A Brief Discussion on the Professional Technical Points and Prospects in the Development and Construction of Cultural Tourism Real Estate Projects

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Abstract: Since the beginning of this century, with the growing demand of the general public for cultural travel experience, the real estate development industry for cultural travel project investment market is also greatly improving. In the context of cultural and tourism carrier projects blooming everywhere, how to eliminate bubbles and how to ensure that the hardware and software of each cultural venue can meet the actual needs of subsequent operation has become a very critical issue. Through the research of relevant technical standards at home and abroad and the practical analysis of actual project cases, the specialty difference and scarcity of CTLV project have been reflected. In the context of the global epidemic, the demand for professional experience and talents in the segmented technology industry is obvious in the future.

Keywords: cultural tour carrier development, international venue construction standard, digital cultural tour

1. Review

With the increasing income of Chinese residents, the expenditure on culture, education and tourism also shows an increasing trend, which provides a considerable foundation for the development of culture and tourism real estate. According to statistics[1], although this expenditure declined in 2020 due to the impact of the epidemic, it rebounded rapidly in 2021 and increased by 27.90% compared with 2020, also higher than the expenditure level of 2019. In 2015, the added value of China's culture and related industries was 2723.5 billion yuan, up 11% year-on-year, 4.6 percentage points higher than the nominal GDP growth in the same period.

China's cultural industry accounts for about 6.2 percent of the total economy, leading the top 10 economies. This shows that culture and related industries are a bright spot of current economic growth, with a continuous and rapid growth in total volume and an increasing proportion. Last year, the total number of domestic trips in China rose 12.8 percent year on year. From 2017 to 2021, the number of Cultural and tourism real estate projects in China has been growing steadily. By 2021, the number of cultural and tourism real estate projects in China has reached nearly 10,000, with an area of over 4 billion square meters. Among them, the Yangtze River Delta region is one of the most mainstream areas of cultural and tourism real estate development. In this context, more than 1/3 of the top 100 real estate enterprises have entered the field of cultural and tourism real estate.

More than a decade ago, the development mode of over-reliance on natural resources and crazy enclosure of land under the guise of "culture" and "tourism" led to the savage growth of low-level and homogeneous projects. In 2015, problems caused by over-rapid development gradually emerged, leading to a sharp decline in the growth rate of China's cultural and tourism real estate development projects, industry reshuffle and adjustment. Until 2016, when the development of cultural and tourism real estate in China gradually returns to rational growth, it can be predicted that a group of powerful and truly adhere to the deep cultivation of cultural and tourism real estate development enterprises will become the mainstream of the industry.

Through the above series of statistical data and the brief introduction of the industry development trend, it is not difficult to see the rapid development and wide range of China's cultural and tourism real estate industry, so it is obvious that there is a great demand for professional and technical personnel and professional and technical maturity in subdivision fields. Therefore, as the technical management personnel of the real estate development industry, how to keep up with and even surpass the "Chinese speed" of cultural and tourism real estate development and avoid the bubble of cultural and tourism projects everywhere has become a very core problem.

This paper will summarize the technical points through the actual cases of the development of public cultural facilities that I mainly participate in. At the end of this paper, the trend of professional technology development in the process of cultural tourism development will be prospected.

2. Functional categories of public cultural facilities

Public cultural facilities refer to libraries, museums, art galleries, theaters, cinemas, etc. They are not only public welfare institutions or commercial facilities for collecting, researching, displaying and organizing artistic activities, but also important carriers and places for people to carry out cultural activities. Public cultural facilities in cities are the centers of various civic activities and often become the activity centers of their regions.

When classifying cultural venues in China, they are generally divided according to their functions. Each functional category has a different professional focus and is currently grouped into eight categories.

(1) Expo and culture: It mainly includes museums, science and technology museums, exhibition halls, art galleries, display halls, memorial halls, etc. The technical requirements of such venues focus on the functional division of the architectural space, the planning of different personnel and transportation routes, the precise control of the storage space of the collection, and the overall interior exhibition design of the exhibition space.

(2) Social and cultural categories: It mainly includes: library, art museum, cultural center, cultural palace, cultural square, etc. Compared with the first type, this type of venue requires less technical expertise, but also pays attention to its publicity and accessibility in terms of overall architectural design.

