EXPLORING URBAN ATTRACTIVENESS: A STUDY ON PERCEPTION AND ENVIRONMENTAL BEHAVIOR IN HO CHI MINH CITY

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Abstract

Urbanization is often considered a manifestation of social development, but at the same time, it can be a factor that erodes the distinctive values of a particular area. Urban studies suggest that many factors beyond physical appearance shape a city's appeal, including a combination of cultural, economic, social, environmental, and historical values. Our previous research identified a comprehensive conceptual framework of factors contributing to urban staycation identity, encompassing 141 specific elements within nine dimensions. In this study, we apply environmental behavior studies theory to explore human perceptions of these factors, using residents' perception questionnaires and statistical analysis to gather and analyze data. Through these approaches, this research identified 94 elements in 22 categories within eight dimensions that significantly contribute to the appeal of urban areas for different demographic groups. These findings provide concrete evidence that Ho Chi Minh City's allure is closely intertwined with broader processes of urbanization. The study also offers actionable insights for urban planners, policymakers, and designers seeking to enhance the attractiveness of urban environments, with a particular focus on Ho Chi Minh City.

Keywords: Resident Perception, Ho Chi Minh City, Urban attractiveness, Urban tourism, Sustainable Urban Design

1. INTRODUCTION

1.1. Research background

Urban attractiveness is a common term referring to the ability to attract residents, tourists, and workers to a particular place. Urban attractiveness can be identified through two indicators: perceived attractiveness by residents and tourists (Romão et al., 2018a). The attractiveness of a city is also recognized through urban and territorial characteristics (Servillo et al., 2012). This attractiveness is demonstrated by various functional indicators, including economic, environmental, livability, accessibility, cultural interaction, research, and development (Romão et al., 2018a). In tourism research, a place's attractiveness is

explained through motivation theories, which discuss pull and push factors influencing individuals' decisions when choosing a destination (Dann, 1981; Zhang & Peng, 2014). The destination competitiveness theory posits that a place can be more competitive by offering value-added products and services using existing resources and fundamental attractions (Crouch, 2011; Enright & Newton, 2004; Gu et al., 2022). Urban attractiveness is expressed through its identity, encompassing both tangible and intangible characteristics (Do et al., 2023; Trang et al., 2024).

The concept of place identity refers to the memories, concepts, interpretations, ideas, and feelings associated with specific physical contexts (Proshansky et al., 2014). A sense or perception of a place is a symbol that makes a place special, as it is a sense of human perception, not the place itself. Even the sense of location is the sense of how individuals experience, express, envision, and know their place of residence.

A complex relationship between individuals and the environment around them is implied by terms such as the attractiveness of a place and a sense of location. The impact of the natural environment on humanity and the impact of human activities on the environment are both included in this type of relationship (Buttimer, 2015; Qazimi, 2014).

Cities gain attractiveness through environmental impact and interaction (Padua, 2007; Raja, 2003). The environment is a unique, multi-dimensional setting shaped by diverse cultural, geographical, and social backgrounds (Saleh, 2001; Suher et al., 2004). Rapid urbanization and globalization, along with unplanned development and lack of aesthetic considerations, have created stereotypical cities. Furthermore, due to socio-economic and political changes, urban culture and identity generally begin to deteriorate and fade (Baris et al., 2009; Yaldız et al., 2014). These factors lead to the gradual loss of unique characteristics and attractiveness in cities.

Understanding residents' perceptions of specific places within a city significantly impacts urban attractiveness. Understanding the mechanisms behind residents' perceptions of factors contributing to urban attractiveness or identity is crucial for creating an attractive city, not just for tourists but also for residents. Social identity theory predicts certain behaviors among groups based on perceived group status differences (Qazimi, 2014). In the midst of the identity crisis in the majority of Vietnamese cities due to urbanization (Ngo & Ton, 2019), managers are finding it difficult to identify and define identities in order to establish a city that is highly appealing in light of various cultural and social contexts.

In the practical development of urban areas in Vietnam, the lack of a clear scientific theoretical basis has led to numerous issues, reducing residents' satisfaction with urban environments. Indeed, numerous municipalities in Vietnam are progressively losing their unique identities in favor of a model that is relatively similar. They are even willing to trade the gradual loss of historical and environmental values

that have been accumulated over hundreds, if not thousands of years in order to prioritize development (Ngo & Ton, 2019). The current solution focuses solely on managing, preserving, and restoring historical and cultural architectural buildings (Linh, 2024). To enhance their attractiveness, these elements' values must first be identified (Linh, 2024).

1.2. Theoretical Basis and Previous Studies

Research on urban attractiveness from the perspective of residents and tourists has been conducted across various aspects. For instance, Alhazzani's (2016) study identified urban attraction points based on the interests of residents and tourists. This study also defined attraction patterns by analyzing visitor numbers, the distribution of residents' distances, and the spatial dispersion of their origins (Alhazzani et al., 2016). However, this study did not focus on residents' perceptions in identifying urban attractiveness factors but instead documented phenomena and attractive locations. Furthermore, the methodology described above may lead to inaccuracies in identifying urban attraction points due to limited location identification, failing to distinguish between congestion-related population concentration and attraction within the urban transportation network.

Another study explored the historical process of a location's impact on its aesthetic appeal (Cohen-Hattab & Katz, 2001). However, this study was limited to the historical aspect and did not consider all aspects of a regular city. Gabriela Sirkis (2022) conducted a study focusing on recognizing different tourist attraction points. She identified four main factors influencing a city's attractiveness to tourists: (1) tourism ecosystem, (2) core, (3) meetings, incentives, conventions, exhibitions (MICE), and (4) related services (Sirkis et al., 2022a). However, the scope of this study was limited to Latin American cities rather than globally. Furthermore, this study did not clarify the differences among different resident groups in terms of the relevance of factors influencing urban attractiveness. Boivin (2019) examined the perceptions of people experiencing a city on four distinct levels: core, context, tourism corridor, and supplementary attractions (Boivin & Tanguay, 2019a). However, this study also did not consider the differences in residents' perceptions of each group of urban attractiveness factors.

In the book "Urban Planning and Cultural Identity," Neil (2003) once again noted the intense spatial conflict in building identity in cities where culture and place identity have differing identity formation needs (Neill, 2003). At the same time, the author emphasized that cultural differences among communities are closely related to urban identity (Neill, 2003). In reality, the locations that planners and travelers regard as culturally significant and attractive may not align with the locations that locals use, and these are the locations that they value the most.

