



Systematic Literature Review and Bibliometric Analysis on Consumer Preferences for Cultural Heritage

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Abstract: Cultural heritage is vital for sustainable development of society, but systematic analysis of the identification of its economic value based on consumer preferences remains underexplored. This study identifies consumer preferences and willingness to pay for the various types of cultural heritage. A systematic PRISMA review analysed the literature from 2003 to 2024, complemented with bibliographic analyses to identify trends in research. The findings show that consumers value information on the spot, such as walking tours, information centers, and audio guides, and they enjoy shopping in cultural heritage areas. However, the experience is significantly marred by traffic problems. Museum visitors showed a lower willingness to pay for food, beverages and audio guides than visitors to other sites. Specific preferences include temple visitors who prefer tea with monks and repeat visitors who appreciate Seon's meditation programs. These findings inform policies for the protection of cultural heritage, especially museums and temples, and highlight areas for further research.

Keyword: Cultural heritage, choice experiment, Systematic review, Consumer preferences, Willingness to pay, SDG

INTRODUCTION

Cultural heritage is a valuable legacy that has been passed on to society by previous generations. In this study, intangible heritage is the form of heritage that is attached to tangible cultural heritage, excluding other areas of intangible cultural heritage, such as festivals. However, the definition also covers industrial heritage and cave paintings.

Protection of cultural heritage promotes the achievement of inclusive, safe, resilient, and sustainable human settlements. In order to effectively protect cultural heritage, policy instruments should be optimised and stakeholder participation should be increased [1]. As a significant stakeholder, consumers can help realise the value of cultural heritage through their viewpoint on its preservation. Finding the value of cultural heritage from the viewpoint of consumers is crucial in this situation.

The choice experiment (CE) method is being applied in identifying consumer preferences and evaluation of cultural heritage. Whereas Wright and Eppink used meta-analysis to identify factors influencing the value of cultural heritage, there are currently no studies to focus on the systematic identification of consumer preferences for different types

of cultural heritage, thus developing consensus policies for their conservation, preservation, or adaptive reuse [2].

To fill this gap, the study aimed to: 1) identify consumer preferences and willingness to pay (WTP) for different characteristics of different types of cultural heritage; 2) identify gaps in the assessment of consumer preferences for cultural heritage and in the economic valuation of cultural heritage. This study systematically identifies the factors that consumers prioritise for different types of cultural heritage, and will inform the development of effective policies to promote the conservation of cultural heritage and to advance the achievement of the 11th Sustainable Development Goals. In addition, it helps to address the potential research gap in identifying consumer preferences for protecting cultural heritage.

This review follows the framework of a systematic review proposed by Moher's research group, as it can use specific methods for selecting and analysing relevant studies [3]. The data collection of this review follows the preferred reporting approach of the systematic review and meta-analysis method (PRISMA) [3], while the content of this review is based on the specific issue of consumer preference for cultural heritage, which is assessed in accordance with the CE method.

RESEARCH METHODOLOGY

Systematic Literature Search

This study is based on a systematic literature review. The PRISMA guidelines were used to guide the review. Data from Scopus, Web of Science, and Google Scholar were retrieved in April 2024. These were the three most widely used platforms with the largest repositories of socio-scientific research papers [4]. This is because the databases cover most of the social science publications that presented original research using the CE method for conducting their cultural heritage research on consumer preferences. The selection of the literature was based on three criteria: first, the papers should focus on cultural heritage sites; second, the papers should adopt the CE method; third, the papers should be based on original research; and fourth, the papers should be published in the period 2003 to 2024. This timing was due to the publication in 2003 of the first empirical study using the CE method in cultural heritage [2].

We conducted a search in the abstract, title, and keywords on the three platforms using the terms “visitor” or “consumer” or “public” and “choice experiment” or “discrete choice” or “stated choice” or “conjoint analysis” and “cultural heritage” or “cultural tourism” or “heritage” on 1 April 2024.

The papers extracted from the search on the three platforms were initially examined only in their titles and abstracts. Studies with abstracts that did not meet the eligibility criteria were excluded. Then the Covidence software was used throughout the whole screening procedure. The full text of the remaining publications was examined to determine whether they met the criteria, and if so, whether they should be taken into account in the current investigation. During the whole screening process, all authors independently reviewed the documents, following the inclusion criteria described above. Divergences were resolved through in-depth discussions, and inclusion standards were ultimately agreed upon by all authors.

