Tourists' Views on Sustainable Heritage Management in Porto, Portugal: Balancing Heritage Preservation and Tourism

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Abstract: This research explores the perceptions of tourists regarding the state and sustainable management of tangible cultural heritage in the city of Porto (Portugal), the destination recognised for its historical and cultural heritage. Porto attracts a growing number of tourists due to its rich heritage, encompassing cultural, architectural, and scenic elements. This rising demand necessitates sustainable management practices to protect the city's heritage and ensure long-term sustainability. With the increase in tourism and the need to preserve cultural and environmental resources, sustainable management becomes essential to balance economic development and heritage conservation. The study's main objective is to analyse tourists' perspectives on the sustainable management of the cultural heritage of the city of Porto. It focuses on analysing current tourism management practices and calls for new strategies to promote sustainability. Structured questionnaires were distributed to a random sample of tourists in strategic locations between January and April 2023, obtaining quantitative data. The sample consists of 264 respondents. The results revealed four main factors, showing that most respondents show a high level of awareness and appreciation of sustainability and its relevance for heritage conservation. Regarding tourism, the majority agree that it contributes positively to the conservation and restoration of the city's heritage.

Keywords: cultural heritage; tourism; conservation; sustainability; management

1. Introduction

Heritage is a term that uses past experiences to represent tangible and intangible socio-cultural expressions in the present and develop a future vision. Strategically, it links rural, urban, or cultural landscapes 'in general,' the main stakeholders, the community, and visitors. In this way, heritage becomes a form of marketing that can help preserve cultural identity and simultaneously be a source of socio-economic development.

The concept of heritage has evolved significantly over time. Initially, it was associated with the preservation of historical monuments and works of art, later extending to intangible aspects. For the subjects and aims of this study, some international orientations resulting from the international reflection of UNESCO and ICOMOS are essential. The Convention Concerning the Protection of the World Cultural and Natural Heritage [1] identifies international protection of the world's cultural and natural heritage in an international

cooperation landscape concerning heritage identity conservation and safeguarding at a universal level, involving all countries to adopt measures of heritage conservation and safeguard. UNESCO's 1972 Convention was a very important milestone in heritage history, as it created an effective and permanent system for the collective protection of heritage of universal value. In the Convention, cultural and natural heritage was recognised as having a unique and irreplaceable value, with properties of exceptional interest that need to be protected, thus becoming a collective responsibility of the international community.

Sustainable Development Goal 11 (SDG 11) calls for countries to "make cities and human settlements inclusive, safe, resilient and sustainable". Target 11.4 of this goal aims to "strengthen efforts to protect and safeguard the world's cultural and natural heritage".

The need to preserve heritage is also crucial for tourism activity, which has been growing more and more over the years all over the world, so effective management strategies to balance the demands of tourism with the safeguarding of heritage sites become essential. The conservation of heritage could be an opportunity for local and regional development through tourism, stimulating diverse activities and promoting sustainable development [2]. In this perspective, places enter a development circle where heritage conservation grows tourism, and the increase in tourism numbers could be managed by promoting local investment in heritage conservation and renewal of aesthetic investment in order to regenerate urban landscapes. The findings from Soeiro and co-authors' [3] study emphasise the crucial role of tangible and intangible heritage in crafting a comprehensive urban regeneration strategy.

However, cultural heritage requires careful planning and responsible management strategies and policies to prevent adverse impacts like overcrowding, environmental degradation, and the commodification of cultural practices. Effective and responsible management ensures respect for heritage sites' cultural and historical value, promotes awareness, provides opportunities and resilience, and shapes respect for diversity [4]. In this context, cities are essential for development and intercultural dialogue.

Culture and heritage could be important to collective groups and communities to explore intrinsic place values and place identity. According to Apaydin [5], the diversity of the heritage could promote intercultural cooperation and build trust among communities, creating a national discourse for identity. In this way, heritage management in an international panorama could also be a promoter of cultural significance. The scenic area, the communication of local history, the spiritual values, and the relationship with residents create emotional dimensions that could bring another involvement between tourism and local culture. As Yang [6] argues, managing and stimulating positive emotion and managing the cultural identity and heritage conservation behaviour from the positive tourist experiences are essential.

