Exploring the Reinvention of Macao's Urban Image through Text Analysis Based on Online Travel Platforms

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Abstract: Macao has been known as the "Gambling City" and the "Las Vegas of the East". However, during the economic transformation in the post-pandemic era, it is obvious that Macao needs to get rid of its stereotypical city image and explore its historical and cultural connotations in order to enhance its city charms in an all-round way. On the basis of exploring the connotation of the city image, this paper focuses on the analysis of the travelogues and ratings of "Ctrip.com" and "Qunar.com", and explores the perceptual status of Macao's city image, with a view to reshaping Macao's tourism city image.

Keywords: Macao; Tourism City; Tourists; City Image; Perceived Image; Emotional Image.

1. Introduction

In the 21st century, with the continuous development of information technology, people have entered the Internet era. The arrival of the Internet era has had a profound impact on the production and life of human society. At the same time, the development of the tourism industry has also been integrated with the Internet technology. With the rise of online travel platform such as "Ctrip.com" and "Qunar.com", with open and sharing characteristics of the Internet naturally become the main channel for travelers to collect tourism information and share the image of the destination perception of the main channels, so the network text information is the city image perception of one of the important channels of research. At present, travelers' choice of travel destinations is no longer a single blind choice, but based on the image of the destination and the self-perception of the understanding of travel choices. City image perception is the sum of people's perceptions, expectations and actual views of a city, and becomes one of the important factors that attract travelers to come to travel. At the same time, this image will continue to change during the travelling process depending on the situation. Therefore, in order to create an attractive destination image for travelers, it is necessary to effectively measure and grasp people's internal views and perceptions of the city.

Over the past few years, the progress of destination image research has shown a diversification of perspectives and a deepening of methodological approaches. The study by López-Sanz et al. (2021) revealed the importance of destination image in the formation of a new image and highlighted tourist satisfaction as the strongest variable influencing loyalty to the destination

area, which is particularly important in the rural tourism environment of sustainable development and consumer behavior [1]. Bui et al. (2022) proposed a comprehensive destination image measurement framework by using more than 30,000 images and 10,000 reviews about three Australian destinations, and demonstrated the validity of the framework through big data [2]. Zhang et al. (2020) proposed a computational visualization framework by using a mapping of destination image and behavioral patterns from user-generated photographs, which proposed a computational visual approach to provide new insights into tourism promotion and spatial development of destinations [3]. Lai and Li (2015) highlighted the importance of defining tourism concepts more rigorously and advancing TDI research when defining a key tourism concept [4]. Hunter (2012) suggested that tourism marketers should take a closer look at the visual destination images they project and their connotations and there is a case study is provided through a visual analysis of Seoul [5]. These studies not only provide a multi-dimensional understanding of destination image, but also provide evidence-based strategic recommendations for destination marketers, emphasizing the relationship between image, satisfaction and loyalty, and the role of visual materials in image-making.

As a world-class tourist destination, Macao's soft power plays a key role, and the city's image needs to be marketed as a commercial brand in order to attract target groups to visit the city. This paper takes the travelogues and reviews of "Ctrip.com" and "Qunar.com" as the basic data, and uses the content analysis method to research on the perception of Macao's city image, so as to comprehensively interpret Macao's city personality, which is conducive to the small city's further excavation and activation of its own humanistic connotations, and then comprehensively revitalize Macao's city image.

2. Literature Review

In the realm of urban studies, the concept of city image holds a central position, serving as the lens through which inhabitants and visitors perceive and interact with the urban environment. City image originates from Lynch (1964) in *The Image of City*, who said, "A two-way interaction is formed between the observer and the observed, from which imagery is born [6]." Friedrich Engels once said that a thousand people reading Hamlet would produce a thousand different images of Hamlet. This is true for reading a book, and also for reading a city, which means that people with different standpoints will feel different images of the city. However, Kevin Lynch argues that each inhabitant of a city has his or her own interpretation of how the city is perceived, but no matter what the city is, there is a common image that is recognized by its inhabitants, an image that is the overlap of a number of different images. Specifically, Kevin Lynch also proposed five material forms that form urban images: roads, borders, districts, nodes, and landmarks. Recent studies have built upon and extended Lynch's ideas, exploring how they apply in contemporary urban contexts and using new methodologies and technologies to do so. One of the key advancements in this field has been the integration of digital technologies and geospatial analysis in studying urban imagery. Liu et al. (2016) developed C-IMAGE, a tool that utilizes geo-tagged photos to map and analyze city images [7]. Their study partially confirmed Lynch's city image theory and identified four prototypes among 26 cities based on seven urban perceptions. This tool also highlighted the gap between subjective perceptions and the objective environment, providing a nuanced understanding of urban imagery. The role of technology in shaping urban images has also been explored by Wessel et al. (2018), who