A total of 2262 papers were initially extracted: 1210 from the Web of Science, 1020 from Google Scholar, and 32 from Scopus. Then we eliminated 39 duplicates using Covidence. Consequently, 2223 papers were included in the screening procedure. In addition, two that were only related to intangible cultural heritage, one that was not peer reviewed, one that was not full-text available, eight that were unrelated to cultural heritage, 26 that were not employing the CE method, and two that were only related to intangible cultural heritage were excluded from the screening process. In addition, papers based on the same survey were presented as a single study. Nineteen papers were included under this procedure. Two more papers were added by the snowballing method. A total of 21 papers were included in the analysis. The procedure for obtaining the review papers is shown in Figure 1.

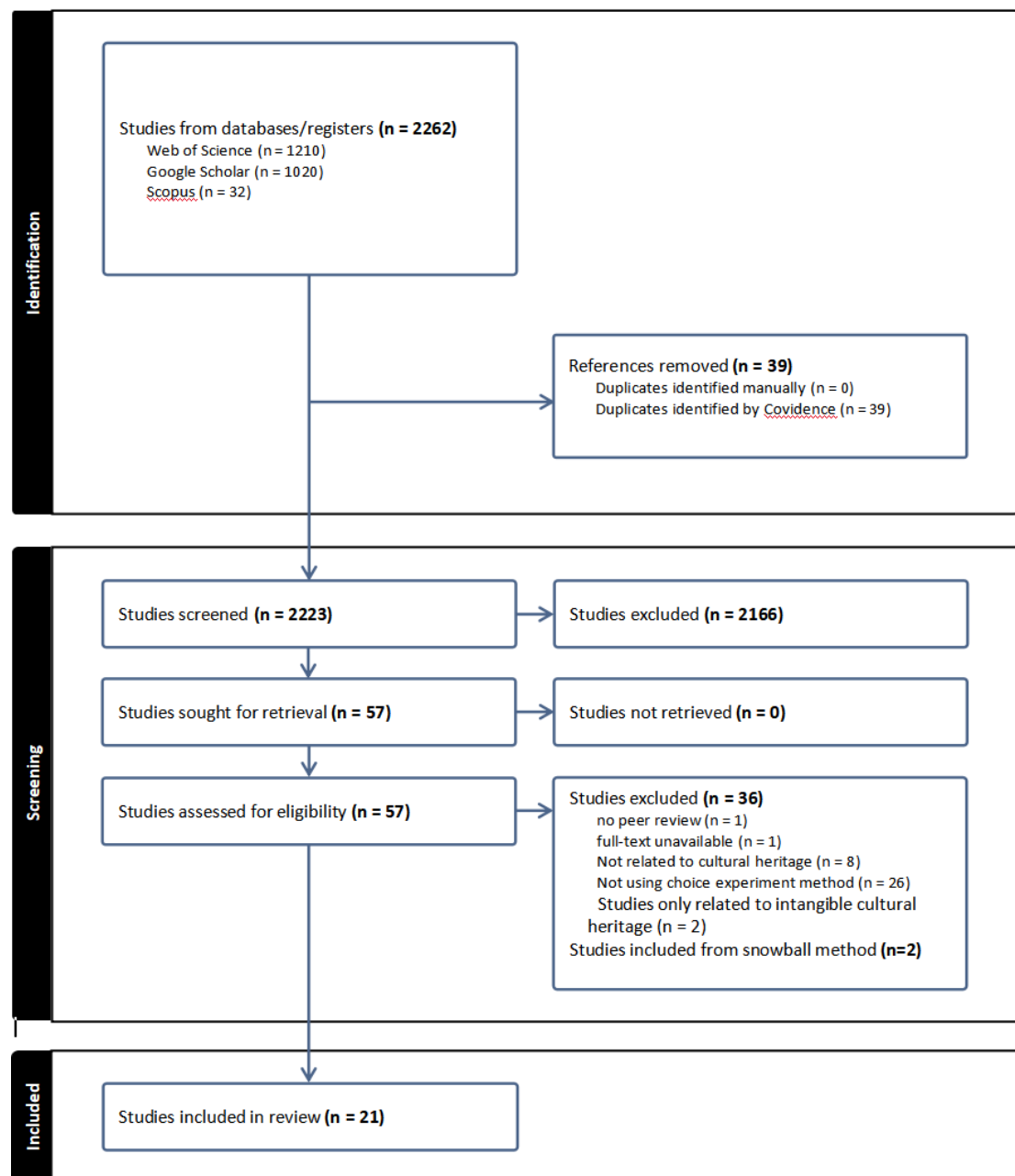


Figure 1: Flow chart of the different steps used to select the studies

The Bibliometric Analysis Technique

Bibliometric methods are used for quantitative analysis of bibliometric data [5, 6]. Science mapping and performance analysis are part of bibliometric analysis. While the science mapping identifies the links between the research components and presents them in an aesthetically pleasing way, the performance analyses are descriptive [7-10]. In this study, bibliometric maps are produced with VOSviewer software, which is particularly useful for presenting large bibliometric maps in a comprehensible way [11]. The bibliometric maps in this study are mainly used to analyse keywords, including co-occurrence of keywords and the temporal evolution of keywords, to manifest the trend of research development in the past 20 years. The reference unit referred to was analysed by using the full counting method [12].

RESEARCH RESULTS

Bibliometric Analysis

