

A Valuation Proposal for the Historic Center of Pirenópolis using the Travel Cost Method

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Abstract— The city of Pirenópolis offers tourism, allowing access to several attractions, such as the Historical Center and its natural landscapes. Therefore, this article presents a proposal for environmental valuation called the Travel Cost Method. The tourist activity in the city stands out as an essential source of income and revenue for the municipality. Commercial establishments linked to tourism in Pirenópolis represented 42.3% of the Ouro e Cristais region until 2018. With this, the methodology used in the work is quantitative-qualitative, where the researchers were based both on doctrine, through bibliographic research, and in self-designed questionnaires to determine the valuation of the studied place. Taking these results as a reference, it is considered that the Survey's evaluation showed significant satisfaction in the sense of the largest number of questions raised, with only the Transit option being the only one that did not reach the maximum score of the reference. Therefore, it is concluded that the appropriation of landscapes can present future risks to the environment because it is not enough to preserve but constantly to be renewed in the matter of public policies, which should be contemplated in conservation actions.

I. INTRODUCTION

This article seeks to present a valuation proposal for the Historic Center of the city of Pirenópolis/Goiás through the environmental valuation method called Travel Cost Method.

It is worth mentioning, in the plan, some characteristics of the city object of the study. According to data from the Brazilian Institute of Geography and Statistics – IBGE

(2021), the city of Pirenópolis/GO has an estimated population of 25,218 people.

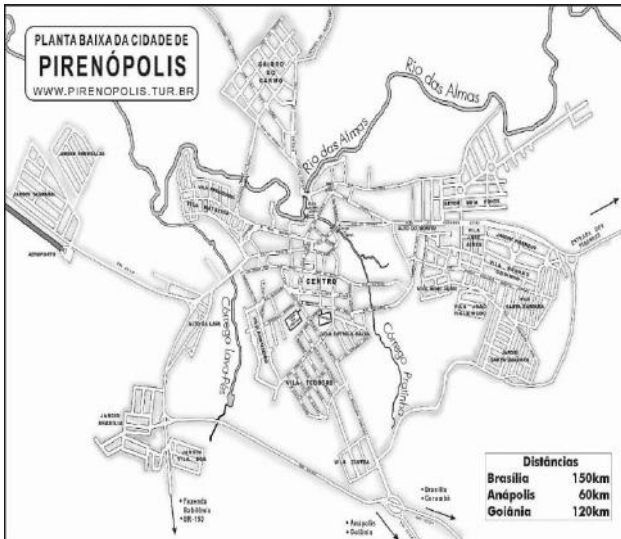


Fig.1 - Floor plan of the City of Pirenópolis

Fonte: [https://pirenopolis.tur.br/portal/public/images/mapas/thumbs/plantabaixa\(1080w733\).jpg](https://pirenopolis.tur.br/portal/public/images/mapas/thumbs/plantabaixa(1080w733).jpg)

The tourist activity in the city stands out as an essential source of income and revenue for the municipality. According to data from the Tourism Observatory of the State of Goiás (2019), taken from the Ministry of Economy and prepared by Goiás Turismo, when compared to other municipalities in the same region in Goiás, the city of Pirenópolis proves to be a power in the sector. The number of commercial establishments linked to tourist activity generated between the years 2014 to 2018 was 52 establishments.

There were 394 formal jobs created in the tourism sector in the city in the same period (2014-2018), representing a balanced growth of 59.2% (GOIÁS, 2019).

According to Cruz (2020, p. 1), “the first months of the year, January, February, and even March, are months of vacation and carnival. These are months when it rains a lot, and the cerrado is very green and exuberant. The rivers are full, and the waters of the waterfalls are voluminous”. Tourism in the region is of paramount importance to its development. In this sense, the present work seeks to give value to the area representing one of the city’s biggest tourist attractions, the Historic Center.

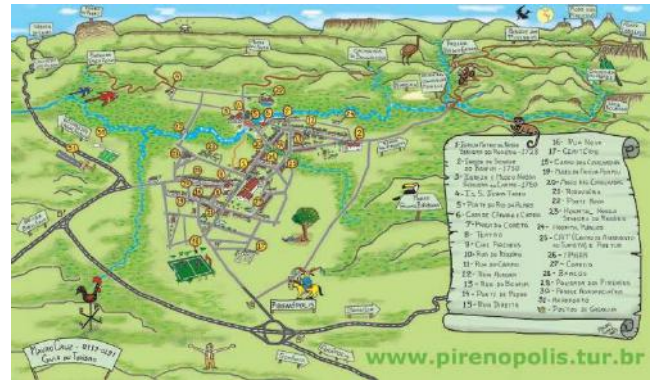


Fig.2 - Illustrative map of Pirenópolis tourist attractions

Fonte: <https://pirenopolis.tur.br/portal/public/images/mapas/mapaverde.jpg>

Furthermore, the importance of sustainable tourism is highlighted because economic sustainability derives from socio-environmental sustainability, being intrinsic to each other (SILVA-JUNIOR et al., 2021).