revisited Lynch's principles of urban legibility in the digital age [8]. They found that mental images of cities are shifting to include places of functional significance, and the use of Information and Communication Technologies (ICTs) resulted in less spatial accuracy compared to analog methods. This underscores the transformative impact of digital technologies on our perception and interpretation of urban spaces. The application of Lynch's theory in the context of urban sustainability and resilience has also gained traction. Koprivec et al. (2022) applied Lynch's visual qualities to analyze urban views and identify the restorative potential of urban environments [9]. This approach bridges urban design and public health, highlighting the role of well-designed urban environments in promoting mental well-being. Furthermore, the intersection of Lynch's urban imagery and social neuroscience has opened new avenues for research. Meyer-Lindenberg (2014) highlighted the potential of combining imaging, urban geography, and social neuroscience to understand the impact of the urban social environment on mental health [10]. This interdisciplinary approach enhances our understanding of the complex relationship between urban design, perception, and well-being. Therefore, these studies are building on Lynch's foundational work, integrating new methods and exploring the impact of urban imagery on urban planning, design, sustainability and public health, and highlighting the role of Lynch's theory in shaping contemporary urban environments.

With the rapid development of the global tourism industry, the importance of a city's image in attracting visitors and promoting tourism development is widely recognized. This is not only because tourism has become a major economic driver for many cities, but also because a city's attractiveness is intrinsically linked to its ability to achieve sustainable development. Khan et al. (2020) provided a comprehensive perspective, exploring the relationship between economic growth, tourism development, and environmental pollution [11]. They found that while economic growth supports the development of the tourism industry, the influx of tourists has a significant positive impact on energy consumption, capital investment, and CO_2 emissions. These factors might have a negative effect on tourism, emphasizing the importance of sustainable tourism policies. Simultaneously, Zhao and Dong (2017), drawing from empirical data in China, delved into the relationship between the agglomeration of the tourism industry and urbanization [12]. They discovered that the agglomeration of the tourism industry has a positive impact on urbanization, and there exists a U-shaped relationship between the two variables. This suggests that as the tourism industry develops, urbanization will correspondingly increase. Further, Fauzel et al. (2017) also confirmed a positive relationship between the development of the tourism industry and economic growth, supporting the tourism-led growth hypothesis [13]. This implies that the development of the tourism industry can not only promote economic growth but also bring various other benefits to cities. However, a study by Ehigiamusoe (2020) serves as a reminder that the development of the tourism industry might also pose environmental challenges [14]. He found that while the tourism industry can promote economic growth, it might also exacerbate environmental degradation, emphasizing the importance of sustainable tourism practices. Additionally, Stylidis et al. (2014) pointed out that while most tourism development studies largely overlook the local image of residents, their findings reveal its significance in shaping residents' perceptions of tourism impacts and their level of support [15]. Moreover, Su et al. (2021), while examining the case of China, found a strong correlation between the tourism industry and economic growth, further supporting the positive impact of the tourism industry on urban economic growth [16]. It can be seen that the rapid development of the tourism industry undoubtedly brings economic benefits to cities, it also presents environmental and societal challenges. Therefore, to ensure the sustainable

development of cities, a holistic consideration of the various impacts of the tourism industry is essential, accompanied by the formulation of corresponding strategies and policies.

