

Article

Integration of Creativity and Cultural Resources to Promote Cultural Modernization in Northern Jiangsu, China

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Abstract: The modernization of culture is essential in the modernization of socialism and also is the fundamental driving force for transformations in politics, economy, society, and culture. In the four dimensions of cultural development potential, cultural innovation, cultural security, and cultural influence, indicators were determined to construct an evaluation system for urban cultural modernization in this study. Using the indicators, the development level of cultural modernization was quantitatively measured based on data from 13 cities in Jiangsu Province, China in 2021. The results showed that the cultural modernization in northern Jiangsu was lagged. The main reasons included the weak support from the cultural industry and the limited cultural innovation ability. Thus, countermeasures and suggestions were proposed to promote the cultural modernization of the northern Jiangsu area by integrating creativity and cultural resources.

Keywords: Cultural modernization, Creative thinking, Cultural resources, Northern Jiangsu

1. Introduction

Toynbee divided civilization into three parts: politics, economy, and culture, and believed that culture is the core and soul, while politics and economy are merely the surface of culture and the medium of cultural activities [1]. Human society has entered the post-industrial era with information and knowledge replacing machine production which used to be the the main form of production. Culture surpasses politics and economy as the most powerful tool for competition among countries, regions, and cities [2]. The foundation of culture comes from tradition and inheritance, while the development of culture comes from creativity and innovation. Napoleon said that there are two kinds of power in the world - sword and idea [3]. Creativity is the result of human innovative thinking, and its essence lies in the creation of ideas [4]. It highly relies on human knowledge, experience, intuition, and insight, which is manifested in human creativity and skills as innovation, which is the economic ability to create new methods and develop new products. Currently, the new economy and culture driven by creativity and innovation require factors, markets, technology, capital, and others to get rid of their original spatial constraints and accelerate the reconstruction and development of global cultural value chains.

Every country and city is embedded in the global “cultural network structure”. As pointed out by Tony Mill, the “new international division of cultural labor” in global competition has arrived [5]. The cultural soft power centered on wisdom, creativity, and knowledge has become the driving force for the economic and social development of a country or region, while the “cultural monopoly” and “borderless cultural competition” make cultural productivity an important component of the comprehensive competitiveness of a country or region. Therefore, modernization in culture is essential for the comprehensive modernization of socialism as the fundamental driving force to transform politics, economy, society, and culture.

By constructing an evaluation system for urban cultural modernization, we quantitatively measured the development level of cultural modernization in 13 cities in Jiangsu Province, China. By comparing and analyzing reasons for why cultural modernization in the northern Jiangsu area was lagging, we proposed countermeasures and suggestions to promote cultural modernization, which are useful references for promoting high-quality development in northern Jiangsu and achieving coordinated regional development in Jiangsu.

2. Methods

2.1. Measurement of Cultural Modernization Level

The northern Jiangsu area includes five provincial municipalities, Xuzhou, Huaian, Yancheng, Lianyungang, and Suqian. It is located on the north wing of the Yangtze River Delta and is an important part of China's coastal economic belt. Its population and land area account for 37.7% and 51.8% of Jiangsu Province. The level of economic and social development in Jiangsu Province shows the regional differences between Southern Jiangsu, Central Jiangsu, and Northern Jiangsu [6]. Affected by natural conditions and human factors, the development of northern Jiangsu lags behind that of southern and central Jiangsu, which is considered an economic "depression". Therefore, the northern Jiangsu Province is a key area for economic development, as well as the main battlefield for ecological protection and economic transformation. Its level of development is related to the achievement of Jiangsu's goals of "enriching the people and strengthening the province" and "taking the lead in achieving modernization" proposed in 2020. In 2021, the GDP and per capita GDP of northern Jiangsu were 267.319 billion yuan and 89 thousand yuan with an urbanization rate of 64.8% and an industrial structure of "three, two, and one" type. According to the traditional industrialization theory, the northern Jiangsu region is in the late stage of industrialization and the initial stage of post-industrialization (Table 1). Since the 18th National Congress of the Communist Party of China, historic, transitional, and global changes for ecological environment protection have been undergone [7]. It is required to find a way to handle the contradiction between ecological protection and economic development and achieve high-quality development in the northern Jiangsu area. A fundamental strategy is required to promote the process of cultural modernization and modernize all fields of the industry.

