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Pereira, 2018). The loads presented corroborate the findings of quantitative studies that analyzed destinations that included natural elements, in good part, the indexes surpass the indexes presented in the theory (Hernández-Lobato, Et Al., 2006; Matovelle and Pillajo, 2017; Anjos, et al., 2017; Carballo and León, 2018; Pereira, 2018).

In the evaluation and validation process of the conative component, it was necessary to make some adjustments. When the CFA was conducted through 7 variables, it obtained a high x^2 value that caused a x^2/gl ratio (96.649 / 14) above the reasonable limit of 5. The result of the RMSEA index was 0.100, above the reasonable value of 0.08, indicating problems about the residuals generated by the model (Brown, 2015). The estimations of the analyses showed high and significant standardized factorial loadings, showing high correlation in the errors between items Cona02 and Cona06, suggesting the elimination of one of them (Hair et al., 2009; Muthén & Muthén, 2010). The elimination of item Cona02 (standardized load = 0.779 / Standard Error = 0.017) improved the model fits. As well as the content of the variable Cona06 and Cona02 express similarity, which confirmed that absence of Cona2 will not represent great harm to the model, now more adjusted.

Performing the CFA, now with 6 variables, the adjustment results showed good values, with a ratio of x^2/gl (37.707 / 9) of 4.19 and an RMSEA index with a value of 0.073. The CFI and TLI hold with excellent values, indicating 0.996 and 0.993 respectively, demonstrating a good overall fit of the conative component of the image. The details of CFA, in Table 02, make it possible to attest Convergent Validity, all standardized loadings are significant and are above 0.500; it presents the ratio of the loading with standard error with values greater than 3.6; obtaining CR value of 0.927 > 0.700 and AVE of 0.679 > 0.500, explaining 67.9% of the content of the latent construct (Brown, 2015; Hair et al., 2009; Muthén & Muthén, 2010).

Table 02 - Confirmatory Factor Analysis of the Conative Component.

CONATIVE COMPONENT						
	Variable	**Standardized Load**	**S.E.**	**Load / S.E.**	**CR**	**AVE**
Cona01	The Amazon has always seemed to me to be a suitable vacation option	0,860*	0,012	71,67	0,927	0,679
Cona04	I have always considered that the Amazon could contribute to my environmental and cultural knowledge	0,838*	0,013	64,46		
Cona05	The Amazon could contribute to my development as a person	0,835*	0,014	59,64		
Cona06	The Amazon represents the best reward and the best gift I could offer myself	0,824*	0,013	63,38		
Cona03	I always imagined that the Amazon could change my relationship with the environment	0,816*	0,015	54,40		
Cona08	The cost of the trip did not interfere with my desire to get to know the Amazon	0,768*	0,017	45,18		

Note: *p<0.000; S.E. = Standard Error; CR = Composite Reliability; AVE = Average Variance Extracted.

The results of the conative component confirmed six variables and like Stylos, et al. (2016 and 2017), Anjos. Et al. (2017) and Pereira (2018) the conative component was assumed to be unidimensional.

It is worth noting that half of the confirmed variables are related to the proximity to the environment, the improvement of environmental knowledge and the contribution that the experience of a trip to the Amazon can bring in the personal development of the individual, showing that there is a strong relationship with issues related to the search for a more harmonious relationship with the environment. Therefore, the environmental preservation of the Amazon is extremely important for the development of nature-based tourism.

When performing the CFA of the cognitive component with the 6 factors in Mplus (Chaves and Anjos, 2022), an error warning on the covariance matrix of the latent variables was presented, indicating negative variance, where the correlation was greater than or equal to 1 or even a linear dependence between more than

two of the latent variables, presenting an indication of factor 06 analysis. With the elimination of factor 06, the continuity of the CFA operationalization was possible, in the same way the adjustment values for RMSEA with 0.085 and the x²/gl ratio (3296.01 / 619) with 5.32 did not reach the expected parameters.