In the Historical Center are the main gastronomic points of the city, as well as essential attributes of local commerce and public life of the city such as notaries and the forum, as well as places related to cultural tourism such as the Igreja Matriz, Praça do Coreto, Rua Direita and Rua do Lazer.

According to Cruz (2019, p. 1), “Pirenópolis has 14 developments that explore waterfalls for tourism, totaling 37 waterfalls in all. But there is more, much more. Many waterfalls in private areas are not open to visitors”.

The methodology used in the work is quantitative-qualitative, where the researchers were based both on the doctrine, through bibliographic research, and on questionnaires of their elaboration to determine the valuation of the studied place.

The method used to value the Historic Center is the Travel Cost method, which is a method that uses actual behavior to infer values.

Valuation methods are a set of procedures used to estimate values that are outside the market (BISHOP and BOYLE, 2019). These analytical instruments contribute to a more comprehensive project evaluation technique, the well-known cost-benefit analysis (NOGUEIRA and MEDEIROS, 1998). In this sense, the total price of a visit consists, according to Castro and Nogueira (2019, p. 1), of four components:

The admission fee (if there is any), the monetary cost of travel to the place of recreation, the cost of travel time and the cost of time spent on site. The total cost of a

visit must be equal the disposal marginal to pay for it.

Environmental valuation methods make it possible to quantify – in monetary terms – economic and social impacts on the environment. They are used, in short, to estimate the values that people attribute to natural resources based on their individual preferences (NOGUEIRA and MEDEIROS, 1998).

Specifically, regarding the method chosen for this work, the travel cost, the idea of the MCV is that the expenses incurred by families to travel to a place, usually for recreation, can be used as an approximation of the benefits provided by this recreation (NOGUEIRA and MEDEIROS, 1998).

The travel cost method is used to monetarily assess the cost of recreation. The technique can estimate visitor demand relating to individual and specific travel expenses. With the analysis of the results, it is possible to measure the well-being generated by a trip the visitors, in addition to the average number of visitors and their average expenses (JUUTINEN et al., 2022).

Scientific literature also observes the application of the travel cost method to historic buildings and regions, attributing a financial value to a given cultural legacy. As proposed in this article, it determines an estimate of tourist expenses and how many journeys they make to the tourist site visited, added to the willingness to pay (or “willing to pay”) for a visit (MERCUIU, F.-C.; PETRI, SOR, A.-I.; MERCUIU, G.-L, 2021).

Within the proposal of the method selected for the application of the research, questionnaires are generally used closely linked to what is to be analyzed, capturing consumer data and applying it to the model that, according to Castro and Nogueira (2014) has preferences for closed and short questions and can present two types of approach, on-site and off-site.

The questionnaires help collect information, allowing the estimation of travel costs by visitors through the applied valuation method, which is widely used worldwide to obtain estimates regarding recreation (PITA P, et al., 2022).

It explains that in the case of on-site data collection, it has the advantage of access to the target population and the disadvantage of the inaccessibility of people who do not visit the site, implying the inaccuracy of the estimate. It highlights the impossibility of intercepting the throttling price for the demand function since there will not be several trips equal to zero. In the off-site approach, despite the selection bias being avoided, the market is more

extensive, making research more expensive (HAAB; MCCONNELL, 2003).

The research seeks to determine the monetary value of the Historic Center so that it can be made available to public managers as a form of assistance in elaborating public policies that value the studied area.

II. RESEARCH METHOD

The present work is characterized by a quantitative-qualitative study, aiming to answer the raised hypothesis. This work gathered empirical evidence with the greatest excellent about the city of Pirenópolis. In addition, this study will be based on assumptions and ideas that significantly present the importance of tourism in the region of the Historic Center of Pirenópolis, discussing concepts and analyses to obtain the results and answers to the problematization.

For that, the procedure of this work was constituted in bibliographical research, understood exclusively in theoretical references that helped in the rationality and systematization of the literature review, inserting books, magazines, articles ,and internet materials coherent with the problem.

The study population comprises a sample obtained from a population of 6,926.25 people/tourists, accounted for by an average of 3 tourists per vehicle, with 2,308.75 cars that accessed the city of Pirenópolis through the two Portals located at the entrances to the town during the months of May and June 2021, during weekends (Friday, Saturday and Sunday) and holidays (Labor Day and Corpus Christ). Information provided by the Tourism Department of the municipality of Pirenópolis – GO in loco.

The selection was carried out from a questionnaire divided into two blocks of questions, the first block called Socioeconomic, aimed at finding the profile of the interviewed tourist, and the second, Block Behaviors and Attitudes, aimed at surveying options for expenses, travel costs and of specific fees and also a brief satisfaction survey with the tourists interviewed, about the Historic Center of Pirenópolis – GO.