Anastasiou (2021) researched the relationship between residents' perceptions of urban attractiveness through the concept of identity and their socio-demographic profiles. However, this study only reached

the exploratory level of residents' perceptions of urban identity. This study also examined factors that influence their perceptions, such as gender, age, family status, and lifestyle (Anastasiou et al., 2022). Similarly, Kulozu (2021) explored urban attractiveness in a historical city using an exploratory case study approach. The study found that environmental factors were more attractive than social factors, and there were differences in perceptions based on respondents' age and education level (Kulozu, 2021). This study focuses on understanding human perceptions concerning urban identity. Additionally, the study developed structured questionnaires based on variables gathered from previous research results, potentially missing important variables in the study area due to differing individual identifications (Alexander, 2018; Kulozu, 2021; Lynch, 1984; Neill, 2003; Qazimi, 2014).

This study focuses on examining people's perceptions of behaviors that determine the attractiveness of urban factors. Clearly recognized differences in people's perception of urban identity over cultural and environmental factors contribute to increased comprehensive awareness of the preservation and development of a city with its own identity.

1.2.1 Motivation Theory

There is a blend of needs and desires in a visitor's decision-making regarding destination choice (Meng et al., 2008). According to motivation theory, through pull and push factors, it explains why a person chooses a tourist destination (Dann, 1981; Gnoth, 1997; Uysal & Jurowski, 1994; Zhang & Peng, 2014). This theory suggests that pull factors originate from the destination itself and attract visitors. These include attractive tourist destinations, history related to urban heritage, recreational amenities (Botha et al., 1999; Romão et al., 2015), urban tourist landscapes (García-Hernández et al., 2017), and sustainable urban tourism (Miller et al., 2015).

While pull factors are described in motivation theory, scholars note that these factors will differ depending on the place or city. For example, in Bozic's (2017) study, the most attractive pull factors for tourists were cultural events, nightlife, and culinary arts (Bozic et al., 2017). In contrast, in China, Wu (2017) identified heritage sites and museums as the most important pull factors (Wu & Wall, 2017). Other pull factors include urban cultural dynamics, smart city development, place sustainability, and environmentally friendly behavior (Miller et al., 2015; Romão et al., 2018a).

Indeed, in motivation theory, push factors arise from individuals' psychological motivations. These factors are internal psychological motivations such as stress relief, creating new connections, exploration, learning, and the desire to escape (Andreu et al., 2000; Botha et al., 1999; Van der Merwe et al., 2011). These push factors help address the emotional asymmetry people encounter in their surrounding social and work environments. To some extent, these factors also relate to urban attractiveness.

2. RESEARCH METHODOLOGY

2.1. Overview of Ho Chi Minh City and Urban Attractiveness Factors

Saigon, or Ho Chi Minh metropolis, is the largest metropolis in Vietnam and is anticipated to soon become a megacity. It is a cultural and educational focus in Vietnam, as well as an economic and entertainment center. Ho Chi Minh City is an urban area that is distinctive in Vietnam. The survey was conducted in the Ho Chi Minh metropolitan area, which has a long history of development and serves as a residence for both residents and tourists (Figure 1). This region comprises all the essential components that are appropriate for this investigation, as attractiveness factors are regarded as appealing to both tourist and local populations.

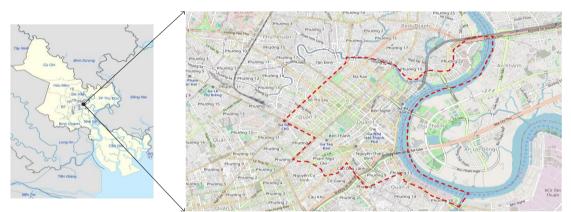


FIGURE 1 - RESEARCH LOCATION AND ITS BOUNDARY FOR HO CHI MINH CITY CASE STUDY.

| Architectural and Built Environment | | Natural | Natural Works of Art and Folklore Humanity | Folklore | | Green & Blue Sence of Place Infrastructure | | Services | Other | |
|---|--|--|---|---|--|--|--|---|--------|--|
| Pop-up Urban Space Historic Building Mini Bus Decoration Old Building Gallery Traditional Building Traditional Market Interactive Space Monument Temporary use of vacancy place/ building Shophouse/ Localshop Co-housing Walking Street Local Material/ Cehnology Cultural Centers | Handicraft & Art Shop Workshop place Street Vendor Street Market Street Stalls Houses/home Burden Street Workplaces Grocery store Sacred place Shopping mall Leisure place Cafe shop Indoor sports Bars Educational place Beauty salons Food node/Spot Restaurants Accommodation | Geomorpholog ical Topography Natural landscape Equitable climate | Local Craftsmanship Local Artist Local Pashion Local Products Poster Street Art Painting/Picture Sculpture Antiquity Graffiti | Traditional Food Traditions/ Legends History Events/ Local Festival Traditional Music/Folk music Ceremonies Worshiping custom Belief/Religion Multicultural Society Multi Religion Relaxation and Enjoyment Open Mindedness Being Friendly Guides | Language Indigenous knowledge Ideology Culture of Agriculture Traditional Beauty Standard Coffee/Tea Culture Stories/gossip Local Broadcast Competition Quality Label/ Mark/ Brand Value Perennial Brand Marketing Skills Online Presence Advertisement | Alleyway Sidewalks Public Building Public Squary/Plaza Street Park Courtyard Public Transport Open Space Green Space Green Space Greenery Tree Species Bus Station Transport and Mobility | Sound Smell Crowded Safety/unsafety Cleanliness Tidiness Comfort/Disco mfort Huge Intensity of space Friendly Alley Friendly Neighborhoods | Evening Activities Commercial Activities Various Function Freely Access Community Cohesion Clean Air Recreation Equitable Climate Trading Internet Beverage Street Performance Communication with people Interaction in the streets Social Interaction in the streets Social Interacti | Garbag | |

FIGURE 2 - HO CHI MINH CITY URBAN ATTRACTIVENESS FACTORS (Source: (Trang et al., 2024))

Furthermore, previous research related to the attractiveness factors of Ho Chi Minh City identified 134 factors contributing to the city's attractiveness (Do et al., 2023; Trang et al., 2024). This serves as a crucial foundation for conducting this study. The factors were divided into nine main groups: (1) Architectural & Built Environment, (2) Natural, (3) Works of Art & Humanity, (4) Folklore, (5)

Community Civilization, (6) Green & Blue Infrastructure, (7) Sense of Place, (8) Services, and (9) Others. The details of the elements constituting each main category are shown in Figure 2.