According to previous studies, as high tourist demand helps to preserve the heritage and contributes to the local economy, it also jeopardises heritage conservation in situations of high tourist pressure [7]. The sustainable management of tourist heritage has become a highly relevant issue today, especially in historic cities such as Porto (Portugal), where tourism plays a crucial role in the local economy [8]. However, this high tourist demand can lead to the degradation of cultural and natural resources, thus jeopardising local identity and quality of life. Some authors [9] state that limiting the number of visitors to a destination is essential and that this flow of tourists should be managed by diverting tourist traffic to areas away from the places most vulnerable to tourism pressure. Some UNESCO World Heritage Sites, such as Venice, are already facing problems of overtourism, especially due to the impact of cruises [10]. Liberatore et al. [11], concerning tourist flows in the UNESCO World Heritage Historical Centre of Florence, developed a system of indicators

to measure the carrying capacity of cities aimed at evaluating the risk of over-tourism and its impact on these historic sites.

Thus, one of the main challenges associated with sustainable tourism is the carrying capacity of cities [12], and to counteract it, some authors suggest measures and restrictions such as limiting visits and tourist activities. However, this is a strategy that can be considered drastic and recommended only for sites where tourist pressure directly threatens the heritage, as this limitation can also have severe consequences for the local economy. Other authors highlight another opposite strategy for preserving heritage, which aims to increase the capacity of sites by expanding the physical capacity of attractions, increasing the capacity of facilities, and improving the operational capacity of sites [13]. This option is considered the most viable by many authors since it aims to protect the heritage and, at the same time, is not as drastic as the first option, and it ensures that tourist activity is maintained, contributing to the sustainability of the economy. However, there are also limitations associated with this strategy because sometimes it is not possible to increase the physical capacity of a site without altering its heritage value. However, there are still many possibilities for fostering and developing improvements in the operational capacity of the sites.

In short, a good understanding of the importance of heritage preservation is crucial so that tourist activity does not harm but instead promotes conservation by educating tourists and contributing to sustainable economic development [14]. Implementing new strategies and following existing ones must be carefully planned and executed to avoid negative impacts and maximise the benefits for heritage and local communities.

Thus, sustainable cultural heritage management has become a central theme in promoting tourist destinations that balance economic development with cultural and environmental preservation. In Porto, known for its rich historical and cultural heritage, sustainability has become a priority in formulating tourism policies and practices. In the context of tourism, sustainable heritage management aims to ensure that heritage sites and resources are managed responsibly to maximise their benefits for present and future generations while minimising negative impacts [7].

UNESCO [15] considers urban areas "engines" of growth, innovation, and creativity and centres for social opportunities. In this way, it defends the balance between growth and heritage safeguarding since historic urban areas are the most ample and diverse cultural common heritage manifestation and testimony of humankind. To balance, the recommendation considers international cooperation a vital process of strengthening knowledge and capacity building. In the line of UNESCO, Cerisola and Panzera [16] concluded that the urban structure is the most constructive hub for engagement in the cultural life that promotes regional development, particularly cities with a cultural and creative dimension and dynamism.

Recent studies [17] considered that managing heritage places in cities is a driver for economic, social, and cultural development if the conservation of tangible and intangible heritage occurs to guarantee a sustainable heritage safeguard for future generations. Each country has the autonomy to conduct heritage management and safeguarding; however, international policies create ways and directions for governmental decisions and practices. Working together with all the local and regional stakeholders and sharing practices with other international partners is an important beginning. Above all, this process of experiences in the exchange of culture, heritage, and identity creates several opportunities to share practices to develop cultural destination management and could be seen as a sustainable response to globalisation [18]. Nevertheless, as Hassan and co-authors [19] reinforce, sustainable management of heritage sites faces challenges in balancing preservation with tourism demands.

The main foundations of sustainability include greater community participation in planning and a better understanding of the historic environment, keeping activities at levels that do not deteriorate the historic environment and allowing for adaptive reuse of the heritage [20]. It is possible to see in this concept the importance of planning for the sustainable development of tourist regions and the valorisation and preservation of heritage as a reinforcement of cultural identity, reflected in sustainable heritage management.