Using the strategy of checking the modification indices (MI), one can notice high cross-loading values regarding the variables Cog07 (MI > 350), Cog20 (MI > 70) and Cog21 (MI > 150), suggesting their elimination and keeping the other indices below 50 (Brown, 2015; Muthén & Muthén, 2010). The variable Cog22 'Beautiful caves and caverns', also needed to be eliminated, presenting itself displaced from the current organization of the constructs, grouping itself to the cultural elements factor. Thus, the research interpreted it as confusing and atypical values, opting for its elimination.

In the end, the CFA of the cognitive component reached results with good adjustments being structured with 5 factors and 33 variables, having the x²/gl ratio (2143.226 / 485) with a value of 4.42 and the RMSEA with 0.076, all below the expected parameter. The CFI and TLI indices showed good fits with values of 0.965 and 0.962 respectively, thus reflects how well the specified model fits relative to some alternative reference model (Hair et al., 2009). The significant standardized loadings are above 0.500; the ratio of the loadings to the standard error of each variable are above the indicated value of 3.6; the CR obtained values >0.897 >0.700 across the 5 factors; the AVE resulted in values >0.600 (Raykov, 1997; Valentini & Damasio, 2016). The details described in Table 03, supporting the indicated parameters to attest the convergent validity of the sub dimensions of the cognitive component.

Table 03 - Confirmatory Factor Analysis of the Cognitive Component.

COGNITIVE COMPONENT						
Item	**Factor**	**Standardized Load**	**S.E.**	**Load / S.E.**	**CR**	**AVE**
Factor 01 - Infrastructure						
Cog52	Safe food service	0,874*	0,012	72,83	0,951	0,708
Cog49	Great online information for purchasing tourist services	0,863*	0,012	71,92		
Cog48	Great tourist information and signage system	0,850*	0,012	70,83		
Cog45	Great housing units (hotels, resorts)	0,843*	0,013	64,85		
Cog44	Complies with sanitary and health protocols	0,838*	0,013	64,46		
Cog42	Clean infrastructure	0,832*	0,012	69,33		
Cog43	Safe and reliable infrastructure	0,828*	0,014	59,14		
Cog41	Great infrastructure	0,800*	0,015	53,33		
Factor 02 - Cultural Environment						
Cog39	Beautiful local handicrafts	0,875*	0,010	87,50	0,939	0,718
Cog35	Beautiful cultural diversity	0,861*	0,012	71,75		
Cog40	Unique local craftsmanship	0,851*	0,012	70,92		
Cog36	Beautiful cultural attractions	0,846*	0,012	70,50		
Cog37	Unique cultural history	0,833*	0,013	64,08		
Cog38	Wonderful local cuisine	0,817*	0,013	62,85		
Factor 03 - Tourist Activities						
Cog33	Great hiking activities	0,862*	0,011	78,36	0,949	0,701
Cog34	Great interaction activities with the local culture	0,855*	0,011	77,73		
Cog28	Great adventure activities	0,839*	0,012	69,92		
Cog32	Great boat tour activities	0,837*	0,012	69,75		
Cog29	Great wildlife and exotic animal watching activities	0,834*	0,013	64,15		
Cog30	Great bird watching activities	0,830*	0,012	69,17		
Cog26	Great outdoor activities	0,825*	0,016	51,56		
Cog31	Great regional fish fishing activities	0,816*	0,013	62,77		
Factor 04 - Beauty of the Natural Environment						

Cog24	Beautiful Sunrise	0,860*	0,012	71,67	0,940	0,692
Cog25	Beautiful sunset	0,851*	0,012	70,92		
Cog15	Nice variety of birds	0,843*	0,013	64,85		
Cog16	Nice variety of fish	0,842*	0,012	70,17		
Cog14	Beautiful variety of wild animals	0,817*	0,014	58,36		
Cog13	Beautiful unique fauna	0,812*	0,016	50,75		
Cog03	Beautiful natural attractions	0,795*	0,016	49,69		
Factor 05 - Education and Protection						
Cog17	Good educational and fauna protection initiatives	0,862*	0,013	66,31	0,897	0,686
Cog12	Good Educational and Nature Protection Initiatives	0,834*	0,013	64,15		
Cog02	Good educational and nature protection initiatives	0,828*	0,013	63,69		
Cog01	Beautiful protected areas	0,787*	0,018	43,72		

Note: *p<0.000; S.E. = Standard Error; CR = Composite Reliability; AVE = Average Variance Extracted.