Based on the systematic review, Figure 2 quantifies the chronological contribution of published articles on consumer preference for cultural heritage that used the choice experiment method. From 2003 to 2024, an average of one paper was produced per year, with a number ranging from zero to two. Output fell to zero in 2006 and 2018; it was at a maximum of two in 2005, 2009, 2010, 2017, 2019, 2021, and 2022. All other years were recorded with one paper. The most active period was from 2019 to 2022, followed by a reduction each year in both 2023 and 2024. Overall, publication activity remains small and cyclical rather than growing. Research on consumer preferences for cultural heritage through the choice experiment method has not been sufficiently conducted in recent years.

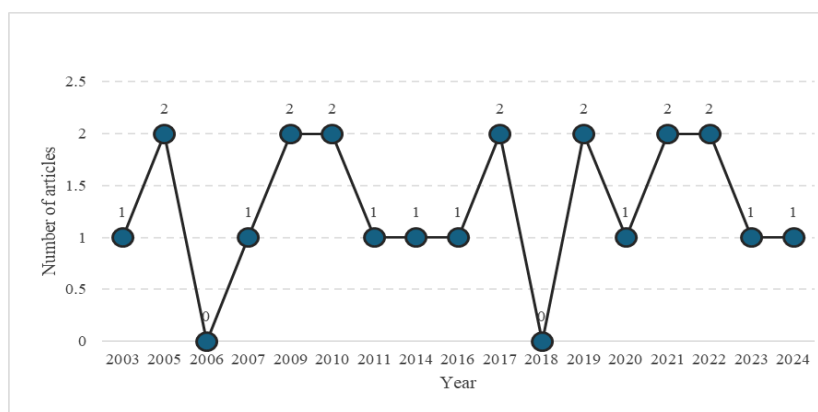


Figure 2: Number of publications every year

Co-occurrence of Keywords

The visualisation map was created with VOSviewer software using selected bibliographic data through a co-occurrence analysis. The minimum number of occurrences per keyword selection was two, and the total strength of the co-occurrence links was calculated for each of the 23 keywords. As shown in Figure 3, three closely related themes in consumer preferences for cultural heritage using choice experiments. The red area focuses on “cultural heritage” and links to “valuation”, “tourism economics”, “willingness to pay”,

“discrete choice models”, and “mixed logit”, with “discrete choice experiment” as the dominant design. The blue area, including “heritage tourism”, “tourist behaviour”, “tourism management”, “choice experiment”, bridges applications of choice experiment method to economic valuation via tourism economics. The green cluster, including “Europe”, “southern Europe”, “Greece”, “Eurasia”, and “choice modelling”, is a regionally focused evidence base that feed into the other clusters through heritage tourism and choice modelling. The clusters indicated that the economic valuation of cultural heritage is always linked to the tourist economy and can follow the trend of the tourism economy. In addition, the use of the choice experiment method in consumer preference assessment is well advanced in Europe. This indicates a gap in the identification of consumer preferences for cultural heritage in other countries.