All questionnaires were applied in the region of the Historic Center of Pirenópolis, ensuring that all respondents were visiting the place at the time of the research, considering ownership of the information provided. Its applications were carried out between Fridays, Saturdays and Sundays from August 20 to September 5, 2021, in addition to the Independence holiday (September 7 of that year). It is important to emphasize that all respondents were over 18 years of age.

After surveying the data available in the questionnaire, which was divided between 19 open and closed questions, a quantitative sample of 105 questionnaires were obtained, with a Margin of Error of 8%, Reliability of 90%, with a proportion of questionnaires applied about days were Friday, Saturday, Sunday and Holidays, 4%, 33%, 40% and 23%, respectively, according to calculations carried out on the SOLVIS website (2021).

For an approximation of the sampling, given that it is impossible to accurately determine how many people made up each of the vehicles, an average corresponding to 3 people per vehicle was used. This time, based on official data from the city's tourism department, obtained in loco by the researchers, 2,308 vehicles entered the city's portals; the sample calculation was based on 6,926 people.

III. RESULTS PRESENTED

The researchers analyzed the number of vehicles that entered the city of Pirenópolis between the weekends and holidays in May and June 2021. It is noteworthy that, in the period, two important holidays moved the town, Labor Day 01 May and Corpus Christi from June 03rd to 06th.

According to Castro and Nogueira (2014), when collecting data on-site, there is advantageous to reach the target population directly. However, it points out as a disadvantage that people who have not visited the place will not be able to answer the questionnaire, which may imply an inaccuracy in the estimate.

The Travel Cost method is applied, preferably, to estimate the value of a recreational tourist spot, through the amount paid by the visitor to make the trip to that specific place:

The Travel Cost Method (TCM) was used in this study to estimate recreation as a cultural ecosystem service. TCM belongs to the revealed preference technique, commonly used to estimate recreational values, such as the price paid by the resource user (visitors) as represented by the travel cost to visit a recreation site (Matthew, N.K.; Shuib, A.; Raja Gopal, N.G.; Zheng, G.I, 2022, p. 4).

Agreeing with the MCV variables addressed by Hanley; Spash (1995), the research sought to evaluate the consumption behavior of the market, through the survey of expenses related to the trip, identifying the costs with the displacement or transport of tourists to Pirenópolis, expenses with food, with the acquisition of handicrafts, souvenirs or souvenirs. among several other expenditures that represent the capital made available for the trip. In addition to these, other variables were addressed and identified in the research, still referring to the highlighted

authors, raising the characteristics that determine the profile of the investigated consumer tourist, such as about age, monthly income, and educational level, among others.

In the first stage of the questionnaire, called the Socioeconomic Block, it was possible to trace the profile of the tourist, who, among the interviewees, were primarily young, representing 47% between 18 and 30 years old and 38% between 31 and 45 years old. Considering this outstanding characteristic of the age group, 85% of tourists are up to 45 years old.

During the application of the questionnaires, it was observed that 51.42% of the people considered themselves female and 48.57% male. Regarding the level of education, almost half, more objectively 49% of the interviewees concluded higher education.

In addition, 80% of all are employed. The data also show that the majority have a Family Monthly Income between 1 and 4 minimum wages, between US\$ 196.00 to US\$ 785.00, representing 34%, followed by 26% who claim US\$ 786.00 a US\$ \$1,571.00. In sequence, between US\$ 1,572.00 to US\$ 2,750.00 and above US\$ 2,751.00 were answered by 16% of the tourists interviewed.

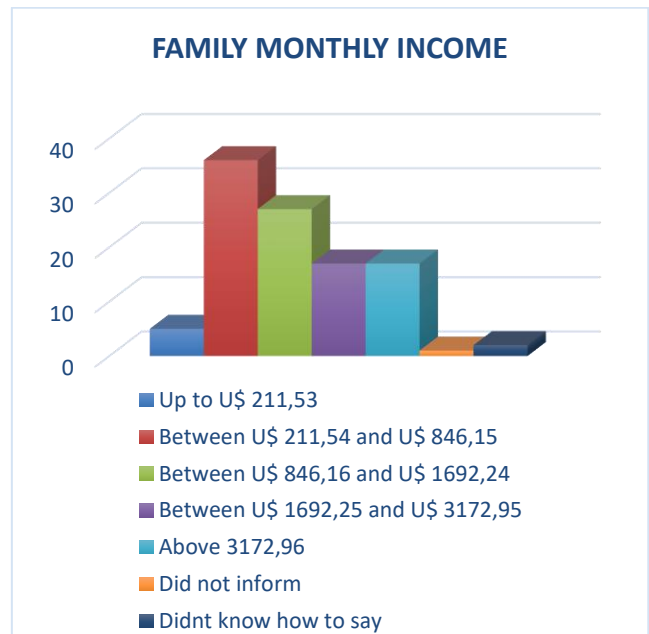


Fig.3. Family Monthly Income - 2021

Source: Prepared by the authors.

