

Proceeding Paper

# An Investigation of Placemaking Attributes for Cultural Tourism in Historic Port Cities: Using the Fuzzy Delphi Method <sup>†</sup>

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**Abstract:** A placemaking framework can be a decisive guide in the decision-making processes to augment cultural tourism practises in unique destinations like historic port cities. This paper intends to present a preliminary list of 16 attributes and 55 indicators compiled based on a literature survey and expert inputs to improve the cultural tourism experience within historic port cities. A fuzzy Delphi survey was then performed, consulting 12 selected experts identifying 43 significant indicators under physical, functional, social, and notional dimensions. Furthermore, this study serves as a valuable reference for policymakers in similar destinations to implement sustainable strategies.

**Keywords:** placemaking; urban design; urban revitalization; sustainable urbanism; cultural tourism; port cities; fuzzy Delphi; liveable cities; creative cities

## 1. Introduction

The importance of sustainability in all fields, especially in the realm of urban planning, has become a matter of utmost urgency due to the ill effects of globalisation. The spokes of globalisation have also triggered immense growth in the cultural tourism sector, where places are staged exclusively for tourists, alienating the locals for profit-driven objectives. The importance of the community and its people in sustaining the essence of the place is often overlooked by the decision makers. This study aims to highlight the importance of placemaking by presenting a meticulous compilation of attributes and indicators that guide decision-makers aspiring to enhance the cultural tourism experience in historic port cities.

This study is divided into two stages. In the first stage, the study assembles an initial roster of 16 attributes and 55 indicators; each found to play a significant role in shaping the placemaking landscape for cultural tourism in historic port cities through document analysis of existing literature and the infusion of expert insights. The fuzzy Delphi method was adopted in the second stage to achieve expert consensus on the inferred attributes. The collaborative efforts of engaging with a panel of 12 carefully selected experts through a Fuzzy Delphi survey identified 43 important indicators underpinning the placemaking process in historic port cities.

The paper is organised into four different sections to develop a placemaking framework for cultural tourism in historic port cities. Following this introduction, the second section, 'Theoretical framework', reviews the placemaking attributes for cultural tourism in historic port cities. This section discusses the association of cultural tourism with historic port cities and placemaking. The third section introduces the Fuzzy Delphi method to process the attributes and indicators. The fourth section deliberates on the results, listing the significant indicators chosen by the experts.

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## 2. Theoretical Framework

This section seeks to explore the theoretical underpinning that forms the basis of investigation regarding placemaking attributes that define the visitor experience in these unique destinations. Relevant information was not only gathered from journals, citations, books, academic databases, library catalogues, and bibliographies but also from research institutions, agencies, organizations, and expert recommendations. The study is systematized in such a way that the attributes are extracted while examining the association of cultural tourism with historic port cities and placemaking to ensure that the attributes are identified within the context of this relationship.

### 2.1. Historic Port Cities and Cultural Tourism

Settlements with natural advantage along water side contracted in trade with uncharted territories, transforming cities into crossroads of various cultures. The port cities expanded with new traders and routes exchanging goods, people and ideas [1]. The growing trade established industries with infrastructure and services that attracted labour and investment. Technological advancements with larger ships and containerization to reap more profit turned many port-cities incompetent. The large amount of derelict and underutilized urban land of the redundant port premise later played an important role in urban regeneration [2].

The potentials of historic port cities were brought under attention during the waterfront urban regeneration efforts in the 1990s [3]. The acquired cosmopolitan legacy with centuries of maritime trade, contributing to the city's unique identity, provided a perfect cultural narrative of diverse customs and traditions for tourism. Culture has been increasingly a prominent part of tourism with the rising interest in heritage, art, culture, history, and contemporary lifestyle [4]. Cultural-driven urban revitalization is also viewed as a means to safeguard and enhance the diversity of urban cultures [5], as there is a wide-ranging perception that cultural tourism is 'good' tourism that attracts high spending visitors and does little damage to the environment or local culture while bolstering both the economy and cultural preservation [6]. Edifices of tangible-intangible heritage, museums with guided tours became channels for the dissemination of cultural narratives, fostering a sense of shared heritage among the visitors. The physical setting, encompasses the geographic features, historic landmarks, and other tangible aspects contribute to the cultural tourism experience. Whereas the notional dimension of the intangible aspects creates an identity for the city, fostering a connection between tourists and the cultural heritage. Indeed, it is crucial to achieve a perfect balance between the physical setting and the notional dimension as the concomitant serialisation, commodification and gentrification can displace local residents and disrupt the authentic cultural fabric of the city.