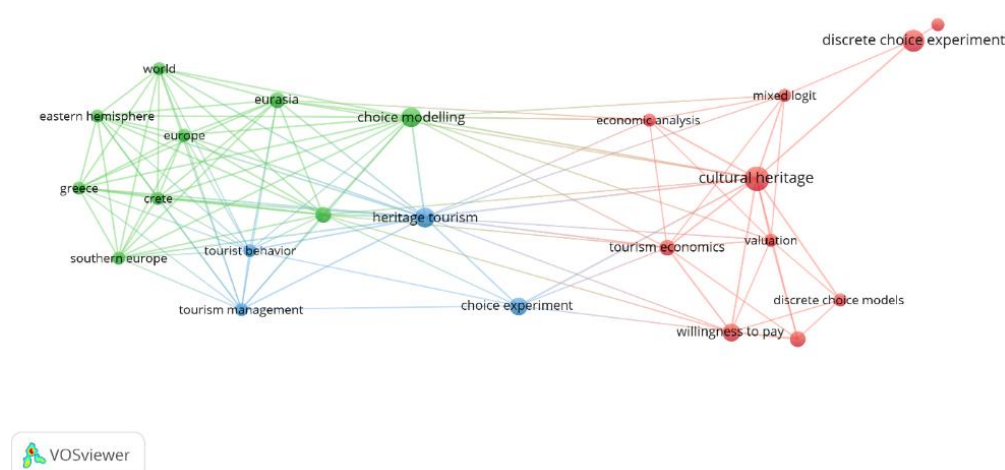


Figure 3: Keywords co-occurrence visual map

Temporal Evolution of Keywords

The VOSviewer overlay map traces the time shift of the research, as illustrated in Figure 4. The change from dark blue to yellow means a change from before to now. The initial work (2005--2010) focused on geographic and contextual terms—Europe, Southern Europe, Greece, Eurasia—and “choice modelling”, indicating that initially most studies were carried out in European heritage sites. Around 2010--2014, application-oriented topics, notably “heritage tourism” and “tourist behaviour”, are emerging as bridges between the site context and modelling practice. The latest stream (2015--2020) focuses on valuation and econometrics, with cultural heritage closely linked to “tourism economics”, “valuation”, “willingness to pay”, “discrete choice models”, and “mixed logit”. Together, these trends suggest a shift from place-based, descriptive studies to robust welfare estimation and analysis of heterogeneity. The gaps implied by the network include advanced econometric models and a release from a heavy European focus. Future studies could combine behavioural constructs with WTP through the mixed logit model and diversification of study settings to enhance external validity and policy relevance in conservation and pricing.

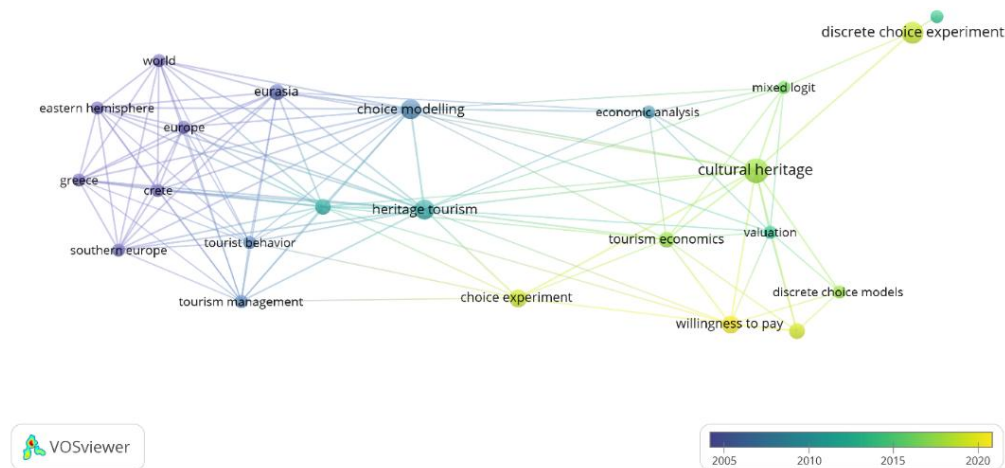


Figure 4: Temporal evolution of keywords

Systematic Review

The final list comprised 21 papers (Table 1). The reviewed literature covered four types of cultural heritage: museum (the art gallery and Old Parliament House were covered), architectural site (village, city, Vindolanda Roman fort, industrial site, the Demilitarized Zone were covered), historical building (the palace, the temple, the statue were included), and the area which is both natural and cultural heritage (Lobos, Canary Islands, Alto Douro Wine Region were covered).