2.2. Questionnaire Survey

In order to comprehend the perceptions of urban attraction factors by residents, a methodology was established following the environmental behavior study theory. Initially, the attractiveness factors of Ho Chi Minh City were reviewed and extracted from previous research. In order to ascertain the residents' perspectives on the attractiveness factors of Ho Chi Minh City, a series of questionnaires were created. The framework offers a succinct overview of the research methodology, procedures, and objectives, as illustrated in Figure 3.

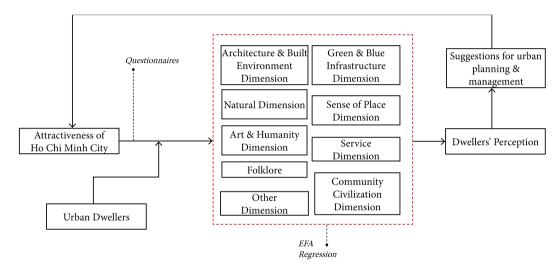


FIGURE 3 - THE RESEARCH'S METHODOLOGICAL FRAMEWORK.

In accordance with prior research, a series of questionnaires were developed by selecting nine critical dimensions and 113 elements (Figure 2). Each of these questionnaires was separated into two sections, each with its own objectives. In the initial section, demographic data regarding respondents, including their age, place of birth, current residence, income, and other pertinent details, is collected. The second section of the questionnaire was used to assess alluring factors, utilizing insights from previous research. The number of questionnaires that were necessary was 384, as determined by the population of the area and the defined boundary of the center of Saigon, as per section 2.1. In the aftermath of the survey, 382 questionnaires were collected. The respondents' specifics are further elucidated upon in Table 1. The questionnaire instruments were modified to include socio-demographic information for the purpose of investigating the correlation between these variables and perceived attractiveness (Table 2). Moreover, the overall perception of the city's attractiveness was incorporated to illuminate the assessment of the other dimensions by the residents (Figure 2).

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| Demographic Characteristics | ≤ 25 | 26-55 | ≥ 56 | Total |
|---|-----------------|-----------------|-----------------|-------|
| Inside district 1,3,4 and Binh Thanh Region | 121(63F,53M,5O) | 101(51F,44M,6O) | 42(19F, 23M,0O) | 264 |
| Outside district 1,3,4 and Binh Thanh Region | 72(33F,36M,3O) | 35(16F,17M,2O) | 11(5F, 6M,1O) | 118 |
| Total | 193 | 136 | 53 | 382 |

(F = Female, M = Male, O= Other)

| | | TABL | E 2- SOCIO-DEMO | GRAPHIC INFORI | MATION. | |
|----------------|-----------------------|---|---|--|--|--|
| Sex | Age | Birth Place | Residence Place | Length of residence | Education Background | Annual average income per capita* |
| Male Female | ≤ 25 26-55 ≥ 56 | District 1,3,4 and Binh Thanh Other place Overseas | District 1,3,4 and Binh Thanh Other | ≤ 1 year 1-5 years ≥ 5 years | Highschool/Vocaltional University/College | >3900\$ ≤3900\$ |

* Retrived from General statistics office of Vietnam in 2024 (Vietnamese general statistics office, 2024)

2.3. Data analysis processing

The self-assessment index toward 113 elements that manifest urban attractiveness was disclosed by the qualitative questionnaire data generated by 113 measurement questions (referred to Figure 2 and Appendix 1). Implementation of Cronbach's Alpha analysis was implemented to confirm the reliability of the collected data. These results indicated that inhabitants assess the factors that shape urban identity and perception using their own methods. A higher analysis value indicates a larger degree of internal consistency. According to this analysis, the data is sufficiently reliable, with a reliability of 0.953 for 113 responses (see Table 3).

| T. | ABLE 3 - CRONBACH'S ALPHA ANALYSIS. | |
|---------------------------|-------------------------------------|------------|
| Observed Items | Cronbach's Alpha | N of Items |
| Urban attractive elements | 0.953 | 113 |

3. RESULTS

3.1. Factors Affecting Urban Attractiveness

In the EFA, the KMO and Bartlett results demonstrate a sufficient value of 0.855 (0.5<KMO<1) and sig. = 0.000 < 0.05, indicating that the data is qualified for the subsequent analysis (Table 4). The Architecture & Built Environment category explains 62.65% of the total variance in this area (Table 5). The Community Civilization factor contributes 32.14%, Folklore accounts for 64.05%, Green & Blue Infrastructure contributes 56.99%, the Natural Environment explains 41.55%, and Sense of Place accounts for 41.35%. The rotated component matrix categorizes Ho Chi Minh City's urban attractiveness into 22 classes with a variety of factors, based on the loading of each factor (Table 5).

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| TABL | E 4 - KMO AND BARTLETT'S TEST RESULT | S |
|-----------------------------------|--------------------------------------|-----------|
| Kaiser-Meyer-Olkin Measure of San | npling Adequacy. | 0.855 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 46872.034 |
| | df | 7962 |
| | Sig. | 0.000 |

