

# The Impact of Destination Cultural Embeddedness on Cultural Heritage Tourism Authenticity based on Perceptual Modeling

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**Abstract:** To explore the relationship between local culture and heritage cultural tourism, and the mechanisms that influence the role of both. The study first constructed a theoretical framework for perceptual modeling and adopted a perceptual modeling approach to collect feedback data from tourists, including evaluations of cultural embeddedness, cultural heritage presentation and preservation, and information accuracy, through a case study and questionnaire survey of the Florence destination. Data were analyzed using structural equation modeling. The results of the experiment showed that the cultural embedding of the destination using the perceptual model had a positive impact on tourists' perceptions of authenticity and was able to obtain a 93 per cent level of satisfaction. This shows that deep cultural embedding significantly enhances tourists' satisfaction with the authenticity of the destination's cultural heritage. The results of the study help to understand the importance of cultural embedding in enhancing tourists' experience and satisfaction, and also provide an empirical basis for the planning and management of cultural heritage tourism.

**Keywords:** Heritage tourism; Perceived authenticity; Cultural embeddedness; Perceptual modeling

## 1. Introduction

The authenticity of cultural heritage in tourism destinations has always been a central theme in tourism research and practice. Destination image perception is the tourist's things and phenomena of the destination's Recognition, impression and emotional expression. In the context of modern tourism, tourists' perception of the authenticity of cultural heritage not only affects the quality of their tourism experience, but also has a significant impact on the sustainable development of the destination [1]. Authenticity in cultural heritage tourism relates to whether the cultural heritage and historical information presented in a destination is a true and accurate reflection of the local history, culture and heritage. With the growing importance of cultural embeddedness in destination planning, the study therefore set out to analyze the impacts of tourism authenticity using a special computerized approach, namely perceptual modeling, in order to determine the authenticity of tourism-related information or experiences. This research innovatively, after elaborating the relevant definitions, detects the combined emotions of local culture on tourists' travel by introducing a novel perception model, which in turn facilitates the localization of the relationship between the two roles. The study aims to gain insights into the characteristics and mechan-

isms of this influence to inform the sustainable development of cultural heritage tourism.

## 2. Definition of Relevant Concepts

Cultural heritage tourism authenticity is concerned with ensuring that destinations accurately reflect local history, culture and heritage in order to provide tourists with an authentic and culturally enriching experience that avoids fictionalization or distortion [2]. This includes aspects of cultural heritage preservation, accurate historical information, community involvement and visitor education to maintain authenticity. Cultural integration in tourism destinations refers to the in-depth integration of local cultural elements, such as traditions, history, customs, cuisine and arts, to enrich the cultural experience of tourists, allowing them to understand and participate in the destination culture in greater depth, and enhancing the authenticity and richness of the tourism experience. Cultural integration contributes to the preservation and transmission of cultural heritage while promoting local community participation and sustainable development. Perceptual modeling is a type of modeling in computer science that simulates the ability of humans or machines in sensing the environment, such as vision, hearing, and touch, etc. Perceptual information is processed through data and algorithms to enable machines to perceive and

understand their surroundings. Perceptual modeling is widely used in several fields, including computer vision, natural language processing, self-driving cars, etc., to improve the machine's ability to perceive and interact with the environment [3].

### 3. Data Preparation and Model Selection

Data preparation was divided into data collection and data preprocessing. Data collection includes visitor feedback, cultural embedding, cultural heritage and perception modeling data. Tourist feedback data can be obtained through questionnaires or interviews and cover tourists' perceptions and satisfaction in cultural heritage tourism. Cultural embeddedness data measures the extent of cultural elements, including performances, products and guided tours. Cultural heritage data include architecture, traditional crafts, and artifacts. Perception modeling data includes evaluations, expectations, and feedback. Data preprocessing includes cleaning, integration, normalization, and visualization. Cleaning deals with missing, abnormal and duplicate data to ensure data quality. Integrate different data sources to establish associations. Standardization ensures that data is comparable. Visualization uses charts, images, and maps to present data for easy understanding and analysis. Model selection is critical to analyze the impact of perceptual models on the authenticity of cultural heritage tourism. Structural equation modeling was chosen for this study due to its ability to handle complex relationships between multiple variables. The study incorporates the model of tourists' perceptions, including latent factors such as perceptions, attitudes, and expectations, culturally embedded factors such as literacy, performances, and tour guide services, and another observational variable, cultural heritage authenticity relationship, into this model.