Table 1. Values of basic indicators of the level of economic and social development of the three major regions of Jiangsu Province in 2021.

Basic Indicators	Regional GDP (100 million)	GDP per Capita (based on resident population, yuan)	Urbanization Rate (%)	Regional GDP Composition	Employment Personnel Composition
South Jiangsu	66647.91	174604	82.6	1.4:45.0:53.6	5.2:44.6:50.3
Middle Jiangsu	23748.63	141203	70.6	4.7:48.4:46.9	14.7:40.7:44.7
Northern Jiangsu	26731.89	89333	64.8	9.9:41.9:48.2	21.9:34.4:43.7
Jiangsu Province	116364.20	137039	73.9	4.1:44.5:51.4	13.0:40.2:46.8

Previous research has not yet formed a clear and unified definition of cultural modernization. Culture is a complex and abstract concept, which means that there are different understandings of the connotation of cultural modernization. The 14th Five Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of Long Range Objectives for 2035 (referred to as the "14th Five Year Plan Outline") explained the cultural construction goals of "developing advanced socialist culture and enhancing national cultural soft power" from three aspects: improving the level of socialist civilization, the level of public cultural services, and the modern cultural industry system. Therefore, urban cultural modernization needs to be considered at least from three aspects: the state of cultural change, the transformation of cultural and social functions, and the laws of cultural development [8]. Urban cultural modernization is a process guided by changes in cultural systems and concepts, supported by cultural resource elements [9], and focused on stimulating cultural creativity. It drives urban innovation, economic transformation, and upgrading. The implicit aspects of cultural modernization are difficult to quantify and express. The cultural production, consumption, and dissemination are related to the management of goods and information in cultural modernization [10]. Therefore, cultural modernization can be defined from the perspective of cultural productivity, which is a comprehensive cultural development and application ability composed of cultural development potential, cultural innovation, cultural security, and cultural influence.

2.2. Construction of Evaluation System

Cultural modernization is a comprehensive, systematic, and dynamic process. Thus, it is necessary to construct an evaluation system to objectively assess the overall situation, structural characteristics, and development of urban cultural modernization in multi-dimensions. Its construction needs to follow the basic principles of selecting indicators such as scientificity, systematicity, comparability, and dynamism, while considering the availability of data and the feasibility of measurement. Following the "China Modernization Report 2009- Cultural Modernization" [11], the "Jiangsu Basic Modernization Indicator System (Revised and Trial in 2013)" and relevant research literature [12-15], an urban cultural modernization evaluation indicator system is constructed by

selecting 12 indicators from four dimensions of cultural development potential, cultural innovation, cultural security and cultural influence (as shown in Table 2).

Table 2. Evaluation system of urban cultural modernization.

Dimension	Metric	Unit	
Cultural development potential	Number of college students per 10,000 people	person	
	Number of higher education institutions	pc	
	Proportion of expenditure on education, cultural, and entertainment services to total household consumption expenditure	%	
	Internet penetration rate	%	
Cultural modernization	Proportion of the added value of the cultural industry in GDP	%	
	Professional and technical personnel	10 thousand people	
	Cultural innovation	Number of legal entities of cultural and related industries above designated size	pc
		Proportion of research and experimental development expenditure in regional GDP	%
	Cultural security	Floor area of public library per 10,000 people	m ²
		Proportion of education, science and technology, culture and sports, and media in total fiscal expenditure	%
Cultural influence	International tourism foreign exchange income	10 thousand US dollars	
	Number of overseas tourists received	10 thousand hours	

2.3. Data Collection and Processing

For comparison and analysis, the cultural modernization level of 13 cities in Jiangsu Province in 2021 was measured. All data were obtained from the “Statistical Yearbook 2022” of Jiangsu Province and its 13 cities, the 2021 National Economic and Social Development Statistical Bulletin, and publicly available data. The attributes of each indicator in the evaluation indicator system were positive in different dimensions. Therefore, the standardization method was used to standardize the raw data of the indicators (Eq. (1)).

$$X_{ij}^* = (X_{ij} - \min(X_{ij})) / (\max(X_{ij}) - \min(X_{ij})) \quad (1 \leq i \leq m, 1 \leq j \leq n) \quad (1)$$

where X_{ij}^* represents the standardized value of the j th indicator in the region i , X_{ij} represents the original value of the j th indicator in the region i , $\max(X_{ij})$ and $\min(X_{ij})$ respectively represents the maximum and minimum values of the j th indicator in the region i . After standardization, the range of indicator values is between 0 and 1.