The confirmation of the model, referring to the cognitive components, meet the theory that points out that the cognitive component is analyzed under the aspect of sub-dimensions, resulting here in 5 factors, being pointed out as a construct of second order in the validity of measurement models (Apostolopoulou & Papadimitriou, 2015; Baloglu & McCleary, 1999; Mikulić & Ryan, 2018; Pereira, 2018; Rodríguez Molina et al., 2013).

It is also perceived, that issues related to environmental conservation, as well as highlighted in the conative component, stand out again in the cognitive component, evidencing once again the importance of educational and conservation actions of nature-based tourism in the Amazon destination.

With this part of the results finalized it can be stated that hypothesis H1, was supported, pointing out that the overall image of nature-based destinations, in this case the Amazon, can be measured by a three-dimensional construct, formed by the cognitive, affective and conative components.

First Order Convergent Discriminant Analysis

With the components of the NBDI, the analysis for Discriminant Validity of the measurement model was performed in 1st order. Its results make it possible to state that the dimensions discriminate against each other, and thus provide evidence that the construct measure is unique and measures phenomena that other measures cannot (Hair et al., 2009).

The criteria provided by the work of Fornell and Larcker (1981) served as the basis for attesting to discriminant validity. In this process, the AVE of each construct is compared with the square of the correlation load between these two constructs, which must be higher than the correlations of the AVE of the other factors, as shown in table 04.

Table 04 - Analysis of the discriminant validity of the 1st order measurement model

FACTOR	Infra.	A. Cult.	At. Tur.	Bel.	Ed. Pro.	Cog.	Afet.	Con.
Infrastructure	**0,841**	-	-	-	-	-	-	-
Cultural Environment	0,857	**0,833**	-	-	-	-	-	-
Tourist Activities	0,853	0,979	**0,838**	-	-	-	-	-
Beautiful Natural Environment	0,820	0,942	0,937	**0,838**	-	-	-	-
Education and Protection	0,814	0,934	0,930	0,894	**0,832**	-	-	-
Cognitive	0,864	0,992	0,987	0,949	0,942	**0,945**	-	-
Affective	0,817	0,938	0,934	0,898	0,891	0,946	**0,836**	-
Conative	0,816	0,937	0,933	0,897	0,890	0,945	0,927	**0,824**

Note: diagonal value represents the square root of the AVE of each factor; remainder of the matrix indicates the inter-factor correlation by the WLSMV method in Mplus

Not all correlations between factors are less than the square root of the AVE of their respective factors. However, discriminant validity between the factors of the cognitive component is considered to exist when the latent variables with reflective indicators load higher on their corresponding construct than on the others (Assaf et al., 2011). In Table 04, it can be noted that all the sub dimensions of the cognitive component have higher loadings on their own training construct, in this way we claim discriminant validity among them.

In the interpretation about the affective and conative component, there were strong correlations between the factors, not fitting the criteria guidelines of Fornell and Larcker (1981). However, according to the theory of Rönkkö and Cho (2020), relationships with high estimates can occur when constructs are theoretically and empirically already validated as discriminant, without compromising their discriminant characteristic, arguing that in cases where, the constructs are well defined by the literature, high correlations should be tolerated. Therefore, the literature on destination image formation recognizes that both the affective and conative components are analogous dimensions, with their own characteristics. These two being tested and validated in the studies of Stylos, et al. (2016 and 2017) and Anjos, et al. (2017), as unidimensional components, which are part of the internal arrangement of image formation, pointed out by Pereira (2018), as first-order operationalized components.

