Research and Analysis of Cultural and Creative Industries in the Context of Computerized Big Data

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Abstract. This paper studies the risks of development and operation of cultural and creative industrial parks from the perspective of risk factor relationships, improves the theoretical system of risk management in cultural and creative industrial parks, and makes up for the inadequacy of the research on risk factor relationships in the traditional field of risk research in cultural and creative industrial parks. The research results help park operators prevent and control park development and operation risks from the perspective of the whole life cycle, and help promote the sustainable and healthy development of cultural and creative industrial parks. Based on the background of big data of computers, this paper combines big data with cultural and creative industries is a relatively innovative research approach. This paper analyses and researches the cultural and creative industries in the background based on big data, and obtains factors affecting the development of cultural and creative enterprises as well as gives suggestions and plans for the future development of enterprises, which is a relatively novel research approach in this field.

Keywords: Cultural and Creative Industrial Park · Development and operation risk · Risk Factors · Social Network Analysis

1 Introduction

Since the concept of "cultural industries" was introduced in 1947, cultural industries have grown rapidly around the world. Since the 1990s, the concept of "creative industries" began to emerge, and a wave of cultural and creative industry development was launched worldwide [1]. At present, cultural and creative industries (hereinafter referred to as "cultural and creative industries") have become the strategic pillar industries of the United States, Britain, Japan, Korea and New Zealand, and have made significant contributions to the economic and social benefits of these countries. China started late in the development of cultural industry, but the state and the government pay high attention to the development related to cultural industry and are committed to developing it into a pillar industry of the national economy [2].

2   Current Situation of Cultural and Creative Industrial Park Development and Operation

2.1   Regional Development Pattern of Cultural and Creative Industries Park

In terms of the number of parks, according to Fig. 1, cultural and creative industrial parks are the most numerous in East China, far exceeding other regions in the country, followed by North and South China, and then Southwest and Central China. In general, the national force presents the state of "strong in the east and weak in the west". This indicates that there is an uneven development level of cultural and creative industrial parks in China [3].

However, since the development of cultural and creative industrial parks is closely related to the development of cultural industry, and the development of cultural and creative industrial parks in a certain region is coordinated with the development of cultural industry [4]. See Table 1 for information on the revenue of cultural enterprises by region nationwide in 2019.

It can be found that in 2019, the eastern region contributed 75.6% of the national total and the central and western region contributed about 25%, but the growth rate of the
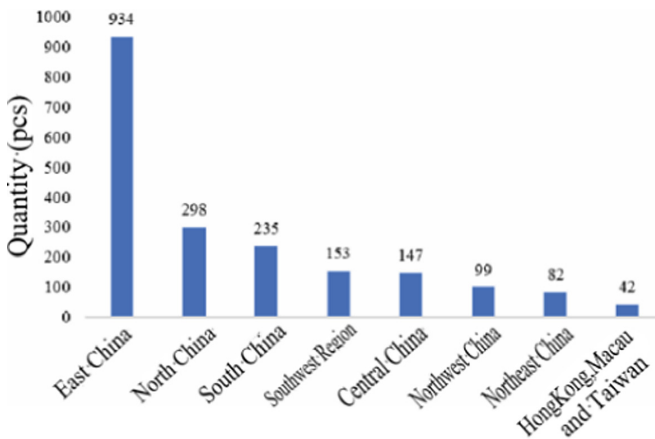

Fig. 1.   Regional Distribution of Cultural Industry Parks in China in 2015

Table 1. A2019 national regions about the business income of enterprises in culture and related industries above the scale

Region	Operating income (billion yuan)	Share of the country	Same period as 2018
Eastern Region	47017	75.60%	Growth 6.7%
Central Region	8841	14.20%	Growth 9.4%
Western Region	5727	9.20%	Growth 13.8%
Northeast Region	602	1.00%	Decline 1.2%

central and western region was higher than that of the eastern region, indicating that the development of cultural industries in the central and western regions is gradually accelerating, and the imbalance in the regional development of domestic cultural industries is expected to be gradually improved [5].