However, sustainable heritage management still faces many challenges when it comes to balancing conservation and consumption. The study developed by Buonincontri and co-authors [21] on this topic highlighted a concept of sustainable behaviour for heritage consumers, enhancing how visitors' experiences in heritage regions can influence their attachment to the place visited.

The sustainable management of cultural heritage involves various components aimed at guaranteeing the preservation and valorisation of cultural and economic resources in a balanced and lasting way. One of the main components is heritage conservation and protection, which includes actions to maintain the physical integrity and authenticity of assets, such as restoring and rehabilitating historic buildings [22].

The sustainable use of resources is also fundamental, ensuring that the exploitation of heritage does not deplete the resources available for future generations. Flyen and co-authors [23] found that many visitors were unaware of the protected status of cultural heritage sites. They often did not realise the unintentional damage their behaviour could cause in heritage use. The study highlights a gap in visitor education about the significance and fragility of these sites, which can lead to actions that degrade their physical and cultural value. This lack of awareness is particularly problematic, as visitors may unintentionally contribute to destruction and degradation.

Sustainability in tourism influences the preservation of resources and improves the tourist experience, promoting a more authentic and meaningful involvement with the destination. Tourists' perceptions of these practices can influence their satisfaction, loyalty, and future behaviour, making it crucial for tourism managers to understand these perceptions.

Therefore, the main aim of this research is to analyse tourists' perceptions of sustainable heritage management in Porto. Specific objectives include grouping them into four distinct factors, each capturing a unique dimension of their perspectives, such as level of knowledge about sustainable heritage management practices, measuring tourists' satisfaction with the sustainable management practices implemented in the city, exploring the importance tourists attach to sustainability when choosing Porto as a tourist destination, and analysing the impact of sustainable management practices on tourists' overall experience.

Understanding tourists' perspectives on sustainable heritage management is crucial as it provides valuable information for tourism managers and policymakers regarding the effectiveness of sustainability strategies. It also helps identify areas needing improvement or adjustment, contributing to developing policies promoting sustainable tourism and benefiting visitors and the local community.

Through this research, it is hoped to contribute to a deeper understanding of tourists of sustainable heritage management in the city of Porto, providing a basis for improving management practices and promoting more sustainable and enriching tourism. This research is structured in several main sections. The introduction, as provided above, presents the research objectives, as well as the context and its insertion in the literature to provide a theoretical basis for sustainable heritage management and tourists' perceptions. The methodology describes the methods used to collect and analyse the data. The data analysis details the results obtained, followed by a discussion that compares the findings with the existing literature. Finally, the recommendations and conclusions highlight the practical implications, suggesting directions for future research.

2. Materials and Methods

The target population of the empirical study corresponds to all the visitors who visit the Porto historical city centre. Structured survey questionnaires were distributed to a random sample of tourists in strategic locations face to face between January and April 2023. Fewer tourists during this period allowed for more detailed answers and not in a rush. As a result, 264 survey questionnaires were completed.

The method of distribution and data collection was carried out through two tools: distribution of the online survey using a QR code and paper forms filled out at popular tourist spots indicated, covering a variety of tourists. The questionnaire was made available in English.

The survey questionnaire was designed by researchers and included thirteen questions divided into three sections listed below:

SECTION I: Characteristics of the trip, which aimed to collect data and understand the number of visits to Porto, how the respondents knew about Porto, where they stayed (type of accommodation), and which mode of transportation they used in the city.

SECTION II. Sustainable heritage management. This section included questions aimed at understanding respondents' views on the heritage state, the impact of tourism, and tourists' perceptions and behaviour regarding the site's preservation, as well as emphasising its role in promoting sustainable practices. Visitors were asked to indicate their level of agreement with a series of statements using a 5-point Likert scale, where 1 represented "strongly disagree" and 5 "strongly agree".

SECTION III. Respondent's profile. This section included questions about age, gender, marriage status, educational level, country of residence, occupation, and net monthly income.

Before data collection, a pilot survey was conducted with 15 people visiting the area. Their questions and comments were considered, and minor changes regarding writing were introduced in the questionnaire.

The results were analysed utilising Microsoft Excel and IBM SPSS Statistics 27 and presented in Section 3.