Drawing parallels between the concept of city image and destination image, we can see that both are formed by a complex interplay of subjective and objective perceptions. Destination image is a summary of a traveler's all-encompassing impression of a destination and its overall characteristics (Echtner & Ritchie, 1993) [17]. Hunt (1975) was the first to point out the importance of destination image perception by suggesting that destination image is people's subjective impression of places other than the place where they live [18]. Manuel and Fred (1977) pointed out that destination image is actually travelers' personal feelings and perceptions of the destination [19]. Crompton (1979) described destination image as the sum of all the perceptions and sensations that travelers have about the things and events they experience in a destination [20], and Tasci, Gartner and Tamer (2007) argue that the overall perception of destination image is created when travelers resonate with what they see, hear and experience in a destination. With the emphasis on the role of "people", scholars have gradually evolved from a purely cognitive analysis to one that combines cognition and emotion [21]. Gunn (1988) used the criterion of whether a potential traveler has visited the destination or not, and concluded that the image perception of a tourist destination is a combination of Organic Image and Induced Image [22], while Barich and Kotler (1991) supplemented Gunn's view by classifying them into Emissive Image and Received Image [23], while Fakeye and Crompton (1991) proposed Organic Image, Induced Image, and Overall Image [24]. Gartner (1994) further analyzed and understand the definition of image perception in detail, and defined image perception of tourism destinations as consisting of cognitive, emotional, and intentional components, and these three items in order of gradual progression of the degree of perception [25]. Baloglu and McCleary (1999) proposed that the destination image consists of Cognitive Image, Affective Image and Overall Image [26]. They established a "Cognitive - Affective" model and conducted a study on tourism image of Turkey, Italy, Greece and Egypt in terms of quality experience, attractiveness, value and environment through questionnaire survey and path analysis. They finally concluded that both cognitive and emotional images have a direct impact on the composite image and that cognitive evaluation indirectly affects the total image through emotional evaluation. Beerli and Martin (2004) concluded that travelers' perceptions of the image of a tourist destination are mainly in terms of the natural and humanistic attractions, the facilities and services of the city, the emotions, and the urban environment and ambience [27].

Recent research has elucidated that tourists' motivations bear a significant influence on the affective component of the destination image. Moreover, there exists a profound relationship between the travel experience and both cognitive and affective images (Iordanova & Stylidis, 2019) [28]. Additionally, socio-demographic characteristics have been identified as influential factors in shaping the cognitive and affective assessments of the destination image (Beerli & Martín, 2004) [29]. Further investigations have underscored the predominant impact of the affective image on the overall destination image, a phenomenon that is particularly pronounced among domestic tourists (Stylidis et al., 2017) [30]. This insight necessitates a strategic focus on enhancing the emotional experiences of tourists for destination marketers aiming to sculpt a favorable destination image. Moreover, the research has established a positive correlation between tourists' cultural and authentic tourism experiences and their cognitive and affective perceptions of the destination image (Shi et al., 2019) [31]. This revelation underscores the imperative for destination managers to offer culturally rich and authentic tourism experiences

to augment the destination image. These studies suggest that cognitive and emotional images not only play a crucial role in forming the overall image of a tourist destination but also exert significant impacts on tourists' attitudes and behaviors. In short, it can be seen that the cognitive and emotional elements of a city overlap and interweave with each other in a regular manner, thus forming a common image of a tourist city.

