

# Research on Optimization Strategy of Creative Industrial Park Based on Pareto Improvement of Industrial Heritage Reuse

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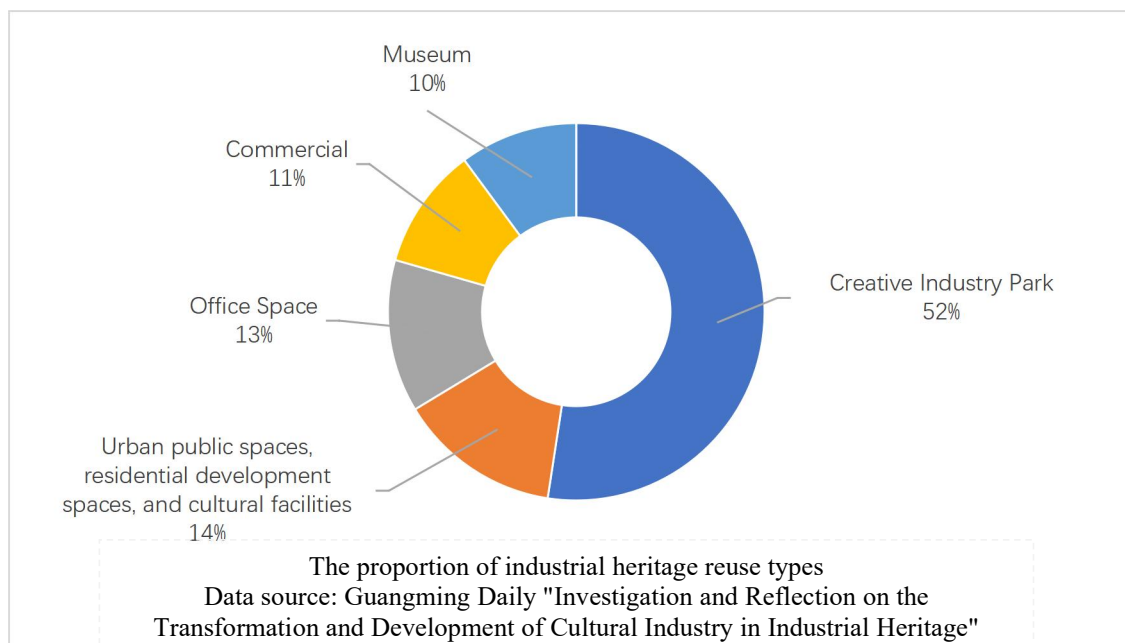
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**Abstract.** The protection and reuse of industrial heritage is an important link in the process of urban renewal. At present, there are a large number of industrial heritage creative industrial parks in China, but their construction styles and development levels are uneven. Based on Pareto's improvement theory, this paper puts forward optimization and promotion strategies for resource allocation and land use in the park to achieve the goal of mutual benefit and symbiosis.

**Keywords:** Pareto improvement; Industrial heritage; Reuse; Creative industrial zone.

## 1. Introduction

Since 2018, the Ministry of Industry and Information Technology issued the Interim Measures for the Management of National Industrial Heritage, and in 2023, the Ministry of Industry and Information Technology revised and promulgated the Measures for the Management of National Industrial Heritage. There are 194 national industrial heritages on the list of national industrial heritages in China, most of which occupy lots with high urban value. Vigorously developing industrial culture has obviously become an important means to enhance the comprehensive competitiveness of China's industry. All kinds of new forms and modes of protection and utilization explored and practiced throughout the country are widely accepted and increasingly mature.[1]. Among the reuse modes of industrial heritage, the mode of creative industrial park was first defined by the British Creative Industry Task Force, which originated from developed countries in the 1990s. The biggest difference between this mode and the previous mode is to carry out recycling activities around "innovation and culture", such as entering art galleries, studios, music theaters, characteristic cultural industries, etc. Its biggest advantage is that it can give new cultural meanings to industrial heritage and expand new urban cultural development space. In the whole process of renewal, the whole society needs to work together. Faced with the problem of people-oriented demand and imbalance in many ways, Pareto's improved industrial heritage renewal model and research methods have become an urgent need.



## **2. Reuse of industrial heritage**

### **2.1 The main types of industrial heritage reuse**

China's industrial heritage reuse planning started late, and the government officially paid attention to this issue from the International Cultural Heritage Day on April 18th, 2006.[2].

The main types of industrial heritage transformation in China are cultural industrial park, residential development, museum, commercial space, office mode and urban public space. Nearly half of the reuse projects are targeted at cultural and creative industries. Such as Shougang Cultural Industrial Park and Hongmei Cultural and Creative Industrial Park.

China's industrial heritage creative industrial parks developed late and are currently in the stage of exploration and practice. The degree of reuse is in direct proportion to the state of urban economic development, mainly showing that first-tier cities are leading, followed by new first-tier cities, second-tier cities are constantly exploring new development models, and cities below third-tier cities are basically in the primary stage, which needs further protection, development and utilization.

