

The Alignment of Public Open Space Elements with Visitor Motivation in the Musi Riverfront Public Open Space

Almira Ulfa¹, Sri Lilianti Komariah¹, Fuji Amalia¹, Rizka Drastiani¹, Rakhmat Fikran Zuhair¹

¹ Department of Architecture, Faculty of Engineering, Universitas Sriwijaya.

Correspondence Email: almiraulfa910@gmail.com

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ABSTRACT. Public open spaces are considered successful when they are continuously visited and provide tangible benefits to their users. Individuals' intentions to visit a place, including public open spaces, are driven by internal motivations, whereas the choice of a specific destination is influenced by the elements present within the space. These elements function as pull factors that fulfil visitors' internal push factors. The Musi River is one of the key images of Palembang City, and several of its riverbanks are utilised as public open spaces consistently visited by the community, including 16 Ilir Market Plaza and Benteng Kuto Besak Plaza. This article examines the elements of public open spaces along the Musi River as pull factors that help fulfil visitors' push factors in selecting riverfront open spaces as their destination. Data were collected through field observations and the distribution of online questionnaires, and the results were analysed using multivariate correlation analysis. The findings indicate significant relationships between visiting motivations (push factors) and specific elements (pull factors) that are considered essential in public open spaces. In their manifestation as facilities, public open space elements demonstrate a high degree of flexibility, whereby a single element may emerge from the integration of multiple components and derive benefits from the combined elements that constitute it.

Keywords: visiting motivation, elements, open space, riverfront, pull factors, Musi River

ABSTRAK. Ruang terbuka publik dianggap berhasil apabila terus dikunjungi dan memberikan manfaat nyata bagi penggunanya. Keinginan seseorang untuk mengunjungi suatu tempat, termasuk ruang terbuka publik, didorong oleh motivasi yang muncul di dalam dirinya, sedangkan pemilihan destinasi untuk dikunjungi dipengaruhi oleh elemen-elemen yang terdapat di dalam ruang tersebut. Elemen-elemen ini berfungsi sebagai faktor penarik yang memenuhi faktor pendorong di dalam diri pengunjung. Sungai Musi merupakan salah satu wajah utama Kota Palembang, yang beberapa bagian tepi sungainya dimanfaatkan sebagai ruang terbuka publik yang secara konsisten dikunjungi oleh masyarakat, salah satunya adalah Plasa Pasar 16 Ilir dan Plasa Benteng Kuto Besak. Artikel ini mengkaji elemen-elemen ruang terbuka publik di sepanjang Sungai Musi sebagai faktor penarik yang berperan dalam memenuhi faktor pendorong pengunjung dalam memilih ruang terbuka tepian sungai sebagai destinasi. Pengumpulan data dilakukan melalui observasi lapangan dan penyebaran kuesioner daring, kemudian hasilnya dianalisis menggunakan analisis korelasi multivariat. Temuan penelitian menunjukkan adanya hubungan yang signifikan antara motivasi kunjungan (faktor pendorong) dan elemen-elemen tertentu (faktor penarik) yang dianggap penting keberadaannya dalam ruang terbuka publik. Dalam perwujudannya sebagai fasilitas, elemen ruang terbuka publik menunjukkan tingkat fleksibilitas yang tinggi, di mana satu elemen dapat terbentuk dari integrasi beberapa komponen serta memperoleh manfaat dari perpaduan elemen-elemen yang menyusunnya.

Kata kunci: motivasi kunjungan, elemen, ruang terbuka, tepian sungai, Sungai Musi

INTRODUCTION

Public open spaces are a crucial element in urban areas with high building and population densities (Cao & Kang, 2019; Do et al., 2019). Public open

spaces should be accessible to anyone, regardless of background or age. Urban communities have equal rights to utilise, access, and enjoy activities in public open spaces (Ekawati et al., 2020). Public open spaces can include courtyards, plazas, pedestrian

paths, and city parks. Public open spaces also play a vital role in social, recreational, and relaxation activities, which support social interaction between humans and the natural environment (Do et al., 2019).

Public open spaces should accommodate urban communities and improve health and well-being (El-Cheikh, 2018). Open spaces in urban areas have long been considered beneficial for both physical and mental health. Urban communities are more likely to experience stress than those living in rural areas, due to the dense urban environment and activities (Cahyaningtyas & Kusuma, 2020). Open spaces play a crucial role as URBAN VOIDS THAT BREAK UP THE CITY'S DENSITY. Therefore, a city must provide good public spaces, especially open spaces that contain natural elements.