TABLE 5 - TOTAL VARIANCE EXPLAINED FOR EACH GROUP

| | | | Initial Eigenva | alues | Extraction Sums of Squared Loadings | | | |
|-----------------------|-----------|--------|---------------------------|-----------------------------|-------------------------------------|-----------------|--------------|--|
| | Component | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | |
| | 1 | 12.142 | 31.105 | 31.105 | 11.241 | 31.105 | 31.105 | |
| ⁴ Built | 2 | 4.861 | 9.342 | 40.447 | 3.637 | 9.623 | 40.728 | |
| ure & | 3 | 1.763 | 6.571 | 47.018 | 1.766 | 6.403 | 47.131 | |
| Architecture & Built | 4 | 1.673 | 6.31 | 53.328 | 1.234 | 5.504 | 52.635 | |
| Arch | 5 | 1.495 | 5.52 | 58.848 | 1.503 | 4.731 | 57.366 | |
| | 6 | 1.702 | 3.803 | 62.651 | 1.36 | 4.635 | 62.001 | |
| ural | 1 | 6.144 | 33.405 | 33.405 | 5.273 | 33.405 | 33.405 | |
| Natural | 2 | 1.604 | 8.143 | 41.548 | 1.763 | 8.15 | 41.555 | |
| s of | 1 | 5.203 | 41.713 | 41.713 | 5.204 | 41.713 | 41.713 | |
| Works of ^→ ° | 2 | 1.351 | 11.502 | 53.215 | 1.175 | 11.743 | 53.456 | |
| e | 1 | 4.132 | 33.112 | 33.112 | 4.884 | 33.112 | 33.112 | |
| Folklore | 2 | 2.934 | 21.331 | 54.443 | 1.788 | 21.331 | 54.443 | |
| | 3 | 1.544 | 9.603 | 64.046 | 1.544 | 9.454 | 63.897 | |
| Com | • | 6.402 | 32.142 | 32.142 | 8.503 | 32.142 | 32.142 | |
| Sense of Green & Blue | 1 | 4.302 | 35.984 | 35.984 | 4.102 | 35.984 | 35.984 | |
| en & l | 2 | 1.821 | 12.205 | 48.189 | 1.783 | 12.085 | 48.069 | |
| Gree | 3 | 1.307 | 8.805 | 56.994 | 1.674 | 8.903 | 56.972 | |
| e of | 1 | 2.922 | 7.264 | 7.264 | 1.512 | 7.444 | 7.444 | |
| Sens | 2 | 5.201 | 34.086 | 41.35 | 4.912 | 38.303 | 45.747 | |
| | 1 | 6.644 | 32.081 | 32.081 | 6.903 | 34.172 | 34.172 | |
| Service | 2 | 1.902 | 8.014 | 40.095 | 1.902 | 6.994 | 41.166 | |
| ش | 3 | 1.708 | 6.902 Extraction Metho | 46.997 d: Principal Comp | 1.888 onent Ana | 6.802 Iysis. | 47.968 | |

The Exploratory Factor Analysis (EFA) revealed eight principal dimensions, each characterized by several representative subcategories. The specific details of each factor within these groups are comprehensively presented in Table 6. The following section elucidates the primary dimensions and their corresponding groups:

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| | , | Architectural and Built Environment | • | | |
|---|---|---|---|---|---|
| I.Gr1 (Recreation amenities) | I.Gr2 (Heritage buildings) | I.Gr3 (Transportation facility) | I.Gr4 (Art & Beauty facility) | I.Gr5 (Urban Commerce) | I.Gr6 (Work& Learnin Space) |
| Pop-up urban space Decoration remporary use of vacancy place/building Walking Street Leisure place Cafeshop Bars Indoor sport | Historic Building Old Building Traditional Building Co-housing Home/house Sacred place Landmark Monument | Mini Bus Public transportation Bus station | Gallery Handicraft & Art shop Beauty salon | Shophouse Local shop Street vendor Street Market Street Stall Burden street Grocery store Shopping mall Food node Restaurant | Interactiv space Workplac Worksho place Educatior place |
| | | Natural | | Accommodation | |
| II.Gr1(Terrain Features) Geomorphological Topography | II.Gr2(Natural landscape) Natural landscape | Natura | | | |
| | | Works of Art & Humanity | | | |
| III.Gr1(Handcrafted Heritage) Local Craftmanship | III.Gr2 (Local art forms) Local Artist | | | | |
| Local Fashion Local Products Antiquity | Street Art Paintings Sculpture Graffiti | | | | |
| IV.Gr1 (Religious and Cultural Diversity) | IV.Gr2 (Joyful Openness) | Folklore IV.Gr3 (Cultural Heritage & Cuisine) | | | |
| Ceremonies Worshiping custom Belief/Religion Multicultural society Multi Religion | Relaxation & Enjoyment Open mindedness Being friendly guides | Traditional food Traditions/Legends History event Local festival Traditional/folk music | | | |
| V.Gr1(Ideology and Tradition) | | Community Civilization | | | |
| Language Culture of agriculture Coffee/tea cultural Indigenous knowledge Ideology raditional beauty standard Marketing skill | | | | | |
| VI. Gr1 | VIL Cr2 (Netwred Ovitele er | Green & Blue Infrastructure | | | |
| (Urban Pathways) | VI. Gr2 (Natural Outdoor Environments) | VI. Gr3 (Water surface) | | | |
| Alleyway Sidewalk Public square plaza Street | Courtyard Openspace Greenspace Greenery Tree Species | Lake Waterfront | | | |
| VII.Gr1 (Urban Sensory | VII.Gr2 (Welcoming | Sense of place | | | |
| Experiences) | Neighborhoods) | | | | |
| Sound Smell Crowded Safety/ unsafety Cleanliness Tidiness Comfort/ Discomport Huge intensity | Frendly Alley Frendly Neighborhoods | | | | |
| VIII.Gr1(Nighttime activities) | VIII. Gr2 (Trading activities) | Service VIII. Gr3 (Freely Accessible Functions) | | | |
| Evening activities Beverage street Street performance | Commercial activities Trading Pedlars | Function freely access Shipper | | | |

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- Architectural and Built Environment: This dimension is elucidated by six groups, namely I.Gr1 (Recreation Amenities), I.Gr2 (Heritage Buildings), I.Gr3 (Transportation Facilities), I.Gr4 (Art & Beauty Facilities), I.Gr5 (Urban Commerce), and I.Gr6 (Work & Learning Spaces).
- (2) Natural: This dimension comprises four groups, including II.Gr1 (Terrain Features) and II.Gr2 (Natural Landscapes).
- (3) Works of Art & Humanity: Represented by two subcategories, III.Gr1 (Handcrafted Heritage) and III.Gr2 (Local Art Forms).
- (4) Folklore: Explained by three groups, IV.Gr1 (Religious and Cultural Diversity), IV.Gr2 (Joyful Openness), and IV.Gr3 (Cultural Heritage & Cuisine).
- (5) Community Civilization: Summarized in a single group, V.Gr1 (Ideology and Tradition).
- (6) Green & Blue Infrastructure: Clarified through three groups, VI.Gr1 (Urban Pathways), VI.Gr2 (Natural Outdoor Environments), and VI.Gr3 (Water Surfaces).
- (7) Sense of Place: Defined by two groups, VII.Gr1 (Urban Sensory Experiences) and VII.Gr2 (Welcoming Neighborhoods).
- (8) Service: Condensed into three groups, VIII.Gr1 (Nighttime Activities), VIII.Gr2 (Trading Activities), and VIII.Gr3 (Freely Accessible Functions).