2.2 Comparison of the Development of Domestic and Foreign Cultural and Creative Industries

2.2.1 Comparative Value Ecology of Cultural and Creative Industries Development.

First of all, in terms of creative talents, the British and American countries are big talent countries, and cultural and creative talents account for a large proportion of the total employed population. See Fig. 2. The U.K. and U.S. are leading the way in terms of both the percentage of creative population employed and talent salaries.

Secondly, in terms of creative production, this paper mainly uses the output value of cultural and creative industries as a proportion of GDP to measure, see Fig. 3 The global average is 7%, and the output value of cultural and creative industries in the United States accounts for 20% of its GDP, and the high value-added characteristics of cultural and creative industries have been given full play. The current level in China is only 3%, which is still below the global average. In addition, the phenomenon of regional clustering of creative production has emerged in various countries, especially in Europe and the United States, which is reflected in some cities developed with creative industries, such as New York and Los Angeles in the United States, London in the United Kingdom, and Melbourne in Australia [6].

In terms of cultural and creative consumption, the United States has been constantly exporting creative products as a cultural power, mainly in movies and artworks, with large values of consumption. For China, on the other hand, consumer exports have risen, and despite the lack of overall consumption capacity, the consumer market has greater potential [7].
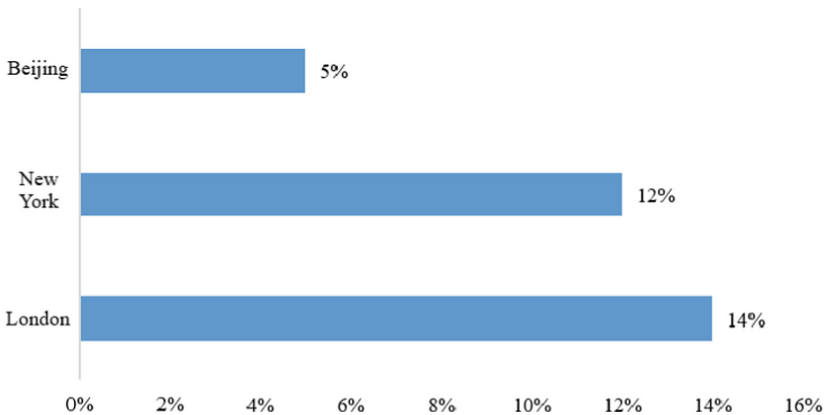

Fig. 2. Percentage of population in cultural and creative industries in some cities
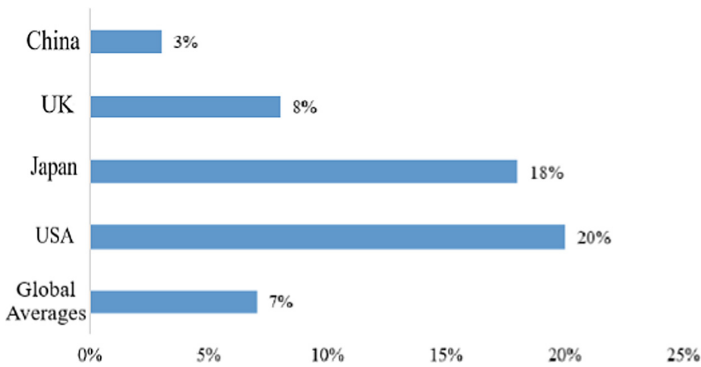
Fig. 3. The proportion of the output value of cultural and creative industries to GDP in some countries

2.2.2 Expert Interviews

After compiling and analyzing the interview results, it was found that one expert had more than 10 years of relevant working experience, six experts had 6–10 years of relevant working experience, and five experts had 3–5 years of working experience. In the results of the interviews, it can be found that the vast majority of experts agreed with the issues listed. Among them, 9 experts think that the current park development lacks characteristics, 11 experts think that the industry chain construction is not perfect, 10 experts think that the enterprise correlation is weak, and in addition the market competition is fierce 7 experts agree. In the section of supplementary questions, some experts suggested that there is still a lack of local management system for cultural and creative parks, a lack of unified guidance planning for park development, and weak market protection of intellectual property rights, which requires parks to spend a lot of costs for maintaining original property rights. All 12 experts expressed the need to give high priority to these park issues, which can help promote sustainable development of the park.