We can thus assume based on theoretical and empirical results that the conative, affective and cognitive sub-dimensions have discriminant validity, however, it would indicate the exploration of these dimensions through other destinations based on nature (Assaf et al., 2011; Rönkkö & Cho, 2020).

The 1st order measurement model obtained in the end an optimal result with: the x^2/gl ratio (3909.377 / 1154) with a value of 3.39, below the indicated value of 3.6; an RMSEA value very close to ideal with 0.064; measures in CFI and TLI with respective values of 0.960 and 0.958; CR values between 0.897 to 0.959; and AVE >0.500, being in the range between measures of 0.679 to 0.708 (Brown, 2015; Fornell & Larcker, 1981; Hair et al. , 2009; Muthén & Muthén, 2010; Raykov, 1997; Valentini & Damásio, 2016).

Validation of the 2nd and 3rd Order Measurement Model

To verify the hypothesis H2, it was necessary to assess the image components through structural equation modeling, using a confirmatory factor approach (Hair et al., 2009). And because this is a database without normality in the distribution, the choice of estimator should be directed to a robust method. Using the WLS-MV estimation method remains the correct choice, considering that the data is configured as categorical (DiStefano & Morgan, 2014; Li, 2016).

The evaluation indices of the higher-order model are within the parameters indicated by the literature, resulting in: x^2 / gl ratio value of 3.76, being below the indicated of 3 and acceptable below 5; RMSEA index with 0.068, showing below the indicated of 0.08; and the incremental fit indices CFI and TLI respectively with 0.955 and 0.953, considered good values for being above 0.950 (Brown, 2015; Hair et al., 2009; Muthén & Muthén, 2010).

To strengthen the construct validity indicating its convergence in measuring image content, the composite reliability (CR) and average variance extracted (AVE) were calculated and detailed in Table 05. The indicated is CR values >0.700 and >0.500 for AVE (Raykov, 1997; Valentini & Damasio, 2016). The perception of data convergence is also complemented by the analysis of their standardized loadings, which should present values >0.500, which occurs in all factor measures in the 2nd and 3rd order measurement model (Hair et al., 2009).

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Table 05- Confirmatory Factor Analysis of the 2nd and 3rd order measurement model.

COGNITIVE COMPONENT - 2nd Order Measurement Model					
Factor	**Standardized Load**	**S.E.**	**Load / S.E.**	**CR**	**AVE**
Infrastructure	0,859*	0,022	39,05	0,976	0,892
Cultural Environment	0,979*	0,008	122,38		
Tourist Activities	0,986*	0,006	164,33		
Beautiful Natural Environment	0,958*	0,011	87,09		
Education and Protection	0,935*	0,014	66,79		
GENERAL IMAGE - 3rd Order Measurement Model					
Factor	**Standardized Load**	**S.E.**	**Load / S.E.**	**CR**	**AVE**
Cognitive	0,969*	0,011	88,09	0,977	0,935
Affective	0,976*	0,012	81,33		
Conative	0,955*	0,012	79,58		

Note: *p<0.000; S.E. = Standard Error; CR = Composite Reliability; AVE = Average Variance Extracted.

With CR values of 0.977 and 0.935 and AVE >0.600, it demonstrates the internal consistency and convergent validity of the measurement scale in third or higher order. The finalization of the validation of the measurement structure as a 3rd order model is done by checking its discriminant validity, considering that convergence has already been estimated and supported.

Regarding the discriminant analysis, we initially followed the standard guideline of the Fornell and Larcker (1981) criterion, which states that the square root of the AVE is higher than the correlations between the other components. The values achieved for model discriminant validity are shown in Table 6.

Table 6 - Analysis of the discriminant validity of the 3rd order measurement model.