It is even more interesting to survey this analysis of Family Monthly Income at this early stage of the research because, according to several studies presented by Castro and Nogueira (2014), the opportunity cost of time with recreation (in this case, in particular, , travel) averages between one-third to one-fifth of the individual's income.

As for the city of origin survey, more than 20 municipalities were mentioned. The most frequently approached municipalities were mentioned in the graph, emphasizing that most of the visitors questioned in this research came from Brasília – 39% - and Goiânia - 22.8% - represented in Figure 4.

Questions were raised that allow the identification of tourists coming from these municipalities close to the tourist destination and who came just to spend the day, staying for a short period. Despite being presented later, it is worth analyzing this question together with Castro and Nogueira (2014) who highlight the possibility of underestimating the MCV research result due to short-distance travel. He emphasizes that, due to the reduced distance, the visitor is often not on vacation, staying less at the destination and consequently presenting lower expenses with food, accommodation and opportunity cost.

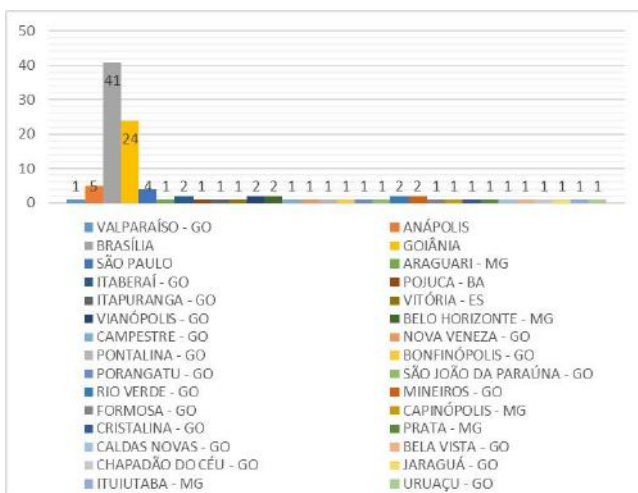


Fig.4. City of Origin - 2021

Source: Prepared by the authors.

Among the company option, most respondents said they were traveling as a couple, with 40% of the total responses obtained, followed by 28% who would be traveling with family and 27% among friends.

Regarding the means of transport, the vast majority, 80% of respondents, reported using their car. In addition, 90.47% of respondents said they were visiting only the municipality that was the subject of this research.

The last question discussed the results presented in the Socioeconomic Block, which raises the tourist profile; as shown in Figure 5, it was noticed that the main reason that attracted them to Pirenópolis was the natural attractions. This question has significant importance in the discussion of research data, given the contribution of Castro and Nogueira (2014) when it reinforces the possibility of

numerous trips to the same place, to carry out different activities and interests.

In this sense, 41% of the tourists interviewed pointed to waterfalls and resorts as the main incentive to come to the tourist destination. In a balanced way, they divided the second (with 23%) and third (with 22%) options, represented by gastronomic and cultural tourism respectively as motivation for the trip.

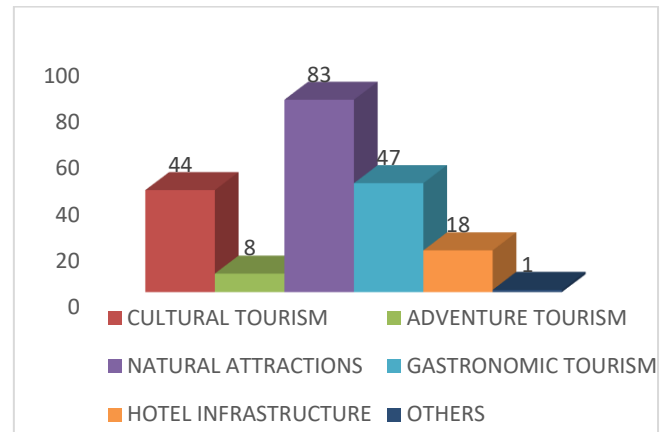


Fig.5: Relative frequency of reasons that attract tourists to Pirenópolis – 2021

Source: Prepared by the authors.

It is worth noting, however, that although most respondents point to the natural attraction as the main reason to visit the municipality, many who arrive in the city do not attend any of these attractions, when questioned. This leads us to believe that contemplation of nature, contact with nature, and escape from the urban are also particular reasons to visit the city of Pirenópolis.

In this sense, many tourists are interested in connecting with nature, expanding their experience with the natural environment, and seeking new languages and references in their relationship with the environment (RUDZEWICZ, 2006).