Based on the papers reviewed, it was found that a total of seven attributes related to consumer preferences and WTP were investigated by at least two papers, as shown in Table 1. Out of the seven attributes, landmarks was the most frequently referred to attribute in the reviewed papers. The least referred to attribute was transport and congestion. Consumer preferences for these attributes and their WTP are discussed below.

Table 1: Attributes in reviewed papers

N	Attributes	References
1	Landmarks	(Choi & Fielding, 2016) (Lourenço-Gomes et al., 2014) (Bertacchini & Frontuto, 2024) (Lourenço-Gomes et al., 2014) (Willis, 2009) (Tsai & Chen, 2019) (Sardaro et al., 2021)
2	Information	(Mazzanti, 2003) (Apostolakis & Jaffry, 2005b, 2005a) (Willis, 2009) (Detotto et al., 2022) (Bertacchini & Frontuto, 2024) (Tsai & Chen, 2019)
3	Exhibition and interaction	(Choi et al, 2010) (Tsai & Chen, 2019) (Detotto et al., 2022) (Burke et al., 2010)
4	Research Activities	(Kim et al., 2023) (Willis, 2009) (Choi et al., 2010)
5	Food and Beverages	(Apostolakis & Jaffry, 2005b, 2005a) (Choi et al, 2010) (Tsai & Chen, 2019) (Jaffry & Apostolakis, 2011)
6	Shop	(Tsai & Chen, 2019) (Neuts & Vanneste, 2019)
7	Transport and Congestion	(Apostolakis & Jaffry, 2005b, 2005a) (López-del-Pino & Grisolia, 2017) (Neuts & Vanneste, 2019) (Birenboim et al., 2022)

This section compares the main findings and WTP estimates for the various attributes from the included publications. Only those attributes which were relevant to the results of the studies have been highlighted below, as their relevance is evidence of respondents' preferences. The WTP estimates can be seen as simple signals of the relative importance of each level of attributes. In the comparison of consumer WTPs in different countries over the last 20 years, the value of consumer WTP has been standardised to US\$ per capita at 2022 prices using purchasing-parity adjusted exchange rates and GDP deflators as reported by the World Bank [13-15]. This minimises the impact of economic diversity on the estimation of WTPs in different countries and at different times.

Landmarks

Landmarks, which represent the uniqueness of the cultural heritage, was the most frequently used attribute in the literature for consumer preference assessment. The WTP for the landmarks of an architectural site in the UK was approximately 4.19 US\$ per person [16], 14 US\$ per person in Italy [17], and 23 US\$ per person in China [18]. Moreover, consumers' WTP has increased with their income and international status [19]. In addition, consumers who were better informed about cultural heritage were more appreciative of landmarks and artefacts [19].

Information

Consumer expectations for the quality of information provided by cultural heritage sites have increased over time, driven by the increasing availability of various information sources. The basic tools for interpreting museum exhibits are the information board and the QR code, which provide information in words and pictograms [16, 20]. The early studies cited audiovisual media facilities [16, 21-23], whereas the latest studies cited information centres in art galleries [24]; the more recent studies cited experience centres and walking tours [18]. In addition, the results also indicated that the WTPs of consumers for different types of cultural heritage varied significantly. The WTP for audio media services at the Galleria Borghese museum in Italy was 0.5 US\$, similar to the figure of 0.48 US\$ reported in Greece [22, 23].

Exhibition and Interaction

Consumers were concerned about the frequency, duration, and quality of temporary exhibitions in museums. In particular, consumers prefer five exhibitions in one year. Frequent visitors were willing to pay less if the British Museum had fewer annual exhibitions [25]. As regards the duration of the exhibition, museum visitors in Australia were willing to pay 3.14 US\$ for longer temporary exhibitions [26]. Moreover, high-quality exhibitions were attractive to the highly educated people and the people in the wealthy at-home class [27].

Consumers have expressed strongly opposite views on interactive programmes in museums and historical buildings. Consumers were willing to pay 13.47 US\$ for the fortune-telling ritual, almost double that for exhibitions [20]. However, in Australia, consumers were not receptive to the interactive activities in museums [27]. This could be explained by the

fact that interactive programmes did not meet the expectations of consumers for a museum [27].