3.2. The Impact Level of Elements to Urban Attractiveness

Table 5 and 6 illustrates that the extent of a factor's contribution to an individual's perception of urban attractiveness was not intrinsically determined by the sequence of factors within the groups. In order to calculate the "impact level" metric, the mean value of each factor was combined with a weighting coefficient. Table 7 contains the weighted loading factor coefficients for the elements in each group, with descriptive labels allocated according to the characteristics of the elements. Equation 1 illustrates the formula that was implemented to calculate the weighting coefficients for the factors within a specific group.

$$L'_i = \frac{L_i}{(L_i + L_{i1} + L_{i2} + \dots + L_{in})}$$
(Equation 1)

| | TABLE 7 - IMPA | ACT SCORE OF EACH PHYSICAL I | ELEMENT AND EAG | CH GROUP. | |
|----------------------------------|--|------------------------------|-----------------------|---------------------|---------------|
| Main Category | Group | Elements | Weight Coefficient | Original Mean | Weighted Mean |
| | \$ | Pop-up urban space | 0.12 | 4.27 | 0.53 |
| | utit. | Decoration | 0.12 | 4.26 | 0.52 |
| | .Gr1 (Recreation amentity) | Temporary use of vacancy | 0.12 | 4.14 | 0.49 |
| | | place/building | | | |
| | eati | Walking Street | 0.12 | 4.20 | 0.49 |
| | lecr | Leisure place | 0.11 | 4.21 | 0.48 |
| | 면 또 | Cafeshop | 0.11 | 4.13 | 0.44 |
| | P. | Bars Indoor sport | 0.10 0.10 | 4.10 4.09 | 0.43 0.40 |
| | _ | Historic Building | 0.10 | 3.81 | 0.68 |
| | | Old Building | 0.18 | 3.96 | 0.70 |
| | I.Gr2 (Heritage buildings) | Traditional Building | 0.17 | 3.98 | 0.69 |
| | arite | Co-housing | 0.17 | 3.87 | 0.65 |
| | ildir H | Home/house | 0.16 | 3.80 | 0.61 |
| | pr Gr | Sacred place | 0.14 | 3.98 | 0.57 |
| | <u> </u> | Landmark | 0.22 | 3.90 | 0.87 |
| | | Monument | 0.22 | 3.98 | 0.90 |
| | | Mini Bus | 0.26 | 3.71 | 0.97 |
| | ation | | 0.20 | 0.11 | 0.01 |
| | 3 (Transportat facility) group | Public transportation | 0.26 | 3.81 | 1.00 |
| | I.Gr3 (Transportation facility) group | Bus station | 0.25 | 3.68 | 0.93 |
| ment | | Indigenous Market | 0.17 | 4.08 | 0.69 |
| tuilt Enviror | I.Gr4 (Art & Beauty facility) | Gallery | 0.23 | 3.74 | 0.87 |
| Architecture & Built Environment | | Handicraft & Art shop | 0.21 | 3.89 | 0.82 |
| Arch | | Beauty salon | 0.21 | 4.04 | 0.84 |
| | | Shophouse | 0.22 | 4.31 | 0.97 |
| | | Local shop | 0.21 | 4.18 | 0.90 |
| | erce | Street vendor | 0.20 | 4.41 | 0.87 |
| | I.Gr5 (Urban Commerce) | Street Market | 0.19 | 4.23 | 0.82 |
| | Cor | Street Stall | 0.17 | 4.04 | 0.69 |
| | an | Burden street | 0.20 | 4.20 | 0.85 |
| | D. | Grocery store | 0.19 | 4.22 | 0.82 |
| | ir5 (| Shopping mall | 0.19 | 4.25 | 0.79 |
| | <u>9</u> . | Food node Restaurant | 0.21 0.20 | <u>4.10</u> 4.19 | 0.87 |
| | | Accommodation | 0.20 | 4.19 | 0.79 |
| | 30E) | Interactive space | 0.22 | 3.97 | 0.88 |
| | l.Gr6 (Work& Learning Space) | Workplace | 0.22 | 4.02 | 0.88 |
| | (Work& Le | Workshop place | 0.21 | 4.17 | 0.88 |
| | I.Gr6 | Educational place | 0.18 | 3.87 | 0.69 |

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| Main Category | Group | Elements | Weight Coefficient | Original Mean | Weighted Mean |
|-------------------------|--|-----------------------------|-----------------------|------------------|---------------|
| | II.Gr1(Terrain Features) | Geomorphological | 0.21 | 4.17 | 0.87 |
| Natural | II.Gr1(Feat | Topography | 0.21 | 4.18 | 0.86 |
| | II.Gr2(Natural landscape) | Natural landscape | 0.23 | 4.03 | 0.91 |
| | σ | Local Craftmanship | 0.27 | 4.32 | 1.17 |
| | III.Gr1(Handcrafted Heritage) | Local Fashion | 0.27 | 4.26 | 1.14 |
| anity | r1(Handcra Heritage) | Local Products | 0.26 | 4.11 | 1.06 |
| Works of Art & Humanity | 9.≣ | Antiquity | 0.20 | 4.38 | 0.89 |
| of Art | | Local Artist | 0.19 | 4.37 | 0.81 |
| orks o | llart | Street Art | 0.17 | 4.28 | 0.73 |
| Ň | III.Gr2 (Local art forms) | Paintings | 0.15 | 4.36 | 0.67 |
| | | Sculpture | 0.15 | 4.14 | 0.63 |
| | | Graffiti | 0.20 | 4.16 | 0.83 |
| | g | Ceremonies | 0.19 | 4.49 | 0.86 |
| | IV.Gr1 (Religious and Cultural Diversity) | Worshiping custom | 0.19 | 4.44 | 0.82 |
| | | Belief/Religion | 0.18 | 4.39 | 0.79 |
| | | Multicultural society | 0.17 | 4.33 | 0.73 |
| | \geq | Multi Religion | 0.15 | 4.25 | 0.62 |
| | ful s) | Relaxation & Enjoyment | 0.29 | 3.82 | 1.09 |
| e | N.Gr2 (Joyful Openness) | Open mindedness | 0.25 | 3.67 | 0.91 |
| Folklore | N.Gr. Ope | Being friendly guides | 0.24 | 4.07 | 0.98 |
| | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | Traditional food | 0.30 | 3.93 | 1.16 |
| | IV.Gr3 (Cultural Heritage & Cuisine) | Traditions/Legends | 0.25 | 4.11 | 1.04 |
| | | History event | 0.24 | 4.06 | 0.97 |
| | Gu Cu | Local festival | 0.23 | 4.10 | 0.92 |
| | N.C | Traditional/folk music | 0.21 | 4.09 | 0.87 |
| | Γ | Language | 0.22 | 4.34 | 0.97 |
| tion | aditio | Culture of agriculture | 0.21 | 4.06 | 0.87 |
| viliza | nd Tr | Coffee/tea cultural | 0.19 | 4.11 | 0.79 |
| Community Civilization | gy ar | Indigenous knowledge | 0.13 | 4.23 | 0.54 |
| unmr | deolo | Ideology | 0.14 | 4.27 | 0.59 |
| Corr | V.Gr1(Ideology and Tradition) | Traditional beauty standard | 0.19 | 4.20 | 0.78 |
| | > | Marketing skill | 0.18 | 4.17 | 0.77 |