In recent years, as Macao is accelerating its efforts to become a World Center of Tourism and Leisure, many scholars have conducted extensive research on Macao's urban and tourism image, revealing fascinating insights and viewpoints. Pang et al. (2021) delved into the perceptions of mainland Chinese visitors towards Macao, highlighting the pivotal role of cultural and heritage attractions in shaping the destination image [32]. This notion is further corroborated by Chen (2019), who explored the pre- and post-trip perceptions of tourists regarding Macao's destination image, revealing an enrichment of the image post-visit, particularly in relation to cultural and heritage aspects [33]. The significance of heritage and cultural elements in shaping Macao's image is also echoed by Chu (2015), who explored the ethical claims and environmental commodification following Macao's designation as a World Heritage City [34]. In a different vein, Liu et al. (2021) employed text mining to analyze online reviews on travel websites, revealing a discrepancy between tourists' destination image of Macao and the expectations of the government, thereby indicating a potential area for strategic repositioning [35]. Ong and Cros (2012) provided a unique perspective by exploring the experiences of Chinese backpackers in Macao, revealing the interplay between tourist gaze and Chinese mobility, which could potentially influence the perceived image of the destination [36]. Sheng (2016) explored the political culture of Macao, revealing how its insularity, smallness, and geographical location significantly influence its urban political culture, which could indirectly shape its tourism and city image [37]. Mak et al. (2010) underscored the importance of service quality in the tour guiding profession in Macao, which is crucial in shaping the overall tourist experience and subsequently, the destination image. Tang and Wang (2021) explored the impact of a tourism sports event, the Macao Grand Prix, on the subjective well-being of Macao residents, revealing strong support and positive attitudes towards the event, which could potentially influence the perceived image of Macao as a vibrant and eventful destination [38]. Sheng and Gu (2018) highlighted the economic growth and development in Macao, particularly focusing on the booming gaming industry, which has significantly shaped its image as a major gaming destination [39]. Wan et al. (2017) explored environmental awareness, initiatives, and performance in Macao's hotel industry, revealing a potential avenue for positioning Macao as a destination that is conscious of sustainable practices [40]. It can be seen that the recent research on Macau's city and tourism image has focused on various dimensions, including cultural heritage, tourist perceptions, and the impact of specific events, providing avenues for a deeper understanding of its multifaceted and unique image. Looking forward, research may increasingly focus on how to balance commercial development with cultural preservation, and how to get rid of the stereotyped gambling city image and highlight the new image of Macao with multicultural connotations.

3. Empirical Analysis of Macao's City Image Perception

3.1 Components of Macao's City Image

Based on Macao's urban characteristics and actual situation, the city image of Macao is constructed by 5 main categories and 19 sub-categories consisting of: 1. districts and streets; 2. culture and festivals; 3. hotels and casinos; 4. other places; and 5. emotional characteristics. Among them, main categories 1 to 4 are regarded as the carriers of cognitive image, while main category 5 is regarded as the carrier of emotional image, please refer to Table 1 for the specific components:

Table 1 Components of Macao's City Image

Cognitive image	I. Districts and streets	(1) Districts
		(2) Old streets
		(3) Urban texture
		(4) Landscape streets
	II. Culture and festivals	(5) World heritage sites
		(6) Cultural heritage
		(7) Intangible heritage
		(8) Festivals
	III. Hotels and casinos	(9) Large-scale hotels and casinos
		(10) Hotels
		(11) Casinos
	IV. Other places	(12) Religious venues
		(13) Museums
		(14) Entertainment and leisure attractions
		(15) Civic places
		(16) Markets and hawkers
		(17) Cultural and creative Spaces
Emotional image	V. Emotional characteristics	(18) Idioms
		(19) Adjectives

3.2 Research Methodology

First, this paper collects data from "Ctrip.com" travel notes about Macao (4,284 papers), "Qunar.com" travel guides (1,000 papers) and travelers' reviews (976 papers) about Macao, by writing a Python web crawler. A total of 6,260 papers were obtained, and the comment data of its sub-sections were collected. A total of about 50,000 comments were collected.

Next, this paper uses the word frequency statistical method to explore the popularity of Macao's urban connotations hidden in the huge data groups of "Ctrip.com" and "Qunar.com", thereby reflecting the image of the city in people's eyes. Among them, this paper analyzes the city image of Macao from two aspects: cognitive image and emotional image. In terms of cognitive image, word frequency statistics were conducted for main categories one to four, that is, subcategories 1 to 17. Then, combine the 4 main categories, that is, 17 sub-categories, to conduct comprehensive word frequency statistics, and draw a comprehensive heat histogram. In terms of emotional images, word frequency statistics were conducted for main category five, namely subcategories 18 to 19, and two heat histograms were drawn.