When starting to approach the results of the second block of the questionnaire, called behaviors and attitudes, it was identified that 97% of the tourists interviewed were in the Historic Center region 100% of the times they were on visits to the municipality of Pirenópolis - GO, even if did not know.

Among the reasons that attract them to visit this region of the city in particular, gastronomic tourism, characterized by bars and restaurants, was an expressive result. In sequence, the architectural beauties and cultural attractions were the main motivations pointed out by the interviewees.

As shown in Figure 6, 77% of the tourists interviewed mentioned bars and restaurants as a source of motivation

for their visit. It is noteworthy that, as it is a multiple choice question, 61% of people also answered the option of cultural visits, framing answers that permeated access to public cultural attractions, many located in open spaces within the Historic Center of São Paulo. Pirenópolis, such as Praça do Coreto, Igreja Matriz Nossa Senhora do Rosário, Rua Direita and Rua do Rosário (famous Rua do Lazer).

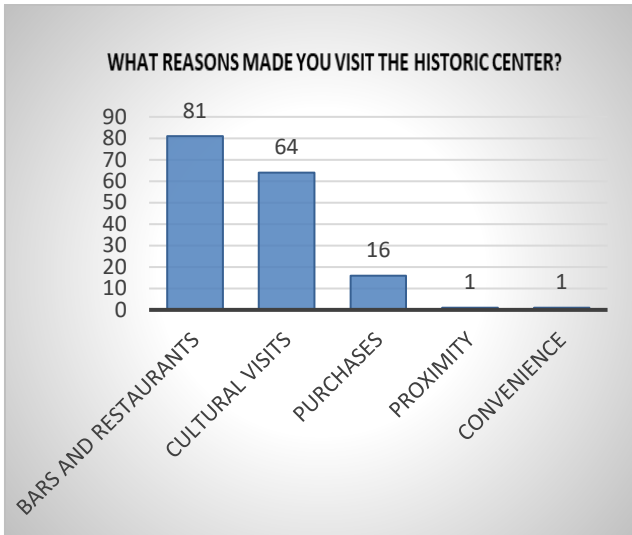


Fig.6: Reasons that attract visitors to the Historic Center of Pirenópolis - GO – 2021

Source: Prepared by the authors.

Starting the approach regarding the Travel Costs surveyed, it was found that Food and Accommodation/Lodging correspond to the most expressive costs. As shown in Figure 7, 51% of respondents claimed that the expense representing the highest cost of travel is food, followed by expenses with accommodation and lodging, identified as the most expensive by 40% of respondents.

Here is a point worth highlighting. Purchases of inputs and groceries to prepare their meals - which must also be calculated when calculating the trip cost - occur, most of the time, in the places of origin of tourists.

Taking into account all these expenses subdivided by specific expenses during the trip, the result of the average travel cost with accommodation and lodging is presented as a result of U\$ 177.67 (one hundred and seventy-seven dollars and sixty-seven cents); Food, the amount of U\$ 143.73 (one hundred and forty-three dollars and seventy-three cents); Miscellaneous expenses, cited as Other Expenses, the amount of U\$ 70.71 (seventy dollars and seventy-one cents); Transport, fuel, tolls and miscellaneous travel costs, the amount of U\$ 66.96 (sixty-six dollars and ninety-six cents); Leisure the amount of U\$

42.26 (forty-two dollars and twenty-six cents); Purchases and Souvenirs, the amount of U\$ 36.70 (thirty-six dollars and seventy cents); Tickets to natural attractions, the value of U\$ 35.40 (thirty-five dollars and forty cents);

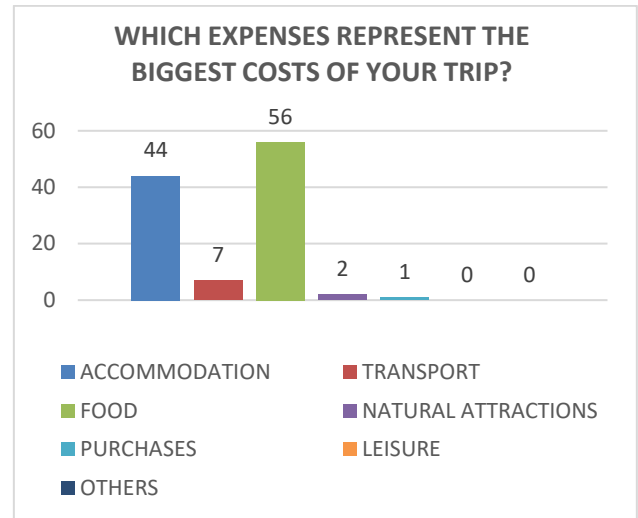


Fig.7: Relative frequency of Expenses that represent the Motivations for Travel to Pirenópolis - GO - 2021

Source: Prepared by the authors.