### 2.2. Cultural Tourism and Placemaking

The crossroads of the two divergent yet intricately linked concepts of cultural tourism and placemaking are paramount to addressing the issues mentioned above. The solutions lie in the social dimension of placemaking and the functional dimension of tourism in safeguarding the destinations' image and vitality. The literature seeks to elucidate the symbiotic relationship of cultural tourism and placemaking that drives economic benefits and coalesces to preserve and celebrate community and heritage.

Cultural Tourism is a composite concept including two parent terms—'culture' and 'tourism'. It can be defined as a form of special interest tourism, where culture forms the basis of either attracting tourists or motivating people to travel [7]. It covers both attractions and activities such as visiting historic sites, museums, attending cultural events, and engaging with local customs and rituals. The locals thereby turn out to be the beneficiary of this system by being able to trade the cultural product in their natural setting. The income is often used to restore the setting and products by preserving and managing the

cultural heritage for the increasing number of tourists those are visiting cultural attractions. Thus, cultural tourism is more closely related to the people, product, and the place.

Placemaking, on the other hand, orbits around the conscious effort to transform spaces into inclusive, vibrant, and meaningful settings. The organic placemaking involves the collective endeavours of communities whereas the concerted efforts of the community and policymakers shape the physical and social characteristics of a place. Placemaking is rooted in the ideas of sociability, activities, comfort, identity and linkages that evoke emotions, foster social interactions [8]. The benefits of placemaking are multifold: apart from imbuing a strong attachment among residents, it promotes mental and physical health. By enhancing the physical and cultural attributes of the place, placemaking crafts destinations that reflect its cultural heritage and draw tourists in to offer authentic experiences.

A unique, well-designed, culturally rich destination with state-of-the-art amenities is the goal at which cultural tourism and placemaking concepts merge. As discussed above, the resultant tourism revenue influx provides necessary support to sustain both community and heritage assets by promoting local arts and crafts and preserving traditional assets. Likewise, cultural tourism turns into a catalyst for the placemaking process, reinforcing the cultural uniqueness of a destination and guaranteeing its continued appeal for both locals and tourists. The subsequent Table 1 presents a comprehensive compilation of attributes that have been drawn from the scholarly sources examined after conducting an extensive review of the literature.

**Table 1.** Dimension and attributes.

<b>Dimension</b>	<b>Attributes and Indicators Are Related to</b>
Physical	Setting, Urban configuration, Approach, Connectivity
Functional	Events, Usage, Services, Landscape
Social	Universal, Engaging, Friendly, Cohesion
Notional	Identity, Convenience, Readability, Security

It is essential to clarify that the above table exclusively focuses on the dimensions with their corresponding attributes and does not include the indicators at this stage. The initial draft of indicators, to have these indicators elaborated prepared by the authors, was further refined and expanded through the invaluable contributions of subject matter experts who provided their insights and expertise, thereby augmenting the breadth and depth of the research. In addition to engaging experts, the process also involved the interpretation and clarification of pertinent terminologies in urban design.

### 2.3. Research Gaps

A big niche of unexplored aspects persists within the realm of placemaking for cultural tourism in historic port cities. This niche in the research, centred mainly around the fewer studies on the social and cultural implications of tourism, represents a potential gap that warrants further investigation in the realm of placemaking and urban design. A notable research gap is the lack of clarity regarding the tourism assets in historic port cities. The relatively sparse research on declining ports and their revitalization in Asian port cities correspond to another significant void in research. Continued research for adaptation is essential in such destination as revisitation is an important factor in tourism. The scope of research in this niche is mounting due to the growing challenges posed by the decline of ports in various regions. This expanding scope aims to address the complex and multifaceted issues associated with dwindling ports, focusing on strategies for repurposing and revitalizing to support sustainable development, economic growth, and urban transformation. However, it is also important to acknowledge the potential limitations of generalizing the impending results of this study to other declining port contexts as placemaking attributes are highly context specific and may not be universally applicable.