### **2.2 China's industrial heritage creative industrial park problems**

#### **2.2.1 the lack of regional characteristics and the excavation of the original industry**

Under the background of urban renewal and industrial upgrading, it has become the unified goal of the reuse project to effectively transform the industrial heritage in the city into new spatial carriers such as culture and art, scientific and technological innovation and leisure consumption. However, due to the existence of the same period or the same type of industries in the original industrial park. The similarity of the original architectural style, the spread of network trend and the lack of experience in project transformation have led to the homogenization of the transformation project. For example, in 1978, the Cultural and Creative Park changed the sugar paper factory into a small town with film characteristics, but the original cultural attributes were low and tourists were not attractive enough.

#### **2.2.2 Excessive commercialization**

Theoretically speaking, reuse, tourism and commerce are inseparable. The excessive commercialization complained by tourists is not only aimed at the business itself, but also includes the relationship between merchants and community residents, which weakens the artistic attribute and leads to the gap between online publicity and tourist experience. For example, in oct-loft, Shenzhen, over-commercialization, lack of vitality and architectural features have led to a decrease in the popularity of scenic spots and the number of tourists year by year.

#### **2.2.3 Uneven land benefits**

Due to historical development, some industrial heritages occupy the position of the central city with high land value in the city. For the central city, the land cost is rising constantly, and urban development is constantly weighing and choosing between gains and losses. For example, in 2009, Guangzhou Hongzhuang Cultural and Creative Industry Park was transformed from a cannery into a creative area with design, art, culture and life defined by international standards, forming a complex of cultural industries. In the end, due to the high land value, non-recognized heritage buildings were demolished and converted into public facilities and financial centers, which filled the shortcomings of urban development.

## **3. Pareto improvement theory and its characteristics**

### **3.1 theoretical overview**

Contemporary mainstream economics believes that "Pareto Improvement" is an important rule to evaluate social and economic mechanisms and systems. Pareto improvement refers to an ideal state

of resource allocation. It is assumed that an inherent group of subjects and distributable resources will change from one distribution state to another, and at least one party will become better without making the situation of any subject worse, that is, the concept of "incremental reform"[3].

### **3.2 Pareto Improved Application Features**

3.2.1 Pareto improvement theory lies in the adjustment of resource allocation.

This theory is embodied in the design of urban renewal system, which can maximize the value increment of urban space, carry out reasonable and balanced redistribution, and explore the theory and method of multi-functional and multi-objective collaborative industrial heritage reuse, which is conducive to revealing the operation law of its renewal action in economic, social and cultural aspects and making more scientific and reasonable decisions in the renewal process.

3.2.2 Pareto improvement theory aims at mutual benefit and symbiosis.

Pareto improvement theory emphasizes the reciprocity of all classes and subjects in order to achieve the optimal ideal state. The main body of symbiosis is not only merchants and tourists, but also a win-win situation of culture and commerce in the industrial heritage creative industrial park. We will not develop the industry at the expense of cultural value, and strive to bring good economic benefits to the park while promoting the benign protection and utilization of industrial heritage resources.

3.2.3 Pareto improvement theory reflects the sustainable use of land use

In order to realize Pareto improvement of land renewal, it is necessary to coordinate the relationship between government and market and pay attention to the balance of economy, society and ecology; Enterprises need to improve their self-ability, strengthen their leading role from inside and outside, enhance their sense of social responsibility, innovate development methods, and ensure the benefits of the park; Residents need to strengthen the sense of urban hero, and then build diversified channels to participate in land renewal, and become real beneficiaries and supervisors in urban renewal projects.

## **4. Industrial heritage creative industrial park optimization strategy**

### **4.1 Screening implant industry to create local characteristics**

At present, the construction of the park can basically achieve both rich industrial culture and artistic characteristics that modern young people like. However, in order to achieve outstanding characteristics and lasting attraction, it is necessary to maintain the original architectural and industrial characteristics of industrial heritage, and at the same time dig deep into regional characteristics in order to realize the balanced coexistence of art and commerce. For example, Taoxichuan Ceramic Culture and Creative Industry Park continues the ceramic industry to show the characteristics of the park. Shougang Cultural Industrial Park has added the features of Winter Olympics while retaining the No.3 Blast Furnace. However, while paying attention to the integration of the new and the old, it should also consider the development strategies in the post-Olympic era and the non-snow season.

### **4.2 Strengthen infrastructure construction and improve land use efficiency.**

On the premise of comprehensive evaluation of land value, strengthen the overall development of the project and surrounding land. The government attracts market investment through marketization to enhance the value of land and improve the urban environment, thus improving the quality of life of citizens.[4]. For example, Dongjiao Memory 107 Wenchuang Park, in 2012, due to the lack of consumption stickiness in a single format, the positioning of the park was adjusted, and investment was re-invited in 2022. At the same time, connect the subway and change operators.

After the improvement of surrounding facilities, coupled with the relatively fixed population brought by the continuous occupancy of real estate, it has brought new development to the park.

## **5. Conclusion**

The construction of domestic industrial heritage creative industrial parks has blossomed everywhere, and the predecessors explored to provide rich experience for the development of new projects. Based on Pareto improvement theory, the "demand-distribution-reconstruction" decision-making optimization system of urban industrial heritage renewal can reflect various game processes, and it is worth studying in the future to put forward accurate optimization strategies for industrial heritage reuse, effectively balance contradictions, and promote the quality construction and social progress of the park.

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