3.3 Analysis of Macao's Cognitive Images

From the perspective of main category I. Districts and streets, the top five in sub-category 1. districts include: "Sao Paulo", "Avenida de Almeida Ribeiro", "Coloane", "Portas do Cerco", and "Praia Grande". The top five old streets of sub-category 2 include: "Rua do Cunha", "Avenida de Almeida Ribeiro", Rua de S. Paulo", "Rua da Felicidade", and "Travessa da Paixao". The top five rankings of urban texture in sub-category 3 include: "Largo do Senado", "Calcada de S. Paulo", "Rua de S. Paulo", "Largo de St. Agostinh", and "Praca de Ferreira do Amaral". The top five rankings of sub-category 4. landscape streets include: "Avenida de Almeida Ribeiro", "Largo de St. Agostinh", "Calcada de S. Paulo", "Rua de S. Paulo", and "Largo de St. Agostinh". In summary, in terms of the perceived image of districts and streets, tourists mainly have a deep understanding of famous scenic spots and their surrounding streets, gateway ports and transport hubs, etc., with a particularly high concentration on "Ruinas de Sao Paulo", "Largo do Senado", and "Avenida de Almeida Ribeiro" on the Macao Peninsula and outlying islands, whereas the special street spaces in some old districts, such as "Rua da Felicidade", "Travessa da Paixao", and "Largo de St. Agostinh", have also gained a certain degree of attention. The result shows that tourists only gather in certain "theme park-type" tourist areas, and there is a clear demarcation between tourist areas and living areas, failing to form a benign interconnection of points, lines and surfaces.

From the perspective of main category II. Culture and festivals, the top five world heritage sites in sub-category 5 include: "Ruinas de Sao Paulo", "Fortaleza do Monte", "Largo do Senado", "Templo de A-Ma" and "Leal Senado". The top five in terms of culture heritage in sub-category 6 include: "Ruinas de Sao Paulo", "Fortaleza do Monte", "Avenida de Almeida Ribeiro", "Templo de A-Ma" and "Leal Senado". The top three intangible cultural heritage of sub-category 7 include: "Cantonese Opera", "Feast of the Drunken Dragon", and "Procession of the Passion of Our Lord". The top five in sub-category 8. festivals include: "Christmas", "New Year's Eve", "Mid-Autumn Festival", "Macao Food Festival", and "Dragon Boat Festival". To sum up, in terms of the perceived image of culture and festivals, the Ruinas de Sao Paulo is an important cultural landmark in Macao, and it is the most concentrated cultural impression of the city. Due to the proximity of the Fortaleza do Monte to the Ruinas de Sao Paulo, about half of the tourists

who have visited the Ruinas de Sao Paulo are familiar with it, and then most of them will go along the pedestrian areas in the Historic Centre of Macao to reach the precincts of the Largo do Senado, Avenida de Almeida Ribeiro, and the Leal Senado, and at the same time, together with the neighboring scenic spots, such as the Igreja de Sao Domingos, Lou Kau Mansion, Rua da Felicidade, and Largo de Santo Agostinho and so forth, they will form the most central tourist itinerary in Macao. Besides, Templo de A-Ma is also visited by some tourists, and the neighboring attractions such as Mandarin's House and Largo do Lilau are also slightly famous. However, as tourists' knowledge of Macao's cultural tourism is mostly confined to the area between Ruinas de Sao Paulo and the Largo do Senado, they generally do not have a high level of awareness of other areas in the Historic Centre of Macao, especially the linked attractions between the Largo do Senado and Templo de A-Ma, reflecting that Macao's tourism routes are not systematically developed, and that the extent of their radiation is quite limited. Meanwhile, Cantonese Opera, the Feast of the Drunken Dragon and the Procession of the Passion of Our Lord are important manifestations of Macao's intangible cultural heritage, and some tourists are aware of them to a certain extent. In addition, during Christmas and New Year's Day, a number of festivals and events are held in Macao at the same time, creating a synergy of considerable scale and leaving a deep impression on visitors. The Dragon Boat Festival, Mid-Autumn Festival and Macao Food Festival, together with large-scale brand events such as the Macao International Dragon Boat Races, the Macao International Fireworks Display Contest and the Macao Grand Prix, have created a synergy effect and attracted a certain degree of attention from tourists.