Case Study

Porto city, located in Northern Portugal (Figure 1), was declared a World Heritage Site by UNESCO in 1996; more precisely, the Historic Centre of Porto, the D. Luiz I Bridge, and the Serra do Pilar Monastery, is a renowned tourist destination, attracting thousands of visitors yearly. The application for this classification demanded a high level of quality in the interventions in the city, reinforcing the city's notoriety at the national and international levels [24].


Figure 1. Location of Porto city, Portugal (based on the Official Administrative. Map of Portugal and Google Satellite). Source: [25].

Porto's population was 237,591 according to the 2011 census, showing a decrease of 25,540 from the 2001 census. By 2019, the population was 216,606, a number that has remained stable since 2017.

It's important to note the significant difference between Porto's residential population and the "user" population—those who live in neighbouring areas but come to Porto daily for personal activities. The historical city centre of Porto, located in the heart of the city's historical district, covers an area of 5.43 km². This area is home to a population of 40,440 inhabitants, making it a vibrant and densely populated part of Porto. The historical centre is renowned for its rich cultural heritage, architectural landmarks, and significant historical sites, reflecting Porto's long and storied past. It serves as a vital hub for both residents and visitors, offering a unique blend of history, culture, and modern urban life [26]. According to Gusman et al. [27], from 2002 to 2017, the number of hotel guests increased by 70%, rising from 560,777 to 1,876,720 annually, with 74.4% of these guests being international visitors.

Thus, the choice of the city of Porto as a case study in this research project is justified by its rich culture and heritage combined with its significant growth in tourist demand. All these factors place the city of Porto where it is essential to examine its heritage management practices. With the growth of tourism comes significant challenges to preserving the city's heritage. Sustainable heritage management is, therefore, essential to ensure that tourism does not jeopardise the cultural and environmental resources that make Porto unique. Urban regeneration in Porto's Historic Centre (Figure 2) is fundamental to preserving the heritage and preserving the city's cultural and historical wealth, fostering economic and tourist development, improving the quality of life of the local community, and promoting sustainability.
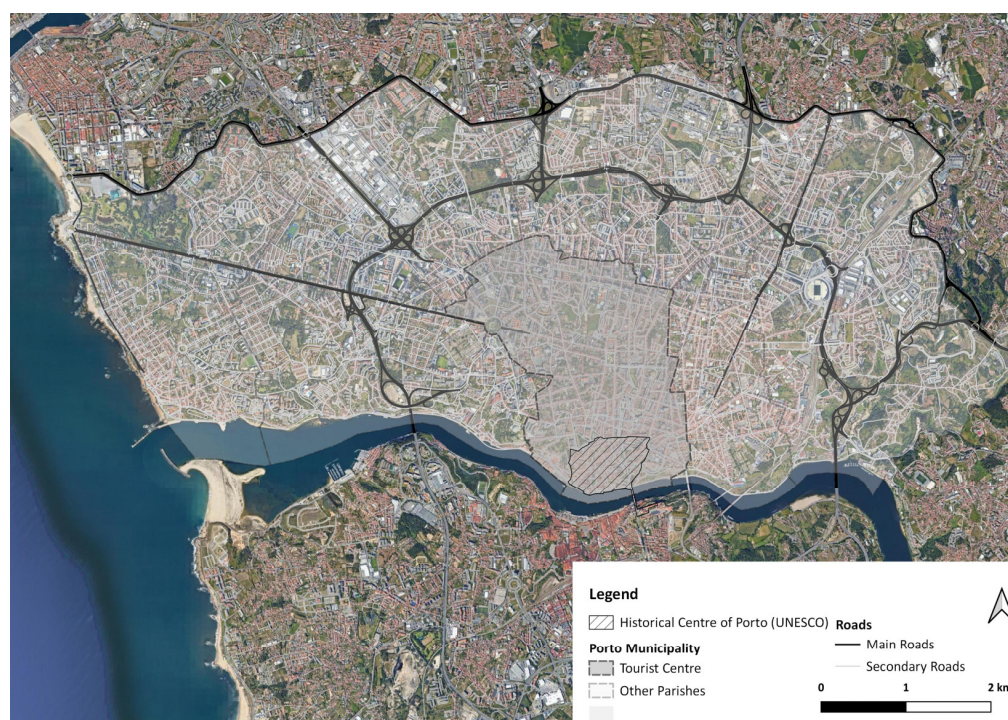
Figure 2. Historic Centre of Porto. Area classified by UNESCO in 1996. Source: [8].