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| Main Category | Group | Elements | Weight Coefficient | Original Mean | Weighted Mean |
|-----------------------------|---|---------------------------------------|-----------------------|------------------|---------------|
| | ys) | Alleyway | 0.28 | 4.21 | 1.16 |
| | VI. Gr1 (Urban Pathways) | Sidewalk | 0.26 | 4.07 | 1.05 |
| | | Public square plaza | 0.24 | 4.19 | 0.99 |
| | | Street | 0.23 | 4.31 | 0.99 |
| | | Courtyard | 0.23 | 4.13 | 0.93 |
| ture | tdool | Openspace | 0.22 | 3.99 | 0.88 |
| Green & Blue Infrastructure | ents) | Greenspace | 0.19 | 3.98 | 0.76 |
| Infra | VI. Gr2 (Natural Outdoor Environments) | Greenery | 0.19 | 4.24 | 0.79 |
| Blue | Envii | | | | |
| en & l | /I. G | Tree | 0.18 | 4.13 | 0.72 |
| Gree | - | Species | 0.36 | 4.08 | 1.49 |
| | VI. Gr3 (Water surface) | Lake | 0.28 | 4.08 | 1.13 |
| | VI. Gr3 surf | Waterfront | 0.21 | 4.23 | 0.91 |
| | | Sound | 0.22 | 4.20 | 0.93 |
| | sory | Smell | 0.20 | 4.20 | 0.83 |
| | Sens es) | Crowded | 0.18 | 4.24 | 0.77 |
| | VII.Gr1 (Urban Sensory Experiences) | Safety/ unsafety | 0.17 | 4.32 | 0.75 |
| | | Cleanliness | 0.23 | 4.25 | 0.96 |
| ace | | Tidiness | 0.22 | 4.23 | 0.81 |
| of pla | | Comfort/ Discomport Huge intensity | 0.12 0.15 | 4.21 | 0.79 0.72 |
| Sense of place | VII.Gr2 (Welcoming Neighborhoods) | Frendly Alley | 0.13 | 4.27 | 0.72 |
| | | Frendly Neighborhoods | 0.11 | 4.14 | 0.78 |
| | time | Evening activities | 0.24 | 4.27 | 1.19 |
| | VIII.Gr1 (Nighttime activities) | Beverage street | 0.23 | 4.04 | 1.02 |
| | VIII. | Street performance | 0.26 | 4.13 | 0.97 |
| e | ading s) | Commercial activities | 0.22 | 4.05 | 0.84 |
| Service | VIII. Gr2 (Trading activities) | Trading | 0.17 | 4.19 | 0.72 |
| | VIII | Pedlars | 0.17 | 4.22 | 0.56 |
| | VIII. Gr3 (Freely Accessible Functions) | Function freely access | 0.13 | 3.83 | 0.66 |
| | VIII. Gr. Acce Func | Shipper | 0.18 | 3.92 | 0.58 |

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As can be seen in Table 7, the impact score of 94 elements in 22 groups toward users' urban attractiveness perception in Ho Chi Minh city was disclosed. Figure 4 illustrates the importance of the various impact elements.

In general, the factors in (1) Water surface (VI.Gr3), including lakes and waterfronts, take the most important role in identifying Ho Chi Minh City with the highest weighted mean score (~1.45); descending in order as follows: (2) Nighttime activities (VIII.Gr1), encompassing evening events and street performances, rank second, highlighting their significance in enhancing the city's vibrancy and nightlife, (3) Handcrafted Heritage (III.Gr1), which includes traditional crafts and local craftsmanship, is the third most impactful group, underscoring the importance of preserving and promoting cultural heritage, (4) Urban Pathways (VI.Gr1), such as alleyways and sidewalks, have a high impact, indicating the value of pedestrian-friendly infrastructure for urban mobility and livability, (5) Cultural Heritage & Cuisine (IV.Gr3), particularly traditional food and cultural events, rank fifth, emphasizing their role in the city's cultural richness, (6) Joyful Openness (IV.Gr2), representing elements like relaxation and enjoyment, are crucial for fostering a welcoming and inclusive community, (7) Transportation facility (I.Gr3), including public transport and bus stations, significantly contribute to urban connectivity and efficient transportation systems, (8) Urban Commerce (I.Gr5), which involves marketplaces and commercial activities, also have a substantial impact, reflecting their role in economic development, (9) Ideology and Tradition (V.Gr1), involving cultural practices and language, contribute to the city's cultural identity and continuity, (10) Urban Sensory Experiences (VII.Gr1), such as sound and cleanliness, are essential for maintaining a pleasant urban atmosphere, (11) Natural landscape (II.Gr2), including parks and green spaces, support environmental sustainability and recreation. (12) Heritage buildings (I.Gr2), such as historic landmarks, are vital for cultural preservation and tourism. (13) Work & Learning Space (I.Gr6), including offices and educational institutions, play a critical role in economic and intellectual growth, (14) Natural Outdoor Environments (VI.Gr2), featuring green spaces and courtyards, are important for health and well-being, (15) Terrain Features (II.Gr1), like geomorphological and topographical elements, are crucial for urban planning, (16) Art & Beauty facility (I.Gr4), such as galleries and beauty salons, enhance cultural and aesthetic appeal, (17) Religious and Cultural Diversity (IV.Gr1), highlighting religious and cultural inclusivity, are important for a vibrant community, (18) Trading activities (VIII.Gr2), including commercial and market operations, contribute to economic dynamism, (19) Local art forms (III.Gr2), such as street art, play a significant role in cultural expression, (20) Welcoming Neighborhoods (VII.Gr2), which foster social cohesion, are key to community building, (21) Freely Accessible Functions (VIII.Gr3), ensuring equitable access to services, support urban equity, (22) Recreation amenity (I.Gr1), like parks and leisure facilities, enhance quality of life (~0.70). This hierarchical structure of impact scores highlights the primary

areas that Ho Chi Minh City can focus on to enhance urban attractiveness and livability, prioritizing topranking elements such as water surfaces, nighttime activities, and handcrafted heritage.