In terms of the main category III. Hotels and casinos, the top five large-scale hotels and casinos in sub-category 9. include: "The Venetian", "Grand Lisboa", "Galaxy", "Lisboa", and "The City of Dreams". The top five hotels in sub-category 10 included: "Venetian Hotel", "Lisboa Hotel", "Galaxy Hotel", "Grand Lisboa Hotel", and "StarWorld Hotel". The top five casinos in sub-category 11 included: "Grand Lisboa Casino", " Lisboa Casino", "Venetian Casino", "Sands Casino" and "Wynn Casino". In summary, in terms of the perceived image of hotels and casinos, 4- and 5-star hotels receive the highest level of attention. Among them, the Venetian is the most representative large-scale integrated leisure venue in Macao, and its statistics are several times higher than those of similar resorts, reflecting that its one-stop gaming, convention and exhibition, hotel, performance and shopping elements are in line with the consumption habits and needs of today's visitors to Macao. In addition, the Lisboa, which has undergone the baptism of time, and the Grand Lisboa, which has a special architectural appearance, have left a deep impression on tourists (especially with regard to the casino element) and are representative of Macao's gaming and entertainment industry. Together with the surrounding Wynn, StarWorld and Sands, which indirectly reflects that the hotels and casinos along Avenida da Amizade on the Macao Peninsula still have relatively insufficient resources for non-gaming elements. As for other large-scale comprehensive leisure resorts in Cotai, such as Galaxy and City of Dreams, they are also widely favored and paid attention to by tourists.

From the perspective of main category IV. Other places, that is, sub-category 12. the top five religious venues include: "Ruinas de Sao Paulo", "Templo de A-Ma", "Igreja de Sao Domingos", "Igreja de Sao Lourenco" and "Igreja de Santo Agostinho". The top five places in the ranking of sub-category 13. museums include: "Macao Museum", "Casas-Museu da Taipa", "Mandarin's House", "Maritime Museum", and " Lou Kau Mansion". The top five entertainment and leisure attractions of sub-category 14 include: "Fisherman's Wharf", "House of Dancing Water",

"Venetian Mall", "Golden Reel", and "Ponte de Amizade". The top five for civic places of sub-category 15 included: "Hac-Sa Beach", "Lotus Square", "Jardim da Flora", "Jardim de Luis de Camoes", and "Jardim de Lou Lim Ioc". The top three places for markets and hawkers of sub-category 16 include: " S. Domingos Market", "Taipa Flee Market", and "Cooked Food Area of S. Domingos Market". The top three rankings for sub-category 17. cultural and creative spaces include: "Albergue da Santa Casa da Misericordia", "Cunha Bazaar Macao" and "Ox Warehouse". In summary, in terms of the perceived image of religious venues, Catholic buildings are the most impressive to tourists, with the Ruinas de Sao Paulo and the Igreja de Sao Domingos receiving particular attention, reflecting that the majority of tourists coming to Macao focus their religious perception of Macao on the area between the Ruinas de Sao Paulo and the Largo do Senado. Chinese temples are represented by Templo de A-Ma, while small and medium-sized temples scattered in different districts are generally not well recognized. In terms of the perceived image of museums, the Macao Museum, due to its proximity to the Ruinas de Sao Paulo and the Fortaleza do Monte, is the most popular museum among tourists, followed by the Casas-Museu da Taipa near Rua do Cunha, and the Mandarin's House near the Templo de A-Ma, the Maritime Museum, and the Lou Kau Mansion near the Largo do Senado are also quite popular, reflecting that there is a significant correlation between the level of interest in the museums and the degree of popularity of the surrounding attractions. In terms of the perceived image of entertainment and leisure attractions, the Fisherman's Wharf, as the largest theme-designed leisure and entertainment complex in the Macao Peninsula, together with the nearby Ponte de Amizade, has gained the attention of many tourists, while the rest of the entertainment and leisure attractions with a higher level of attention are mostly attached to large-scale integrated resorts, such as the House of Dancing Water, the Venetian Mall, and the Golden Reel, etc. Therefore, the tourism and leisure elements in Macao today are highly concentrated in the large-scale integrated resorts, while there is a serious lack of entertainment and experience elements in the old town area. In terms of the perceived image of civic venues, Hac-Sa Beach and the Lotus Square are the most recognized civic places by tourists due to their special appearance and significance, while Jardim da Flora, Jardim de Luis de Camoes and Jardim de Lou Lim Ioc are also quite popular among tourists due to their different layouts and facilities. In terms of the perceived image of markets and hawkers, the S. Domingos Market and its cooked food area are one of the most popular markets among tourists due to their proximity to the scenic spots in the Leal Senado. In terms of the perceived image of cultural and creative spaces, the Albergue da Santa Casa da Misericordia is located in the artistic ambience of St. Lazarus District, and is complemented by activities such as the Igreja de Sao Lazaro, 10 Fantasia - A Creative Industries Incubator and the Sun Never Left Market, which have made it one of the most popular cultural and creative hotspots in Macao nowadays.