3. Results and Discussion

This section will present the results obtained from the answers collected in the questionnaires to measure the perspectives of tourists visiting the city of Porto in relation to the sustainable management of heritage.

3.1. Sample and Trip Characteristics

Regarding the sample profile, the average age of respondents is 30, predominantly female, single, and highly educated (Table 1). In the case of education, basic education covers a broad general education, followed by intermediate education, which is a more specialised stage that prepares students for higher education or the workforce. Higher education is provided at universities, leading to bachelor's, master's, or doctoral degrees.

Table 1. Sample profile.

Gender	N	%	Education Level	N	%
Female	146	55%	Basic level	11	4%
Male	118	45%	Intermediate level	62	23%
			Higher education	191	72%
Age	**N**	**%**	**Occupation**		
Average	30		Public employee	58	22%
Minimum	17		Private organisation	87	33%
Maximum	65		Entrepreneur	29	11%
Marital status	**N**	**%**	Retired	4	2%
Single	162	61%	Student	78	30%
Married	83	31%	Other	8	3%
Divorced	17	6%			
Widower	2	1%			

Source: authors.

Regarding country of residence, the majority are from Spain (87), Portugal (46), Italy (31), France (21), America (19) and United Kingdom (11). The Figure 3 shows how the sample is diverse, representing a different parts of the world.
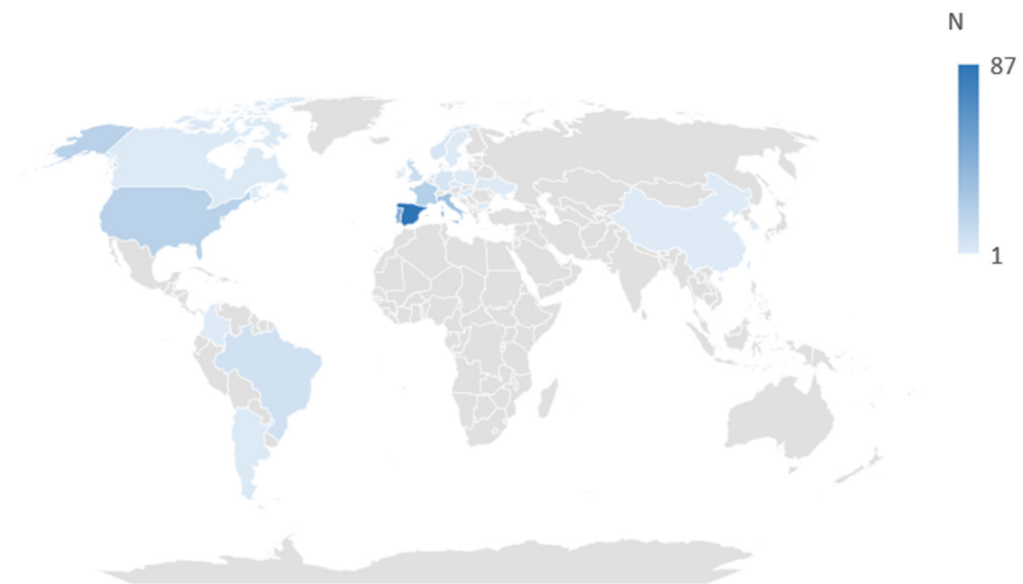
Figure 3. Country of residence. Source: Authors.

Regarding occupation (Figure 3), most are entrepreneurs or employees in private and public organisations and students.

Regarding travel characteristics (Table 2), most respondents have visited Porto two to three times, with friends and relatives being the main source of knowledge about the city. Most of the respondents stayed in local accommodations and hotels, and to get around

the city, most travelled on foot or used public transportation. The findings indicate that repeat visits to Porto are common, showing a high loyalty level based on friends' and relatives' recommendations. The choice of local accommodations and public transportation highlights a growing trend toward sustainable travel.

Table 2. Trip characteristics.