### 3. Methods

In the traditional Delphi method, the experts provide their opinions on a given topic through a series of iterative surveys and the process continues until a consensus is reached or a predefined level of convergence is achieved. The expert competency and ability to predict outcomes vary significantly, influenced by factors like educational background, experience, data access, and individual approaches [9]. In the context, the Fuzzy Delphi technique incorporates fuzzy logic and fuzzy set theory to handle uncertainties and vagueness in expert judgments [10]. It enables experts to provide more nuanced responses, expressing varying degrees of agreement or disagreement with a particular statement or question. This flexibility in expressing opinions allows for a more comprehensive understanding of the experts' viewpoints and facilitates the capturing of diverse perspectives on the topic under consideration.

#### *The Fuzzy Delphi Methodology*

The process of fuzzy Delphi Methodology employed in this research is illustrated as follows:

1. Design and validation of the fuzzy Delphi instrument: A questionnaire developed on the basis of extant literature review and expert opinion was used as the fuzzy Delphi instrument. The validity of the research was partially established as the attributes are directly extracted from the extant literature review and expert survey.
2. Formation of an expert panel: In order to make a comprehensive list of diverse experts, a multiple step iterative approach was adopted to identify the experts [11] from various categories of designations based of required skill sets from academics, industry, agencies, and other organization. Relevant and accessible authors from literature, experts practicing in respective fields, and personal contacts were populated into each category. The experts were contacted to nominate other experts to expand the list. The experts were ranked based on their qualifications until the required number of experts were realized. Adler and Ziglio (1996) supported that if the agreement and uniformity of experts are high, then the number of experts can be 10 to 15. The selected experts were invited to populate the questionnaire. An additional panel of 5 specialists was convened for the pilot survey, which included one practitioner, two expert academics and two PhD candidates.
3. Pilot survey: The questionnaire was filled by the panel of five specialists to consider improvement in its content and appearance. The responses suggested only minor cosmetic changes, and no statements were removed. A value of 0.88 for Cronbach's alpha confirms the reliability of the tool, after which the questionnaire was deemed ready to be sent to experts in order to gather data for testing the research model.
4. Generation of initial statements: Of the 14 carefully selected experts, 12 appropriately finished the questionnaire with the response rate was 85.71%. The questionnaire was administered through face-to-face interviews and emails as per the convenience of the expert. A set of questions related to background of the expert and the problem at hand was asked which were open-ended. The questions related to various attributes and indicators were measured on linguistic ranging from 'Extremely important,' to 'Not at all important'.
5. Feedback and consensus building: A value of 0.958 for the Cronbach's Alpha indicate a high reliability for the survey and value above 0.3 for Kendall's coefficient establishing high agreement among raters. Unlike studies where prioritization and ranking require iterative rounds to reach a consensus, the primary objective of the study was identification of items to gather a diverse set of expert insights without the need for multiple iterations [12], thus avoiding the complexity and time investment associated with ranking exercises [13]. In addition, a single round of Delphi sufficed the study due to a high degree of homogeneity in the perspectives of the expert panel. The ratings were converted into triangular fuzzy set and the geometric mean was

taken as the membership degree of triangular fuzzy numbers. The items meeting the threshold value ( $d \leq 0.2$ , the experts' consensus  $\geq 75\%$ , and the fuzzy score value ( $A_{max}$ )  $\geq 0.5$  is deemed eligible.

#### 4. Results and Discussion

The Fuzzy Delphi survey presented in this study identifies placemaking attributes that improve the cultural tourism experience within historic port cities. A total of 16 attributes and 55 indicators in different categories were asked to be ranked, and finally, 43 indicators were chosen as significant. The Table 2 shows the average threshold value, average experts' consensus and the average fuzzy score values of various dimensions.

**Table 2.** Fuzzy Delphi method results.

Dimension	Attributes	D	Consensus Percentage	Average of Fuzzy Number
Physical	Setting	0.10	79%	0.59
	Configuration			
	Approach			
Functional	Connectivity	0.07	90%	0.70
	Events			
	Usage Services			
Social	Landscape	0.11	83%	0.56
	Universal			
	Engaging Friendly			
Notional	Cohesion	0.08	88%	0.64
	Identity			
	Convenience			
	Readability			
	Security			

The experts' opinions align to the greatest extent along the functional dimensions followed by the notional dimensions, indicating a strong consensus for both. The indicators like neighbourhood shops, maintenance and green space under the functional dimensions have recorded maximum consensus. The indicators under the notional dimensions that secured the maximum consensus include the visual appeal of the structure, heritage significance of the place and the comforting shades. The notional dimensions encapsulate the intangible aspects of a destination, fostering a deeper appreciation of culture and contributing to the sustainable development of a place. The experts may have rated land use typology, building's line and building's materials and colours as the lowest priority indicators due to being less subject to change. This has led to the reduced levels of consensus for indicators under physical dimension. As noted by Nezar Al Sayyad, the overemphasis of physical and social dimensions has led to the commodification of the place, alienating locals and disrupting the authenticity of the cultural experience [14]. A balanced approach that integrates functional and notional dimensions within physical and social contexts may be more sustainable in preserving the essence of the place.