In urban areas bordered by water, interactions between people and water occur at the waterfront (Durán Vian et al., 2021). Waterfront public open space is a plot of land or part of a city located next to a body of water, such as a river, lake, or sea (Shangi et al., 2020). People typically visit waterfront open spaces to enjoy water recreation facilities, play, work, eat, sit, shop, travel, and sell goods, among other activities (El-Cheikh, 2018).

Public open spaces bordered by rivers, seas, lakes, or canals have a unique appeal (Ekawati et al., 2020). These waterfront public open spaces serve as spaces for interaction among water, the city, and the public. Their presence is essential for enhancing aesthetic value, environmental sustainability, and the well-being of the urban communities. Therefore, the elements of public open spaces need to be carefully considered so that they are not only meaningful spaces but also places that are truly needed, utilised, and provide benefits to their users. Elements of public open spaces, such as natural features, supporting facilities, social activities, and recreational attractions, act as pull factors that directly influence visitors' decisions to select and use a public space (Mehta, 2014).

In ancient times, Palembang was often referred to as the Venice of the East due to the beauty of its rivers (Jaya et al., 2022). The presence of the Musi River creates a very strong visual impression and

makes Palembang renowned as a riverside city. The 16 Ilir Market area and the Benteng Kuto Besak (BKB) Plaza are open spaces frequently visited by locals and visitors alike. This is not only due to the elements within them, but also because the area where they are located supports the sustainability of these open spaces very well. The presence of the Musi River, the BKB, the Ampara Bridge, the 16 Ilir Market, and other elements are one of the factors that attract visitors. Therefore, they are interested in choosing this waterfront area as a destination when choosing a public open space to visit.

Dann (1981) in Gusti (2025) stated that a person's motivation to visit a place is influenced by push factors that come from their own needs, while the choice of destination is determined by the presence of elements in that place as pull factors that attract visitors to come (Gusti et al., 2025). This research is important to conduct because the success of riverfront public open spaces is largely determined by the suitability between the spatial elements and visitor motivation. Meanwhile, studies linking the push and pull factors in the context of the Musi Riverfront remain limited. This research is a quantitative descriptive study that uses field observations, questionnaires, and multivariate correlation analysis to examine the relationship between visiting motivation and public open space elements, using BKB Plaza as the observation location. The results of the study are expected to make theoretical contributions to the development of research on waterfront public open spaces and to serve as a practical reference for planning and managing public open spaces that are more responsive to community needs.

METHODS

Data Collection Techniques

Data collection in this study was conducted through several approaches to obtain comprehensive information. First, a literature review was conducted by examining various sources, including books and scientific journals, on public open spaces, riverfront areas, and factors influencing public visitation. Second, field observations were conducted to identify physical conditions, user activities, and elements of public open spaces in

riverfront areas. Third, an online questionnaire was distributed to Palembang City residents to collect data on perceptions, preferences, and motivations for visiting riverfront public open spaces. A total of 289 valid responses were collected and analysed.

Data Analysis Techniques

Data obtained from the questionnaire were subsequently analysed using multivariate correlation analysis in JMP. In this study, multivariate correlation analysis was employed to examine the correlations among the latent variables representing visitation push factors. In this study, correlation analysis uses the p-value to assess the level of statistical significance of the relationship, where $*P < 0.05$ is categorized as highly significant, $**P < 0.01$ as significant, and $***P < 0.001$ as moderately significant. This analysis aimed to identify the relationships between push factors and

pull factors influencing public visits to riverfront open spaces. Based on visitors' motivations, public open space elements are most desired. Furthermore, the correlation findings were examined in greater depth and linked to the existing conditions and elements of the public open spaces at 16 Ilir Market Plaza and BKB Plaza along the Musi River, thereby providing insights into the alignment between visitors' needs and the characteristics of these open spaces.

RESULTS AND DISCUSSION

A public open space must possess a responsive quality (Ekawati et al., 2020). This responsive quality refers to a public open space's ability to meet its users' needs. Therefore, a public open space should be able to accommodate a wide range of user activities, including both active and passive uses.