Number of the Visits to Porto?	N°	%
The first visit	127	48.1%
2–3 times	72	27.3%
more than 7	37	14.0%
4–5 times	24	9.1%
6–7 times	4	1.5%
How did you know about Porto?		
Friends and relatives	113	42.8%
Personal experience	71	26.9%
Social media	43	16.3%
Travel agency	17	6.4%
Advertisement	14	5.3%
Other	6	2.3%
Where do you stay in Porto (accommodation)?		
Local Accommodation (*Alojamento Local*)	105	39.8%
Hotel	72	27.3%
Friends/Family house	38	14.4%
Hostel	32	12.1%
Other	16	6.1%
Couch surfing	1	0.4%
Which transport do you use in Porto?		
Public transport	118	44.7%
Walking	95	36.0%
Car	39	14.8%
Bicycle	6	2.3%
Other	5	1.9%
Scooter	1	0.4%
Total	**264**	**100%**

Source: authors.

3.2. Factor Analysis

Diverse factors can explain tourists' perceptions of heritage management and tourism in Porto. Understanding these factors allows heritage site managers to design strategies to align with tourists' perspectives and expectations. For this research, 23 items related to sustainable heritage management in Porto, tourism impacts, sustainability strategies, and heritage management strategies, among others, were assessed. Means for these items ranged from 4.21 (highest) to 2.55 (lowest).

Further, an exploratory factor analysis using a varimax rotation with principal components analysis (PCA) extraction was used to group them into a smaller number of factors that explained tourists' perceptions.

Bartlett's test of sphericity and Kaiser-Meyer-Oklin Measure of Sampling Adequacy are used to assess the feasibility of applied factor analysis (Table 3). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic indicating the proportion of variance in the

variables underlying factors might cause. High values indicate a significant correlation between original variables, meaning a factor analysis may be useful. The KMO and Bartlett's Test results in our study (0.500 and $p < 0.001$) revealed that the factor analysis was appropriate.

Table 3. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.500
Bartlett's Test of Sphericity	Approx. Chi-Square	37.070
	Df	1
	Sig.	0.001

Source: Author's research results.

Principal Component Analysis revealed the presence of 4 factors with eigenvalues exceeding 1.0, explaining 57% of the cumulative variance (Table 4). Table 5 presents these 4 factors related to heritage management, preservation, tourism, and threats to heritage, and for each factor, it provides the CA value, reflecting the internal consistency of a set of items. The first factor related to heritage management has the highest CA value (0.900), suggesting that the items used to assess this factor are highly reliable. The CA values of the second and third factors related to heritage preservation and consumer-driven tourism are also high (0.713 and 0.626). The CA value in the case of the factor 4 threats to heritage (0.533) is low; however, it is still reliable in exploratory analysis, considering a limited number of items. This relationship can be further refined with more variables in future research.

The first factor is labelled as "*Heritage management: authenticity, sustainability, and community involvement*". This factor includes items related to the importance of sustainable development goals, sustainability and environment in designing heritage management strategies, the importance of considering cultural aspects and the role of the authenticity of Porto in enriching the tourist experience.

The results indicate that tourists express a significant concern for sustainability in tourism, with perceptions of sustainable heritage management in Porto being predominantly positive. Many tourists recognise the city's efforts to balance the preservation of its historical and cultural heritage with developing tourist infrastructure. The rehabilitation of old buildings, the maintenance of traditional façades, and the revitalisation of public spaces are often seen as signs of Porto's commitment to sustainability. Regarding management, respondents consider it essential to develop heritage management strategies that consider sustainable development goals (SDGs). All these are critical and should be considered while designing heritage management strategies.

The second factor is titled "*Heritage preservation through tourism*", which includes items related to tourism's positive impact on heritage conservation and restoration and its contribution to the preservation of the heritage through increasing awareness of tourists. Growth for touristic experiences will add value to heritage. Moreover, it is stated that globalisation and activities attracting tourists lead to the increase of historical city identity. Respondents agree that well-preserved heritage enriches tourists' perceptions and experiences of Porto City. At the same time, growth for touristic experiences will add value to heritage, leading to a greater appreciation of heritage, resulting in preservation efforts and sustainable management practices. Tourists appreciate heritage preservation and value cultural interactions that promote an authentic experience and add value to the experience of the visit.