Proceeding on the survey with the Total Travel Cost, among the 105 interviewed tourists proposed by the sample, 11.42% of them could not answer what the Total Cost would be with the expenses during their trip. In addition, 14.28% of respondents claimed to be at the tourist destination spending only the day, commonly known as a “Bate-Volta” trip, in which the tourist enjoys the various tourist products of the goal visited, such as restaurants and bars, shops, attractions natural and cultural tours, returning to their place of origin at the end of the day.

Considering the characteristics of this public, there is a significant reduction in the Average Cost of Travel, due to the absence of expenses with accommodation and lodging in these cases, which, for the interviewed tourists, represent the highest percentage of expenditure on this trip.

After surveying all the observances regarding the criteria that influence the calculation, the value of U\$ 385.79 (three hundred and eighty-five dollars and seventy and nine cents).

Thus, the same 11.42% of interviewees who were unable to present the Total Travel Cost did not contribute to the question that raised the Travel Cost spent in the Historic Center of Pirenópolis, calculated at U\$ 215.13 (two hundred and fifteen dollars and thirteen cents) - almost half of the Travel Cost of the other interviewees -

composed mainly of expenses with food, accommodation and purchases, respectively, carried out in the region where the research was carried out, the Historic Center of the mentioned tourist destination.

It was also proposed that tourists respond between the most and least cost-effective expenses. It is shown in Figure 8, that among the expenses incurred during the visit to Pirenópolis, the tourists interviewed considered the costs with food as the best used.

Of the total, 33.33% of the interviewees mentioned expenses with food, 24.76% mentioned expenses with access to natural attractions and 21.90% with accommodation as the most worth it. Still in relation to the same survey, 19.04% of respondents answered that there was not a single expense that stood out as the most relevant, all made during the trip worth it.

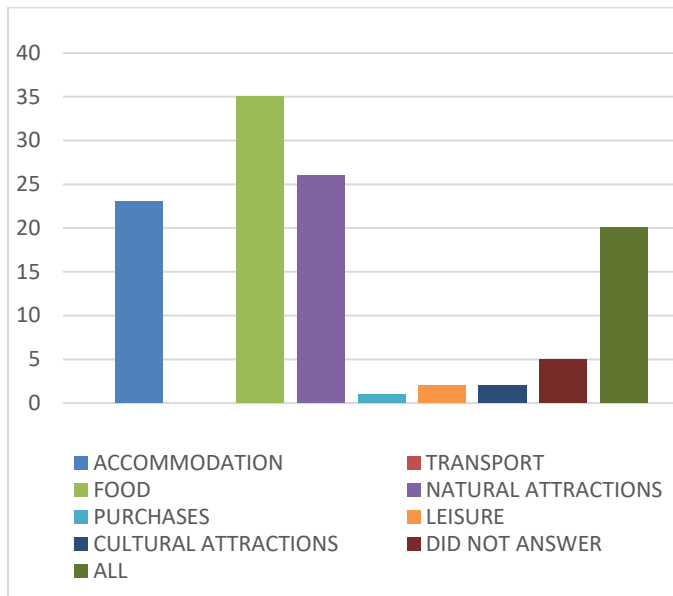


Fig.8: Travel expenses incurred in the Historic Center of Pirenópolis that represent greater cost-effectiveness - 2021

Source: Prepared by the authors.

In agreement with the previous survey, it can be identified in Figure 9 that most respondents (65.71%) considered that all expenses were worth it. In this reasoning, only 34.28% of tourists among those interviewed opted for some of the answers related to the lowest cost-benefit of the expenditure incurred.

In this aspect of the research, it is worth noting that the high costs of some of the various tourist products offered in the municipality under study were addressed. Among this increase in prices, seasonality between periods during the week and weekends stands out, which is one of the items in particular managed. Despite being questioned

by a single tourist interviewed, this phenomenon contributes to the resulting increase in costs, since Pirenópolis presents weekend tourism, constantly overcrowded on Saturdays, Sundays and holidays and with its rates considerably reduced occupancy throughout the week.

This increases costs on crowded days, often causing visitor dissatisfaction. This process is correlated with the intertemporal substitution approach mentioned by Castro and Nogueira (2014), who agree with the interviewee's opinion that the services offered are not constant. Those traveling to the tourist destination on weekends are faced with much crowding, attributing an influence on the quality of the services provided, being seen as a negative externality. Tourists visiting during the week are faced with the short-term interruption of various products, establishments and services provided on busy days, inevitably negatively influencing the perception of the destination and changing the travel cost depending on the period. Displacement occurs, since products and services are consequently marketed on a seasonal basis.