2.4. Cultural Modernization Level

After the standardization of the raw data of the indicators, the weight of each indicator was determined by using the entropy weight method, which is an objective assignment method. Based on the degree of variation of each indicator, the entropy weight of each indicator was calculated using information entropy, and then the weight of each indicator was corrected with the weight to obtain a more objective indicator weight. Firstly, due to the standardized range of data values being [0,1], the data is added by 1 and recorded as X_{ij}^* to avoid taking logarithms when calculating entropy.

Secondly, the proportion of the i th region to the j th indicator was calculated.

$$P_{ij} = X_{ij}^* / \sum_{i=1}^m X_{ij}^* \quad (2)$$

Thirdly, the entropy value of the j th indicator was calculated.

$$e_j = -(\ln m)^{-1} \sum_{i=1}^m (P_{ij} \times \ln P_{ij}) \quad (0 \leq e_j \leq 1) \quad (3)$$

Finally, the coefficient of variation and weight of the j th indicator were calculated.

$$g_j = 1 - e_j \quad (4)$$

$$w_j = g_j / \sum_{j=1}^n g_j \tag{5}$$

The weights of 12 indicators in the evaluation index system were calculated, and the results are shown in Table 3. The scores for cultural modernization of 13 cities in Jiangsu Province in 2021 were calculated and ranked as shown in Table 4. The overall development level of cultural modernization in Jiangsu Province presented a spatial pattern of “high in the south and low in the north”. The four dimensions of cultural modernization showed significant differences in the level of cultural modernization among the 13 cities because of natural and historical conditions, economic and social foundations, and development positioning.

Table 3. Weights of indicators for evaluating modernization of urban culture.

Dimension		Metric	Weight
Cultural development potential		Number of college students per 10000 people	0.0798
		Number of higher education institutions	0.0816
		Proportion of expenditure on education, cultural, and entertainment services to total household consumption expenditure	0.0802
		Internet penetration rate	0.1186
Cultural innovation		Proportion of the added value of the cultural industry in GDP	0.0698
		Professional and technical personnel	0.0968
		Number of legal entities of cultural and related industries above designated size	0.0801
		Proportion of research and experimental development expenditure in regional GDP	0.0650
Cultural security		Floor area of public library per 10,000 people	0.0543
		Proportion of education, science and technology, culture and sports, and media in total fiscal expenditure	0.0593
Cultural influence		International tourism foreign exchange income	0.1074
		Number of overseas tourists received	0.1070

Table 4. Cultural modernization level of all cities in Jiangsu Province.

City/Region	Comprehensive Score	Rank	Cultural Development Potential	Rank	Cultural Innovation	Rank	Cultural Security	Rank	Cultural Influence	Rank
Nanjing	185.92	1	21.25	1	142.87	1	19.63	1	2.17	2
Wuxi	80.57	4	11.63	3	58.28	5	9.47	12	1.19	4
Changzhou	84.10	3	10.82	4	59.82	4	13.01	3	0.45	5
Suzhou	112.13	2	15.02	2	81.51	2	11.91	5	3.69	1
Zhenjiang	38.61	11	9.07	5	18.49	12	10.83	8	0.22	6
Nantong	80.32	5	7.89	7	60.86	3	10.12	9	1.44	3
Yangzhou	58.77	6	8.11	6	37.29	6	13.20	2	0.17	8
Taizhou	44.36	9	6.55	9	26.24	9	11.46	7	0.11	10
Xuzhou	36.49	12	7.04	8	22.02	11	7.28	13	0.15	9
Lianyungang	28.08	13	5.94	12	12.44	13	9.62	11	0.07	12
Huai'an	45.86	8	6.09	10	27.04	8	12.77	4	0.10	11
Yancheng	50.82	7	5.94	11	34.62	7	9.90	10	0.21	7
Suqian	41.86	10	5.23	13	25.02	10	11.57	6	0.04	13
South Jiangsu	100.27		13.56		72.19		12.97		1.54	
Middle Jiangsu	61.15		7.52		41.46		11.59		0.58	
Northern Jiangsu	40.62		6.05		24.23		10.23		0.11	