By combining the main categories I. Districts and streets, II. Culture and festivals, III. Hotels and casinos, and IV. Other places, the resulting overall ranking is shown in Figure 1, with the top ten including: "The Venetian", "Ruinas de Sao Paulo", "Sao Paulo", "Rua do Cunha", "Fortaleza do Monte", "Avenida de Almeida Ribeiro", "Leal Senado", "Macao Museum", "Grand Lisboa", and "Galaxy".
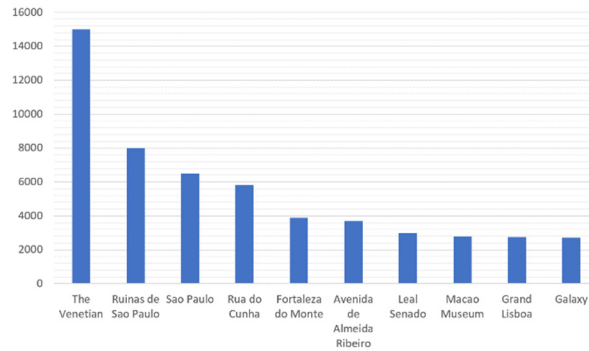
Figure 1. Macao's Cognitive Image Ranking

From the distribution of the ranking of perceived image in Figure 2, it can be seen that the perceived image of Macao is centered on the Venetian, i.e. the gaming element, which is then supported by a series of famous attractions in Macao, such as the Ruinas de Sao Paulo, Rua do Cunha, Fortaleza do Monte, Avenida de Almeida Ribeiro, Leal Senado, Macao Museum, Fisherman's Wharf, Coloane, Portas do Cerco, Templo de A-Má and so forth, and then by the integrated resorts under the major gaming enterprises, such as the Grand Lisboa, Galaxy, Lisboa, Sands and City of Dreams etc. Finally, it is supported by the distinctive attractions and streets in Macao, such as the Casas-Museu da Taipa, Leal Senado, Igreja de Sao Domingos, Praia Grande, Hac-Sa Beach, Lotus Square, Calçada de S. Francisco Xavier, and the Mandarin's House, etc., as a base to support Macao's distinctive city image.
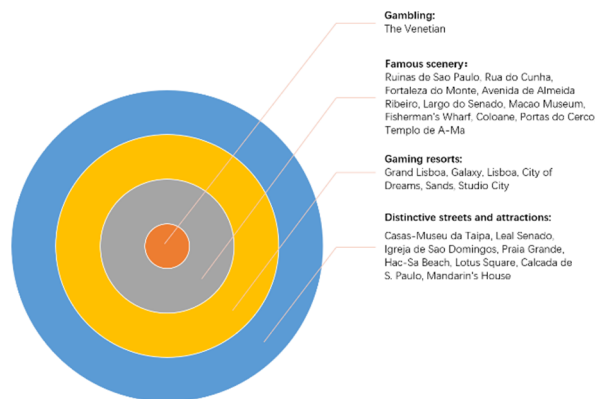

Figure 2. Composition of Macao's Cognitive Image

3.4 Analysis of Macao's Emotional Image Results

From the main category V. Emotional Characteristics, the top ten idioms in sub-category 18. include (refer to Figure 3): "splendid and magnificent", "famous historical sites", "crowded with people", "luxuriously decorated", "lost in materialistic desires"), "everything one could wish for", "one of a kind", "various kinds", "excuse me", "eating, drinking, and being merry"; Sub-category 19. The top ten rankings for adjectives include (refer to Figure 4): "good", "not bad",