Research Activities

Courses and research activities in museums, temples and architectural sites could attract consumers as they offer a hybrid and interactive learning experience. In particular, consumers were willing to pay around 30 US\$ for temple courses in Korea and 46 US\$ for excavations and research in the UK, but only 4 US\$ for lectures and seminars in museums in Korea [16, 26, 28]. The research in Korea showed that consumers were willing to pay the highest price for conversations with a monk in four courses, and their WTP for Seon meditation increased with the frequency of visits [28].

Food and Beverages

Consumers' preferences for food and beverages varied according to the type of food and cultural heritage they were visiting. In both studies of museums in Australia and historical buildings in China, the WTP of consumers for fine dining was almost twice that for refreshments and cafes [20, 26]. Visitors to the historical building in China were willing to pay about 40 US\$ for the set meal, five times the WTP per capita for food in museums in Australia.

Shop

Both fashion and traditional-style shops were attractive to consumers, as visiting architectural sites and buying souvenirs was a pleasant tourist experience. Visitors to Amsterdam were willing to pay 28.23 US\$ for international chain stores and less for coffee shops [29]. Moreover, in China the WTP for souvenirs and thematic handicrafts at the architectural site was around 20 US\$ [20].

Transport and Congestion

The only attribute found in the CE study which contributed to the possible loss of consumer surplus was congestion. The results showed that consumers in Greece experienced a loss of consumer surplus of 6 US\$ for the 150 people on-site at any time [21]. In line with these findings, a study in the Netherlands found that the utility of residents also turns negative for about 130 people on-site at the same time [29]. Moreover, residents of the architectural site centre were willing to pay 0.16 US\$ per year for an uncrowded environment, similar to the 0.14 US\$ the residents of the non-residential area in the Netherlands [29]. However, evidence from Israel showed that residents in the peripheral neighbourhoods were willing to pay about 1.57 US\$ per month, more than those in the centre, to avoid crowding [30].

CONCLUSIONS

This study, based on a systematic review, identifies consumer preferences for protecting cultural heritage over the last two decades. The findings show that consumer surplus in

cultural heritage sites is influenced by several factors, including landmarks, information, exhibition and interaction programmes, research, food and beverages, shop, and traffic. The study recommends moving from individual research efforts to a wider policy framework in order to make cultural heritage programmes more feasible. Specific recommendations are made for museums and temples. In addition, this research provides guidance for future studies on consumer preference for cultural heritage.

Preservation efforts should focus on landmarks as they are the main competitive advantage of a cultural heritage and a key attraction for consumers. To support this, heritage tax is a viable strategy, but it should be structured in a progressive way, with discounts for lower-income, larger households, or older households, reflecting different WTP. Additionally, long-term conservation awareness can be built through educational initiatives from a young age to reinforce the value of cultural heritage in the public's collective memory.

As societal expectations regarding information evolve, cultural heritage sites should provide multi-channel approaches, such as on-site walking tours and information centres. In particular, in museums, the price of information services, food, and beverages should be lower than in other places, such as architectural or historical buildings. Museums should also prioritise their core mission of exhibition and not on interactive activities. They should offer high-quality, temporary exhibitions several times a year, aimed at an educated and affluent audience.

Temple managers should tailor programs to visitor preferences and the length of visits. For instance, Seon meditation and temple stay programs are ideal for repeat visitors, while the inclusion of a "tea with a monk" session in other initiatives may attract new visitors. Furthermore, the acceptance of retail is essential for the satisfaction of visitors and for economic development. High-quality retail can offer memorable experiences and provide a vital source of income for the conservation of cultural heritage.

To combat consumer frustration caused by congestion, a multi-pronged approach is needed: introduce visitor limits for each site according to its specific space and capacity; introduce combined entry cards for several tourism points in the city and offer discounts during non-peak hours to better distribute the traffic of visitors; local and central authorities should cooperate with the tourism industry to improve transport and facilities to make access to the sites more comfortable for visitors.

Future research should build on these findings in a number of key areas: (1) Conduct empirical studies on different types of cultural heritage in different countries in the world to identify new factors influencing consumer preferences. (2) Use advanced models, such as the mixed logit model, to identify visitor preferences. In addition, further research is needed to apply the CE method for the design of tourism products, including the development of a standardised framework.

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