Notably, similar trends are seen around the globe, with experts underscoring the importance of activities and maintenance in public spaces. Though the study reaffirmed the importance of functional dimensions, the experiences of actual end-users may differ depending on the tourists' typology. However, this consolidated inventory of attributes and indicators presented in this research functions solely as a reference point for the authors to assess how the indicators manifest in historic port cities. The impending framework after the onsite assessment can serve as a practical toolkit for policymakers and investors

in similar destinations grappling with parallel challenges in the realm of cultural tourism development. In essence, this paper offers a substantial contribution towards the prioritisation of strategies tailored to the unique requirements of respective historic port cities, fostering a sustainable and culturally enriched tourism environment.

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## References

1. Hein, C.M. The port cityscape: Spatial and institutional approaches to port city relationships. *PORTUSplus* **2019**, *8*.
2. Lorente, J.P. Art neighbourhoods, ports of vitality. In *Locality, Regeneration and Divers(c)ities*; Bennett, S., Butler, J., Eds.; Intellect: Bristol, UK, 2000.
3. Giovinazzi, O.; Moretti, M. Port Cities and Urban Waterfront: Transformations and Opportunities. *TeMa. J. Land Use Mobil. Environ.* **2010**, *3*, 57–64. Available online: <http://www.tema.unina.it/index.php/tema/article/view/urn:nbn:it:unina-3515> (accessed on).
4. Williams, P. Cultural Tourism and the UK City of Culture. *Tourism Insights*, 2010. Available online: <https://www.cabdirect.org/cabdirect/abstract/20103311201> (accessed on 2 March 2021).
5. García, B. Cultural policy and urban regeneration in western European cities: Lessons from experience, prospects for the future. *Local Econ.* **2004**, *19*, 312–326. <https://doi.org/10.1080/0269094042000286828>.
6. Richards, G. What is cultural tourism? *Erfgoed Voor Toer.* **2003**, *15*, 15.
7. McIntosh, R.W.; Goeldner, C.R. *Tourism. Principles, Practises, Philosophies*; John Wiley & Sons: New York, NY, USA, 1990.
8. PPS. Placemaking—What if We Build Cities Around Places? Project for Public Spaces Inc. 2018. Available: [www.pps.org](http://www.pps.org) (accessed on).
9. Garai, A.; Roy, T.K. Weighted intuitionistic fuzzy Delphi method. *J. Glob. Res. Comput. Sci.* **2013**, *4*, 7.
10. Murray, T.J.; Pipino, L.L.; Van Gigch, J.P. A pilot study of fuzzy set modification of Delphi. *Hum. Syst. Manag.* **1985**, *5*, 76–80. <https://doi.org/10.3233/HSM-1985-5111>.
11. Okoli, C.; Pawlowski, S.D. The Delphi method as a research tool: An example, design considerations and applications. *Inf. Manag.* **2004**, *42*, 15–29. <https://doi.org/10.1016/j.im.2003.11.002>.
12. Kuo, N.-W.; Yu, Y.-H. An Evaluation System for National Park Selection in Taiwan. *J. Environ. Plan. Manag.* **1999**, *42*, 735–745. <https://doi.org/10.1080/09640569910975>.
13. Hartman, F.T.; Baldwin, A. Using Technology to Improve Delphi Method. *J. Comput. Civ. Eng.* **1995**, *9*, 227–293. Available online: <https://ascelibrary.org/doi/epdf/10.1061/%28ASCE%290887-3801%281995%299%3A4%28244%29> (accessed on 10 September 2023).
14. Alsayyad, N. Prologue. In *Consuming Tradition, Manufacturing Heritage: Global Norms and Urban Forms in the Age of Tourism*, 1st ed.; Alsayyad, N., Ed.; Routledge: London, UK, 2001; pp. 1–33.

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