Table 1. Results of the Multivariate Correlation Analysis between Push Factors (Visiting Motivations) and Pull Factors (Elements of Public Open Spaces)

		Motivation to Visit					
		Escape from Daily Routines	Desire to Relaxation	Desire to Recreation	Desire to Gain Knowledge	Desire to Socialize	Desire for Nostalgia
Elements	Natural Elements	0.16**	0.21***	0.28***	0.27***	0.24***	0.27***
	Facility Adequacy	0.07	0.18**	0.05	-0.05	0.12	0.13*
	Recreational and Attraction Elements	-0.02	0.09	0.21***	0.17**	0.00	0.17**
	Social and Gathering Activities	-0.07	0.03	0.16**	0.08	0.06	0.08
	Commercial Elements	0.06	0.03	0.18**	0.08	0.11	0.09
	Educational Elements	0.06	0.08	0.09	0.16**	0.02	0.15*
	Free Wi-Fi and Electrical Outlets	-0.17**	-0.05	0.13*	0.20**	-0.01	-0.05
	: Highly significant (*p < 0.05)						
	: Significant (**p < 0.01)						
	: Moderately significant (***p < 0.001)						
	: No correlation (-) ** (significant)						

Source: Author's Analysis

The p-value determines the level of precision between elements. In this table, the level of significance is indicated by asterisks based on the p-value, where $*p < 0.05$ is categorized as highly significant, $**p < 0.01$ as significant, and $***p < 0.001$ as moderately significant. Meanwhile, the (–) symbol indicates that there is significantly no correlation. Based on the results of the multivariate correlation analysis, several relationships were identified between visiting motivations, and the elements present in public open spaces. The results of the multivariate correlation analysis are presented in the matrix shown in Table 1. Elements that exhibit significant relationships are indicated by grey-shaded columns, while red-shaded columns represent inverse relationships. Unshaded columns indicate the absence of significant relationships. The results indicate that individuals who visit public open spaces to escape daily routines perceive the presence of natural elements as important, while considering the availability of free Wi-Fi and electrical outlets to be contrary to their preferences. For visitors motivated by relaxation, the presence of natural elements and the adequacy of supporting facilities are regarded as essential components of a public open space.

Furthermore, individuals who visit for recreational purposes consider natural elements, recreational and attraction elements, social and gathering activities, and commercial elements to be important. In addition, natural, recreational, and attraction elements, as well as educational elements, are perceived as important by visitors who come to gain knowledge. Natural elements are also considered significant in supporting visitors' motivation to socialise. Moreover, individuals motivated by nostalgia perceive natural elements, adequate facilities, and recreational and attraction elements as key components in supporting their experience.

Table 1 shows that facility adequacy is significantly related to individuals' motivations for relaxation and nostalgia. Facility elements, such as comfortable seating, adequate lighting, and accessibility, extend visit duration and enhance user satisfaction, factors closely associated with relaxation experiences and emotional memories (Wang et al., 2025). Similarly, Cahyaningtyas and Kusuma (2020) found that urban space elements

supporting relaxation, based on community preferences, include natural ambience, adequate facilities, tranquillity, atmosphere, accessibility, and overall spatial quality.

A public open space is considered successful and effective when the community perceives and experiences the benefits it provides (Ekawati et al., 2020). Natural elements show a significant relationship with all push factors of visitation, namely the desire to escape from daily routines, relaxation, recreation, knowledge acquisition, socialisation, and nostalgia (Table 1). This finding indicates that regardless of the underlying motivation for visiting a public open space, users perceive natural elements as essential components. Moreover, natural elements serve as a medium through which visitors can fulfil their diverse needs and motivations.

The natural elements discussed in this study include water elements, such as rivers, lakes, ponds, seas, and similar features, and green elements, including trees, grass, and other vegetation. In general, when water features are present within a public open space, people tend to gather around and orient their activities toward the water. This finding is consistent with previous studies, which indicate that visitors to open spaces are more likely to congregate in areas near water and cluster around such features (Cao & Kang, 2019; Do et al., 2019). Proximity to water is commonly associated with feelings of calmness and enjoyment. Furthermore, waterfront areas can contribute to improvements in public health, relaxation, tourism, and urban economic development (Shangi et al., 2020).