CONSTRUCT	Cognitive	Affective	Conative	Overall image
Cognitive	**0,945**	-	-	-
Affective	0,945	**0,838**	-	-
Conative	0,926	0,933	**0,818**	-
Overall image	0,969	0,976	0,955	**0,967**

Note: diagonal value represents the square root of the AVE of each factor; the remainder of the matrix indicates the correlation between factor by the WLSMV method in Mplus

The cognitive component demonstrates discriminant validity when it is observed that its square root of AVE is higher than its correlation estimates with the other two components, also having its relationship more intention in the formation of the General Image (Assaf et al., 2011; Fornell & Larcker, 1981; Hair et al., 2009).

As occurred in the previous analysis of the 1st order measurement, the relationships between the affective and conative components would not demonstrate discriminant validity by the Fornell and Larcker (1981) criterion; however, if we base the analyses according to Rönkkö and Cho (2020), taking into account that the components are well defined and validated by the literature, the strong correlations can be tolerated and claim discriminant validity to the model. Thus, it is confirmed that the model presents validation of the 3rd order measurement structure.

However, it is worth noting that, the cognitive component, is also treated in the literature as independent, differentiating itself from the others, both in its conceptualization, related to tourist perception in relation to the attributes or physical characteristics of the destination, being considered a second-order multidimensional component (Baloglu & McCleary, 1999; Gartner, 1994; Hallmann et al., 2015; Kesić et al., 2011; Peixeira, 2011; Pereira, 2018; Stylos et al., 2016, 2017).

Using the assessments presented in Table 05 to interpret the estimated loadings and reliability, thus validating the convergence of the NBDI component constructs (Hair et al, 2009; Raykov, 1997; Valentini & Damásio, 2016); complemented with Table 06 having calculations followed by the Fornell and Larcker (1981) criteria

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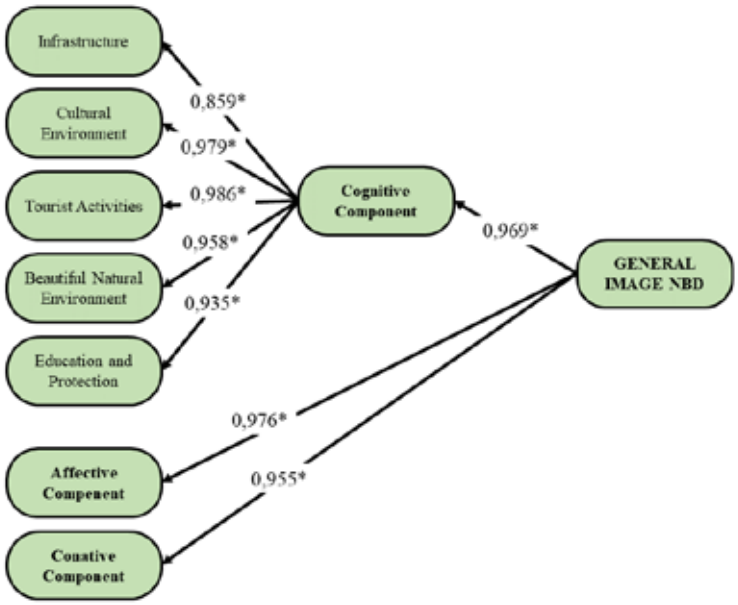
and the analysis based on Assaf et al. (2011) and Rönkkö and Cho (2020), hypothesis H3 'The image components have convergent and discriminant validity' can be supported in the NBDI model tested with international tourists in the Brazilian Amazon Region.

Furthermore, a cautious interpretation of the discriminant characteristic of these components is indicated, considering that their high relationship estimates can be linked to the quality of responses and sample. It is suggested as future research a look at the proposition of this model in a different nature-based tourist destination, or yet, a sampling with an even larger or distinct population.

Focusing on the observation of the NBDI dimensions and their estimation in the relationships for measuring image as a higher order construct, presented in Table 06, the affective component has the highest standardized load with 0.976 and significant p value. Decreasing in the estimation of these standardized loadings are the cognitive components (0.969), in which all sub dimensions show relevance, and the conative (0.955), with both cases demonstrating significant p-values, being below the value of 0.05 (Brown, 2015). Meaning that the affective, cognitive and conative components, present direct and positive correlations in the formation of the overall image of the destination based on nature, supporting the set of hypotheses, H1a, H1b and H1c, in which, the components present high values of correlation and influence in the formation of the image, being the affective component of greater influence followed by the cognitive and conative components, it is worth noting that all relationships are close in the question of intensity with high value, assuming great importance and balance between them.