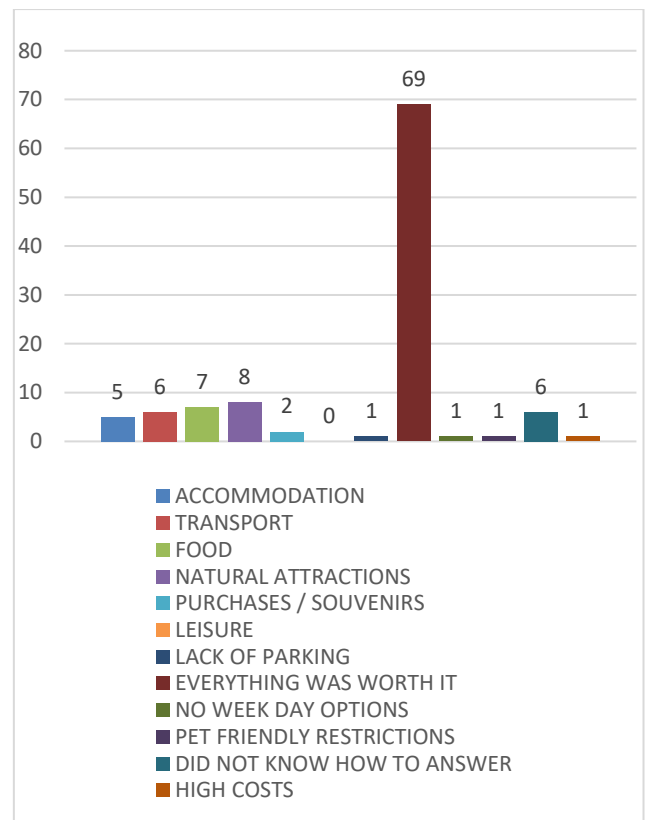


Fig.9: Travel expenses incurred in the Historic Center of Pirenópolis that represent the lowest cost-benefit ratio - 2021

Source: Prepared by the authors.

Finally, the tourist was asked about their perception of the Historical Center, a satisfaction survey was included in the questionnaire regarding entertainment, infrastructure, biosecurity protocols for the COVID-19 pandemic (period of relevant characteristic during which questionnaires were applied), a variety of options in shopping and crafts and traffic, both questioned exclusively about this region of the tourist municipality.

Figure 10 presented the satisfaction survey with the Historic Center of Pirenópolis, the interviewees had to

choose, on a scale of 1 to 5 - with one being the degree of most significant dissatisfaction and 5 of most excellent satisfaction, among the 105 tourists revealed to be if that: 55.33% gave a grade of 5 in the item Entertainment; 46.66% of tourists rated Infrastructure 5; 50.47% rated 5 for the biosafety protocol item related to the COVID-19 pandemic; 73.33% rated 5 for the variety of shopping and handicraft options and 78.09% rated 5 for the variety of gastronomic options.

EVALUATION NOTE (REFERENCE VALUE)	ENTERTAINMENT	INFRASTRUCTURE	BIOSAFETY PROTOCOLS	VARIETY OF SHOPPING OPTIONS AND CRAFT	VARIETY OF FOOD OPTIONS	TRAFFIC
1	0	0	4	0	0	20
2	4	5	10	2	4	21
3	15	20	25	9	10	34
4	29	30	12	12	6	13
5	56	49	53	77	82	17
DID NOT KNOW HOW TO ANSWER	1	1	1	5	3	0

Fig.10: Satisfaction Survey Historic Center of Pirenópolis – GO – 2021.

Source: Prepared by the authors.

Taking these results as a reference, it is considered that the Survey's evaluation showed significant satisfaction in the sense of the largest number of questions raised, with only the Transit option being the only one that did not reach the maximum score of the reference.

IV. CONCLUSION

For all the aspects observed in this it is highlighted that the tourist practice of the city of Pirenópolis / GO is directly linked to the environmental heritage, having a relationship with the tourist landscapes that make us notice the growing concern with the environment. Based on the research, in this place there is a concern for natural preservation, so it was observed that public policies are intended to care for and preserve these natural resources, such as the creation of legislation for these purposes.

However, the environmental issue of Pirenópolis/GO, materializes with plans to avoid ecological damage. We understand that tourism in this place is always valued for its geological aspects constituted by tourist activities. However, considering such exuberances, some interviewees felt dissatisfied with the attendance.

The city of Pirenópolis/GO is recognized for having strategies that understand the impacts of tourist activities, an essential indicator in tourist planning. Therefore, it is concluded that the appropriation of landscapes can present future risks to the environment, because it is not enough to preserve, but constantly to be renewing in the matter of public policies, which should be contemplated in conservation actions, considering that the sustainable use of natural resources helps to maintain income generation for the local community.