Observations were located at riverfront public open spaces along the Musi River, specifically at the Pasar 16 Ilir Plaza and Benteng Kuto Besak Plaza (Figure 1). Based on field observations, visitors to Musi Riverfront Open Space tend to seek seating locations facing the river (Figure 2). Some of the visitors even climb over the barriers to enjoy the river view more freely, whether to sit, chat, or eat and drink. This consistent behavioural pattern, in which visitors gather and engage in social interactions near water features, supports classic studies on urban space use (Whyte, 2001) as well as contemporary research indicating higher levels of

social intensity in areas with natural features. The findings from Musi Riverfront Open Space reinforce the notion that riverfronts function as social magnets. Outdoor activities that allow direct engagement with natural scenery and environmental ambience have been shown to elicit more positive psychological responses to stress compared to indoor activities (Olafsdottir et al., 2020). Empirical evidence further suggests that long-term exposure to green and blue spaces is associated with reduced symptoms of anxiety and depression, alongside improved psychological well-being, which helps explain why natural elements serve as primary pull factors for waterfront visitors (Gascon et al., 2015; Geary et al., 2023; Smith et al., 2021). Consistent exposure to and access to green and blue spaces have been repeatedly linked to psychological restoration, stress reduction, and enhanced well-being. These findings underscore the role of natural elements as dominant pull factors across various visiting motivations in waterfront public open spaces (Beute et al., 2023; Wright et al., 2024; Xian et al., 2024).



Figure 1. Observation Location
Source: Author, 2025

Elements within public open spaces can be highly flexible. A single element may derive added value from other elements when two or more are combined, thereby forming a more attractive and multifunctional component. In practice, riverfronts represent a natural element that is particularly effective in delivering both recreational and economic benefits (Shangi et al., 2020). River elements should not be regarded merely as static features that provide visual appeal and support only passive activities, such as relaxation and scenic appreciation. Rather, they can also function as active elements that facilitate a wide range of

activities, including recreation, commercial exchange, and other dynamic uses.



Figure 2. Visitors Enjoying the River View
Source: Author Documentation, 2025

The presence of the Musi River as a natural element is utilised as a potential resource that generates active uses incorporating both recreational and commercial aspects. There are some floating restaurants moored along the riverbank (Figure 3). These floating restaurants represent an integration of commercial, recreational, and natural elements. While the floating restaurants primarily embody commercial elements, their boat-based form also serves as an attraction and recreational feature, enhancing their experiential value in the public open space.

In line with the findings presented in Table 1, commercial elements within public open spaces exhibit a significant relationship with individuals' motivations for recreation. Moreover, their location on the water allows floating restaurants to benefit from the qualities associated with natural elements. These floating restaurants offer a wide range of food and beverages, ranging from contemporary cuisine to traditional Palembang foods, such as *pempek*, *tekwan*, *pindang*, and other local specialities (Figure 3).

When related to the findings in Table 1, the presence of recreational and attraction elements shows a significant relationship with individuals' motivations for recreation, knowledge acquisition, and nostalgia. Furthermore, the floating restaurants not only fulfil recreational needs but also act as pull factors for visitors motivated by nostalgia, as they enable visitors to enjoy and recall the distinctive flavours of traditional Palembang cuisine they may have experienced in the past. For those who have not previously encountered these foods, the floating restaurants also offer opportunities to learn about Palembang's culinary heritage. This phenomenon reflects historical practices in which communities engaged in various activities, including trade, on the Musi River using boats. The integration of small-scale commercial functions with natural elements, such as floating restaurants, not only enriches recreational experiences but also stimulates local economic activity. Waterfront development studies indicate that such functional combinations are effective in enhancing area vitality and tourism development (Üzümcüoğlu & Polay, 2022; Xie & Gu, 2015).

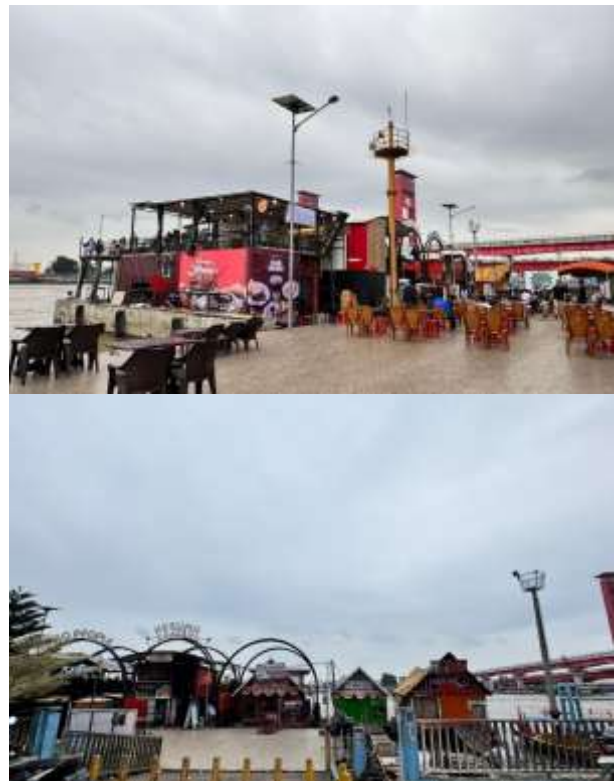


Figure 3. Floating Restaurants Along the Musi River
Source: Author Documentation, 2025