### 4. Case Studies

#### 4.1. Case background

Florence is a city full of history and cultural heritage, with a rich Renaissance heritage, including numerous monuments, museums and works of art. In terms of cultural heritage features, Florence is known as the cradle of the Renaissance and is home to a number of important cultural heritage sites, such as the Uffizi Gallery, which houses a large collection of Renaissance artefacts, and in terms of culturally embedded features, Florence embeds cultural elements in a number of ways in order to provide a profound cultural experience, including demonstrations of traditional craftsmanship, artistic performances and guided tours.

#### 4.2. Questionnaire data survey

The study examines visitor questionnaire data collected from different cultural heritage sites in Florence, with

variables including cultural embeddedness, cultural heritage presentation and preservation, information accuracy, and perceived tourist authenticity ratings. Each variable was rated on a scale ranging from 1 to 5, where 1 indicates very dissatisfied or inauthentic and 5 indicates very satisfied or very authentic. Five hundred questionnaires were distributed in the form of online questionnaires, and the rating results of 50 tourists were randomly selected for statistical analysis. Example The first visitor rated the degree of cultural embeddedness bit 4, cultural heritage presentation and protection rated 5, information accuracy rated 5, and perception of authenticity rated 4.

### 4.3. Analysis of the impact of tourists' perception of authenticity

After completing the collection of data on tourists' perception of authenticity by means of questionnaires, the study built a suitable test environment. Satisfaction was used as the test index to compare the effects of using and not using the perception model on the authenticity of cultural heritage tourism when culturally embedded and non-culturally embedded. The test results are shown in Figure 1.

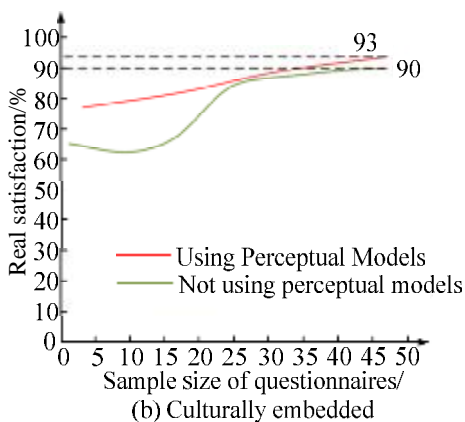
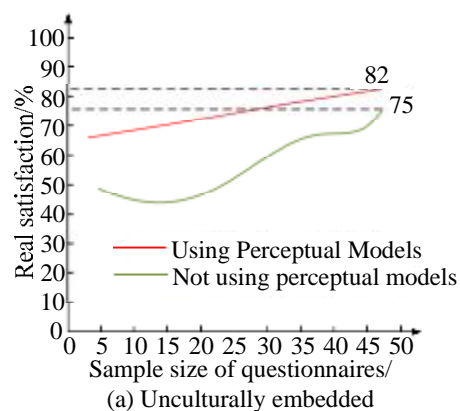


Figure 1. Results of the impact of real satisfaction with or without cultural embeddedness and with or without the use of perceptual modeling

Figure 1(a) shows the results of authenticity satisfaction with and without the use of perceptual modeling when there is no cultural embedding, and Figure 1(b) shows the results of authenticity satisfaction with and without the use of perceptual modeling when there is no cultural embedding. As can be seen from Figure 1, the satisfaction with the authenticity of cultural heritage tourism embedded by culture is generally higher than that without culture embedding. At the same time the authentic satisfaction curves with the use of the perceptual model are generally better than without the use of the perceptual model. Without cultural embedding, tourists' authentic satisfaction after using the perceptual model was the highest at 82%. In the case of cultural embedding, the highest level of real satisfaction of tourists after using the perceptual model was 93%. It can be seen that deep cultural embedding will strengthen tourists' perception of the cultural heritage of a tourist destination, making it more profound and authentic. For example, through the traditional craft demonstration tourists can visit the local leather workshop to understand the traditional craft of making Italian leather products. In terms of attitudes, positive culturally embedded experiences may contribute to tourists developing more positive attitudes towards the destination. For example, street artists and musicians often perform in the city's piazzas, providing cultural entertainment for tourists. Finally, the process of meeting and exceeding expectations, such as professional tour guides who provide cultural explanations and historical context to help tourists better understand Florence's culture, can significantly

increase tourists' satisfaction, which in turn influences their overall evaluation of the tourism experience.

## 5. Conclusion

The authenticity of cultural heritage tourism is one of the important considerations for tourists to choose a tourist destination, and the degree of cultural embeddedness of a destination will have an impact on the authenticity of a tourist destination. The experimental results show the positive impact of cultural embeddedness such as traditional craft demonstration, art performance and professional tour guide service on tourists' perception of authenticity. The impact effect of using the perception model is significantly better than that of not using it, and the satisfaction level of using the perception model is the highest at 93%. In summary, the deep integration of cultural elements provides empirical evidence to enhance tourist satisfaction and sustainable development of the destination.

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