(3) Art and culture category mainly includes culture and art centers, theaters, etc. What makes such venues different from other venues in terms of technology is a series of professional stage technologies, including stage machinery, lighting, audio and video multimedia and other professional system design, as well as theater acoustic research and design.

(4) The market mainly includes book city, handicraft trading market, flower and bird market, professional art school, etc. Such venues, as commercial business venues, pay more attention to the utilization of space and reasonable space division.

(5) Cultural industry mainly includes amusement park, cultural industrial park, cultural market, etc. Its theme is particularly clear, around the theme of the reasonable implantation of various characteristic elements is the key.

(6) History and culture mainly includes historical and cultural reserves, historical buildings, former residences of celebrities, etc.

(7) Press and publication mainly includes publishing houses and newspaper offices.

(8) Radio and TELEVISION: Radio and Television Center, etc.

The example below is an art gallery under the Expo Culture category, which is one of the most technically demanding of all categories.

3. Cases of public cultural facilities development projects

3.1 West Bund Museum X Pompidou Center, France five-year exhibition cooperation project

In 2017, in order to promote sino-French modern and contemporary art and cultural exchanges as the principle, West Bund Museum and Pompidou Center signed a strategic framework cooperation agreement. In 2018, as the highest-level Cultural cooperation project between China and France, it was included in the Sino-French Joint Statement[2]; It was officially unveiled to the public in 2019 on the occasion of the 70th anniversary of the birth of the People's Republic of China and the 55th anniversary of the establishment of diplomatic relations between China and France.

With the same vision as the cornerstone, adhering to the cultural purpose of "Let China see the world, and let the world see China", West Bund Museum and Pompidou Center launched a five-year exhibition cooperation project, following the communication spirit of openness and integration, to open up a new exploration of the mode of sino-foreign cultural dialogue and exchange.

In the next five years, the two sides will jointly plan exhibitions and seminars at the West Bund Museum and the Pompidou Center, including permanent and special exhibitions at the West Bund Museum, and cultural programs focusing on the Chinese modern and contemporary art scene at the Pompidou Center in Paris, France. In addition, the two sides will jointly organize seminars for performers and public education activities to build a bridge for in-depth cultural exchanges between China and France.

The technical requirements of the project are put forward by the French party in accordance with the international standards for the construction and operation of museums. The supervision during the process and the acceptance after completion are strictly implemented in accordance with the international standards. Like other world-renowned art museums, the development and construction of West Bund Museum is undoubtedly the integration of technology and art, and the coexistence of foresight and practicality.

The main technical points and difficulties are mainly divided into three aspects: the overall architectural design in line

with international museum industry standards, the mechanical and electrical design of museum level, and the international interior and exhibition design.

3.1.1 Architectural design

First of all, the site selection needs to consider the characteristics of large flow of people, convenient transportation, open surrounding, at the same time, there should be square space and parking space nearby for the majority of people activities. In addition, the green landscape around the exhibition hall also has a higher beautification requirements. Therefore, the public open space of Xuhui Binjiang Art Museum Avenue, located on the bank of Huangpu River, became the first choice.

The triangular plot of the museum is located at the northernmost point of the broad riverside green belt, where Longyao Road meets the Huangpu River. A ground-level plaza surrounding the building is raised above the floodplain, offering sweeping views of the Huangpu River. Follow the steps along the eastern edge of the square to the rest platform adjacent to the river bank. The building is not only a stand-alone building standing on the site, but also plays a public role to optimize the connection between the site and the Huangpu River and the park.

The three main volumes, each 17 metres high, are composed of the upper and lower levels. The upper level of each volume is an exhibition space lit by the roof. The lower level is more versatile, with multi-purpose halls, art workshops and educational Spaces. These semi-underground Spaces are lit by side-high Windows. The cafe is located in a low volume on the first floor of the riverside side. Its long shape tries to bring more views of the river to visitors, while also creating a spacious terrace for the entrance on the second floor.

Between the three exhibition volumes, a lower roof covers the entire atrium and extends outward, forming a cantilevered structure facing the Huangpu River and the road. On the east and west sides, the roof is supported by large conical columns that mark the entrance to the building. The three main volumes are wrapped in translucent, jade-like glass, giving the house a milky white texture. The facade material brings in a variety of daylight into the building and lights at night, contrasting with the smooth textured paint finish of the cantilevered roof. At the outer end of each rotating exhibition hall, huge transparent glass Windows provide visitors with panoramic views of the park, The Huangpu River and the cityscape.