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REFERENCES

- [1] BISHOP, Richard C. BOYLE, Kevin J. Reliability and Validity in Nonmarket Valuation Environmental & Resource Economics, Springer; European Association of Environmental and Resource Economists, vol. 72(2), fev. 2019, pages 559-582. Disponível em: <https://ideas.repec.org/a/kap/enreec/v72y2019i2d10.1007_s10640-017-0215-7.html>. Acesso em: 02 set. 2022.
- [2] CASTRO, Joana D'arc Bardella. NOGUEIRA, Jorge Madeira. Vários Caminhos um Objetivo - O Método Custo de Viagem. SOBER - Sociedade Brasileira de Economia, Administração e Sociologia Rural, 52º Congresso, Goiânia, 2014.
- [3] CRUZ, Mauro. Quais as melhores cachoeiras de Pirenópolis. Disponível em: <<https://pirenopolis.tur.br/noticia/2019-07-09/Quais+as+melhores+cachoeiras+de+Piren%C3%B3polis>>. Acesso em: 22 set. 2021.
- [4] CRUZ, Mauro. Qual a melhor época do ano para visitar Pirenópolis? Disponível em: <<https://pirenopolis.tur.br/noticia/2020-11-17/Qual+a+melhor+%C3%A9poca+do+ano+para+visitar+Piren%C3%B3polis%3F>>. Acesso em: 22 set. 2021.
- [5] GOIÁS. Observatório do Turismo do Estado de Goiás: Boletim de Dados do Turismo em Goiás 2019. Disponível em: <<https://www.goiasturismo.go.gov.br/files/BL2019.pdf>>. Acesso em: 03 set. 2021.
- [6] HAAB, T. C.; MCCONNELL, K.E. Valuing Environmental and natural resources: the econometrics of non-market valuation. Cheltenham, UK: Edward Elgar, 2003. Disponível em: <<https://www.e-elgar.com/shop/gbp/valuing-environmental-and-natural-resources-9781840647044.html>>. Acesso em 20 jun. 2022.
- [7] HANLEY, N. R. SPASH, C. L. Cost-Benefit Analysis and the Environment. (Inglaterra e EUA). Edward Elgar, 1993.
- [8] IBGE. IBGE Cidades – Pirenópolis, c2010. Disponível em: <<https://cidades.ibge.gov.br/brasil/go/pirenopolis/panorama>>. Acesso em: 03 set. 2021.
- [9] JUUTINEN, Artti. et al. A Comparative Analysis Of The Value Of Recreation In Six Contrasting Nordic Landscapes Using The Travel Cost Method. Journal of Outdoor Recreation and Tourism, v. 39, junho 2022 Disponível em: <<https://www.sciencedirect.com/science/article/pii/S2213078022000433?via%3Dihub>>. Acesso em: 30 ago. 2022.
- [10] MATTHEW, N.K.; SHUIB, A.; RAJA GOPAL, N.G.; ZHENG, G.I. Economic Value of Recreation as an Ecosystem Service in Ayer Keroh Recreational Forest, Malaysia. Sustainability 2022, 14, 4935. Disponível em: <<https://www.mdpi.com/2071-1050/14/9/4935>>. Acesso em 30 ago. 2022.
- [11] MERCIU, F.-C.; PETRIȘOR, A.-I.; MERCIU, G.-L. Economic Valuation of Cultural Heritage Using the Travel Cost Method: The Historical Centre of the Municipality of Bucharest as a Case Study. Heritage 2021, 4, 2356–2376. Disponível em: <<https://www.mdpi.com/2571-9408/4/3/133>>. Acesso em: 31 ago. 2022.
- [12] NOGUEIRA, Jorge Madeira. MEDEIROS, Marcelino Antonio Asano de. Valoração do Meio Ambiente: Aspectos Teóricos e Operacionais. In: REUNIÃO NACIONAL DA SBPC, 50., Natal, 1998. Anais... São Paulo: SBPC, 1998. v. 2.
- [13] Pita P, et. al. Economic contribution and social welfare of recreational charter boat fisheries in the northeast Atlantic: The cases of Galicia (Spain) and Madeira archipelago (Portugal). Front. Mar. 2022 Sci. 9:939533. doi: 10.3389/fmars.2022.939533. Disponível em: <<https://www.frontiersin.org/articles/10.3389/fmars.2022.939533/full>>. Acesso em: 30 ago. 2022.
- [14] RUDZEWICZ, Laura. Ecoturismo em Reservas Particulares do Patrimônio Natural e seu Papel na Conservação dos Ecossistemas Brasileiros. 179 f. Dissertação (Mestrado) - Universidade de Caxias do Sul, 2006.
- [15] SILVA-JUNIOR, J.M.; et al. Uma proposta de valoração do turismo de mergulho e surf nas Unidades de Conservação marinhas do Arquipélago de Fernando de Noronha (PE). Revista Brasileira de Ecoturismo, São Paulo, v. 14, n. 2, mai-jul 2021, pp. 239-253.
- [16] SOLVIS. Cálculos de Amostragem. Disponível em <<https://solvis.com.br/calculos-de-amostragem/>> Acesso em: 19 ago. 2021.