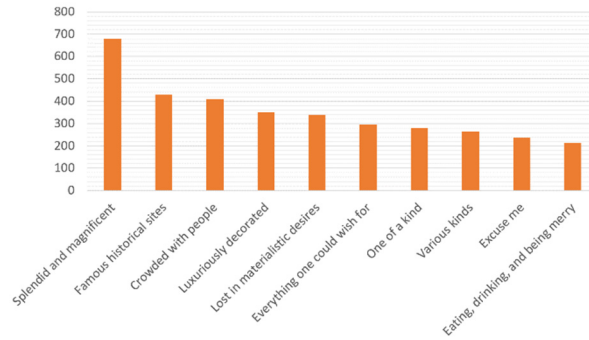"cheap", "peaceful", "what a pity", "beautiful", "luxurious", "casual", "pretty", "clean".

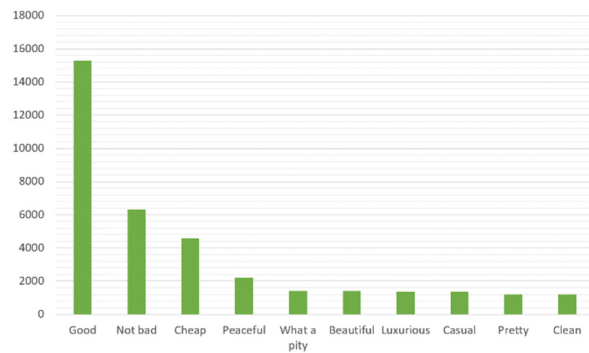**Figure 3.** Macao Emotional Image - Subcategory 18 (Idioms) Ranking

Figure 4. Macao Emotional Image - Subcategory 19 (Adjectives) Ranking

Reviewing the distribution of idioms and adjectives in emotional image is shown in Figure 5, idioms describing gaming and entertainment elements such as "splendid and magnificent", "luxuriously decorated", and "lost in materialistic desires" are mostly ranked at the top, along with the adjective "luxurious". These idioms and adjectives are relatively concrete in depicting the city image imparted by gaming and entertainment facilities to tourists, reflecting a deeply ingrained "Gambling City" impression in the minds of visitors to Macao. Next, idioms describing diverse, rich, and unique travel experiences such as "crowded with people", "everything one could wish for", "one of a kind", "various kinds", "eating, drinking, and being merry", and adjectives like "good", "not bad", "cheap", "peaceful", "beautiful", "pretty", "clean" also shape the impression of Macao for tourists. It is observable that these idioms and adjectives are mostly positive, yet they describe Macao's city symbol in a relatively vague manner, without accurately portraying Macao's unique city characteristics, reflecting that most tourists only recognize a part of Macao "crafted" by large corporations, while the true distinctive features of Macao city have not been thoroughly explored and understood.

Figure 5. Composition of Macao's Emotional Image

4. Conclusion

In today's globalized competitive environment, cities not only have physical infrastructure, but also a rich variety of regional characteristics, such as historical heritage, culture and arts, festivals and customs, etc. All these elements can be used to refine the city's character and to create a unique city image that is different from the rest of the world. In this paper, the analyses of cognitive and emotional images are combined. On the one hand, the results show that "gaming and entertainment" is the most significant influence factor in Macao's city image, so "Gambling City" has always been the first impression of Macao for domestic and foreign tourists. The Venetian has a relatively superior position in the minds of tourists, which indirectly shows that most of the tourists coming to Macao can have their entertainment needs satisfied in one stop. Meanwhile, tourists also pay high attention to the area between Ruinas de Sao Paulo and Leal Senado, reflecting that most of the tourists' travel itineraries in Macao are made up of these two major sectors. On the other hand, from the results, it can be seen that Macao city history and culture in-depth tour has gradually gained recognition among visitors, and have a certain potential to gradually challenge the "Gambling City" label in the future.

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