3. Results and Discussions

3.1. Cultural Modernization Level

In the cultural modernization level of 13 cities (Table 5), Nanjing and Suzhou belonged to the first tier with the highest development potential, innovation, security, and influence in cultural modernization. Changzhou, Wuxi, and Nantong were in the second tier with great development potential, innovation, and influence, and were achieving cultural modernization. However, Wuxi and Nantong were relatively weaker in cultural influence and needed to promote the cultural modernization process. Yangzhou and Yancheng were in the third tier with a significant gap from the cities in the second tier, and were in the initial stage of cultural modernization. Yancheng, located in the northern Jiangsu region, was weak in cultural development and security. The other six cities in the fourth tier showed the process of cultural modernization in its early stages. Huai'an and Suqian in the northern Jiangsu region were relatively stronger in terms of cultural security, indicating that the two cities provided greater support for cultural facility construction and cultural finance.

Table 5. Classification of urban cultural modernization level in Jiangsu Province.

Highest level (comprehensive score > 100)	I class	Nanjing, Suzhou
Higher level (80 < comprehensive score ≤ 100)	II class	Changzhou, Wuxi, Nantong
Intermediate level (50 < comprehensive score ≤ 80)	III class	Yangzhou, Yancheng
Lower level (0 < comprehensive score ≤ 50)	IV class	Huaian, Taizhou, Suqian, Zhenjiang, Xuzhou, Lianyungang

3.2. Difference in Cultural Modernization

Based on the above analysis, the overall process of cultural modernization in northern Jiangsu was found to be lagging due to the following reasons.

Firstly, the cultural industry support capacity was not strong, and urban cultural construction did not match the level of economic development. During the transformation and development from industrialization to the information age, the vast majority of developed countries or regions have established the cultural industry as the dominant or pillar industry and have achieved significant results in promoting the sustained innovative development of the economy and society. Culture is the deep-seated driving force for urban economic and social development, and industry is the most direct manifestation and carrier of urban functions. Only through the adjustment, transformation, and enhancement of the industrial structure of culture, the continuous evolution and development of urban functions are possible. In recent years, northern Jiangsu has promoted industrialization and continuously improved the level of urban economic and social development. As a result, it has entered a critical period of economic structure transformation and development. However, the added value of the cultural industry in northern Jiangsu accounted for less than 5% of GDP, and the overall scale of the cultural industry was relatively small. This lacked strong industrial support for cultural modernization, seriously restricting the development of urban cultural modernization construction.

Secondly, cultural innovation capabilities were limited, and the nuclear transformation energy of “culture+” was not fully released. The northern Jiangsu region has rich cultural resources and a unique cultural heritage, forming a unique cultural capital for each city. At the same time, with economic growth and the continuous improvement of people’s living standards, the consumption structure has been transformed and upgraded, showing a trend of increasing the proportion of cultural consumption demand and expanding the market for cultural products. However, there are shortcomings such as cultural innovation, high-quality talents, and the integration of culture and technology in the northern Jiangsu area, which resulted in ineffective development and utilization of cultural resources, low levels of cultural productivity, and low levels of cultural industrialization and marketization. Moreover, influenced consumption habits, urban-rural disparities, and regional culture, the per capita expenditure on education, culture, and entertainment services in northern Jiangsu accounted for about 13% of consumer spending. The market-driving ability of cultural products in northern Jiangsu is generally weak. Due to the low level of cultural productivity, underdeveloped cultural industry chain, low added value of cultural products, and a relatively single structure of cultural products with low market share, the brand effect has not yet formed, which to some extent affects the improvement of cultural consumption structure and the development of cultural product market in northern Jiangsu, leading to a lack of strong innovation momentum and market pull for cultural modernization in northern Jiangsu.

3.3. Strategies and Suggestions for Promoting Cultural Modernization

With the advent of new industrialization and post-industrialization, developed countries or regions are developing regional economic and social transformation by enhancing their cultural soft power. Globally, central cities such as London in the United

Kingdom, Paris in France, New York in the United States, Tokyo in Japan, and Seoul in South Korea have developed their cities by implementing a strategy of urban regeneration that shifts from an industrial economy to a culture-based one innovatively. The north Jiangsu area needs to consider the perspective of cultural modernization and explore and use cultural resource endowments for the transformation of cultural resources into practical productivity through creative thinking. The area needs to continuously improve urban strength and shape urban characteristics through the highly creative “urban reconstruction movement” and give up traditional paths for innovative development to be a “strong growth pole” for economic and social development.