Finally, at the end of this stage of analysis with confirmatory approach and corroborating with the preposition of the model validated in the studies of Pereira (2018), it is also possible to support as true the hypothesis H2 'The global image of a tourist destination based on nature can be operationalized as a 3rd order construct', thus continuing in the advancement of scientific knowledge of image formation and tourist destinations that are dedicated to validate 3rd order scales.

Figure 1: Structural model of the IDBN.



CONCLUSIONS, IMPLICATIONS, AND FUTURE DIRECTIONS

Conclusions

The measurement model of NBDI was tested and validated, confirming the unidimensionality of the affective and conative components, and 5 sub-dimensions of the cognitive component with very significant loadings (infrastructure, cultural environment, tourism activities, beauty of the natural environment, protection and education), only factor 6 did not obtain strength to remain in the model (regional tree species, diversity of medicinal plants, diversity of non-conventional food plants - PANCs). The results found in relation to the factors corroborated the literature in the area that indicates that the affective and conative components are

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unidimensional and that the cognitive component presents sub-dimensions.

The set of quantitative hypotheses concerning H1(H1a, H1b and H1c), was supported pointing out that the overall image of nature-based destinations can be measured by a three-dimensional construct, formed by the cognitive, affective and conative components, which present high correlation values and influence in the formation of the image, being the affective component of greater influence followed by the cognitive and conative components. Hypothesis H2, was also supported, which indicates that the nature-based destination image model can be operationalized as a 3rd order construct.

Regarding the sets of hypotheses H3 can be supported indicating there is discriminant and convergent validity among the image components. Such confirmation was possible even though there were high correlations between the components, based on Assaf et al. (2011) and Rönkkö and Cho (2020) positioning.

Theoretical Implications

As a theoretical contribution, the study further advances the discussions on destination image by bringing as contributions, new discussions related to Nature-Based Destination Image, little discussed in the literature, helping future researchers with a significant theoretical framework. In addition, the research presents its main contribution, the validation of a multidimensional and structural model of IDBN, not yet presented in the literature.

Practical Implications

This study sought to provide information to support the marketing strategies of both public and private institutions. The results presented variables related to the affective component that express the formation of the feelings of tourists who visited the Amazon, listing them in 10 types of feelings. In relation to the conative component, some situations must be taken into consideration: first the issue related to cost, and consequently time were not pointed out by the tourists who have already visited the Amazon, as a factor that would prevent him from realizing the desire to know the Amazon; another situation is the desire to know the Amazon with strong relationships of personal contributions, linked to knowledge about the environment and culture, in addition to strengthening relationships with the environment and development as a person, indicating marketing strategies directed mainly to promote emotions, feelings that a trip to the Amazon can bring to tourists, including in the promotional speech the contributions of learning, adding in personal and spiritual formation that this connection between man and nature can provide, while emphasizing public policies and social engagement in defense and conservation of the environment.

Methodological Implications

Regarding methodology, this study sought to contribute a scale with reliable and validated psychometric properties, considered still scarce despite theoretical advances in destination imagery. To this end, the study advanced by contributing more robust statistical methods. The WLSMV estimator, or Robust Weighted Least Squares Method, is indicated as the best indication for data with non-normal distribution characteristic and categorical measure information.

Limitations and Future Research

The discriminant validity of the research presented results that should be interpreted sparingly. The strong relationships between the components are an indication that attention should be paid to the data and should be checked with caution, even though it is conceptually verified that the components are recognized and defined distinctly. This situation may have occurred due to data sample bias and respondent quality. Thus, future studies should use a more comprehensive sample, increasing the number of respondents, using other respondent bases, not just Mturk, in order to minimize the problems of variability and response bias.

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