In addition to floating restaurants, commercial elements at Benteng Kuto Besak Plaza are also manifested through open-air food stalls offering a variety of dishes, such as *mie tek-tek*, *kerak telor*, grilled corn, beverages, and other items. Benteng Kuto Besak Plaza is a primary destination for residents seeking culinary tourism while appreciating river views and boat activities. Furthermore, vendors sell various goods, and visitors can rent children's play facilities (Figure 4). Cahyaningtyas and Kusuma (2020) argue that when a public space can provide enjoyment for its users, it can be categorised as a high-quality public space.

Furthermore, educational elements within public open spaces show a significant relationship with individuals' motivations to gain knowledge and to experience nostalgia. Educational elements may take the form of existing or visually prominent historical monuments within or surrounding public open spaces, which serve as sources of knowledge for the community. Nostalgia, in this context, is the act of recalling personal or collective histories and memories associated with a particular place.



Figure 4. Commercial Elements at Benteng Kuto Besak Plaza

Source: Author Documentation, 2025



Figure 5. Ampera Bridge

Source: Author Documentation, 2025



Figure 6. Kuto Besak Fortress

Source: Author Documentation, 2025

The presence of monuments and heritage elements, such as the Ampera Bridge and Kuto Besak Fortress, serves as a trigger for collective memory and as a source of contextual knowledge for visitors, thereby reinforcing place identity and attracting visits driven by nostalgia and learning motivations (Shao et al., 2025; Tamba & Nuraini,

2025). It is not uncommon for visitors to come to Benteng Kuto Besak Plaza solely to view and take photographs with these historical landmarks as backdrops, particularly the Ampera Bridge. The Ampera Bridge is widely regarded as a landmark that symbolises Palembang City, making the surrounding area highly recognisable and legible within the urban landscape.

Educational elements in public open spaces can also be introduced through mobile libraries or activity-based play facilities that stimulate cognitive and creative skills. Examples include renting drawing tools, sand play, and other interactive games available at Benteng Kuto Besak Plaza (Figure 7). These elements integrate commercial, educational, recreational and attraction elements, simultaneously generating economic benefits, providing learning opportunities, and offering entertainment for visitors.



Figure 7. Educational and Play Facilities at BKB Plaza

Source: Author Documentation, 2025

As shown in Table 1, free Wi-Fi and electrical outlets exhibit an inverse relationship with individuals' motivation to escape from daily routines. This is indicated by the negative result and a P-value of <0.01 , demonstrating that the two elements are significantly inversely related. However, these

digital facilities show a significant relationship with motivations for recreation and knowledge acquisition. The availability of digital infrastructure in public spaces can indeed enrich recreational and learning activities; nevertheless, it may also diminish the experience of escaping from routine by creating environments that resemble workspaces and by extending everyday digital practices (Bertot et al., 2008; Hampton et al., 2010; Hatem et al., 2024).

In addition, this relationship may be influenced by visitors' inclination to upload photos or videos captured in public open spaces to social media using digital devices (Figure 8). Such visual content can also serve as a medium for enhancing knowledge about a place. Documenting and sharing experiences encourages visitors to observe their surroundings more attentively and engage with the spatial, cultural, and visual qualities of the environment. Through social media, these shared images and videos not only extend individual experiences beyond physical space but also function as informal channels of information dissemination, shaping collective awareness and perception of the place.



Figure 8. Visitor Taking a Picture with Musi River as a Background

Source: Author Documentation, 2025

Planning and Design Implications

Based on the findings regarding the relationship between visiting motivations and the elements of riverfront public open spaces along the Musi River, several recommendations can be proposed for the

further planning, design, and management of these spaces.

1. Prioritising Natural Elements as the Primary Spatial Structure

Natural elements, particularly the Musi River and green features, demonstrate strong associations with all visiting motivations, from relaxation to nostalgia. Therefore:

- Riverfront public open space planning should position the river, or other blue elements, as the primary visual and activity orientation, rather than merely as a background element.
- Seating areas, plazas, and pedestrian pathways should be oriented directly toward the river or other blue elements, with minimal visual barriers.
- The provision and enhancement of shading vegetation, passive green spaces, and natural landscaping should be maintained and strengthened to support visitors' psychological comfort.