3.4. Cultural Resources with Creative Thinking

The uniqueness of urban culture shapes the characteristics of the city but cultural resources are not directly equivalent to cultural capital. This needs effective utilization and dissemination in the reproduction and the output of cultural products. The modern economic growth of industrialized countries has undergone five major transformations, driven by investment, technology, information, knowledge, and creativity [16]. Creativity is the dominant factor in modern economic growth. The use of creative thinking to create and enhance cultural resources and develop new cultural formats. The cultural and creative industry is an important part of the cultural strategy implemented by large cities in the developed economies at the end of the 20th century. Unlike traditional cultural industries or cultural undertakings, cultural creative industries regard culture as the kernel and creativity and innovation. Through industrialization, informatization, and commercialization, the production, reproduction, exchange, and dissemination of cultural products and services can be transformed and enhanced for their attractiveness with continuous updating and appreciation of cultural resources. Therefore, effective development and utilization of cultural resources must be carried out through creative thinking and adjusted in the urban industrial structure for the construction of cultural cities. Efforts must be made to develop the cultural and creative industry and thereby create a creative city as a driving force for cultural modernization in northern Jiangsu. Specifically, it is necessary to empower industrial transformation with culture and realize cultural value through industry. By utilizing creative thinking methods and modern high-tech means, cultural resources need to be optimized for and integrated with the cultural content of traditional industries and the technological content of cultural industries. Adding value to cultural products needs to be continued to expand the cultural economy and promote urban cultural construction and innovative development in northern Jiangsu.

3.5. Creative Talents

With the innovation of production factors and growth methods, human society has entered a knowledge-based economy era driven by human capital. The main driving force of urban development has shifted from “technology” and “organization” to “people”, especially “creative talents”. The talent triggers a positive transformation from “industrial cities” to “creative cities”. Innovation and creation are the lifeblood of cities, and creative talents are the driving force for innovation and creation. As a knowledge-based human capital, creative talents’ value lies in innovative and creative activities such as knowledge, technology, and products. It is a key resource for the vitality of enterprise organizations and a core element for the development of cultural and creative industries. Therefore, the ability to have sufficient creative talents is an important driving force for the sustainable evolution of cities and the primary task for the promotion of cultural modernization in northern Jiangsu. It is required to find a way to “attract”, “retain”, and “use” creative talents effectively. On the one hand, policy incentives must be given to increase the introduction of highly skilled talents, as well as the cultivation and support of local talents. At the same time, market mechanisms must be used to increase attention to general creative talents that meet the requirements of industrial development and build a creative talent structure system composed of high-end core, support, and supporting layers. On the other hand, in the behavior of spatial flow and agglomeration, creative talents are raised by economic interests with a rational pursuit of value at the spiritual level, which is manifested in the fair and standardized market environment, a tolerant and free working environment, and a comfortable and comfortable living environment [17]. Therefore, the northern Jiangsu area needs to enhance the attractiveness and rooting power of creative talents by regulating the market environment, strengthening the protection of intellectual property rights, actively creating an entrepreneurial and cultural atmosphere, and stimulating the vitality of the cultural market.

4. Conclusions

By measuring the level of urban cultural modernization development from four dimensions of cultural development potential, cultural innovation, cultural security, and cultural influence, the overall cultural modernization development in Jiangsu Province was evaluated. The lagged cultural modernization in the northern Jiangsu area was caused by the weak support of the cultural industry and limited cultural innovation ability. Therefore, it is required to promote cultural modernization in two aspects: on the one hand, using creative thinking to utilize cultural resources and stimulate the driving force of urban cultural modernization; on

the other hand, attracting and gathering creative talents through urban culture to enhance the innovative ability of urban cultural modernization.

Due to the lack of a clear and unified definition of cultural modernization, we defined cultural modernization from the perspective of cultural productivity and determined indicators to construct a comprehensive evaluation system for urban cultural modernization. The system and the result of its application provide a reference for quantitative research on cultural modernization and decision-making for promoting urban cultural modernization. In the future, it is necessary to clarify the connotation of cultural modernization and establish a more comprehensive evaluation index system for urban cultural modernization.

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