3   Identification of Risk Factors in the Development and Operation of Cultural and Creative Industrial Parks

3.1   Risk Factor Identification Methodology

Risk factor identification refers to the identification of the various risks faced by the personnel concerned and the analysis of the potential causes of risky incidents by using various methods before the occurrence of the risk. Common risk factor identification methods include literature analysis, Delphi method, brainstorming method, etc., the details of which are summarized in Table 2.

This paper is to identify the risk factors of the development and operation of cultural and creative industrial parks. Since the development of cultural and creative industrial park is relatively late and the development situation varies in different regions of the country, in order to identify the risks of cultural and creative industrial park development and operation in a scientific and reasonable way [8]. The specific operation process is shown in Fig. 4.

Table 2. Common risk factors identification methods

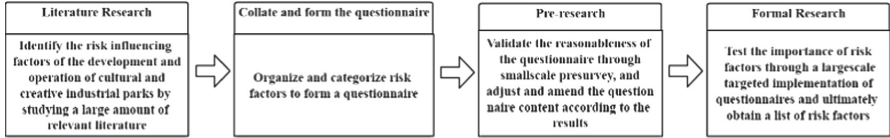|	Identification process	Advantages	Disadvantages
Literature analysis method	By analyzing and organizing the collected literature of a certain type, we sorted out the research	Ability to ensure the objectivity and authenticity of data	Effective information is more difficult to filter

Fig. 4. Risk factor identification operation process

3.2 Determination of Risk List

In terms of years of work or research related to cultural and creative industrial parks, 43 respondents have 2–5 years of relevant work experience, accounting for 66%, 11 respondents have 5–8 years, accounting for 17%, 8 respondents have 8–11 years, accounting for 12%, 5% have 11 years or more, and 2–10 years account for a total of 95%, as shown in Fig. 5, indicating that the respondents have richer relevant work experience, which generally meets the needs of extensiveness and professionalism of research data. In addition, more than half of the years can be found in the range of 2–5 years, which also illustrates to a certain extent the relatively short development history of the current progress work related to cultural and creative industrial parks in China.

Fig. 5. Years of work experience of respondents

Table 3. A α Reliability coefficient checklist

Range of values	Reference Standards
$\alpha < 0.35$	Low confidence level, abandoned
$0.35 \leq \alpha < 0.7$	Acceptable
$0.7 \leq \alpha < 1$	Better confidence and higher consistency

Table 4. Reliability analysis of the scale

Risk factor number	α Coefficient	Number of items
R1-R24	0.886	24
R1-R8	0.738	8
R9-R17	0.740	9
R18-R24	0.763	7

3.3 Data Description and Testing

3.3.1 Reliability Analysis of the Questionnaire

Reliability analysis is the study of whether the data are reliable and accurate, especially for attitude scales. Usually the smaller the confidence level, the larger the error. α (Cronbach's Alpha Cronbach coefficient) was generally used in the paper to test the accuracy and consistency of the data, and the α reliability coefficient checklist is shown in Table 3. The larger the value taken, the higher the confidence level. Generally, a coefficient of α greater than 0.7 is preferred.

The data from the 65 questionnaires collected were analyzed for reliability by SPSS software. The results of the analysis are shown in Table 4.

The results of the analysis showed that the overall scale had a Cronbach coefficient of 0.886, indicating that the overall data of the questionnaire had high credibility and could be continued for follow-up studies.

4 Conclusion

This paper firstly compares the current situation of the development and operation of domestic cultural and creative industrial parks, and shows that there is still huge space for the development of cultural and creative industries in China. Secondly, the problems of development and operation of cultural and creative industrial parks are analyzed by means of field research and expert interviews, and the relationship between these problems and risk factors is pointed out [9]. Finally, the risk factors for the development and operation of cultural and creative industrial parks were identified, and the risk factors were identified and optimally classified by combining literature research and questionnaire survey, and finally a risk factor list consisting of 24 risk factors was obtained.

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