Table 4. Tourists' perceptions regarding sustainable heritage management.

Factors	Attributes	L	E	CVE
Heritage management: authenticity, sustainability, and community involvement	Sustainability in heritage management is crucial since it guarantees the health of the economy, culture, and environment	0.822	6.589	32.945
	It is better to take environmentally friendly transport within the city	0.793		
	Heritage management should consider current planning strategies to enhance cultural heritage	0.784		
	Well-preserved heritage enriches tourists' experiences in Porto city	0.774		
	It is important to develop heritage management strategies considering sustainable development goals	0.740		
	It is important to support local businesses while travelling (going to restaurants, local markets, souvenir shops, etc.)	0.734		
	The authenticity of Porto heritage and culture is notable	0.721		
	Interaction and socialization with locals enrich touristic experiences	0.546		
	The local community is engaged in the local cultural heritage	0.448		
Heritage preservation through tourism	Globalization and activities attracting tourists lead to the increase of historical city identity	0.728	2.138	43.633
	Tourism has a positive impact on heritage conservation and restoration	0.698		
	Tourism contributes to the preservation of the heritage by increasing awareness of tourists	0.577		
	Local monuments and historical buildings are well-preserved	0.550		
	Growth for touristic experiences will add value to heritage	0.474		
Consumer-driven tourism	Tourists recycle and reduce the amount of rubbish while travelling	0.701	1.379	50.527
	Tourists value modern attractions more than heritage-based ones	0.662		
	Porto is becoming an artificial city lately due to mass tourism	0.618		
	Tourists' well-being is defined by their consumption behaviour during the visit	0.615		
Threats to Heritage	Sustainability is not a concern while travelling since the tourists are enjoying their experience outside of their home country	0.790	1.320	57.129
	Globalization and activities attracting tourists lead to the loss of historical city identity	0.738		

Source: authors. *Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Note: L-loadings And E-eigenvalue-cumulative variance were explained.*

The third factor is called "*Consumer-Driven Tourism*", linking items such as tourists valuing modern attractions more than heritage-based ones, the perception that Porto has become an artificial city due to mass tourism, and the role of consumption behaviour in defining tourists' well-being during their visits. This factor also considers tourists' efforts

to recycle and reduce waste while travelling. This factor stresses the growing role of tourist preferences and practices in shaping tourism experiences and their demand-driven characteristics. On the one hand, tourists value modern attractions more than those based on heritage, and this could lead to a risk to heritage and its significance due to destinations seeking to fulfil tourists' demands. In turn, for those appreciating heritage sites, Porto may be perceived as a mass tourism artificial destination. This factor also considers tourists' efforts to recycle and reduce waste while travelling.

Visitors typically appreciate initiatives related to environmental conservation, such as promoting sustainable transport, including trams and bicycles, and the growing offer of eco-friendly accommodation. In our study, the most used transportation method is public transportation. Regarding tourists' perceptions towards recycling and waste reduction, the responses were neutral, suggesting that no clear measures encourage tourists to recycle and reduce waste while visiting Porto. Thus, educating and sensitising society, in this case, tourists, about the importance of sustainable heritage is crucial. Awareness campaigns and educational programs help to strengthen respect for and appreciation of heritage, encouraging more responsible behaviour. However, it should be considered that nowadays, mass tourism and its effects on the quality of life of residents and heritage are already observed [28]. Mass tourism is beginning to show effects on the quality of life of residents and heritage, pointing to the need for more robust strategies to manage tourist flows. The rapid growth of tourism in some areas of the city can be perceived as a threat to the balance between tourism and sustainability.

The fourth factor, titled "*Threats to heritage sustainability*", reflects the lack of concern among tourists for heritage sustainability while travelling, as they prioritise enjoying their experience away from home. Additionally, globalisation and activities aimed at attracting tourists are identified as contributing to the loss of a city's historical identity. The final factor should emphasise the importance of a deeper understanding of the potential negative impacts of tourism on heritage sites. These impacts often stem from a lack of sustainability concerns among tourists and the influence of globalisation, which can undermine the authenticity and preservation of cultural heritage.

Table 5. Cronbach alpha.