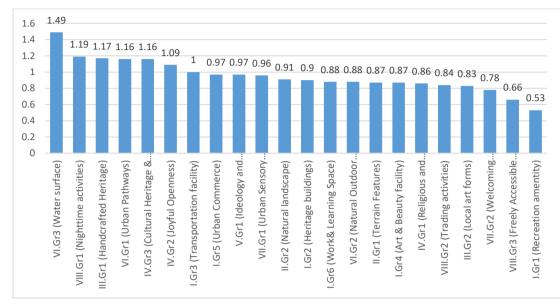


FIGURE 4 - IMPACT SCORE BETWEEN 22 GROUPS

The results of the Pareto analysis indicate that, in order to enhance the urban attractiveness of Ho Chi Minh, urban planners, managers, designers, and authorities need to focus on maintaining, preserving, and developing the 37 elements and factors within 13 sub-categories as outlined in Figure 5 and Table 8. These elements and factors collectively impact 80% of the urban attractiveness of Ho Chi Minh city.

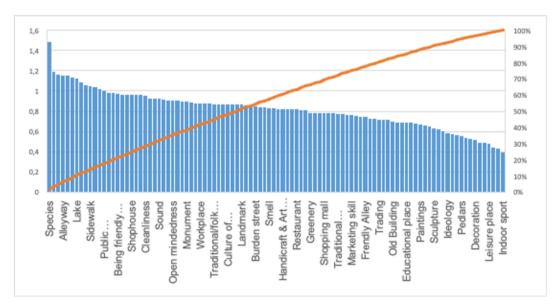


FIGURE 5 - THE MOST IMPORTANT ELEMENT AFFECTING URBAN ATTRACTIVENESS OF HO CHI MINH.

| Main Category | RIBUTING TO 80% OF TOTAL IMPACT BY THE IMP Group | Element |
|----------------------------------|---|------------------------|
| | VIII.Gr1 (Nighttime activities) | Evening activities |
| Architecture & Built Environment | | Street performance |
| | | Species |
| Natural Environment | VI.Gr2 (Natural Outdoor Environments) | Openspace |
| | | Local Craftmanship |
| | | Local Fashion |
| Works of Art & Humanity | III.Gr1 (Handcrafted Heritage) | Local Products |
| | | Antiquity |
| | | Traditional food |
| Folklore | IV.Gr3 (Cultural Heritage & Cuisine) | History event |
| | | Traditional/folk music |
| | | Alleyway |
| Green & Blue Infrastructure | VI.Gr1 (Urban Pathways) | Sidewalk |
| | | Public square plaza |
| | | Relaxation & Enjoymer |
| Folklore | IV.Gr2 (Joyful Openness) | Open mindedness |
| | | Being friendly guides |
| | | Cleanliness |
| Sense of Place | VII.Gr1 (Urban Sensory Experiences) | Tidiness |
| | | Shophouse |
| | | Local shop |
| | | Grocery store |
| | I.Gr5 (Urban Commerce) | Restaurant |
| Architecture & Built Environment | | Food node |
| | | Burden street |
| | | Public transportation |
| | I.Gr3 (Transportation facility) | Minibus |
| | | Bus station |
| | | Gallery |
| | | Beauty salon |
| Works of Art & Humanity | I.Gr4 (Art & Beauty facility) | Handicraft & Art shop |
| | | Sculpture |
| | | Geomorphological |
| Natural Environment | II.Gr1 (Terrain Features) | Topography |
| | II.Gr2 (Natural landscape) | Natural landscape |
| | | |
| Architecture & Built Environment | I.Gr2 (Heritage buildings) | Monument |

DISCUSSIONS 4.

4.1. Urban attractiveness conceptual framework

Previous studies on factors contributing to urban attractiveness, such as the form language outlined by Lynch(Lynch, 1960) or the pattern languages discussed by Christopher Alexander(Alexander, 2018), have often remained abstract. Urban managers, planners, and designers have struggled to apply these theories directly to their urban operations (Nguyen, 2015, 2023). This research proposes a comprehensive conceptual framework for urban attractiveness through the lens of urbanism, providing a detailed and actionable set of guidelines. The findings of this study offer a more precise approach, enabling urban

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managers, planners, and designers to apply these insights practically in the context of urban development.

When compared with earlier studies, such as Gabriela Sirkis' (2022) research, which identifies factors of attractiveness through four main categories—nucleus, tourism ecosystem, Meetings, Incentives, Conventions, and Exhibitions (MICE) and shows, and related services, this framework offers a more detailed breakdown (Sirkis et al., 2022b). Similarly, Maryse Boivin's (2019) study recognized attractiveness in four levels—context, tourist belt, complementary attractions, and nucleus (Boivin & Tanguay, 2019b). However, these groupings are not sufficiently detailed, which may lead to overlap between categories, as the nucleus could encompass elements from the other groups. This study, on the other hand, considers both tourists and residents, making the conceptual framework for urban attractiveness more comprehensive.

Joao Romao's (2018) research on attractiveness factors for a common place in a city for both tourists and residents constructed functional indicators based on economy, R&D, cultural interaction, livability, environment, and accessibility (Romão et al., 2018b). These indicators contributed to the creativity and sustainability dimensions of smart cities. However, Romao's six indicators lack clarity and detail due to the blending of different factors and attributes, such as environments, livability, and accessibility. In contrast, this study offers a clear categorization of the factors contributing to urban attractiveness. For example, "environment" is refined into specific categories such as architecture & built environment, natural environment, and green & blue infrastructure. Similarly, cultural interaction is articulated through folklore and community civilization, while the economy is expressed through works of art & humanity and service.