2. Providing Comfortable and Contextually Appropriate Supporting Facilities

Facility adequacy shows a strong relationship with motivations for relaxation and nostalgia. Accordingly:

- Facilities such as ergonomic seating, nighttime lighting, universal accessibility, and cleanliness should be designed and maintained to high standards.
- Facility design should align with the area's historical and cultural character to reinforce emotional experiences and collective memory.

3. Integrating Recreational, Attraction, and Commercial Elements

The findings indicate that recreational and commercial elements play an important role in supporting motivations for recreation, learning, and nostalgia. Therefore:

- The development of small-scale, locally based commercial activities, such as floating restaurants or local culinary kiosks, should be preserved and developed in a controlled manner.
- Commercial elements should ideally be integrated with natural, recreational, and entertainment elements, allowing a single feature to accommodate multiple functions

simultaneously (recreation, economy, and education).

- Zoning regulations are essential to ensure that economic activities do not compromise the comfort and accessibility of public spaces.

4. Strengthening Educational and Cultural Heritage Elements

Educational elements are significantly associated with motivations for knowledge acquisition and nostalgia. Thus:

- The presence of historical monuments, such as Benteng Kuto Besak and the Ampera Bridge, should be supported by interpretive media, including information panels, heritage trails, or educational installations.
- Informal educational activities, such as children's creative play, drawing, and temporary exhibitions, can be developed into recreational learning platforms.

5. Selective Management of Digital Facilities

Digital facilities (Wi-Fi and electrical outlets) exhibit an inverse relationship with motivations to escape daily routines, while supporting recreation and education. Therefore:

- The provision of digital facilities should be selective and limited to designated zones.
- Areas intended for relaxation and nature appreciation should be kept free from the dominance of digital infrastructure to preserve the quality of escape-from-routine experiences.

6. Encouraging Flexibility and Multifunctionality of Spatial Elements

The study confirms that public open space elements are flexible and can be integrated. Accordingly:

- Public open space planning should emphasise multifunctional design, enabling a single element to support diverse activities and visitor motivations.
- Adaptive design approaches can enhance area vitality, extend visitation duration, and strengthen the role of public open spaces as social, economic, and cultural assets of the city.

CONCLUSION

Based on the findings of this study, it can be concluded that the success of riverfront public open spaces along the Musi River is strongly influenced by the relationship between visitors' internal needs and the elements of public open spaces as pull factors. The results of the multivariate correlation analysis reveal significant relationships between visiting motivations and specific elements perceived as essential in public open spaces.

Natural elements, particularly the presence of the river and green features, demonstrate consistent and significant relationships with all visiting motivations, including escape from daily routines, relaxation, recreation, social interaction, nostalgia, and knowledge acquisition. These findings confirm that natural elements constitute a fundamental and irreplaceable component in the design of waterfront public open spaces. In addition, facility adequacy plays a crucial role in supporting relaxation and nostalgic experiences, while recreational and attraction elements, commercial activities, social elements, and educational components contribute to fulfilling visitors' needs for recreation, learning, and emotional engagement.

The findings further indicate that public open space elements are inherently flexible and can be integrated, enabling a single facility to serve multiple functions and provide diverse benefits. The integration of natural, commercial, recreational, and educational elements, such as floating restaurants and riverfront activities, enhances area vitality and enriches visitors' social, economic, and cultural experiences. Nevertheless, the provision of digital facilities such as free Wi-Fi and electrical outlets should be carefully considered, as while they support recreational and educational activities, they may conflict with visitors' motivations to escape from everyday routines.

Overall, this study emphasises that the planning and management of public open spaces should be oriented toward alignment between spatial elements and user motivations. An understanding of the relationships between push and pull factors provides an essential foundation for designing public open spaces that are not only visually appealing but also responsive to the psychological, social, and cultural needs of urban communities.

Research Limitations and Recommendations for Further Studies

This study is limited by its reliance on online questionnaire data, which may reflect subjective perceptions and potential response bias. In addition, the focus on specific riverfront public open spaces along the Musi River limits the generalizability of the findings to other contexts. Further studies are recommended to apply mixed-method approaches, include comparative case studies in different waterfront settings, and explore temporal and behavioural aspects of public open space use to deepen understanding of the relationship between visitor motivation and spatial elements.

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