Factors	Heritage Management: Authenticity, Sustainability, and Community Involvement	Heritage Preservation Through Tourism	Consumer-Driven Tourism	Threats to Heritage
Cronbach alpha	900	713	626	533

Source: authors.

In short, tourists in Porto tend to value sustainable management efforts. Still, some challenges remain, especially regarding managing tourist flows and preserving local heritage in the face of the city's growing popularity.

Supervisory and municipal bodies must consider various elements to carry out integrated planning and management, which must consider environmental, social, cultural and economic aspects, promoting local development and social cohesion. This includes implementing participatory policies, involving local communities in the decision-making process on heritage management, and ensuring that their values and needs are respected.

Finally, continuous monitoring and evaluation of the impacts of sustainable management actions are essential to ensure that objectives are achieved and to adjust strategies, guaranteeing long-term effectiveness.

Despite the significant contributions of this research, some limitations can be identified. Hence, the geographical and temporal scope of the research was limited since this study

was tested in the historical city centre during a specific period. More contributions are needed to better understand tourists' perceptions of sustainable herniate management in historical cities vulnerable to uncontrolled tourism growth.

In the future, conducting research with heritage site decision-makers to understand their point of view would be worthwhile. They are the ones who develop the strategies and should consider the theoretical results of the research and its application in practice.

4. Conclusions

The study's conclusions on tourists' perspectives concerning the sustainable management of heritage in the city of Porto highlight crucial points that reflect the opinions and expectations of visitors and the challenges to be faced. The results allow us to draw some main conclusions. Thus, regarding the profile of visitors and the characteristics of the trips, the analysed sample is composed of diverse profile tourists with an age range varying between 17 and 65, an average age of 30 years, primarily female, with high education, and from several countries, including Spain, France, and the USA. Regarding the characteristics of the trip, they reveal that many have visited Porto before, highlighting their loyalty to the destination and continuous interest. The recommendation of friends and family is relevant when choosing a destination. Regarding transport and accommodation, a conscious and sustainable choice by tourists prevails, so we can refer to the primary choice of public transport and the preference for local accommodation.

Tourists express perceptions about sustainability and heritage management, recognising the efforts of the various entities in Porto to preserve its historical and cultural heritage while developing tourist infrastructures. The revitalisation of buildings and the maintenance of historic facades are seen as positive actions that reflect the city's commitment to sustainability, which in turn enriches tourists' perceptions and experiences in Porto City.

Data on the challenges of sustainable management point to the perception that, although efforts are effective, the growth of tourism can threaten the balance between development and preservation.

Four factors related to heritage management were defined, considering authenticity, sustainability, and community involvement in the management process, emphasising its importance and shaping tourists' perceptions. The second factor is called heritage preservation through tourism, stressing the positive impact of tourism. The third factor is related to consumer-driven tourism, showing the importance of balancing tourists' needs and heritage conservation. The fourth factor, entitled 'Threats to heritage,' emphasises the need to address the sustainability and preservation of the cultural significance of heritage sites. It stresses the importance of preserving these sites' authenticity and unique identity in the context of globalisation.

Thus, in our perspective, to ensure the effective, sustainable management of heritage in the long term, strategic planning is necessary that involves all stakeholders, including the local community, promoting participatory policies and making decisions that respect the values and needs of residents. Continuous monitoring, namely through this type of survey of tourists and the local population, as well as the evaluation of management actions, are essential to adjust strategies according to needs and ensure the preservation of Porto's authenticity and historical value.

In conclusion, the city of Porto has demonstrated significant efforts in sustainable heritage management, being recognised by tourists as a destination that balances cultural preservation with tourism. However, the city's growing popularity requires extra attention to maintain the harmony between tourism and sustainability. Authorities such as the Porto City Council and other decision-makers should implement policies and collaborate with the research team of the current project in implementing strategies that consider environmental,

social, cultural, and economic aspects, ensuring local community engagement and promoting sustainable practices among visitors. Future success will depend on adapting and responding to the pressures of growing tourism, preserving Porto's unique identity. This becomes critical in contributing to achieving SDG 11, "make cities and human settlements inclusive, safe, resilient and sustainable", by strengthening efforts to protect and safeguard the world's cultural and natural heritage.

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