By delving deeper into the eight key dimensions that contribute to urban attractiveness, this research identifies a range of specific factors, thus providing a more nuanced understanding of urban attractiveness indicators. This level of detail is invaluable for policymakers as they work to develop more attractive urban environments. Additionally, this framework offers a comprehensive set of indicators that can be used for future research and evaluation of urban attractiveness, making it a practical tool for advancing urban development strategies.

4.2. Ho Chi Minh Urban Attractiveness Implications

The concern about the attractiveness of Ho Chi Minh City has gradually become widespread not only among the dwellers but also among scholars, managers, planners, and government officials. However, this concern has mainly focused on economic and investment dimensions, employment, etc. Other related studies have primarily focused on the city's attractiveness to tourists from the tourism dimension (Giang,

2022; Khuong & Ha, 2014; Mai et al., 2019). In terms of urban management and planning, this study indicates that it is necessary to comprehensively consider multiple dimensions simultaneously to achieve attractiveness, rather than just focusing on cultural aspects and the appearance of urban architecture(Pham, 2019).

Furthermore, the findings of this research reveal that, contrary to other studies that suggest that urbanization is often a trade-off between urban identity, tangible and intangible heritage, and development (Ngo & Ton, 2019), Ho Chi Minh City demonstrates a diverse range of factors contributing to its urban attractiveness. The evaluation of satisfaction levels across the various components that constitute urban appeal indicates that the city possesses a rich variety of elements capable of shaping an attractive urban environment.

From the perspective of the residents, to gain urban attractiveness, it should focus on:

- (1) Architecture & Built Environment emphasizes diverse urban experiences, including: Nighttime activities (evening activities, street performances), Urban commerce (shophouses, local shops, restaurants), Transportation facilities and Heritage buildings (monuments, landmarks). Indeed, a vibrant, multifaceted urban environment that caters to various needs and interests throughout the day and night is crucial for urban attractiveness. The mix of commercial, cultural, and historical elements suggests that an attractive urban area should offer a blend of experiences, from shopping and dining to appreciating historical architecture (Valipoor & Dehkordi, 2016);
- (2) Natural Environment including Natural outdoor environments (species, open spaces), Terrain features (geomorphological aspects, topography), Natural landscapes. The presence of nature within urban settings is a significant factor in urban attractiveness. This suggests that cities should preserve and integrate natural elements, biodiversity, and open spaces to enhance their appeal;
- (3) Works of Art & Humanity encompasses Handcrafted heritage (local craftsmanship, fashion, products, antiquities), Art and beauty facilities (galleries, beauty salons, handicraft shops, sculptures). This implies Cultural and artistic elements play a crucial role in urban attractiveness. Cities that celebrate and showcase local art, crafts, and cultural products are likely to be more appealing. This also suggests that opportunities for personal care and aesthetics contribute to a city's attractiveness;
- (4) Folklore includes Cultural heritage and cuisine (traditional food, historical events, traditional/folk music), Joyful openness (relaxation, open-mindedness, friendly guides). The intangible cultural heritage of a place significantly contributes to its attractiveness. Cities that preserve and

celebrate their traditions, cuisine, and history while maintaining an open and welcoming atmosphere are likely to be more attractive to both residents and visitors;

- (5) Green & Blue Infrastructure, this category focuses on urban pathways (alleyways, sidewalks, public squares/plazas). The design and quality of public spaces and pedestrian infrastructure are crucial for urban attractiveness. Cities should prioritize creating welcoming, accessible public spaces that encourage social interaction and outdoor activities;
- (6) Sense of Place emphasizes urban sensory experiences (cleanliness, tidiness, accessibility..etc). The overall maintenance and cleanliness of urban environments significantly impact their attractiveness. Cities should prioritize cleanliness and orderliness to create a positive sensory experience for residents and visitors.

5. CONCLUSIONS

The concept of urban attractiveness extends far beyond physical or aesthetic appeal alone. While numerous studies have examined various factors contributing to urban attractiveness, these tend to remain at a theoretical level or focus on specific aspects such as historic cities, tourism, or elements that appeal primarily to visitors. Urbanization often drives development in the current context, but it also erodes the distinctive values that contribute to a city's allure. As a result, it is essential to identify a comprehensive conceptual framework for urban attractiveness that applies to the common city and the majority of its users.

This research proposes an integrated conceptual framework for urban attractiveness indicators, spanning from micro to macro levels. It significantly contributes to the expansion of evaluation frameworks by identifying diverse factors influencing urban appeal. Although urbanization is frequently associated with the degradation of a city's unique characteristics due to development trade-offs, this study reveals that urban attractiveness in Ho Chi Minh City is remarkably diverse. Therefore, it is critical to ensure that urban development harmonizes across the eight dimensions identified in the discussion and findings. To impact 80% of perceptions regarding the attractiveness of Ho Chi Minh City, the focus must be placed on six key dimensions: (i) Architecture & Built Environment; (ii) Natural Environment; (iii) Works of Art & Humanity; (iv) Folklore; (v) Green & Blue Infrastructure; and (vi) Sense of Place. These are further detailed into 13 categories: (1) VIII.Gr1 (Nighttime activities); (2) VI.Gr2 (Natural Outdoor Environments); (3) III.Gr1 (Handcrafted Heritage); (4) IV.Gr3 (Cultural Heritage & Cuisine); (5) VI.Gr1 (Urban Pathways); (6) IV.Gr2 (Joyful Openness); (7) VII.Gr1 (Urban Sensory Experiences); (8) I.Gr5 (Urban Commerce); (9) I.Gr3 (Transportation facility); (10) I.Gr4 (Art & Beauty facility); (11) II.Gr1 (Terrain Features); (12) II.Gr2 (Natural landscape); (13) I.Gr2 (Heritage buildings). The detailed elements for each group are outlined in Table 8.

The primary objective of this investigation is to explore social and individual perspectives; however, it does not undertake a comprehensive examination of the disparities in demographic perceptions of urban identity. Furthermore, it may prove challenging to objectively quantify or measure certain intangible components of urban attractiveness. This exploratory study necessitates optimizing variables to construct a comprehensive conceptual framework applicable to various future contexts. Hence, this research is both relevant and valuable as a foundation for subsequent studies. The reciprocal relationship between these factors and perceptions of urban identity remains unclear. Thus, future research will focus on this aspect to better understand the connections between these elements and how they influence perceptions of urban identity.

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