3.1.2 Mechanical and electrical design

Different from other buildings, based on the functional requirements of the museum, each electromechanical system has higher requirements in selection and pipeline path design.

Hvac system design, should ensure that all collections may appear in the space hit the specific temperature and humidity requirements. It Includes exhibition hall, collection warehouse, collection repair room, collection transport channel, etc.

In the design and selection of fire protection system, generally adopt gas fire extinguishing system or pre-action sprinkler system, and cooperate with strict emergency evacuation process of collection, to avoid damage to the collection to the greatest extent under the premise of ensuring personnel safety.

In the design of pipeline direction of water supply and drainage system, attention should be paid to avoiding the space where collections are located (exhibition hall, collection warehouse, collection repair room, collection transportation channel, etc.). If it is necessary to pass through some collection related Spaces, the professional system of water leakage detection in cast iron pipes with double protection can also be an internationally recognized alternative.

High and low voltage electricity and lighting system in the socket and lighting point reservation and circuit loop division, should strive to provide more possibilities for exhibition halls and public space exhibition, especially the design optimization of comprehensive ceiling and both sufficient and beautiful ground socket reservation.

Other details are not described here.

3.1.3 Interior and scenographic design

In the stage of interior design, the arrangement of various functions should be coordinated with the form and functional requirements of the main building. The route of visit must be clear, avoid circuitous cross. Secondly, considering the sense of experience of visitors, the route should not be too long, and the middle of the rest should be properly arranged. The connection between the exhibition space and the transportation hub should be convenient, and the entrance and exit should be obvious. The exhibition space should be a rest area for special groups such as children and nursing women,etc.

The exhibition design in the exhibition hall should take the presentation of the collection as the main goal, not distracting. Each collection artist/studio or foundation has different requirements and specifications for the presentation effect of their works, especially the selection and dimming of professional lighting for the exhibition, as well as the preparation of audio and video equipments for multimedia works. All technical details in the process of building and arranging exhibition halls need to be strictly controlled, and the overall debugging is required to ensure that nothing is wrong.

4. Future outlook — sustainable development and "digital cultural tourism"

The life cycle of contemporary exhibition art space is usually shorter than that of other Spaces, from exhibition design to construction to disassembly, sometimes even less than a month, sometimes resulting in a large amount of material and resource waste. Sustainable design factors such as cost, low carbon and environmental protection should be considered in the use of materials and processes involved in the display space interface. In the future, modular reusable system display walls and other components may be developed to a certain extent. The technology and related products have gained a foothold in the art market in Japan, France and other countries. With the development of artificial intelligence, virtual reality technology, 5G and other information technologies and their wide application in the construction of cultural carriers and performances, people's performance and exhibition forms will also change dramatically. In the future, cultural experience will break the boundary between the subject and the audience, pay more attention to humanized design, "people-oriented", fully consider the material and psychological needs of users, and use intelligent technology to build humanistic, green, safe and intelligent humanized facilities and equipment. All kinds of professional equipment will continue to expand functions and applications, realize the seamless integration of technology and art, and provide artists with "White Cube" as they wish.

Digital cultural tourism [3] is the basic project of cultural construction and also the industrial momentum of cultural tourism development. It links supply and demand and empowers business forms. It cultivates and expands the new consumption market, realizes the product value-added; It drives the innovation of products and formats and reconstructs the industrial pattern.

Such as artificial intelligence, Internet of things and chain blocks as a representative of a new generation of digital technology, accelerating to the penetration of tour industry and change, subtly changing needs of the audience, the behavior and experience, to deconstruct the traditional supply chain under all kinds of industry branch of the border, a boost for the intelligence of culture and tourism infrastructure construction and public service efficiency. Digitisation is bringing down markets and new consumption on a huge scale. In recent years, cultural and tourism departments at all levels actively promote the "cloud" of cultural industry and tourism industry, play the enabling role of Internet platform, encourage all kinds of Internet platform to develop cultural and tourism functions and products, support conditional cultural and tourism enterprises to expand the platform, a new era of digital cultural and tourism is accelerating. In the future, China's cultural and tourism industry will show the transformation from tourism to cultural experience, marketing mode to operation mode, real estate gradually return to the nature of cultural and tourism, profit model from "single" to "diversified" and other major trends. The future is promising.

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